

International PPP Forum:

“Scaling up: Meeting that challenges of the United Nations 2030 Agenda for Sustainable Development through people-first Public-Private Partnerships”

May 2018

Database of Case Study Material*

*A total of 60 case studies were received by the UNECE secretariat for the 2018 edition of the International PPP Forum, and the ones featuring in this document were added to the UNECE database of case study material. The case studies are being published as received directly from the contributors. The UNECE database contains case studies from all over the world that aspire to be people-first PPP projects. An evaluation methodology is being developed by the UNECE to evaluate and score projects against the people-first criteria and the United Nations Sustainable Development Goals.

Acknowledgements

Many have contributed to this database of case study material. Special thanks are due to Mr. Pedro Neves, a member of the UNECE PPP Business Advisory Board, and to the contributors of each case study.

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

List of Case Studies

- Case 1: Albania, Transport Sector, Tirana Airport
- Case 2: Brazil, Agricultural Sector, Nova Ceasa
- Case 3: Brazil, Energy Sector, Minas Sober Farm
- Case 4: Brazil, Smart and Sustainable Cities Sector, Sao Luiz do Paraitinga
- Case 5: Brazil, Smart Grid Infrastructure, Island of Fernando de Noronha
- Case 6: Brazil, Water and Sanitation Sector, Metropolitan Region of Recife and Goiania
- Case 7: Brazil, Transport Sector, VLT Carioca Tram
- Case 8: Cabo Verde, Energy Sector, Wind Farm
- Case 9: China, Energy Sector, Hangzhou Waste to Energy
- Case 10: China, Transport Sector, 3rd Nanjing Yangtze Bridge
- Case 11: China, Transport Sector, Gongyi Metro
- Case 12: China, Transport Sector, Road in Jurong City
- Case 13: China, Smart and Sustainable Cities Sector, Gu'an New Industry City
- Case 14: Colombia, Water and Sanitation Sector, Waste Water Bogota
- Case 15: Congo, Transport Sector, Waterways
- Case 16: Costa Rica, Transport Sector, Road 27
- Case 17: Cote d'Ivoire, Transport Sector, Bridge in Abidjan
- Case 18: Croatia, Education Sector, PPP School Programme in Varazdin County
- Case 19: Croatia, Education Sector, Koprivnica High School
- Case 20: Cyprus, Transport Sector, Airports
- Case 21: DRC, Transport Sector, Transport (road and rail)
- Case 22: France, Energy Sector, Cogeneration Plant in Mayenne Region
- Case 23: France, Transport Sector, High Speed Train
- Case 24: France, IT and Broadband Sector, Grand Est Broadband PPP
- Case 25: Germany, Agricultural Sector, Affordable Nutritious Food 4 Women
- Case 26: Germany, Agricultural Sector, Worldwide 1st CO2 neutral food store
- Case 27: Guinea-Bissau, Energy Sector, Solar Farm
- Case 28: India, Transport Sector, Jharkhand Road Programme
- Case 29: Ireland, Transport Sector, N25 Bypass
- Case 30: Japan, Smart and Sustainable Cities Sector, Ogal Shiwa
– public real estate project
- Case 31: Korea (Republic of), Health Sector, Chugju Medical Center
- Case 32: Korea (Republic of), Water and Sanitation Sector, Yongin Waste Water
- Case 33: Korea (Republic of), Energy Sector, Waste-to-Energy Project
- Case 34: Lithuania, Education Sector, New Balsiai Progymnasium School
- Case 35: Lithuania, Police Infrastructure Development
- Case 36: Madagascar, Smart and Sustainable Cities Sector, Andrakaka Special Economic Zone
- Case 37: Mali, Municipal Project, Covered Market
- Case 38: Mauritius, Energy Sector, Landfill Gas to Energy Project
- Case 39: Mexico, Water Sector, El Realito Aqueduct
- Case 40: Peru, Transport Sector, Kuelap Cable-cars
- Case 41: Poland, Transport Sector, A1 Motorway
- Case 42: Portugal, Education Sector, Entrepreneurship Development
- Case 43: Portugal, Social Sector, Breaking Bars
- Case 44: Portugal, Smart and Sustainable Cities Sector, Regeneration project in Lisbon
- Case 45: Portugal, Smart and Sustainable Cities Sector, Abrantes – Urban Recognition
- Case 46: Portugal, Water Sector, Aguas do Planalto Water Concession
- Case 47: Spain, Health Sector, Barcelona Telecare Programme
- Case 48: Spain, IT and Broadband Sector, Barcelona infrastructure network
- Case 49: Spain, Transport Sector, Barcelona Tram Service
- Case 50: Spain, Transport Sector, Tenerife Light Rail Metro
- Case 51: Sao Tome and Principe, Health Sector, Health for All
- Case 52: Sudan, Health Sector, NGO engagement in PPP
- Case 53: Switzerland, Transport Sector, TOSA Electric Bus
- Case 54: Turkey, Health Sector, Elazig City Hospital
- Case 55: Turkey, Transport Sector, Eurasia Tunnel
- Case 56: Turkey, Energy Sector, Karapinar Solar Power Plant
- Case 57: Ukraine, Transport Sector, Road Safety in Kiev
- Case 58: United Kingdom (England), Health Sector, Healthcare Facilities in England
- Case 59: United Kingdom (Scotland), Smart and Sustainable Cities Sector, Hub programme
- Case 60: United Kingdom (Wales), Finance Infrastructure Sector, the Mutual Investment Method

Case 1

Albania

Transport Sector

Tirana Airport

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Tirana International Airport (Nënë Tereza) PPP
Project Proponent:	Former Albanian Ministry of Economy, Trade and Energy – now Ministry of Finance and Economy
Project Organization:	Tirana International Airport ShpK - Tirana Airport Partners



Public Organization: Ministry of Finance and Economy,

Private Organization: First Concession: Hochtief AirPort (Later AviAlliance GmbH) (Developer and Operator); DEG & AAEF (Financial Partners)
Renegotiated Concession – A new concession owner of Tirana International Airport (TIA) ShpK is being sought.

Capital Providers: First Concession (2005): Hochtief AirPort (47%), DEG (31.7%), AAEF (21.3%) - €50 million for 20 years. The EBRD provided the senior debt to the project.
Renegotiated Concession (2016)- A new concessionaire is being sought.

Why is this project a Case Study for

People First PPPs: After the political reforms of the late 90s the Albanian Government had insufficient financial and human resources to redevelop the Tirana International Airport. The redevelopment was important to the economy in terms of trade and for opening the country up to international travel and tourism which had been severely restricted during the Communist era. Over the years the terms of the contract, which were monopolistic in nature, prevented the development of competing airports and curtailed budget air travel to Albania. The terms were renegotiated by AviAlliance GmbH to accommodate competition. AviAlliance GmbH sold its shares in 2016 to a new concessionaire.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

- 1) Where:** The Project is located 17 km NW of Tirana and is the principle commercial airport of Albania which has a population of nearly 2.5 million. The airport serves as the gateway for international air travel to and from Albania. The airport is important for international trade and tourism which the government of Albania needs to promote to reach its development goals. It was therefore necessary to improve the dated infrastructure at the airport to achieve these goals.
- 2) Why:** The original airport was built in 1957 and required urgent infrastructure updates that would improve operational safety and increase the capacity of the airport to deliver services at internationally acceptable standards.
- 3) What:** Increased air traffic would improve Albania's connectivity to the rest of Europe, improve the environmental operational standards and introduce a new innovative management culture and international experience.
- 4) Who:** The key players were the government of Albania (and its stakeholder ministries) and the first and second concession holders. This project was one of the first major PPP projects that the Albanian government signed. Risks that were allocated to the concessionaire included design, construction, maintenance, exploitation, revenue and financial while the government took on regulatory and force majeure risk. Although the contract terms were fair at the time, it became clear that as the economic situation changed overtime in Albania that the financial terms and allocation of risks would need to be revisited. Financial and operational risks were primarily allocated to the concessionaire through a concession agreement that allowed mitigation of competitive risk. When it became evident that the monopolistic nature of the concession was preventing the entry of low cost carriers to Albania and driving up the cost of air tickets, the government of Albania entered into an agreement with the concession holder to change the terms of the the contract, before the 20 year concession period was exhausted. The negotiations were successful. What was not expected was that the original concessionaire would seek to sell its concession. A new concessionaire has indicated interest in the concession and in finding ways to exploit the terms of the renegotiated contract to the maximum economic benefit
- 5) When:** The tender process was launched in 2004. The concession BOOT agreement was signed in 2005. During Phase A (2005 – to 2007 - EUR 24.9 million) airport supporting infrastructure was improved. In Phase 2 (2008 to 2009 - EUR 28 million) airport specific infrastructure was refurbished. Additional phases of development were to be triggered by needs generated by airport usage. This included the construction of a safety center. In 2016 the PPP contract was renegotiated. Under this agreement, the contract period of performance was extended to 2027 and the monopolistic nature of the contract was rescinded. Since the inception of the project, passenger travel has increased from 600,000 in 2005 to 1.9 million in 2015. The project is considered a great success and is seen as a pilot project for the region that can be replicated. All indicators point to the continued success of the airport and future potential expansions.

Tirana International Airport (Nënë Tereza PPP

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind



a) Increase access to essential services and promote equity

The refurbishment and improvement of the airport and its supporting facilities has resulted in major improvements to the airport and saw an increase in air traffic. Between 2005 and 2015 passenger numbers at the airport increased dramatically and services improved exponentially. Visa liberalization has also helped increase traffic to the airport with Italy being a major source. The increase in cargo and mail flights has also been a contributor to an increase in air traffic at the airport. The monopolistic nature of the first concession had unintended consequences which prevented the development of additional airports in the north of Albania and on the coast which would have improved tourism access.

This deficiency was identified by the Albanian Government which entered into negotiations with the concessionaire in 2016. Of concern was the impact of the monopolistic nature of the agreement which prevented bargain rate carriers from flying to other airports in Albania. The consequence of this was that air tickets were too expensive for citizens who then drove to neighbouring countries to use more inexpensive services. This loss of potential revenue was of concern to the Albanian Government which then entered into concession negotiations to address the original contract's terms.

Under the new agreement (2016) greater access to airports in Albania was guaranteed and it is hoped that this will encourage competition and lower the cost of air tickets. The new concession agreement will also expedite air travel to other urban centers in Albania (Kukës, Vlora, and Sarande Airports) and possibly increase the access of air travel to Albanians who might then be less inclined to travel to Albania's neighbors for access to affordable air travel.

The improvements in the concession terms and the potential for increased passenger traffic should ensure that the concessionaire will be able to mitigate usage risks and potential loss of revenue to neighbouring countries.

Tirana International Airport (Nënë Tereza PPP)

9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE





b) Develop a resilient infrastructure and improve environmental sustainability

The project was been screened as B/1 requiring an environmental analysis and review of the environmental status and performance of the existing facilities.

The reconstruction and modernization of Tirana Airport has taken place under conditions that are in harmony with the goals of building resilient infrastructure and focusing on environmental sustainability.

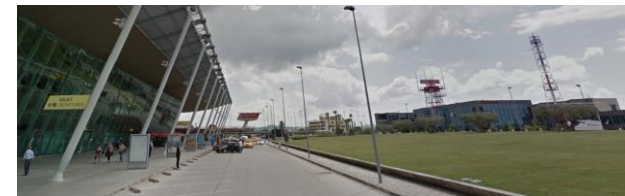
The quality of services and facilities is considered to be “satisfactory” to very “satisfactory”. Much progress has been made regarding the protection and improvement of the environment.

The Ministry of Public works and Transportation which was responsible for the regulation of the airport under the 2004 agreement ensured that land acquisition was fair. Claims of environmental damage such as noise, pollution related to the airport enlargement and construction of new facilities are addressed by the public sector.

TIA is in compliance with its environmental permits, procedures and environmental & health legislation and monitors noise levels, air quality, waste water parameters and potable water quality.

In 2011, an initiative was launched to address TIA’s optimization of energy efficiency. The purpose of this action was to facilitate the sustainable use of resources and energy saving.

Tirana International Airport (Nënë Tereza PPP





c) Demonstrate the economic and financial effectiveness of the project

The Tirana airport has proven to be financially viable. The airport has attracted new carriers and the concession agreement has contributed to the liberalization of the air transportation industry in Albania. Under the concession agreement financial risk was carried by the concessionaire Tirana Airport Partners (TAP).

Up to EUR 22.6 million senior debt was provided by EBRD while an additional EUR 24.3 million senior debt financing was provided through parallel loans by DEG, Alpha Bank and the American Bank of Albania as part of a total EUR 46.9 million senior debt facility. Under the concession agreement the airport facilities are exempted from customs duties, import taxes, and value added tax on imports and materials supplied for construction and reconstruction work. TAP receives airport revenues from the airport. The Government receives annual revenues from TAP's fiscal system activity profit, VAT, etc.. TAP is responsible for guarantee the full performance of the contract for the 20 years of the original agreement.

It is important to note that under the terms of the concession agreement the Contracting Authority was authorized to negotiate and achieve an agreement with the concessionaire to change the terms and conditions of the concession contract in any of the stages of implementation if this would protect the efficiency of the airport. This agreement allowed the renegotiation of the monopolistic terms of the agreement in 2016.

To date the airport concessionaires have met their financial responsibilities and the effectiveness of the airport in increasing passenger traffic three fold since 2005 has ensured the economic success of the project. It will be interesting to see what impact the new concessionaire's management approach has on the economic and financial effectiveness of the project through 2027 when the airport reverts to the government.

Tirana International Airport (Nënë Tereza PPP)

9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE





d) Be replicable and scalable

It was the intention of the proponents of this project that the BOOT PPP concession model that was implemented at the Tirana airport would be replicable in other Albanian airports. The EBRD was also interested in seeing if this approach could be replicated in airports of similar size in other Balkan cities.

A phased approach was followed to ensure that the approach to the airport was practical and manageable. After the initial two phases the possibility of additional phases was left open.

Over time the Albanian government became aware that the original terms of the contract needed to be renegotiated as the monopolistic terms that had originally seemed to be necessary were having unintentional impacts of the expansion of airport infrastructure to other Albanian cities. Fortunately, the original contract left the possibility of renegotiation of terms due to changing circumstances.

This led to the successful and amicable negotiations of 2016 which removed the monopolistic cause and extended the contract performance period to 2027. A good case is made here for PPP contracts to contain flexible clauses that allow projects to adjust to the unknown, be they political or economic in nature.

The private sector was primarily responsible for the operations and maintenance of the airport. It hired most of its workforce locally and this achieved one of the goals of improving the skills of local Albanians and giving them access to new jobs. The regulatory environment remained the responsibility of the public sector.

Tirana International Airport (Nënë Tereza PPP)

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE





e) Engage all stakeholders

During the conception stage multiple government and civic stakeholders were engaged. This included multiple ministries who would be stewards of the project and the local inhabitants who would be beneficiaries of the project and also be directly impacted by the airport operations and expansion.

The EBRD as a major financial supporter of the project required that a record of public consultation be kept, especially when it came to environmental screening as a B/1 requiring that required an environmental analysis and review of the environmental status and performance of the existing facilities.

An Environmental Analysis of the planned development program was undertaken with stakeholders to identify the potential impacts of the project. The EBRDs consultative Environmental Analysis did not identify any significant environmental or social issues.

A lack of understanding of the nature of PPPs in post Communist Albania also required outreach to internal government stakeholders and external stakeholders (the general public and civic organizations) to familiarize them with what PPPs are all about.

Tirana International Airport (Nënë Tereza PPP)



Case 2

Brazil

Agricultural Sector

Nova Ceasa

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Nova Ceasa
Project Proponent:	Secretaria de Estado de Desenvolvimento Rural State Secretary for Rural Development
Project Organization:	Superintendência de Parcerias e Concessões Superintendency of Partnerships and Concessions

Public Organization: Superintendência de Parcerias e Concessões
Superintendency of Partnerships and Concessions

Private Organization: BrazilFruit Transporte, Importação e Exportação LTDA –
in charge of: expand, reform and rehabilitate with exploration, operation, maintenance,
and development of the new Distribution Center.

Capital Providers: 100% private

Why is this project a Case Study for People First PPPs:

- Provides access to food in quantity and quality to the population;
- Intensifies the public policy in the food supply and distribution and in the agriculture production;
- Fosters family farming, specially small producers;
- Allows for across the board action in the areas of education, health, income growth, and regional development;
- Reallocates public resources to other investments in other policy decisions;
- PPP Award in the PPP Awards & Conference 2017.





Please use this slide to describe briefly the context and strategy supporting the project:

- 1) Where:** Located in the Teresina municipality, in an area of **247483** ha, with the ability to serve a population of 900.000 consumers in the fruit and produce growing and farming industries;
- 2) Why:** In face of the difficulties experienced by the users and permit holders of the Distribution Center and the need to assure an efficient management able to sustain the investments and services requested like: infrastructure, cleanliness, security and wastewater.
- 3) What:** Contribute to the economic and social development of the State of Piauí, through the conception and coordination of food and nutritional programs and projects, fighting hunger, including food wasting eradication policies, centralization and distribution of family farming products, with developed social projects.
- 4) Who:** General community, Permitholders' Union (União dos Permissionários), State Secretary of Rural Developmen (Secretaria de Estado de Desenvolvimento Rural), Secretary of Administration (Secretaria de Administração), and Superintendency of Partnerships and Concessions (Superintendência de Parcerias e Concessões);
- 5) When:** Project proposal: February – 2015; Studies and project structuring: 18 meses; Bid: April– 2017; Contract signature: May – 2017; contract deadline: 30 years; Start of emergency construction: 90 days after signing the **TERI**; Engineering project delivery: March – 2018.



a) Increase access to essential services and promote equity

- Fostering local agriculture production, integrating the small rural producers in the State's distribution network
- Promoting local agricultural production, including the small rural farmers in the State's distributions network, incentivizing family farming, and promoting a local and regional system of production and trade;
- Innovating and modernizing food supply, enhancing transparency and inclusiveness to all segments of society in the best prices settlement;
- Reducing food waste and squandering of produce;
- Disease prevention actions, such as: hepatitis, leprosy, diabetes, tobacco dependency, mosquito transmitted diseases; Vaccination campaigns;
- Refurbishing and installing equipment in the Medical Post;
- Installing a wastewater treatment station.



b) Develop a resilient infrastructure and improve environmental sustainability

Infrastructure targeting to improve the conditions of the trading market through:

- Favourable topography to superficial drainage of a large area, and the implementation of an autonomous system for sanitary sewage and compact E.T.P. (Effluent Treatment Plant);
- Providing services in landscaping and ground levelling for parking, mechanically compacted to road standards, and addition of clay soil for a base and sub-base constitution, levelled to enable the drainage of rainwater; installation of rainwater drainage pipes and gutters in CEASA;
- Adoption of a solid waste treatment policy with the implementation of sustainable alternatives, purging systems assessment and discard of unusable goods, used packages, garbage and sanitation;
- Arborisation project to assist in reducing gases, enhancing shading, reducing noise pollution, absorption of air pollution, reducing heat, and facilitating nesting and reproduction of local birds.



c) Demonstrate the economic and financial effectiveness of the project

Economic and financial return:

- Monthly payment to the State;
- Payback – 9 years;
- TIR – 30 years: 13.10%;

Expected impact on the local economy:

- Creating 62 direct workplaces and around 250 indirect workplaces in the first two years of the project's implementation;
- State support to the small rural and urban-rural farmer;
- Increased tax revenue to the State – increase in production and trading;
- The State government will not have to directly spend in the short run R\$ 46.5 million to respond to the urgent investment needed in the reform and increase of the Distribution Centre, not to mention the recurring operational expenses, now directing these resources to other areas of activity, like education, health and public safety.



d) Be replicable and scalable

- An innovative and dynamic model jointly for a retailing market and for a wholesaling depot;
- Transparent and effective management;
- Comprehends the development of actions and responses to specific concerns, such as: the maintenance of Food Banks, educational actions through the maintenance of a day-care for the children of the more disadvantaged vendors, professional training and literacy actions for youngsters and adults in partnership with the Secretary of Education of the State of Piauí, restructuring of the medical and dental posts, as like as disease preventing and welfare promoting campaigns;
- Promoting entrepreneurship, creativity and innovation, and also setting and promoting micro, small and medium companies.



e) Engage all stakeholders

- União dos Permissionários (Union of Permitholders) – Associação dos Comerciantes (Association of the Vendors);
- Secretaria de Estado de Desenvolvimento Rural (State Secretary of Rural Development);
- Secretaria de Administração (Secretary of Administration);
- Superintendência de Parcerias e Concessões (Superintendency of Partnerships and Concessions);
- Users;
- Tribunal de Contas do Estado – TSE (State Court of Accounts – the State Auditor)
- Ministério Público do Estado – MPE/PI (State Public Attorney)
- Concessionaire

Case 3

Brazil

Energy Sector

Minas Solar Farm



Project:	Minas Brazil Solar Farm
Project Proponent:	Michel Sednaoui, Investment Director
Project Organization:	Plexo Solar



Public Organization: **Energy Company of Minas Gerais (“CEMIG”, Brazil)** and National Electric Energy Agency (“ANEEL”, Brazil)

Private Organization: *Development:* **Plexo Solar (Brazil)**, Transition Practices Academy (Global),
Construction: SDS Construction (Brazil)
Operation & Maintenance: Plexo Solar (Brazil)

Capital Providers: *Equity:* **Impact Investors** and/or Private Equity Funds
Debt: Brazilian Commercial Banks and/or State-Subsidized Loans

Why this project is a Case Study for People First PPPs:

- **Free solar energy** to local, **underprivileged communities**
- **Sustainable education and healthcare** provided to local, underprivileged communities
- **Affordable and clean energy** to companies through **innovative financing structure**
- **Strong PPP** in a nascent and growing sector in Brazil
- **Clean energy generation** contributing to fighting climate change
- **Above-market rate of return** for investors





Where: Jaíba region, North of **Minas Gerais, Brazil**

Why: The region where Plexo Solar will install the Minas Brazil Solar Farm hosts one of the **highest levels of solar radiation in Latin America**. Despite this, some members of the region's poor community do not have access to electricity. Plexo Solar knows that, through Minas Brazil Solar Farm, it will be able to create jobs, **improve the region's quality of life and help fight climate change**. The project's financial returns today are above-market levels in Brazil, while the price of solar panels continues to fall. Finally, the **combination of public infrastructure and private investments** will enable the generation of electricity using the most abundant source of energy on the planet.

What: The Minas Brazil Solar Farm project will **generate clean and affordable energy** to alleviate the national grid from the pressure of demand growth. The project will also focus on creating **resilient, sustainable communities** through its social development programme.

Who: **The key players are Plexo Solar and CEMIG**. Plexo Solar is a private organization that will design, build, finance, operate and maintain the project. CEMIG is a public organization that manages the distribution lines in the state where Minas Brazil Solar Farm will be located. Both organizations will cooperate and share risk **through a net-metering partnership**.

When: Project development started in Q3 2017. Procurement is expected to **start in July 2018** followed by construction that is expected to **end in Q4 2018**. The system will be interconnected to the grid within 3 months of the end of the construction period.

Minas Brazil Solar Farm





Access to Clean Energy and Education for Sustainability

Minas Brazil Solar Farm will offer access to clean, renewable energy to the equivalent of **5,000 people** for over 25 years, at a **lower cost than the local utility company**.

In addition, the **economically and socially sensitive communities** surrounding the project's installation sites, will be given **free access to photovoltaic energy**.

Unsatisfied with simply installing solar panels in communities that live below the poverty line, Plexo Solar will use this opportunity to select and apply tools of the **Ecovillage Design Education** (EDE) programme, that are carefully adapted to the biocultural uniqueness of each location.

These education tools include leadership development for new paradigms, design thinking for sustainability, cooperative games, participatory methodologies and regeneration of the communities' ecosystems. The end result will be an empowering, community-wide, **social entrepreneurship capacitation programme**, **increasing equity as a by-product** of the free access to clean energy.

The social element of Minas Brazil Solar Farm, inspired by Gaia Education for Sustainability and the Transition Towns Movement, promotes the conscience and leadership necessary to enable **transformative community agents who can replicate and scale the acquired training**.

Minas Brazil Solar Farm





Resilience and Environmental Impact

The Minas Brazil Solar Farm project will generate enough solar energy for over 1,250 families. All electrical and mechanical parts used to build this photovoltaic system are of highest quality and **have been tested over several years** across the U.S.A., Europe and parts of Asia. Most of these parts are designed and manufactured to **last as long as 30 years** with minimal impact on system performance.

Unlike most power generation projects, the environmental impacts during the construction of Minas Brazil Solar Farm are limited to gas emissions from trucks and earth moving equipment used to prepare the project site for structural installations and to transport both, materials and construction crews. Through its 25+ operational years, the Minas Brazil Solar Farm will produce **no significant adverse environmental impacts**. The solar energy generated at the farm will be 100% clean and renewable. We expect to reduce CO2 emissions by up to 32,500 tons over 20 years.*

At the end of the project lifecycle, most system components will be **recycled or repurposed** to keep the local environmental impacts low.

*A study conducted by the Brazilian Association of Energy Conservation Services Companies ("ABESCO"), reveals that a home equipped with a photovoltaic system that can generate 180 kWh/month reduces CO2 emissions by 1.3 tons per year.

Minas Brazil Solar Farm





Funding

The project will be funded through **long-term community solar agreements**. The agreement-holders will be, exclusively, private companies consuming the solar energy generated. Under this scheme, the project will fund itself in up to **8 years**, making this a conservative estimate of its **payback period**. The **financial sustainability** of the project can be illustrated by the attractive offer made to all agreement-holders, at **no upfront cost**:

- Up to **20% savings** on their electricity bills
- An **end to the volatility of Brazilian electricity prices**
- **Clean, sustainable** energy for the next 25 years

Finance

To finance the project, debt will be drawn from private debt markets (backed principally by real estate holdings). The equity portion of the project's finance will be sourced from impact investors and/or private equity funds. Plexo Solar expects to use a **75/25 debt to equity ratio**.

The **public sector makes an implicit investment** in the project by covering distribution costs through its net-metering system.

Minas Brazil Solar Farm's base case scenario yields a **Net Internal Rate of Return of 21.3%**. The project's financial return can increase through economies of scale, if the project is replicated.

People First

- **Exponential social inclusion** will result from Plexo's social development project
- Through its design for sustainability programme, creation of **thriving local communities** and **vibrant circular bio-economies**
- Education for sustainability to **create opportunities for qualified jobs**, including solar energy technicians
- **Local jobs** created in all three phases of Minas Brazil Solar Farm

Minas Brazil Solar Farm

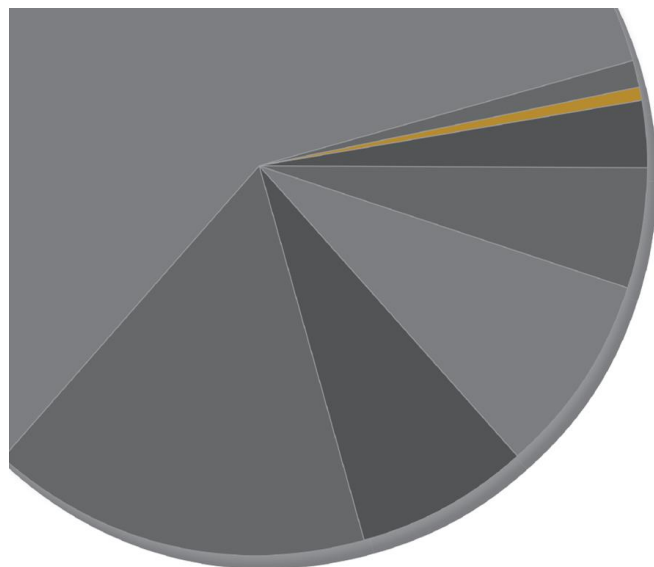




Replicability and Scalability

A community solar system that produces low-cost energy can be **replicated** in many other parts of Brazil due to the country's solar potential, homogeneous electricity regulation and growing energy demand. **Small-scale photovoltaic systems are among the most economically viable and least complex energy generation systems that can be built**, in Brazil and other countries with similar characteristics (i.e., significant solar radiation, high electricity costs, favorable regulations, growing energy demand). Coupled with operational feasibility, the attractive financial returns of this project make it easily scalable, specially when one considers that it will benefit from **economies of scale**.

Reducing consumers' carbon footprint, Minas Brazil Solar Farm will meet energy demand by **providing affordable and clean energy** to consumers in multiple sectors, who will gain in savings and autonomy.



Electricity Production in Brazil

Electrical Energy Generation Mix

Hydro 60,8%
Fossil Fuels 16,2%
Biomass 8,7%
Wind 7,5%
Tidal 2,0%
Nuclear 1,2%
Solar 0,6%

Imported 3,0%

Source: Agência Nacional de Energia Elétrica

Both the private and public partners are prepared to manage a successful project. Plexo Solar directors were trained in multiple academic fields and have dedicated over 10 combined years to the solar energy industry, in solar advanced countries. **CEMIG has been successfully managing net-metering systems since 2012.**

Within the relatively small Jaíba region alone, the **potential installed capacity for similar projects exceeds 1GW.**

Minas Brazil Solar Farm





Stakeholders

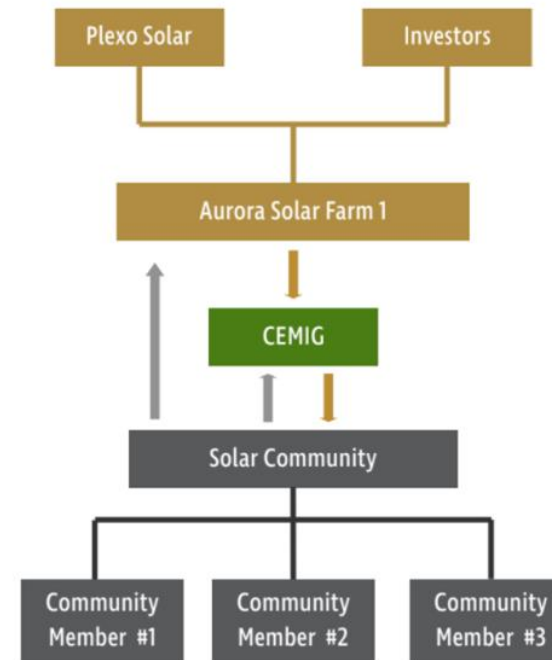
Roles of Direct Promoters

In addition to the **Public-Private partnership between Plexo Solar and CEMIG**, Plexo Solar further cooperated with:

- **Transition Practices Academy** to develop an efficient and resilient program that will bring meaningful social and environmental impacts.
- **SDS Construction** to define material procurement and project engineering

The **main challenge** to the project's preparation and development was cooperating across **4 time zones**. This was managed through regular conference calls with each promoter, often resulting in mid-night meetings.

Other stakeholders include public entities that are peripherally connected to the project, such as the **Ministry of Mines and Energy (MME)**, the **Ministry of the Environment (MMA)**, the **National System Operator (ONS)**, but principally the **local communities** benefiting from the social development brought upon by Plexo Solar. These communities have much to gain in redesigning their ecosystems into bio-circular economies, through the education, training and assistance provided. Finally, the **solar community** consuming clean, affordable energy will become more prosperous through savings and will benefit the planet by reducing CO2 emissions.



Minas Brazil Solar Farm



Case 4

Brazil

Smart and Sustainable Cities Sector

Sao Luiz do Paraitinga

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Sao Luiz do Paraitinga – Cidade Inteligente (http://cidadeinteligente.elektro.com.br/)
Project Proponent:	ANEEL, Government of the State of Pernambuco
Project Organization:	Elektro



Public Organization: ANEEL (Agência Nacional de Energia Elétrica): Regulatory Agency from Brazil
Sao Luiz do Paraitinga City Hall

Private Organization: Elektro, BeeLEDS, Ecil, Elucid, Energia Pura, FITec, Golden, Metrowatt, MFAP, Nansen, PUC-Rio, TAG, Tembici, UNESP-Ilha Solteira, USP-Sao Carlos, V2COM, ZIV

Capital Providers: Energy distributors in Brazil, that are required to spend 0.5% of their revenue in R&D projects, that are regulated by ANEEL

Why is this project a Case Study for People First PPPs: **Cidade Inteligente** is a project that pursues three goals:

- To **develop a reference model for smart grids applied to the implantation of smart cities** involving innovative solutions for automation and operation of the power grid, distributed generation, smart metering, insertion of electric vehicles and offer of new services to consumers.
- To **raise the awareness of the population regarding smart city technologies** and energy efficiency
- To **develop knowledge about smart grids in Brazil**



UNECE 500 People First PPPs for the SDGs... *ending poverty, protecting the planet, and leaving no one behind*



Where?



Location in São Paulo state

Coordinates:  23°13'19"S 45°18'36"W

Country	 Brazil
Region	Southeast
State	São Paulo
Metropolitan Region	Vale do Paraíba e Litoral Norte
Area ^[1]	
• Total	617.148 km ² (238.282 sq mi)
Elevation	741 m (2,431 ft)
Population (2010) ^[2]	
• Total	10,404
• Density	17/km ² (44/sq mi)

São Luiz do Paraitinga is a municipality in the eastern part of the state of São Paulo in Brazil. The name Paraitinga comes from the Tupi language (Parahytinga) meaning clear water). The city is a **major tourist destination** of the Paraíba Valley region, particularly, due to its **Historic Centre**, declared a **national heritage site**. The key economic sector is **tourism**

Why?

- The **Brazilian electric sector** manage **resources**, considered special obligations, for **application in R & D and Energy Efficiency projects**. ANEEL, the regulatory agency for electricity, defines the criteria for applying these resources.
- **Cidade Inteligente** aims to develop a **reference model for smart grids**, to raise **awareness of the population** regarding **energy efficiency** and to **develop knowledge** about **smart grids** in the country
- The municipality of **São Luiz do Paraitinga** and **Elektro** signed a **partnership term** that was important to develop a relationship between both.

Cidade Inteligente





What?

Cidade Inteligente has three main goals:

1. To develop a **reference model for smart grids** applied to the implantation of smart cities. This reference model will be premised on the use of a shared telecommunications and information technology infrastructure in order to subsidize the elaboration of technical, economic and regulatory methodology and guidelines to support a **future large-scale commercial deployment** in the ELEKTRO supply area, based on the results obtained from the implementation of the pilot site in the tourist city of São Luiz do Paraitinga.. This goal unfolds in the following specific objectives:

- **Evaluate existing technologies** and case studies of architectures (smart grid/smart city) in the national and international markets;
- **Design an integrated and interoperable smart grid architecture** involving consumers and specialized systems, such as: power distribution, computer, telecommunications and others;
- Evaluate the **legal and regulatory restrictions** to the services and systems to be offered by ELEKTRO;
- Conduct **technical-economic feasibility studies** of technologies, architectures and services;
- Create **proof of concept scenarios** for different technology solutions
- Development of marketing procedures, operation, control and protection of smart cities;

Cidade Inteligente





What:

2. To **raise the awareness of the population regarding smart city technologies and energy efficiency**. This was achieved by the following actions:

- **Partnership with the Secretary of Education** to promote **energy efficiency measures** and the different smart grid technologies to the **schools of São Luiz do Paraitinga** through the following initiatives:
 - Performances in schools by the Professor Smart and his clumsy assistant to teach children about the importance of saving energy and methods to do so
 - Promotion of a writing contest for the students about the importance of saving energy and how the smart city technologies help in that effect
 - Promotion of a sciences fair where the students presented projects about the importance of saving energy and how the smart city technologies help in that effect.
- Creation of a **smart house** open to the public with the following
- Creation of the **Android App “Passeio Inteligente”** available at where people could take a virtual tour the city and learn about the different technologies implemented in the city;
- **Supply of electric bicycle** to the general population where people could understand the advantages of electric vehicles;
- **Renewal of the public illumination**, where we exchanged common lamps for new LED lamps, with better efficiency, contributing to energy savings in the city.

3. To develop knowledge about smart grids in Brazil. **Partnerships with three major universities have been signed:** Universidade de São Paulo (USP – São Carlos), Universidade Estadual de São Paulo (Unesp – Ilha Solteira) e Pontifícia Universidade Católica (PUC – Rio). The universities **developed a series of research thesis** in several fields that led to doctoral thesis across the three universities.

Cidade Inteligente



Who?



ECIL



ELEKTRO

LOGICALIS

**SÃO LUIZ DO
PARAITINGA**

CISCO



Cidade Inteligente



When?

2013

2014

2015

2016

2017

2018

Cidade Inteligente





Increase access to essential services and promote equity

The **two main values** that this project brings are the **development of the knowledge in smart grid technologies** and the **increase in the population's awareness about these technologies** and the **importance of a greener behavior regarding the use of electricity**.

The **first value** is brought to three stakeholders:

- First to **Elektro** itself, that gained significant insight as to how to implement smart grid technologies in its concession area. They are **expanding the concept of Smart City to other cities** in the near future;
- Second, to the **universities**. All three universities develop **major researches** in the field of smart grids with doctoral thesis
- Finally, **the energy sector**. Other energy distributors can learn from Elektro's steps in implementing smart grid technologies.

The **second value** is brought to the **city itself**. This project brought forth the advantages of smart grid and **raised the population's awareness** regarding the **technologies** and **more efficient energy consumption habits**.

Cidade Inteligente





Develop a resilient infrastructure and improve environmental sustainability

The project improve environmental sustainability in the following way:

- With the installation of **smart meters in people's houses**, the population gains access to a virtual agency where they can have a better understanding of their monthly energy expenditure and **plan goals to reduce energy consumption**
- With the installation of **photovoltaic systems in public buildings**, these buildings will have a **significant reduction in their energy bill**

Cidade Inteligente





Demonstrate the economic and financial effectiveness of the project

• Funds:

- The resources are of public origin, considered **special obligations** (€4 million)
- **Elektro** have invested € 1 million as a **counterpart**

• Project financing:

- This project is funded by **ANEEL R&D program**. Once approved the utility company is the main responsible for implementation and guarantee of deployment
- The **utility companies** bid the **development of the researches** and implement **all conditions** to execute the project.
- All **deployment** is made by **private suppliers** and the **research** is made by **Brazilian public university and institutions**
- In this project **Elektro finances the deployment** by FINEP, a Public institution, that provides credit to innovation projects
- The **company** does recover a **fraction of the cost of the project** through the **smart meter**.

• Value for money:

- All investment in ANEEL R&D an EE Program is based on criteria related to **originality, cost reasonability**
- The Cost Benefit analysis is made in **two steps**, first in **project presentation** and second as a **project audit**

Cidade Inteligente





Be replicable and scalable

- The **first goal** of the **Cidade Inteligente project** is to develop a **reference model for smart grids** applied to the implantation of smart cities involving innovative solutions. **This reference model** will be premised on the use of a shared telecommunications and information technology infrastructure in order to subsidize the **elaboration of technical, economic and regulatory methodology** and **guidelines** to **support a future large-scale commercial deployment** in the ELEKTRO supply area, based on the results obtained from the implementation of the pilot site in the tourist city of São Luiz do Paraitinga.
- This **reference model** can also contribute to the **implementation of the smart grid concept throughout the national territory**, observing the regional electric grid peculiarities.

Cidade Inteligente





Engage all stakeholders

- **Municipality:** The main role of the municipality in this project was **to provide infrastructure needed for Elektro to strengthen interaction with customers**, such as: a house in São Luiz do Paraitinga downtown to be used as a technology showroom and support to our actions in schools.
- **Utility:** Elektro **owns the asset**, although some assets, such as solar panels will be donated to the municipality or some customers . Elektro is also **in charge of operating the service**.
- **Universities:** The universities developed a series of **research thesis** in several fields that led to doctoral thesis across the three universities.
- **Consumers:** This project managed to **reach its consumers from online and physical platforms** that were implemented in the city of São Luiz do Paraitinga. Consumers were also the target of the **initiatives** developed to **raise awareness regarding smart city technologies and energy efficiency**

Cidade Inteligente



Case 5

Brazil

Smart Grid Infrastructure

Island of Fernando de Noronha

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Sustainable Technologies for Fernando de Noronha
Project Proponent:	ANEEL, Government of the State of Pernambuco
Project Organization:	Neoenergia

Public Organization: ANEEL (Agência Nacional de Energia Elétrica): Regulatory Agency from Brazil
Government of the State of Pernambuco

Private Organization: Neoenergia, WEG, SUNEDISON, CAS, ZIV, NEC

Capital Providers: The resources are of public origin, considered special obligations.

Why is this project a Case Study for People First PPPs: The project consists of a set of projects focused on the **energy sustainability** of the **island of Fernando de Noronha: Smart Grid infrastructure** (Telecom, efficient public lighting system, fast charging station with solar energy, electric vehicle, distribution network automation, consumer portal, distributed generation), **solar plants** (1 MW) and **energy storage system**. The main goals are to **reduce the consumption of diesel oil** used for generating electricity by 10%, to allow the **shutdown of 1 of the 3 operating generators** because of the storage system and to **mitigate environmental costs** associated with emissions. The main beneficiaries are **the population of Fernando de Noronha**, based on a better use of the available energy resources, with reduced costs, less environmental impact and with the possibility of **generating employment** with the creation of services for plant maintenance



UNECE 500 People First PPPs for the SDGs... *ending poverty, protecting the planet, and leaving no one behind*

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Where?



Location in Brazil

Coordinates: $3^{\circ}51'13.71''\text{S}$ $32^{\circ}25'25.63''\text{W}$

Country	 Brazil
State	 Pernambuco
Founded	August 10, 1503
Named for	Fernão de Loronha
Area	
• Total	17.017 km ² (6.570 sq mi)
Population (2015) ^[1]	
• Total	2,930
• Density	170/km ² (450/sq mi)

The islands are a unique case in Brazil of a special "**state district**" that is not part of any municipality and is administered directly by the government of the state of Pernambuco. In **2001** UNESCO designated it as a **World Heritage Site** because of the **importance of its environment**. The key economic sector is **tourism**.

Why?

The main energy source of the island is the **diesel** used at the **5 MW Tubarao Power Plant**. With the objective of reducing fossil fuel consumption in the island, as well as mitigating the environmental impacts associated with the transportation, storage and consumption of this fuel, Celpe (electric power distribution company belonging to Neoenergia) conceived a set of sustainable projects. These projects were designed and built by Neoenergia companies.

Neoenergia manages resources considered **special obligations** for applications y **R&D and Energy Efficiency projects**. ANEEL approve or disapprove this projects



Sustainable Technologies for
Fernando de Noronha



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

What?

The project brings together a series of initiatives that contribute to increasing the **island's sustainability**, enabling a **better use of energy resources** with increased solar generation, **monitoring and reduction of consumption**, storage of energy to reduce the intermittence of the solar resource

Sustainable Technologies for
Fernando de Noronha

Who?



SunEdison

NEC
NEC Energy Solutions



PERNAMBUCO

NEOENERGIA

WEG

ZIV



UNECE 500 People First PPPs for the SDGs... *ending poverty, protecting the planet, and leaving no one behind*

International PPP Centre of Excellence

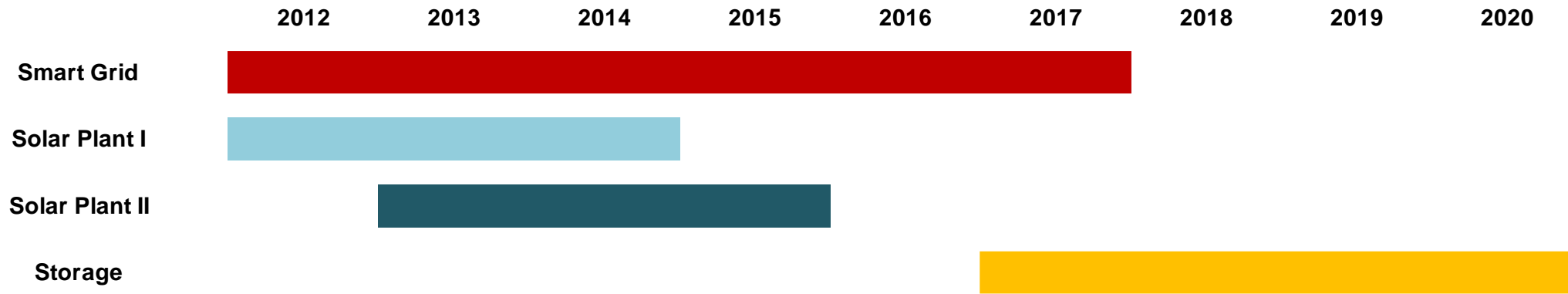
People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

When?

Sustainable Technologies for
Fernando de Noronha





Increase access to essential services and promote equity

This project enables the access of the population of Fernando de Noronha to affordable and clean energy (SDG 7)

- The **solar plants** avoid the burning of 9% of the fossil fuel used for electricity generation
- 90% of the consumer units of Fernando de Noronha are benefited by the infrastructure of **Smart Grids**
- The **Storage System** will allow the shutdown of one of the diesel generators

Sustainable Technologies for
Fernando de Noronha





Develop a resilient infrastructure and improve environmental sustainability

- The island of Fernando de Noronha is located in the Atlantic Ocean, 545 km from Recife. It is considered an **ecological sanctuary**
- The **transport of cargo**, including fuel, is carried out by ships
- The **annual consumption of diesel oil for electricity generation** corresponds to 4.5 millions of liters
- The **average consumption of the island** is greater than 1000 kWh/consumer per month
- The project brings together a series of initiatives that contribute to **increasing the island's sustainability**:
 - Enabling a **better use of energy resources** with increased solar generation, monitoring and reduction of consumption
 - Storage of energy to **reduce the intermittence of the solar resource**
 - **Reducing CO₂ emissions** from energy generation
 - **Reducing the risk of possible damages** due to contamination in case of accidents

Sustainable Technologies for
Fernando de Noronha





Demonstrate the economic and financial effectiveness of the project

- **Funds:** The resources are of public origin, considered **special obligations** (\$15.7 million)
 - The resources used to construct the Smart Grid infrastructure and storage system are derived **from the tariffs** paid by all consumers
- **Value for money:**
 - The assets of the smart grid and storage will be operated by Celpe. The **operation and maintenance costs** will be borne **by tariff of consumers**
 - The assets of solar generation will be donated to the Government of Pernambuco. **O&M expenditures** will be borne by that institution, considering the costs avoided with the consumption of energy from the electricity grid **via net metering**

Sustainable Technologies for
Fernando de Noronha





Be replicable and scalable

This project has demonstrated to consumers and governments the relevance of investing in sustainable resources, especially in isolated areas.

- The government of Pernambuco wants to expand the program with the insertion of **more renewable sources**, such as **energy generation with waste biogas**
- This model is easily replicable in **other islands**

Sustainable Technologies for
Fernando de Noronha





Engage all stakeholders

- The **Government of Pernambuco** is responsible **for approving any project** on the island, considering the environmental restrictions
- **Public entities** have a **regulatory and licensing role** for the implementation and operation of projects on the island
- The **projects were designed and built** by **Neoenergia** companies.
 - Projects linked to the **electricity grid**, are **operated** by **Celpe**
 - Projects related to **renewable sources of generation** will be **operated and maintained** by the **Government of Pernambuco**

Sustainable Technologies for
Fernando de Noronha



Case 6

Brazil

Water and Sanitation Sector

Metropolitan Region of Recife and Goiania

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Sanitized City Program
Project Proponent:	BRK Ambiental
Project Organization:	Government of Pernambuco (Brazil)



Public Organization: Companhia Pernambucana de Saneamento (Compesa)

Private Organization: BRK Ambiental

Capital Providers: Government of Pernambuco; Caixa Econômica Federal (Brazil)

Why is this project a Case Study for People First PPPs:

The Sanitized City Program is the largest sanitation program in progress in Brazil. This Public Private Partnership has 3 basic objectives: to expand sanitary sewage services in the Metropolitan Region of Recife by achieving a minimum of 90% coverage in all coverage areas; promote the recovery of the entire existing structure for operational sewage systems; and ensure the improvement of the operating service provided to its customers. By the end of the 35-year contractual term, it is expected to provide sewage system to approximately 5 million people. The execution of the contract ensures economic and financial balance, without burdening any of the parties (contractor, public authority and society) with additional costs.



UNECE 500 People First PPPs for the SDGs... *ending poverty, protecting the planet, and leaving no one behind*



Please use this slide to describe briefly the context and strategy supporting the project:

- 1) Where:** State of Pernambuco, Brazil; Metropolitan Region of Recife, about 5 million inhabitants; Residential sanitation, with impact on the public sector (budget); public health; and in environmentally friendly companies.
- 1) Why:** There was a deficit of 70% on sewage collection in the Metropolitan Region of Recife. In the viability phase, instruments such as: Value For Money; Financial Modeling; Engineering Modeling; and the Business Plan. The shortage of financial resources made Compesa decide for the PPP as an alternative for investments.
- 1) What:** The increase in sanitary sewage coverage in the Metropolitan Region of Recife and the municipality of Goiana allows the control and prevention of many diseases. The program has also improved the quality of customer service: More than 99% of requests for network/extension unblocking services are now completed within 48h.
- 1) Who:** Compesa; BRK Ambiental (private partner); Government of the State of Pernambuco; City Halls of the Municipalities covered and the population benefited by this program.
- 1) When:** project planning (approximately 5 years); government approval (approximately 2 years); launch (July 2013); maintenance period - 35 years (July/2013 - July/2048); contract term 35 years (July / 2013 - July / 2048)

Sanitized City Program





a) Increase access to essential services and promote equity

➤ increasing access

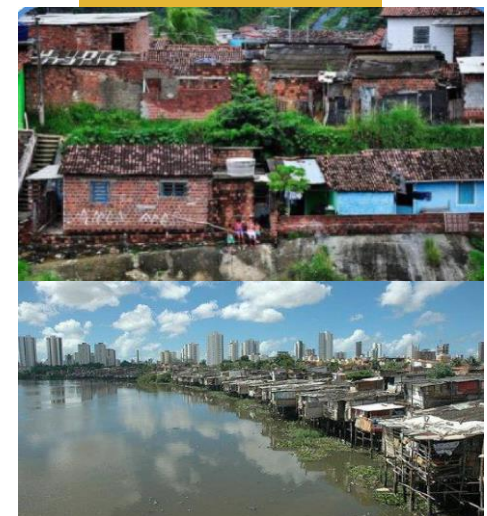
- The project covers 14 municipalities in the Metropolitan Region of Recife + Goiania;
- Includes areas of special occupation within RMR;
- They will be incorporated into the existing system (integrated sanitation works, removal of stilts) wherever minimum urbanization conditions are met.

Note: efforts from the city halls are also required in order to improve the integrated sanitation system.

➤ promoting equity

- The PPP maintained the same tariff evaluation criteria enforced by the Regulatory Agency (ARPE);
- The project is capable to include up to 8% of the economically vulnerable population served with water through a social tariff (0,00 (zero) for sewage service).

Sanitized City Program





b) Develop a resilient infrastructure and improve environmental sustainability

➤ Permanent infrastructure

- In addition to the expansion of sewage services, the PPP aims to recover and maintain all existing systems;
- The project uses quality indicators to monitor the service provided by the private partner.

➤ Environmental sustainability

- Due to the nature of the services, the Sanitized City Program promotes actions aimed at guaranteeing health, improving the quality of life and preserving the environment.
- The Program foresees the development of relationship initiatives to mobilize the population in the common pursuit of these objectives.
- In the area of environmental education, the Program sensitizes communities about the challenges in this sector and stimulates the understanding of the benefits obtained from improving sanitary sewage conditions.
- Note: The goal is to drive a transformation in people and develop critical awareness to promote changes.

Sanitized City Program

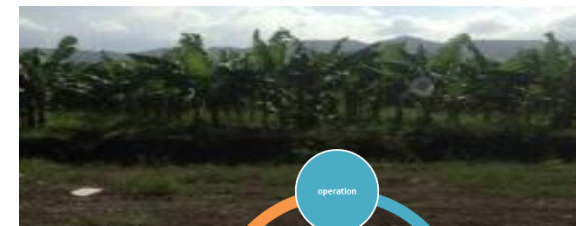




c) Demonstrate the economic and financial effectiveness of the project

- The financial execution is anchored in an investment schedule with estimated IRR of 8.8%. The risk of execution is taken by the private partner.
- Amount paid monthly by the Government to the Concessionaire: amortization costs and funding interests (construction works); taxes due by the Concessionaire; compliance with operating, maintenance and conservation conditions; remuneration of the capital invested by their partners;
- The project is financially supported in consideration of existing systems, a guarantee letter sent by reputable banks (Caixa Econômica Federal) and also by a public investment commitment.
- The contract is based on technical and objective criteria, divided into five groups of performance indicators: operation, construction, environmental, social and financial.
- The improvement of sanitary infrastructure in the Metropolitan Region of Recife tends to attract more enterprises to this area without causing environmental degradation.

Sanitized City Program





d) Be replicable and scalable

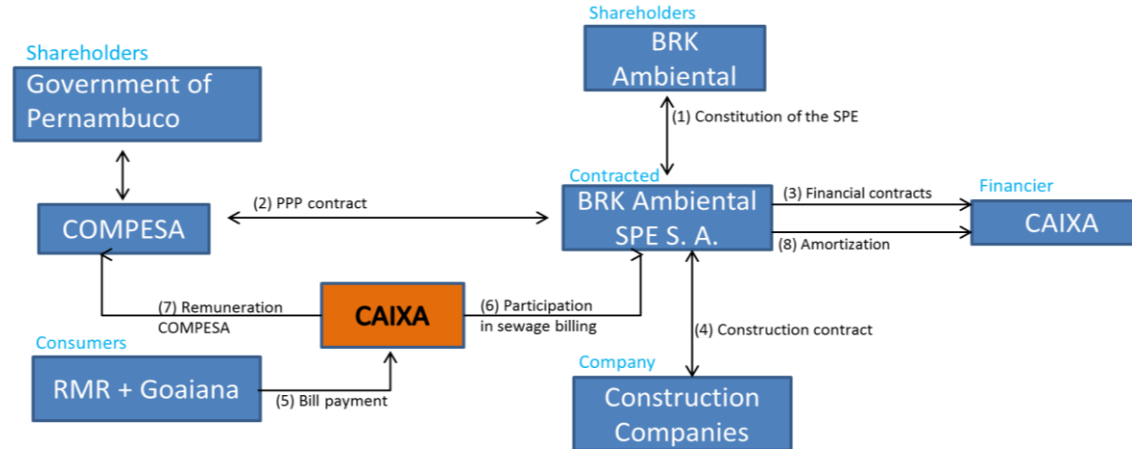
- There are plans for the implementation of this program in other cities in Pernambuco, as well as in other states, such as São Paulo;
- The program offers a variety of actions, such as conferences and events aimed at giving visibility to the program as well as providing environmental education for society (e.g. "Compesa in My Neighborhood", with more than 300 actions in the region - direct contact with residents);
- The continuity of the Sanitized City Program depends on an investment partnership. The State of Pernambuco has sought alternative ways of presenting its funding counterpart;
- The initiatives for human resource qualification have been managed in partnership with the Federal Government.

Sanitized City Program





e) Engage all stakeholders



Sanitized City Program



The Conceding Authority (Compesa) created 03 managements to manage the contract efficiently:

- Viability Studies - coordinate and execute (e.g. contractual rebalancing, risks, administrative, accounting, financial, tax and equity processes);
- Performance Monitoring - supervise and monitor (e.g. services provided, private partner licensing, environmental licensing, technical registration, execution of the commercial register of works);
- Technical Engineering - analyze and monitor (e.g. studies and projects, execution of works of implantation and recovery)



Case 7

Brazil

Transport Sector

VLT Carioca Tram

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	VLT Carioca – Tram
Project Proponent:	Municipality of Río de Janeiro - Urban Development Company of the Region of Porto from Rio de Janeiro (CDURP)
Project Organization:	Companhia do VLT Carioca S.A. (CVLT)

Public Organization: Prefecture of Río de Janeiro (which founds CDURP for the porpoise of the project)

Private Organization: CVLT (a joint venture of Investimentos e Participações em Infraestrutura (Invepar) (24,9317%), Odebrecht TransPort (24,9317%), Companhia de Concessões Rodoviárias (CCR) (24,9317%), RIOPAR (24,9317%), Benito Roggio Transporte (0,2506%), y Régie Autonome des Transports Parisiens (RATP) (0,0226%)). The 99.7% are Brazilian companies

Capital Providers: 1,156.6 millions of reales (\$541.46 millions) financed through the General Budged of the Federation 46% and the Concessionaire (54%)(which signed a loan with BNDES to cover the 42% of the total cost).

Why is this project a Case Study for People First PPPs: VLT Carioca Tram is part of the Urban Project Porto Maravilha that aimed at the revitalization of the region of Porto of Río de Janeiro to host the Confederations Cup (2013), the World Cup (2014) and the Olympic Games (2016). However, the PPP contract of VLT Carioca is signed as a separate contract from the Porto Maravilha for the construction of a new technological tramway (without catenary) with the aim of allowing the interconnection of the port region with the financial center of Rio de Janeiro and Santos Dumont airport in a fast, safe and sustainable manner. Also, this renovation had the objective of attracting new residents and decentralizing the city of Rio and promote the tourism in the area. However, the economic crisis of Brazil in 2015 had a repercussion in the development of the area, stopping the construction tasks and affecting the demand of the VLT Carioca, which led the Administration to increase the economic contributions to the project.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

- 1) Where:** The Project is located in the city of R o de Janeiro (Brazil) in the Port and Central regions. The Port region It is one of the oldest and most historic areas of the city, which is located in what was in the past the most important strategic point of the country: the port.
- 2) Why:** In the beginning of the 2000, the Port region was an area of poor conditions as a result of years of low maintenance and investment. To face this situation, and with the different international events to come, the authorities decided to start a renovation process. The construction of the VLT Carioca comes as one of the many works, planned in order to attain this urban renovation.
- 3) What:** (1) Interconnect the port region with the financial center of Rio de Janeiro and Santos Dumont airport in a fast, safe and sustainable manner. (2) Attract new residents and decentralizing the city of Rio (3) promote the tourism in the area.
- 4) Who:** The Contracting Authority assumed the risks of land and space and inflation. The Concessionaire assumed the risks of design and construction, environmental, financing, interest rates, exchange rates, operation and management and political; while the demand risk was shared by both entities.
- 5) When:** (November, 2011) First call for tender process; (April. 2013) Last call for tender process; (2014) CVLT starts the construction; (2015) Economic crisis in Brazil; (2016) O&M stage of the Line 1; (2017) O&M stage of Line 2; (March, 2018) Line 3's (Final line) construction is planned to start.

VLT Carioca - Tram



UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind



a) Increase access to essential services and promote equity

An important project of urban transportation, VLT Carioca was designed to:

- To be a transport of medium and efficient capacity that will help to decentralize the city, connecting the main urban transport axes and tourist points of the region, as well as areas of high circulation.
- Be placed as a strategic project in the revitalization of a new urban space.

This has some benefits for the population, which account for a new, safe, regular, clean and less polluting transportation system. Also functioning as a new alternative to the existing public transport and bringing less congestion to the system.

Also, the project promotes the generation of new job opportunities, both directly from the ones that are derived from the VLT Carioca Tram, and from other possible indirect ones like those derived from higher tourism.

However, the success of the project depended on the urban development of Porto Maravilha, that had to increase its population from the 32,000 people until the 100,000, according to the demographic projections used. In addition, it was expected that tourists who arrived by cruise to Porto Maravilha would also use this means of transport and would like to travel to the city center. But, due to the economic crisis and an inefficient management of the public transport ticket this conditions were not met and the benefits that were supposed to derive from it were not as planned.

VLT Carioca - Tram





b) Develop a resilient infrastructure and improve environmental sustainability

The Project accounts for 3 tram lines, two of them already in operation and the last one pending on the start of the construction.

The new infrastructure gave the citizenship of a new transport system to move in a regular, safe, clean, reliable, comfortable and less polluting way than buses. The tram was added to the existing means of transport (metro, bus and BRT), increasing the available supply, which would have important consequences in terms of the small number of users.

As a public transport, less pollutant to the environment, this brings an immediate reduction of CO₂, in a city where the bus system and private cars represent a high contamination. The objective of the VLT Carioca was to remove more than 60% of the buses and 15% of the cars in the city center, thereby reducing CO₂ emissions and other gases derived from the use of fossil fuels.

VLT Carioca - Tram





c) Demonstrate the economic and financial effectiveness of the project

The Project was planned to be financed through the General Budget of Brazil (46%) and the Concessionaire (54%).

The entity in charge of the supervision of the project was CDURP, which was also the responsible for the urban renovation of Porto Maravilha, which was thought to be financed through the Certificates of Additional Construction Potential (CEPAC).

In order to mitigate the risk of no payment to the financing entities, the Public Administration (through CDURP) stipulated in the contract a series of warranties. But, the sources of payment for these warranted were backed up by the structured used to finance the Urbanistic Renovation (which was mainly based on the sales of CEPACs to the REAL State Investment Fund (FIIPM), which negotiated the certificates with real state companies that will recover the investment due to the higher demand of the public transport in the region, derived from the population growth in the area).

The economic crisis stopped the sales of CEPAC and, therefore, the urban development of that area, affecting both residential and commercial construction tasks, which meant, in turn, the limitation of the arrival of new residents and, in turn, of potential users of the Carioca VLT. This small number of passengers of the Carioca VLT service forced the public sector to increase its economic contribution to the development and maintenance of the project with respect to the initial estimates.

VLT Carioca - Tram





d) Be replicable and scalable

The VLT Carioca project comes with important aims to the development and sustainability on the urban areas of Brazil, despite its failure, we can still learn many important lessons:

- The importance to carry on a Cost-Benefit analysis to determine the convenience on the project relative to other alternatives that could have had the same impact and less uncertainty, like buses or higher capacity trains.
- The correct use of a PPP, in a context where external factor that out of the control of the authorities or the private entities (like the correct development of the Port region) do not represent such a high risk to the project.
- A tender process ,clear and that promotes a real competition and motives international companies to invest.
- The use of an efficient risk assignation, where the Concessionaire does not assume risks that are completely out of their control.

VLT Carioca - Tram





e) Engage all stakeholders

The engaged stakeholders comprehended:

- Regional authorities: Prefecture of Río de Janeiro
- Public entities: CDURP, BNDES
- Private Firms: Invepar, Odebrecht TransPort, CCR, RIOPAR, RATP
- Citizens of the area and the city of Río de Janeiro, tourists benefited

The Prefecture of Rio de Janeiro is responsible for the planning and execution of a large part of the strategic and management projects of the municipal administration. Among its competences, it includes the supervision of the Carioca VLT, which is carried out through the CDURP, responsible for the urban operation of Porto Maravilha, which participates in the FIIPM through the collection rights for the sales of the CEPAC. The project was structured as an APP with shareholding of the private concessionaire (51%) and CDURP (49%) for the construction and operation of the Carioca VLT

Regarding the governance of the project, the contract states the supervision of an independent verifier and an auditing entity to supervise the fulfillment of the project. It also establishes the quinquennial revision of the concession agreement, to evaluate the criteria according to the evolution of the project. However it is not clear that the intermediary agent is the ideal to face a possible resolution of conflicts. It seems that the composition of the agency is based on a commitment to include members of both the concessionaire and the grantor, when it should probably be an independent agent that does not represent either of the two parties.

VLT Carioca - Tram



Case 8

Cabo Verde

Energy Sector

Wind Farm

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Cabeolica Wind Farm in Republic of Cabo Verde
Project Proponent:	InfraCo Africa
Project Organization:	Cabeólica, S.A
Public Organization:	Empresa de Electricidade e Água — Electra SARL (Electra), the national utility and Government of Cape Verde (GoCV)
Private Organization:	IPP – Cabeolica S.A Equity developers – InfraCo, Electra, AFC, FinnFund EPC Contractor, O&M Contractor – Vestas Portugal Serviços de Tecnologia Eólica (Vestas)
Capital Providers:	Equity developers – InfraCo and Electra Equity investors – Africa Finance Corporation (AFC), FinnFund Debt – AfDB, European Investment Bank (EIB)
Why is this project a Case Study for People First PPPs	<ul style="list-style-type: none"> The project has contributed significantly to addressing power deficits that plagued the country from the early 2000s and helped address the negative cycle of high reliance on oil imports and high generation costs, power outages, high carbon emissions, inefficient private sector, negative impact on the country’s foreign exchange The project’s ESMP (working with partners) is contributing to the conservation in the general fauna and flora in the project sites, education about clean energy and creating a network of SMEs in its host communities



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

1	Where:	The project is spread over four Cabo Verdean islands - Sao Vicente(5.95MW), Santiago(9.35MW), Sal (7.65MW) and Boa Vista (2.55MW)
2	Why:	<ul style="list-style-type: none"> • Cabo Verde's energy matrix before Cabeolica was heavily dependent on imported liquid fuels and Cape Verde had one of the highest energy generation costs in the world, with 97% of the 86MW installed capacity coming from liquid fueled power plants, with wind-power installed capacity at 2MW • This high reliance on imported fuel for power generation had a negative impact on the country's private sector competitiveness with high tariffs and power outages, FX balance, CO2 emissions • No precedents for PPPs in renewable energy in Sub-Saharan Africa
3	What:	<ul style="list-style-type: none"> • Cabeolica is currently responsible for 17% (highest was 24% in 2014) of the electricity consumed in the country, upholding Cabo Verde as one of the world leaders in wind energy generation rates • As at 2017, 460,000 MWh of clean energy supplied to the national grid, saving 15 million litres of fuel which the country did not have to import • Active implementation of its 20-year environmental and social sustainability measures contributes to biodiversity conservation, research and socio-economic programs aimed at improving biodiversity preservation, clean energy awareness, small scale farming activities
4	Who:	<ul style="list-style-type: none"> • Off-take and payment guarantee - 20-yr PPA with Electra, backed by a Support Agreement under which the GoCV • Project development risk – InfraCo, Electra, GoCV, AFC • Construction and O&M risk – Vestas
5	When	<ul style="list-style-type: none"> • 2008 – signing of PPP between InfraCo and GoCV. Government Support Agreement signed in 2010 • 2011 – project reached financial close • 2011/12 - construction on Santiago and Sao Vicente completed and handed over in 2011. Sal and Boa Vista construction and hand over in 2012 • Service and Availability Agreement with Vestas

**Cabeólica, S.A –
25.5 MW Wind
IPP**





(a) Increase access to essential services and promote equity and (b) Develop a resilient infrastructure and improve environmental sustainability

Energy Supply and Emissions Reductions

- The project added 25.5 MW to national installed capacity and injects over 80.8 GWh of electricity annually into the island nation's grids and saves the country an estimated US\$12mm per annum in annual foreign exchange savings with wind power serving to displace much more expensive imported fuels.
- Offsets some 50,000 tons of CO2 for every full year of operation and contributes to substantially reducing greenhouse gas emissions in the country
- Human resource for the power plant is sourced 100% locally, with females representing 30% of the workforce.
- Lower wind energy penetration from 2014, owing to lower wind availability and limitations imposed by the utility on the account of lower oil prices

(b) Develop a resilient infrastructure and improve environmental sustainability

Social Impact, Sustainability

- Cabeolica is the main producer of renewable energy within the Cabo Verdean energy matrix and the largest sole offsetter of greenhouse gas emissions in the country, significantly contributing towards the nation's obligations in the global challenge of tackling climate change.
- Since 2013, Cabeolica has been promoting environmental awareness, particularly regarding the need for conservation of local species and the importance of renewable energy in general.
- Active biodiversity management and socioeconomic initiatives. Such measures includes its bird (Boa Vista osprey, Red-billed Tropic bird, the Egyptian Vulture, Frigate bird amongst others) monitoring program, EOLO/ We Are Energy initiative (in collaboration with the Ministry of Education) aimed at teaching fourth graders about clean energy production and energy efficiency, MultiAdapt Project an innovative project promoted by Association of Friends for Development and aimed at creating a network of small-scale farms and goat farming for milk production in the Covaada community.

**Cabeólica, S.A –
25.5 MW Wind
IPP**

**7 AFFORDABLE AND
CLEAN ENERGY**





c) Demonstrate the economic and financial effectiveness of the project

Off-take and payment guarantee - 20-yr PPA with Electra, backed by a Support Agreement under which the GoCV

	Amount
Total Debt	€42 M
Total Equity	€19 M
Total Project Costs	€63 M

**Cabeólica, S.A –
25.5 MW Wind
IPP**

d) Be replicable and scalable

The project development risk was jointly borne by GoCV and private sector through InfraCo, which allowed interests of both private sector and the off-taker/ government to be aligned and also ensure that project development activities are completed in a timely and efficient manner.



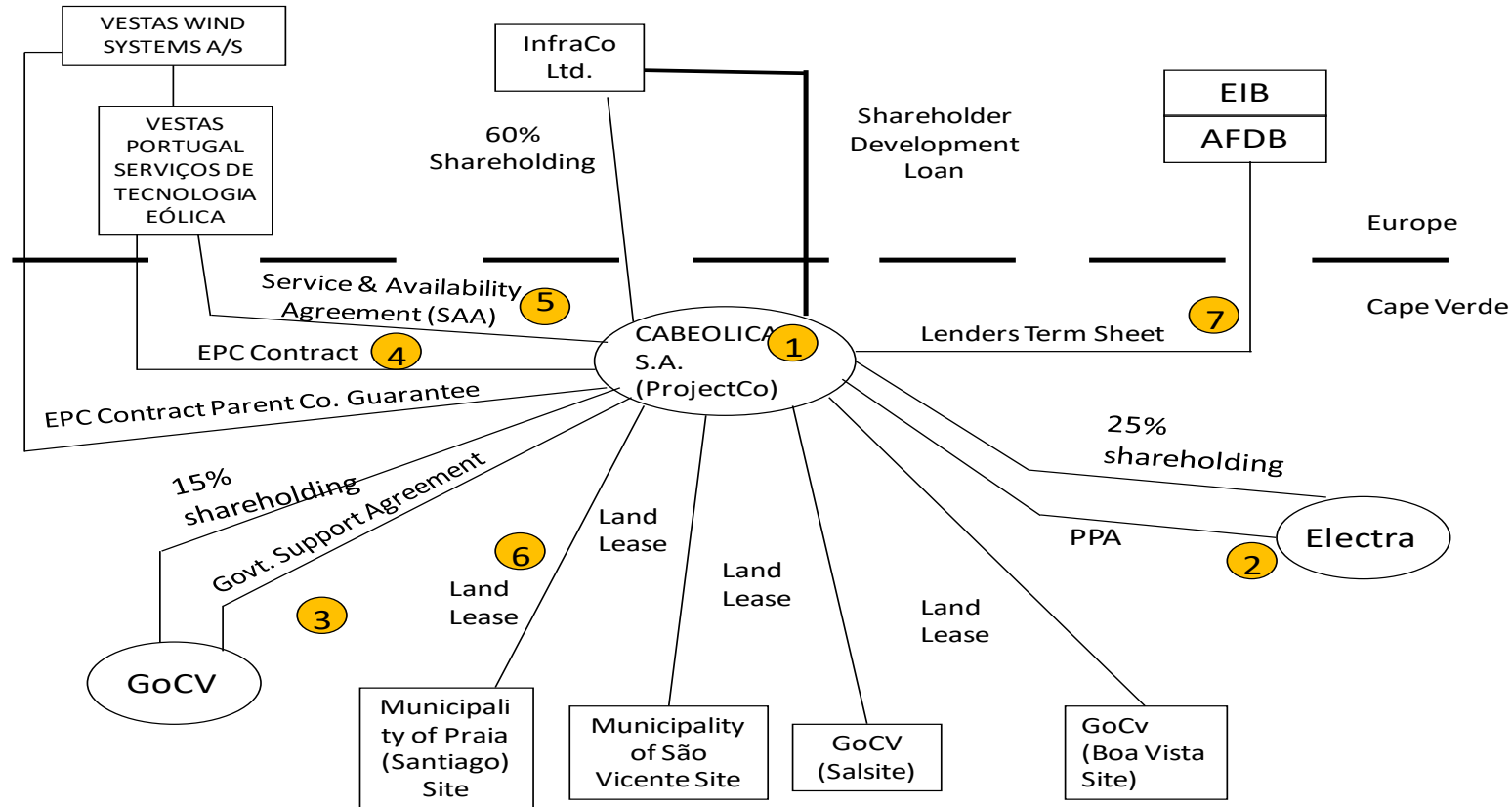
International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

e) Engage all stakeholders



**Cabeólica, S.A –
25.5 MW Wind
IPP**



Case 9

China

Energy Sector

Hangzhou Waste to Energy

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Everbright International Hangzhou Jiufeng Waste to Energy PPP/BOT Project
Project Proponent:	Hangzhou Municipal Government
Project Organization:	Hangzhou Municipal Government

Public Organization: Hangzhou Municipal Government

Private Organization: China Everbright International Limited (“Everbright International”); Hangzhou Environmental Group Co., Ltd.; and Yuhang City Construction Group Co., Ltd.

Capital Providers: Everbright Environmental Energy (Hangzhou) Holding Co. Ltd., as a subsidiary of Everbright International.
Hangzhou Environmental Group Co., Ltd.
Yuhang City Construction Group Co., Ltd.
China Development Bank.

Why is this project a Case Study for People First PPPs:

A mass incident broke out due to the "Not in My Backyard" effect at the initial stage of Hangzhou Jiufeng Waste to Energy Project (“Hangzhou Project” or the “Project”). To alleviate the shortage of waste disposal and solve social contradictions, Hangzhou Municipal Government awarded the Project to Everbright International on a BOT model. It is a typical PPP model to determine the construction standard, operation and transfer process of the Project.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Where:	Hangzhou Jiufeng Waste to Energy (“WTE”) Project is located at the Zhongtai Street, Yuhang District of Hangzhou, Zhejiang, China. Hangzhou had a GRD of 1,105.049 billion RMB by the end of 2016, with a permanent resident population of 9.188 million.
Why:	Municipal waste in Hangzhou increased by the average annual growth rate of 11%, which makes waste disposal a pressing livelihood problem to be addressed. The disposal capacity of existing landfill and WTE plants in Hangzhou is seriously insufficient. The need to achieve resource utilization, reduction and harmlessness of domestic waste is urgent.
What:	The Project alleviates the shortage of waste disposal, solves the waste siege problem, improves people living environment and solves social contradictions.
Who:	Hangzhou Municipal Government; China Everbright International Limited; Hangzhou Environmental Group Co., Ltd.; Yuhang City Construction Group Co., Ltd.
When:	In October 2014, Hangzhou Municipal Government signed a concession agreement with Everbright International, to invest in, construct and operate Hangzhou Jiufeng Waste to Energy Project on a BOT model.

Everbright International Hangzhou Jiufeng Waste to Energy PPP/BOT Project





a) Increase access to essential services and promote equity

Maintain people's right to know

During the questionnaire survey participated by the public to evaluate the subsequent environment influence and social stability, Hangzhou Project received a public support rate of 98.9% (distributed a total of 421 questionnaires, with 419 returned, covering most of the local residents staying nearby, among which, 110 voted in favor of the Project, and 304 conditionally supported), and successfully defused the "Not in My Backyard". So far, the Project received "zero" environment complaints.

Make real-time disclosures of project operation information

We strengthen publicity for the Project and the popularization of environmental science to the surrounding people, clearly acquaint people with the general situation, technology, emission standard of the Project, and provide hourly disclosure of emission standards during the operation. It also sets up an "open day" to welcome the public to visit the Project during the last weekend of each month.

People first

Adhere to the principle of "People first" and prioritize the offer of employment opportunities and development opportunities for local residents.

Everbright International Hangzhou Jiufeng Waste to Energy PPP/BOT Project





b) Develop a resilient infrastructure and improve environmental sustainability

Social benefits

The Project solved the dilemma of the waste siege in Hangzhou, and defused the "Not in My Back Yard", maintaining the stability of society and public opinions.

The Project created an additional 200 jobs, attracting foreign investment for the 66-hectare commercial area, which is specially-approved by the local government, driving and supporting the regional sustainable development.

Environmental benefits

The Project processes about 1.1 million tons of waste per year, saving 160,000 tons of standard coal and reducing carbon dioxide (CO₂) emissions by 140,000 tons.

The Project treats about 200,000 tons of leachate per year, saving about 140,000 tons of water and achieved "resource utilization, reduction and harmlessness of waste".

Economic benefits

The Project generates green electricity 380 million kW/h (this output can meet the annual electricity consumption needs of 200 thousand households), providing bottom ash to make 90 million pieces of bricks per year, and promoting Hangzhou's sustainable development.

Everbright International Hangzhou Jiufeng Waste to Energy PPP/BOT Project



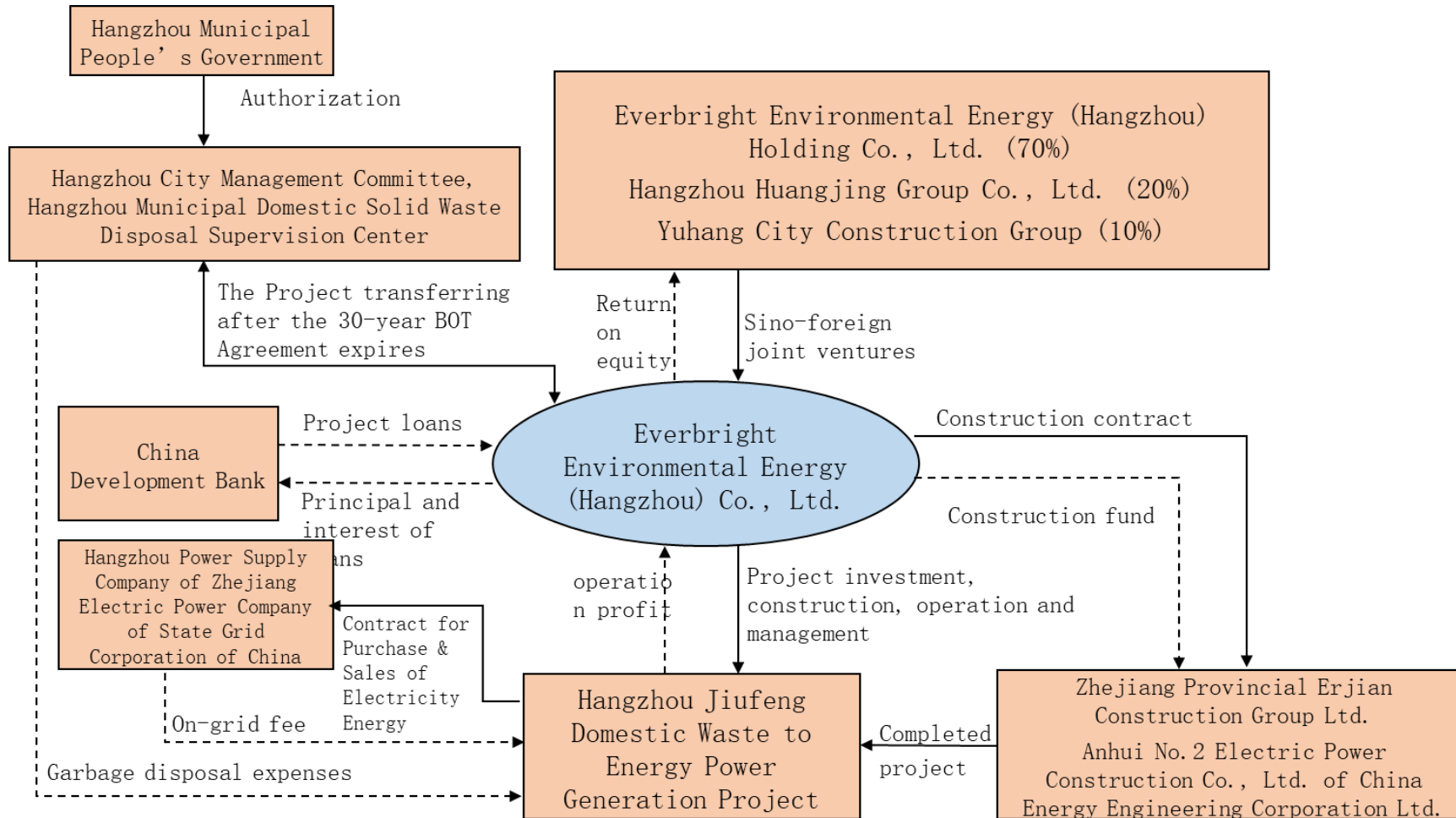
International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

c) Demonstrate the economic and financial effectiveness of the project



Everbright International Hangzhou Jiufeng Waste to Energy PPP/BOT Project





d) Be replicable and scalable

Hangzhou Project's strategy of defusing the "Not in My Back Yard" ("NIMBY") is exemplary, and can provide a reference for similar municipally-investment projects facing the NIMBY.

Strengthen the disclosure of information

During planning, construction and operation of the Project, we ensure the full publicity of WTE technology, promoting openness and transparency in publishing the approval, disclosing the status of construction and emission standard.

Takes the initiative in accepting supervision

The Project takes the initiative to accept democratic supervision, and actively builds a mechanism to invite supervision or public opinion from the government, the public and the third party monitoring agency at home and abroad.

Strengthen the cooperation with the government

The Project maintains sufficient communication with the government and cooperates closely with it, to face and solve public's appeals.

**Everbright International
Hangzhou Jiufeng Waste to
Energy PPP/BOT Project**





e) Engage all stakeholders

The public was given the right to select the project undertaker. From August to October in 2014, a total of 82 batches of local residents (nearly 5,000 people) visited Everbright International's projects in Suzhou, Nanjing, Ningbo, Changzhou and other projects. Following the public consultation, the government awarded the Project to Everbright International.

In the process of obtaining approval and constructing the Project, Everbright International actively interacted with relevant governmental departments at each level, carried out every examination, obtained all the requisite approvals and ensured that each procedure was carried out in accordance with the laws and regulations.

During the project construction, various meetings with the government were organised and participated by us so that the construction was carried out at all stages with mutual understanding. Furthermore, setting up a temporary exhibition hall to receive the government's and public's visits.

We established a communication platform for both public and private. Project companies arranged specially-assigned staff to regularly meet with or consult the government, hold the coordination meeting of a special subject and take other measures.

Enterprises actively integrated into the communities around the Project, to actively practice Village Enterprise Co-Construction, improve the environment and upgrade industries of the neighboring areas.

Everbright International Hangzhou Jiufeng Waste to Energy PPP/BOT Project



Case 10

China

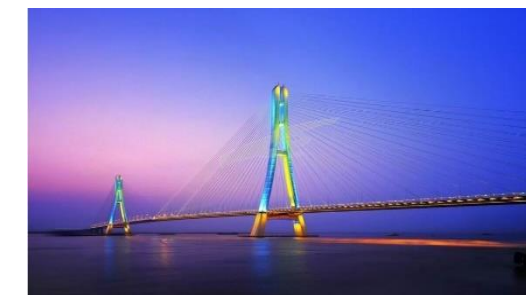
Transport Sector

3rd Nanjing Yangtze Bridge

Project Name:	A Quasi-BOT Case of the Third Nanjing Yangtze Bridge
Project Sponsor:	Nanjing Municipal Bureau of Transportation
Project Organizer:	Nanjing Government

A Quasi-BOT Project of the Third Nanjing Yangtze Bridge

	Name of Participants	Role
Public Organization	Nanjing Municipal Bureau of Transportation	Sponsor
	Headquarter office of the Third Nanjing Yangtze Bridge	Bridge Constructor
	State-owned Assets Administration Bureau of Nanjing	Supervisor
	Nanjing Communications Construction & Investment Holdings(Group) Co., Ltd. (Nanjing Communications Group for short)	Contractor & Developer
Private Organization	Nanjing Pukou Economic Development Corporation (Nanjing Pukou Corporation for short)	Contractor
	Shenzhen Expressway Company Limited	Contractor & Operator
	Bright Oceans Corporation	Contractor



Capital Providers and Contribution Proportion

Contributor	Amount(¥)	Proportion
Nanjing Communications Group	486,000,000	45%
Shenzhen Expressway Co., Ltd.	270,000,000	25%
Bright Oceans Corporation	270,000,000	25%
Nanjing Pukou Corporation	54,000,000	5%

**A Quasi-BOT Project
of the Third Nanjing
Yangtze Bridge**



Significance of the Project

A Quasi-BOT Project of the Third Nanjing Yangtze Bridge



Bridge regional economic gap	The northern region of Nanjing(separated by the Yangtze River) was less developed than the southern region. The urbanization rate of the northern region was 58%, which was far lower than the whole city’s 80.23%.
Promote industrial restructuring of the northern region	The northern region ‘s economy mainly relied on the secondary industry. The improvement of transportation environment would facilitate the development of service industry.
Ease the traffic pressure	Due to the separation of the Yangtze River, the transportation between the two regions was inconvenient. The third bridge would help to ease the traffic pressure.
Optimize the public facility system	The northern region’s public facility system was poor, and the infrastructure for education, healthcare, business, sports and industrial service was inadequate . The third bridge would help to optimize the public facility system.
Improve the consumption and living environment	According to statistics, the wholesale & retail business and the accommodation & catering business were mostly located in the southern region. The third bridge would facilitate the development of related industries.

Timeline of Project Operation

2003

- Project launched, Nanjing government authorized Nanjing Communications Group to build up a project company with 41 million yuan.
- China Zenith Group was hired as a government consultant of the project.

2004

- Nanjing Communications Group, Shenzhen Expressway Co., Ltd., Bright Oceans Corporation and Nanjing Pukou Corporation agreed to increase investment and the TNYB Company was established.
- The TNYB Company successfully raised 3.5 billion yuan.

2005

- It took 26 months to complete the project.
- Shenzhen Expressway Co., Ltd. was authorized to manage the bridge within 30 years. After that, the management of the bridge would be transferred to Nanjing government.

**A Quasi-BOT Project
of the Third Nanjing
Yangtze Bridge**



Third Nanjing Yangtze Bridge abbreviated as TNYB

A) Increase access to essential services and promote equity

- **Increase income of northern residents in Nanjing:** The northern and southern region were adjacent to each other, but the economic gap was considerable. After the completion of the bridge construction, the northern region had attracted more talents and high value-added industries. In 2015, a new national economic district was established in the northern region, which helped to promote the development of its service industry. After the industrial upgrade, Residents' income and consumption levels have increased dramatically.
- **Ease traffic pressure of travel across Yangtze River:** Before the construction of the third Nanjing Yangtze Bridge, local residents highly relied on the first Nanjing Yangtze Bridge. During rush hours, traffic jam was frequent and serious. The Third Nanjing Yangtze Bridge largely helped to ease the traffic pressure.
- **Improve infrastructure system of northern region:** Ten years ago, it was believed that the northern region was poor and full of pollution. The infrastructure system was much poorer than the southern region. The third bridge helped to boost the development of economic zones in the northern region, and improve the infrastructure system at the same time.

A Quasi-BOT Project of the Third Nanjing Yangtze Bridge



B) Develop a resilient infrastructure and improve environmental sustainability

- **Develop a resilient infrastructure** : During the early construction period of the third bridge, the concept of developing a resilient infrastructure was introduced. At present, the plan of building an ecological corridor alongside the third bridge has been announced, expecting to form a demonstration project for ecological corridor establishment. More than 8,800 people will benefit from the planned ecological corridor .
- **Improve environmental sustainability**: Before the construction of the third bridge, local residents mainly had three ways to cross the Yangtze river, including the Yangtze River Tunnel, the First Nanjing Yangtze Bridge and the second Nanjing Yangtze Bridge. But compared with the amount of cars in Nanjing, the three ways could not meet people's travel demand. Therefore, the Third Nanjing Yangtze Bridge helped to ease the traffic congestion when large number of cars were travelling across the Yangtze River simultaneously, which would reduce automobile fuel consumption and carbon dioxide emissions.

A Quasi-BOT Project of the Third Nanjing Yangtze Bridge



C) The Economic and Financial Effectiveness of the Project

Funding sources to support the project

- 1) Style of agreement: concession contract, contract of increasing investment, the constitution of the TNYB Company
- 2) Core funding source: toll charges paid by users
- 3) Availability payment from: advertisement operating right, land development right, tourism management right

A Quasi-BOT Project of the Third Nanjing Yangtze Bridge

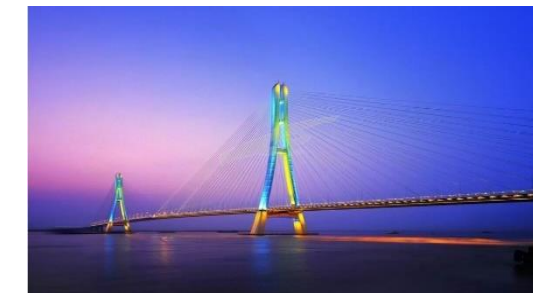
Financial sources to support the project

- 1) Equity: 1.08 billion yuan from the private organizations
- 2) Debt: 0.59 billion yuan short-term liabilities, 0.525 billion yuan long-term liabilities
- 3) Allowance: from transportation departments



Key KPIs

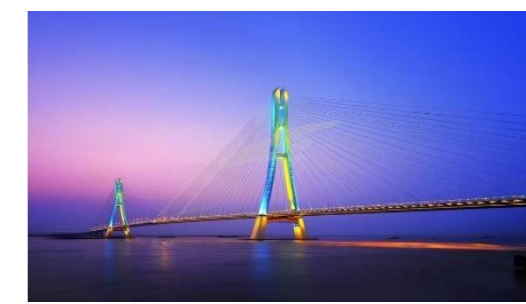
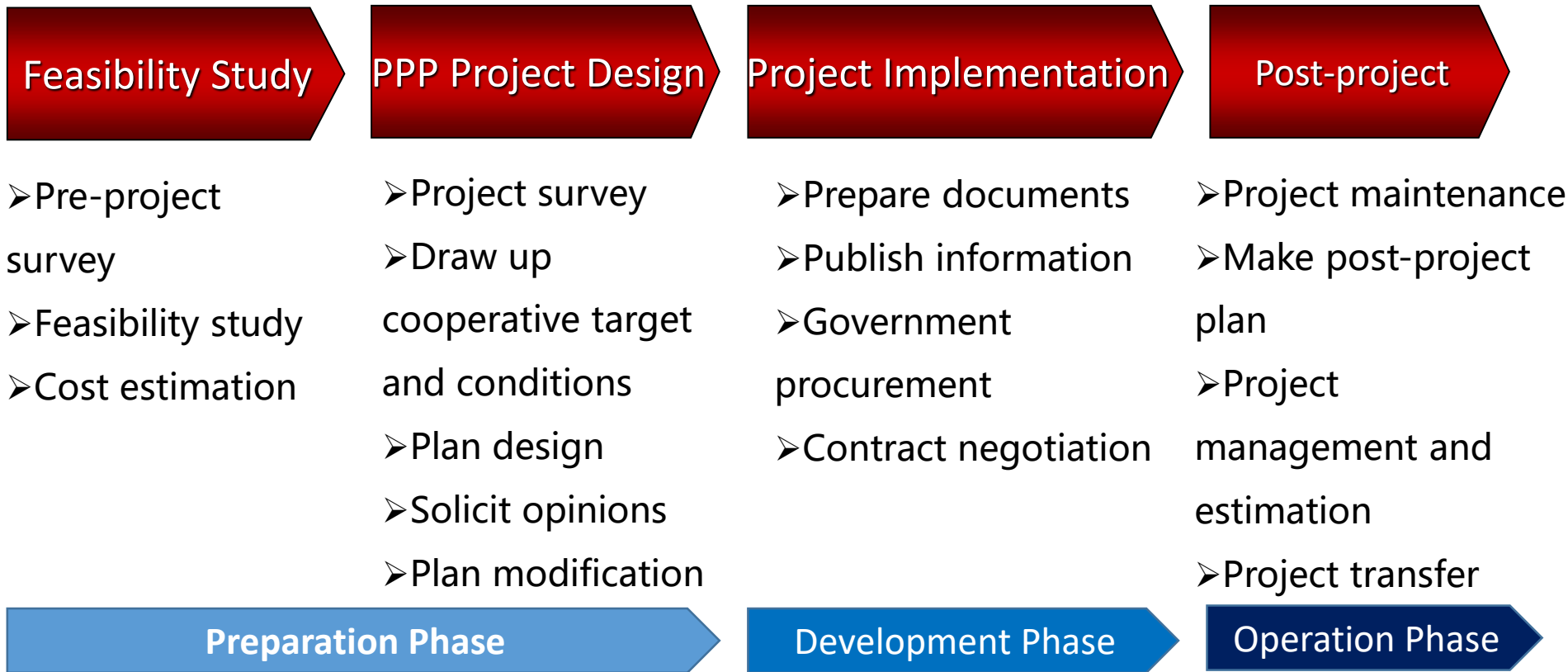
- 1) Number of years for payback: 30 years
- 2) Value for money: Project construction budget was 3.363 billion yuan, actual expense was 3.09 billion yuan.



D) Project operation and management

China Zenith Group, a consulting corporation engaged in government investment and financing, provided whole-process consulting service for the project, including feasibility study and PPP plan design in preparation stage, operation consulting in construction stage and post-project plan design in management stage. Meanwhile, China Zenith Group provided project-related training for all participants to improve their operation & management abilities.

A Quasi-BOT Project of the Third Nanjing Yangtze Bridge



E) Stakeholders were involved in the project

Preparation Phase

- Nanjing Government: Project Organizer, Supervision and approval of the project
- Nanjing Municipal Bureau of Transportation: project developer
- Nanjing Communications Group: financing and operation management

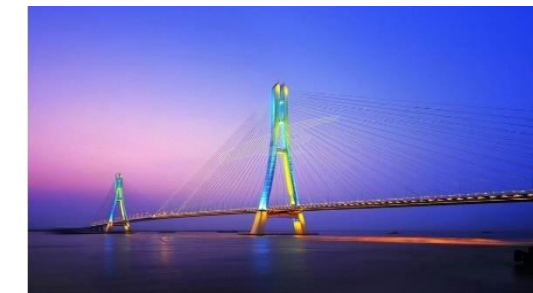
Development Phase

- Nanjing Communications Group: investor
- Bright Oceans Corporation: investor
- Shenzhen Expressway Co., Ltd.: investor
- Nanjing Pukou Corporation: investor
- China Zenith Group: PPP plan design, contract design and negotiation
- the TNYB Company: Special Purpose Vehicle

Operation Phase

- the TNYB Company: tolls charging, management and maintenance of the third bridge, construction and operation of some other facilities
- the public: pay tolls

A Quasi-BOT Project of the Third Nanjing Yangtze Bridge



Case 11

China

Transport Sector

Gongyi Metro

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Zhengzhou-Gongyi-Luoyang (Gongyi Section) Suburban Line PPP Project
Project Proponent:	China Metro Corporation
Project Organization:	Gongyi Government and China Metro Investment Limited(CMIL)

Public Organization: Gongyi Government

Private Organization: China Metro Investment Limited

Capital Providers: Gongyi Government and China Metro Investment Limited

Why is this project a Case Study for People First PPPs:

It is China's first investment-operation-oriented urban rail PPP project. Only investor and operator's interest lies in the full life cycle quality and efficiency of the project. Letting the investor operate and designing the project revenue model to link profits with full life cycle high-quality and high-efficiency services to the people makes the contract holder prioritize the needs and interest of the people for the full length of the project life cycle.





Project at a glance:

- 1) Where:** Zhengzhou-Gongyi-Luoyang (Gongyi Section) Suburban Line PPP Project is going to be a 50 km long suburban metro line. Upon completion, the project will be able to connect Zhengzhou (Capital and largest city of Henan Province, with 9.9 million population) on the east and Luoyang (2nd largest city of Henan Province, with 7.1 million population) on the west through Gongyi (a county level city located at the center point of the shortest route between Zhengzhou and Luoyang) ;
- 2) Why:** As a focal point of developing the Central Plains urban cluster, providing efficient and convenient transport infrastructure between Zhengzhou and Luoyang has been a priority at national, provincial and city level. There is a high speed rail connecting the two cities, however, such point-to-point rail infrastructure (with the stations usually distant from the core urban areas) serves little in facilitating integrated urban cluster development, economic development along rail lines between the two cities, and did not benefit smaller municipalities in between like Gongyi. Moreover, high speed rail is priced at market-rate, which serves occasional commercial and recreational passengers better than frequent commuters. A suburban metro rail directly connecting urban center of Zhengzhou and Luoyang, with stations that strings municipalities in between becomes a rational project concept. Gongyi, with its favorable geographic location and urge to integrate with two big cities on both ends, takes initiative in push forward the implementation of the suburban metro line.
- 3) What:** to serve commuting populations along the metro line; foster integrated urban cluster development; creating job opportunities for citizens along the line (especially enabling citizens in underdeveloped area to seek job opportunities in Zhengzhou and Luoyang) .

Zhengzhou-Gongyi-Luoyang (Gongyi Section) Suburban Line PPP Project





Project at a glance:

4) **Who:** Gongyi government signed the PPP contract with the private partner (CMIL) selected through public bidding process. The two parties form a SPV (ownership: public 10% private 90%) to manage the metro line. The public partner is responsible for governmental approval, inter-regional coordination and collaboration, and the private partner is responsible for the planning, construction, operation and management of the metro.

The government bears the following risk: legal and policy risk; regional collaboration and coordination risk; government examination and approval risk; fiscal risk.

The private party bears the following risk: financing risk; construction risk; operation risk; commercial risk.

4) **When:** The project was brought up in 2016. In 2017, Gongyi government hired one of the best Chinese PPP and engineering consultancy CIECC to come up with a project proposal. Gongyi government approved the project proposal and started the public bidding process in November 2017. CMIL was selected as the private partner at the end of 2017 and signed the PPP contract. The project is currently in the planning and design stage, which is expected to be done by the end of 2018. The construction period is expected to be from 2019 to 2022. The operation period is 30 years and the SPV will transfer all the asset of the metro line back to the public partner at the end of the 30th year of operation.

Zhengzhou-Gongyi-Luoyang (Gongyi Section) Suburban Line PPP Project

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE





a) Increase access to essential services and promote equity

Access to Metro Services:

- **Wide Coverage and Convenient location:** The Zhengzhou-Gongyi-Luoyang (Gongyi Section) Suburban Line will be the first metro line between Zhengzhou and Luoyang, with stations covering all major cities and counties and at locations convenient for commuters.
- **Affordable Pricing:** The line will be an urban metro line, and its ticket price will be set at public transport rate (the public partner subsidize the private partner for below-market-rate pricing of ticket), to ensure such services is accessible and affordable for all.

Access to Opportunities:

- The line itself will create thousands of direct job opportunities for citizens along the line, and indirect opportunities for tens of thousands.
- The line enables citizens in Zhengzhou and Luoyang's peripheral areas to access job opportunities in the two cities.
- The line provides citizens with affordable and efficient public transport service between urban centers and peripheral areas for the first time, which would reduce commuting time, lower commuting cost and save commuting time, which improves the overall economic, physical and mental wellbeing of citizens.

Zhengzhou-Gongyi-Luoyang (Gongyi Section) Suburban Line PPP Project





b) Develop a resilient infrastructure and improve environmental sustainability

- Firstly, the project demands the private partner to step in at the plan and design stage, and the project investor will be responsible for operation. Such mechanism incentivizes the private partner consider the full-life-cycle quality, efficiency and resilience of the project from the very beginning.
- Secondly, The SPV will choose design firm and construction firms through public bidding process, to control project quality and save cost, which further enhances the sustainability and resilience of the project.
- Thirdly, from the plan and design stage, the private partner will utilize its advantage in resource integration and innovation, adopting cutting-edge new energy technology and green technology to reduce environmental impact and save energy.
- Lastly, current commuters along the proposed line primarily rely on automobiles. Building of the line will significantly reduce automobile ridership, reducing CO2 emission.

Zhengzhou-Gongyi-Luoyang (Gongyi Section) Suburban Line PPP Project





c) Demonstrate the economic and financial effectiveness of the project

The project revenue comprises of User payment, commercial resource development and operation, and government subsidy.

The project would utilize and consolidate resources to generate as much revenue by the project itself as possible to reduce government subsidy, and designed the “dynamic subsidy mechanism with a fiscal budget cap”, to ensure the project does not add extra burden to the local budget and economically effective.

The “dynamic subsidy mechanism with a fiscal budget cap” has the following attributes:

- 1) The government could effectively limit its subsidy on the project to a specific cap (which is set according to detailed project plan and design, to ensure a basic functional public service, and agreed upon by the public and private partner).
- 2) The government would subsidize the SPV its actual annual cash flow deficit, but only to the cap amount, the SPV need to recoup the exceeding deficit by itself.
- 3) When the government does not pay operational cash flow deficit subsidy, the SPV would receive a “reasonable return” from the government (which would be a portion of what the SPV saved for the government, thus the SPV’s profit is gained through improved efficiency and value created, not from governmental subsidy), which is also capped. When the SPV can generate profit exceeding the reasonable return cap, the government no longer pays reasonable return to the SPV, and shares the excessive profit with the private partner according to shares in the SPV.

Under such subsidy mechanism, the government could effectively control its spending on the project and manage fiscal risks associated with the project; the SPV could not make profit before it breaks even by itself, which effectively inhibits the SPV from inflating cost so as to gain more subsidy and incentivise the SPV to optimize management and operation to improve efficiency and services to generate a profit.

Zhengzhou-Gongyi-Luoyang (Gongyi Section) Suburban Line PPP Project





d) Be replicable and scalable

The project model is highly replicable in that it strictly follows the guidance of the Chinese central government and has the following attributes that reflects the central government's expectation in promoting PPP in China's infrastructure and public service provision, replicable by any jurisdictions that intend to build urban rail through PPP:

- 1) It is China's first metro PPP project that has awarded the contract to a private enterprise;
- 2) It is China's first Investment-Operation-Oriented PPP project (as opposed to the typical Chinese PPP projects that mainly focuses on construction and financing);
- 3) It is China's first large scale infrastructure project that has allowed a private enterprise to enter at the preliminary stage and last till the transfer stage after 35 years;
- 4) It is China's first metro PPP project with a sound risk-sharing scheme and a clear project boundary.

The project model is scalable in that:

- 1) Proven case. it has been implemented and proven applicable, which have overcome the biggest obstacle in promoting a PPP model in China--existing case;
- 2) High demand. Gongyi is a county-level city adjacent to major metropolis, with moderate income and population, there are hundreds of similar cities also seeking to boost local economy and urban development through urban rail.
- 3) In accordance with national strategy. With China promoting urban cluster development and encouraging the development of suburban metro rail, the rationale and demand for suburban metro rail like the current project is high, thus there is ample room for the project model to be introduced to other cities.

Zhengzhou-Gongyi-Luoyang (Gongyi Section) Suburban Line PPP Project





e) Engage all stakeholders

The project has engaged a wider range of stakeholders than a typical urban rail project (usually only involve governmental department that is related to transport and construction) to ensure the long term comprehensive outcome is optimized.

- 1) Upon initiation, Gongyi government has made the project a top priority of the city, and has formed a leadership team headed by one of the top leaders of the city, to ensure that the project issue could be reported directly to the major and party chief and that interdepartmental coordination would be smooth.
- 2) The project team is led by the development and reform commission along with officials from all relevant departments from the administration (public finance, construction, land use, environment, water, public safety, etc.) to ensure that all aspects that might be affected by the building of the project would be considered. All major decisions about the project would be made after cross-departmental consultation and voted in favor of.
- 3) The project has also been reported to Gongyi's people's congress and seek opinion and advice from the people's delegates to make sure the people's voices are also heard and taken into consideration.
- 4) The SPV responsible for the project would establish modern corporate governance structure and the management would strictly follow the articles of the company to ensure that the private and public partner's interest are well protected, and that business interest and public interest are both taken care of.

Zhengzhou-Gongyi-Luoyang (Gongyi Section) Suburban Line PPP Project



Case 12

China

Transport Sector

Road in Jurong City

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	New Road Construction, Upgrade & Maintenance Project of Jurong City (BMT Project)
Project Proponent:	Mr Banting Sze, Chairman of Freetech Group
Project Organization:	Jurong Freetech Construction Co Ltd (SPV)



Public Organization: Jurong City Government Investment Platform

Private Organization: Freetech Group

Capital Providers: Jurong City Government 20%, Freetech Group 80%

Why is this project a Case Study for People First PPPs:

The new constructed road designed to pass through the centre of the city that provides great convenient to the citizen. It also upgraded existing low-ended roads and the project will maintain them over the years using environmental-friendly Hot-in-Place Recycling (HIPR) technology. In addition, Freetech introduced its construction waste recycling technology to reuse material during new road building.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Where	Jurong city in Jiangsu Province, China. Approx 1,400 km2 with 650,000 population
Why	The new municipal road was recognized as the key people's livelihood construction project which links the new hospitals, schools, residential areas and busy business hubs in the urban area of Jurong city and becomes the main city road with good traffic flow and road conditions.
What	The project includes city roads, drainage, pipelines, lighting, greenery, and road base construction by using construction waste recycling technology, and the subsequent maintenance work after completion.
Who	Jurong government, Jurong local housing & urban development bureau, Jurong finance bureau, Jurong government investment platform were involved in the PPP project.
When	Project start date : March 2016, 10 years (integration of road construction, management and maintenance, including 2 years new road construction & subsequent 8 years road operation and maintenance)



UNECE 500 People First PPPs for the SDGs... *ending poverty, protecting the planet, and leaving no one behind*



a) Increase access to essential services and promote equity

- The new road boosts up the connectivity of all facilitates within the city. The route involves the resettlement of some families from living in a very old area to improve their living environment.
- Upgrading roads increase the traffic flow in the city.
- Regular & scientific maintenance of city road networks ensure an efficient, safe, comfort transportation system for all residents.





b) Develop a resilient infrastructure and improve environmental sustainability

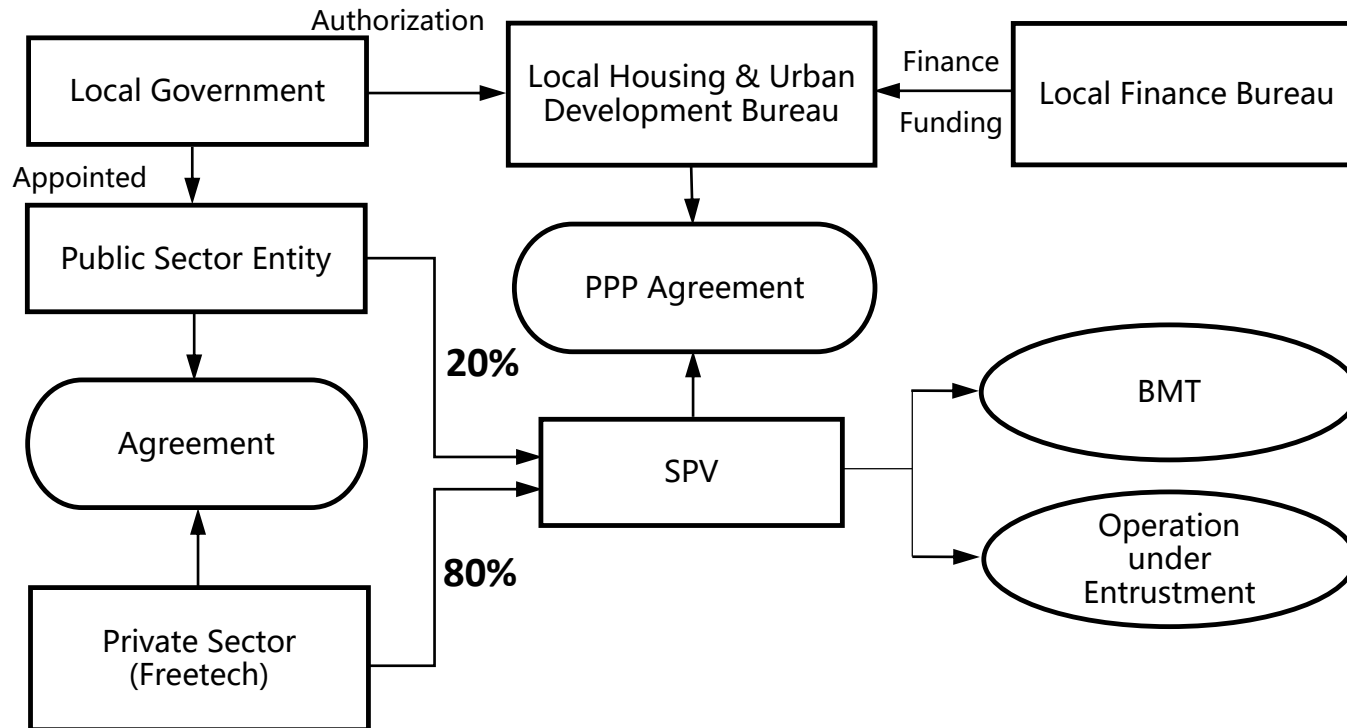
- **New Road** : Construction and management of the new roads passing through the centre of the city
- **Upgrading** : the existing city road from cement pavement to asphalt mixture pavement and perform other large/medium maintenance works
- **Maintenance** : Introduced a high-quality and life-cycle maintenance planning, with fast and efficient HIPR to perform the maintenance jobs that greatly reduces disposal, saves aggregate natural resources.
- **Construction Waste Recycling** : Introduced the construction waste recycling technologies to transform construction waste to the foundations of new build road.





c) Demonstrate the economic and financial effectiveness of the project

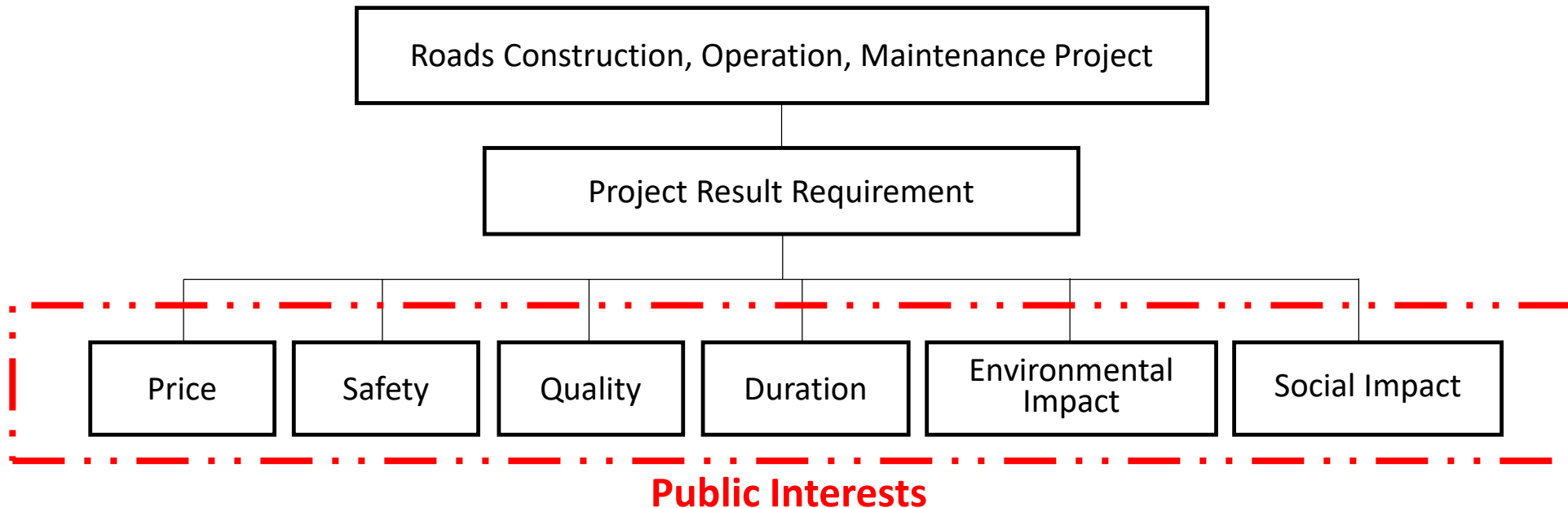
- The initial financial burden of local government substantially reduced.
- 80% operational fund provided by Freetech Group (Government repays Freetech Group through yearly installment after the completion of road construction and commencement of 8 years maintenance period)
- BMT model, i.e. Integration of road construction, management and maintenance increases the operation efficiency and save cost (eg. labour cost, management cost), i.e. able to enjoy high quality products at a lower cost.
- Freetech Group able to obtain a reasonable return rate & reduce cost through its scientific and technological innovation.





d) Be replicable and scalable

- The key success : **Tendering Process – setup requirement**
- Price is crucial but NOT the only consideration. Quality, Duration and Safety are common for construction project but not enough
- Government needs to set tender requirement based on **Public Interests**, including environment & social impact
- Implementation methods are NOT requirements, so should not be specified in the tender.





e) Engage all stakeholders

Private Interests

Apart from the reasonable return from the new construction project, by bundling the operation & future maintenance, company gained the opportunity of long term business development in the city. It also become a demonstration pilot project for other clients.

Public Interests

Safety, Quality and Duration :

These factors are standard in any construction project. However, demolition, construction and maintenance works in a developed city affects citizen daily life and road-blocking, traffic congestion, noise, dust seems to be inevitable. Therefore, Government should specify clearly these requirement in order to encourage the fast technologies to shorten overall duration. Bundled maintenance work gets rid of unexpected quality issue and easy for government future budgeting.

Environmental Impact :

With the advanced HIPR and construction waste recycling technologies introduced by Freetech that minimize the disposal, truck pollution, new material required

Social Impact :

With above technologies, less traffic closure & congestion, less noise & dust are obvious resulting less citizen complaints. Well-maintained roads lead good linking with other main cities & accelerate economic growth. Long-term co-operation encourages recruitment of local people originally engaged in low-end and labor-intensive jobs.

Price :

Price is crucial but NOT the only determin factor. Price should always be low in tendering process under a condition that all essential requirements are fulfilled and satisfied. Bundling the operation & maintenance works that made the project big enough to negotiate lower price.

Case 13

China

Smart and Sustainable Cities Sector

Gu'an New Industry City

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Gu'an Sustainable City PPP Project
Project Proponent:	China Fortune Land Development Co., Ltd (CFLD)
Project Organization:	Sanpu Weite Industry Park Development Co., Ltd



Public Organization: Gu'an County government, Hebei Province of China.

Private Organization: Sanpu Weite Industry Park Development Co., Ltd (SPV)

Capital Provider: China Fortune Land Development Co., Ltd (CFLD)

Why is this project Case Study for People First PPPs: the Project, named Gu'an New Industry City in Chinese, has set the benchmark for future sustainable cities, regarded as a leading PPP model for urbanization in China. It has been replicated locally and internationally.

Case supplier: Prof. Xu Chengbin

China International Engineering Consulting Corp. (CIECC)

Email: xuchengbin@ciecc.com.cn



UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind



the Context and Strategy Supporting the Project (1/2)

Gu'an Sustainable City PPP Project

1) Where: Gu'an New Industry City is located 50 kilometers south from the center of Beijing.

2) Why:

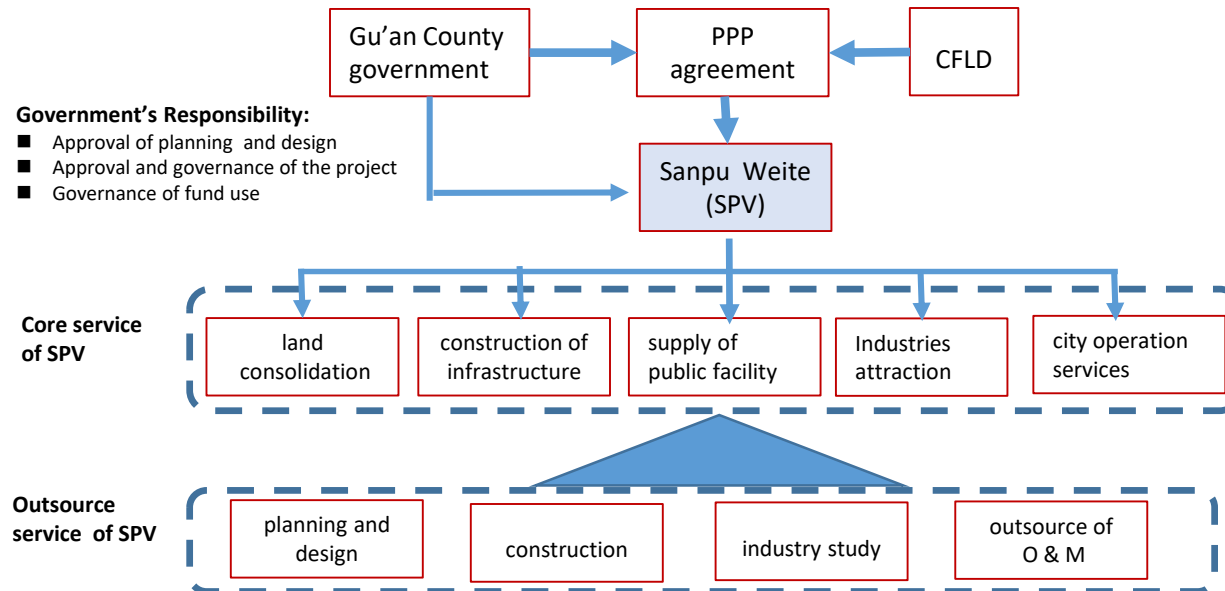
- Before the project started in 2002, Gu'an's annual revenue was only 0.11 billion CNY, one of the poorest county in Hebei province.
- At the end of 2017, the fiscal revenue of Gu'an county amounted to 9.85 billion CNY (USD1.51 billion), top 3 in terms of innovative capabilities in Hebei province and top 100 in terms of county economic competitiveness in China.





the Context and Strategy Supporting the Project (2/2)

3) What:



Gu'an Sustainable City PPP Project



4) **Who:** the government (Gu'an county government) leads, the enterprise (CFLD) executes, and both parties benefit.

5) When:

- CFLD entered Gu'an county in 2002, signing PPP contract of the project with Gu'an county government in 2005.
- The Gu'an New Industry City won the Award of the Best Development Zone for Transnational Companies in 2007, jointly presented by the UN Global Compact Organization, the UN Environment Planning Office, and the China International Transnational Corporation Research Institute .
- Due to the successful implementation of the PPP model, the Gu'an New Industry City was commended as one of 13 best PPP practices released by NDRC in July, 2015.





a) Increase access to essential services and promote equity

over 15 years, Gu'an has transformed from a traditional agricultural society to an innovation-driven industry smart city with the capacity to accommodate a population of one million, which is sustainable, livable, and business-friendly.

Gu'an Sustainable City PPP Project

- Central business districts with banking and financial services companies, business and trade services companies, and headquarters of other companies;
- Local residents enjoy the same education and medical care as in Beijing.
 - the imported Beijing No. 8 Middle School Gu'an branch has been formally put into use;
 - the Fortune Hospital Affiliated Capital Medical University has also been constructed.





b) Develop a resilient infrastructure and improve environmental sustainability

The Gu'an New Industry City has developed a resilient infrastructure including roads, water supply, power supply, heating and drainage facilities. As of 2016, it completed 193 km new road network, 6 water supply plants, 4 heat source plants, 5 substations, 1 sewage treatment plants and other related facilities.

Gu'an Sustainable City PPP Project

The project adheres to create an eco-friendly, green and pleasant environment. 60 landscapes have been completed, with an area of 3.4 million square meters.





c) Demonstrate the economic and financial effectiveness of the project

Since 2002, CFLD has initiated a rapid development with the construction of Gu'an New Industry City. It has attracted 1600 enterprises to invest the city, involving the industries – New-style display, aerospace, biomedical, intelligent car, airport service, healthy pension and urban agriculture.

Gu'an Sustainable City PPP Project

Cumulative investment of over 420 billion CNY (USD 64.6 billion) had created nearly 10 billion CNY (USD 1.51 billion) fiscal revenue and supplied 71 thousand jobs by the end of 2017!



The Return of investment is the hybrid of user charges and government payment.

The Gu'an county government compensates the fees for the planning and design, infrastructure construction and land development according to the cost plus the performance assessment; for the service of industries attraction, the return on investment is in accordance with the agreed proportion.

The total government payment is not higher than the fiscal revenue increment. If the fiscal revenue does not increase, the SPV and CFLD will not repay. Hence the payment will not add any government debt.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

d) Be replicable and scalable

Gu'an New Industry City has set the benchmark for future industry cities, and it is recognized by county, provincial governments and the central government as a leading model for urbanization.

The project has been replicated in the regional economic zone of “Beijing-Tianjin-Hebei”, the Yangtze River and the Pearl River Delta and the “Belt & Road” countries .

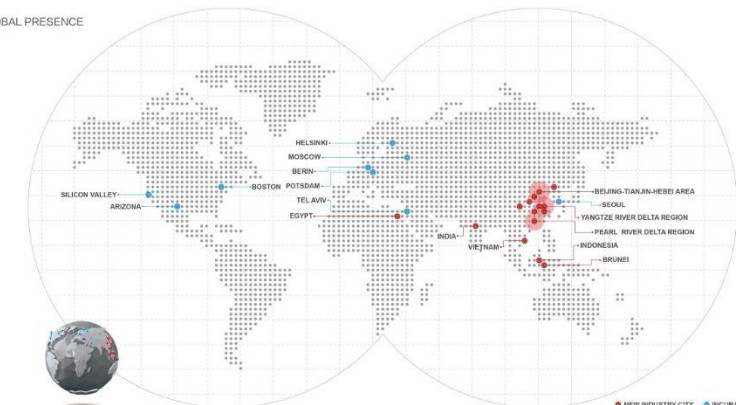
Up to now, the mode of Gu'an New Industry City is now scaled up in over 70 regions around the world.

CFLD has had over 4600 strategic partners in its new industry cities.

Gu'an Sustainable City PPP Project



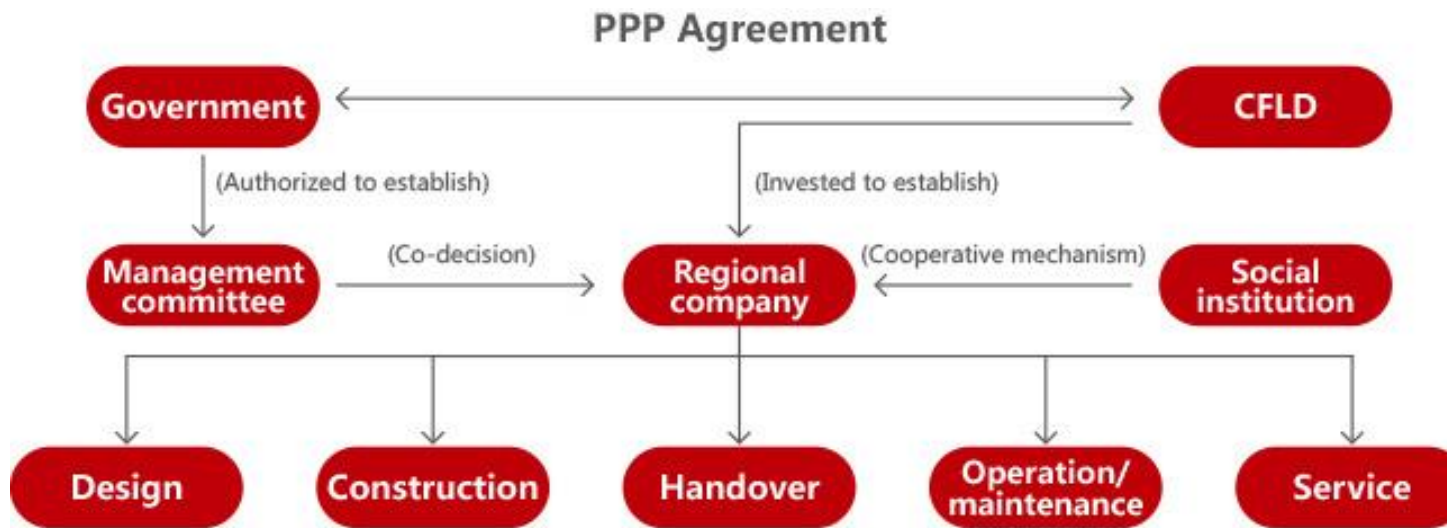
GLOBAL PRESENCE



UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind



e) Engage all stakeholders



Gu'an Sustainable City PPP Project



Case 14

Colombia

Water and Sanitation Sector

Waste Water in Bogota

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	PTAR El Salitre, Bogotá (Colombia)
Project Proponent:	Regional Autonomous Corporation of Cundinamarca (CAR)
Project Organization:	Consorcio Expansión PTAR Salitre

- Public Organization:** Regional Autonomous Corporation of Cundinamarca (CAR)
Sewerage and Sanitation Aqueduct Company of Bogotá (EAAB)
- Private Organization:** Consorcio Expansión PTAR Salitre (A joint venture of Aktor S.A (50%), Aqualia Infraestructuras S.A. (35%) and CASS Constructores y Cía S.A. (15%))
- Capital Providers:** The project has an initial investment cost of around \$ 387 million, 58% of the capital is financed by a loan from the International Bank for Reconstruction and Development (World Bank) and the remaining 42% by the Environmental Investment Fund for the Bogota River Basin from CAR

Why is this project a Case Study for People First PPPs:

The Residual Water Treatment Plant (PTAR) was built and designed at the end of the 90's for the "black water" treatment. But the national and regional economic and demographic growth in the region has caused the public authorities to worry about the imminent increase of the contamination levels of the Bogota river. A PPP was issued to improve and expand the capacity and the efficiency of the Treatment Plant. Also, it includes the optimization of the water treatment procedure to obtain biological fuel to the energy generation. The Administration benefits from the international experience of the WB in the supervision of the project and the capacitation in new technologies from the private institution. While the private firms participate in a profitable and sustainable project that promotes the environmental preservation and shares some light to be a successful case of a PPP.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

- 1) Where:** It is located in the northern side of Bogotá (Colombia), at the mouth of the Juan Amarillo River, one of the main tributaries of the Bogota river, which transports the wastewater generated by homes and industries in the center and north of Bogotá (2,700,000 inhabitants).;
- 2) Why:** The PTAR El Salitre has been functioning since the year 2000, and is the biggest treatment plant of the Bogota river. But the stable economic growth in the country, mainly concentrated in the capital (Bogota) would cause and imminent and progressive deterioration of the quality of the water if not controlled. This motivated the Public Authorities to plan for the capacity expansion of the water treatment plant.
- 3) What:** (1) Minimization of public health risks and bad smell in communities close to residual discharges; (2) Mitigate the environmental impact of industrial and economic growth in the Bogotá River basin, in order to reuse irrigation water; (3) Optimization of the water treatment process in order to generate sustainable energy sources.
- 4) Who:** The Public Administration (through CAR) is the one that assumes the risks of land and space, financing, inflation, interest rates, operation and management, demand and political. While the environmental risk is assumed by the Concessionaire and the design risk is shared by both parts.
- 5) When:** (2014) Tender call; (2016) Adjudication and signature of the tender contest winner, and beginning of construction; (Present) the project is currently in the construction process. The contract is designed to last 5 years (4 years of construction and 1 of operative capacitation)

PTAR El Salitre





a) Increase access to essential services and promote equity

PTAR El Salitre project is a brownfield project that seeks to control for the potential increase of water contamination of the urbanization process derived from the economic and regional growth in Colombia, and particularly Bogota.

The project was designed to increase the capacity of the water treatment plant and optimize the water treatment process, with the accomplishment of these objectives the benefits for the residents and the society are:

- An increase in the public health due to the lower contamination in the water
- Decrease of negative externalities such as the bad smell derived from the water waste
- More quality in the water, that can be reutilized for agriculture and irrigation.
- The creation of 300 jobs plus 700 job opportunities expected to derive from the project. Also, the creation of long-run job opportunities to operate and maintain the new infrastructure.

PTAR El Salitre





b) Develop a resilient infrastructure and improve environmental sustainability

The PPP allowed the Administration to acquire a new infrastructure with an efficient management of the resource. This management is based on the initial transfer of part of the risks associated with the construction of infrastructure to the contractor, and on the guarantee of operation in optimal terms thanks to the operational assistance provided by the contractor of a company specialized in water management and technology associated with international experience that will provide the EAAB during the first year after the completion of the construction of the plant.

The average capacity is estimated to increase from 4 m³/s to 7.1 m³/s which, considering the 15m³/s that currently receives, will allow a big reduction in the water pollutants of the Bogota river and benefit the green areas surrounding the river.

The expansion and optimization of the water treatment plant also includes the incorporation of a second stage of water treatment, the "active sludge" technique that will allow the generation of re-usable bio-fuel in the plant itself.

PTAR El Salitre





c) Demonstrate the economic and financial effectiveness of the project

The financing and payment structure of this project present two interesting financing forms. First, the 58% of the expected cost of the project will be financed by a loan from the World Bank, which positively conditions the development of the project thanks to its international supervision experience. Second, this PPP project starts from the basic structure of a public work in which the contractor (Consortio Expansión PTAR El Salitre) assumes the risk of investment in the equipment in a first and short term, as well as assumes the construction and operation of the water treatment plant at the levels signed by contract (7.1 m³/s).

In this PPP, the public authority awards the construction of an infrastructure, whose investment will initially be assumed by the private company. The Contracting authority will progressively compensate the Concessionaire as the different phases of the project are met.

Also, to control the fluctuations in the Colombian peso, the changes in the currency can modify the payment by the contracting authority, but it must always pay the established amount in Euros and Dollars to the Concessionaire. This system of three currencies, applied in most of the contracts in which the WB participates, guarantees price stability and avoids the possibility of extra costs that fall on the concessionaire.

The contracting authority requires by contract a follow-up of guarantees to the Concessionaire in order to avoid problems during the course of the project due to poor planning of the project that may condition the operator's tasks.

PTAR El Salitre





d) Be replicable and scalable

The PTAR El Salitre project is a PPP that is still a work in progress but that shares some light to become a success, so far we can derive some lessons from it:

- The incentive to work in conjunction with international institutions that can bring the experience to supervise big projects such as the water treatment infrastructure development.
- A good financing structure that allows for a proper risk mitigation by enabling an efficient supervision to control for a good development of the project
- The optimization of water treatment process that can derive in the generation of sustainable energy sources.
- The implementation of a project that can generate both short-run and long-run job opportunities and help in the dynamization of the labor market and hence the economic growth.

PTAR El Salitre





e) Engage all stakeholders

As an urban project, this PPP involves different stakeholders:

Public Entities: EAAB

Private Entities: Consorcio Expansión PTAR Salitre, Aktor S.A, Aqualia Infraestructuras S.A. and CASS Constructores y Cía S.A.

National Authorities: Ministry of Environment and Sustainable Development

Regional Authorities: CAR-Cundinamarca

In the first place, the EAAB and the CAR identify the incipient pollution problem of the Bogota River, and due to the inability to solve it, they communicate the need for support to the national authority of the area, the National Ministry of Environment and Sustainable Development. The supranational organizations, are mobilized, with special reference to the IWB. It is the World Bank that grants a loan to finance 58% of the project and thus complete the budget allocated by the FIAB to undertake the necessary investment. After finishing the contest the project is awarded by competition to an SPV of international companies.

The Governance of this PPP is based on the relationship between the contractor -CAR-, contractor -Consorcio Expansión PTAR Salitre- and the company that will carry out the future operation of the PTAR -EAAB-, basically mediated by the figure of the Project Manager.

The governance of this project is a bidirectional communication between the contracting party (identified mainly in the CAR, but also in the Ministry of Environment, in the EAAB or even the WB) and the contractor (Consorcio Expansión PTAR el Salitre), always mediated by the Project Manager. The Project Manager is the representative of the contractor in the process of supervision and control of the course of the plan, both at the operational level and with social or environmental impact.

PTAR El Salitre



Case 15

Congo

Transport Sector

Waterways

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Restoration, management, operation, development and modernization of the waterways network of the transequatorial communications corridor (Congo, Oubangui rivers and their tributaries).
Project Proponent:	Republic of Congo and a consortium of investors
Project Organization:	<ul style="list-style-type: none">➤ Ministry of Economy, Industry and Public Portfolio ;➤ Ministry of Transport, Civil Aviation and Merchant Marine.



Public Organization: Congolese State / Central African State / Autonomous Port of Brazzaville and secondary ports / Port of Bangui.

Private Organization : Consortium composed by: river transport companies / forestry operators of the North Congo / cement manufacturers / distributors of petroleum products.

Capital Providers :

- Equity (Congolese State + Central African State + consortium+ Other investors)
- Loan (Financial Institutions of Brazzaville and Bangui + Multilateral Banks + International Banks)
- Grant (cooperation agencies: European Union, France, Germany, Japan).

The project allows:

- To open up the Central African sub-region (Southern Chad, South-East Cameroon, North-West DRC, Central African Republic, North Congo);
- To make available to the population a secure infrastructure allowing permanent navigation on the Congo and Oubangui rivers and their tributaries.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Context and strategy supporting the project:

- 1) Where:** The project concerns the navigable waterways of the Congo basin in Central Africa, with the main waterway from Brazzaville (Republic of Congo) to Bangui (Central African Republic). The main rivers (Congo, Oubangui and Sangha) have a total length of more than 2000 km.
- 2) Why:** Restore Congo as a transit country whose waterways are the main node;
Boosting the Brazzaville and Bangui ports and the secondary ports that will constitute real centers of development of economic activities, generating income and improving the well-being of the population;
Reduce the emission of greenhouse gases and preserve national roads that are damaged by the transport of heavy goods, such as wood.
- 3) What:** The project consists of the financing, restore, operation, maintenance and development of navigation on the Congo and Oubangui rivers and their main tributaries.
- 4) Who:** A consortium of investors interested in taking over the public river transport company, the forestry operators and the two States (republic of Congo and Central African Republic);
- 5) When:** Meeting of various actors of the current sector for third trimester 2018. Establishment of a technical committee for concessioning which will define the schedule of execution of the project.

Strong will of the government to find partner to ensure this public service.

Maintenance and security of navigation on the rivers Congo, Oubangui and their tributaries.



Map of waterway network of the Congo basin



a) Increase access to essential services and promote equity.

The realization of the project allows the populations of the riparian countries which do not have roads, to have access to the means of communication, because these zones are very flooded. The people live only by the waterway and use makeshift boats that regularly capsize and causes loss of life.

Regular navigation on these waterways will revive the villages where the various basic public services that are no longer regularly insured, such as education and medical care.

It will also reduce the cost of transportation, with the return of large modern craft. In fact, the scarcity of mass transport in these flooded areas means that the cost of transport, under disastrous conditions, using wealth boats, is very high for a population deprived of income.

This project is justified by the existence of a solid demand for river transport on the part of:

- forestry operators from northern Congo (essential of Congo's forest production) for the evacuation of wood ;
- cement manufacturers, distributors of petroleum products and other building materials ;
- riparian populations.

Maintenance and security of navigation on the rivers Congo, Oubangui and their tributaries.





b) Develop a resilient infrastructure and improve environmental sustainability.

The rehabilitation of waterways, with regular maintenance, dredging and beaconing operations, allows the conservation of these rivers, which are "natural waterways".

Example:

Road transport of logs or petroleum products is highly polluting, unlike the waterway. Indeed, a single convoy of 1600 tons of logs per boat, consisting of an 800 HP pusher and 6 barges is equivalent to 42 logging trucks, about 16,800 HP.

These trucks:

- Emit greenhouse gases;
- Destroy the recently built roads that required, in the case of Congo, an investment of more than two (2) billion US dollars.

Maintenance and security of navigation on the rivers Congo, Oubangui and their tributaries.





c) Economic and financial effectiveness of the project.

Economic point of view:

- Evacuation of timber by Congolese ports.
Wood from northern Congo is currently being evacuated mainly by neighboring countries, such as Cameroon and the Democratic Republic of Congo (DRC). The same is true for supplies of capital goods, construction and consumer goods.
- Increase of State revenue, through taxes.
- Increase in the turnover of the chain of actors concerned (forestry operators, cement producers, distributors of petroleum products, freight forwarders, port operators, the railway between Brazzaville and Pointe Noire, river carriers, ...).
- Increase of the income of the local populations, by the sale of the products of the fishing and the agriculture.
- Development of secondary ports which will be connected to departmental roads and / or agricultural tracks by water or land and will constitute secondary centers of development of the hinterland, through the socio-economic infrastructures to be implanted there.

Financial point of view:

The project's revenues will mainly consist of user payments, through river fees and works on sale as well as the payment by the States according to the navigability of the watercourse.

Maintenance and security of navigation on the rivers Congo, Oubangui and their tributaries.





d) Project replicability and evolution.

The project can be replicated in all regions that have problems of dredging and securing waterways.

The project can be executed in three (3) phases.

Phase 1 : In the short term, by tackling the most difficult nodes on the Oubangui and Sangha rivers which ensure the maximum of the river traffic with forestry operators.

Phase 2 : In the medium term, by progressively securing the other rivers.

Phase 3 : In the long term, by building water regulating structures.

The project will build on the existing GIE which already has some technical and human resources.

Maintenance and security of navigation on the rivers Congo, Oubangui and their tributaries.





e) Stakeholders engagement.

The project mobilizes both the two states (Congo and Central African Republic), the waterway maintenance service, the river transport companies, the ports of Brazzaville and Bangui, the local authorities concerned, associations of towns and riverside villages, local and foreign investors, international cooperation agencies, the Congo, Oubangui and Sangha Basin International Commission (CICOS), the Congo Basin Blue Fund, etc.

Maintenance and security of navigation on the rivers Congo, Oubangui and their tributaries.



Case 16

Costa Rica

Transport Sector

Road 27

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Ruta Nacional 27 – San José – Caldera (COSTA RICA)
Project Proponent:	Raul Albelda
Project Organization:	GLOBALVIA



Public Organization: Consejo Nacional de Concesiones – MOPT – Gobierno de Costa Rica

Private Organization: GLOBALVIA

Capital Providers: Since 2017, Ruta 27's amortizing US\$300MM international 144A/RegS notes and US\$50.75MM Costa Rican notes (its inaugural debut in the international and local Costa Rican debt capital markets), and Equity (now 100% GLOBALVIA, USD 60,5M).

Why is this project a Case Study for People First PPPs:

- Time savings of 35 minutes during off-peak hours and 1 hour during peak hours as compared to alternate routes, traveling the same distance from San Jose to the coast, enhancing faster and safer accessibility.
- Fuel yearly savings using this road estimated by USD 100M per year and congestion on most other roads has increased due to an increase in the number of vehicles in circulation, which is up 69% from 2005-2014.
- Formerly isolated areas became well connected villages, generating 1,500 jobs during construction and 500 jobs during operational phase.
- New logistics & industrial developments along Ruta 27 offer significant economic growth
- GLOBALVIA different CSR initiatives in benefit of the communities in the social, environmental, and educational areas.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

- 1) Where:** National Road 27, between San José and Caldera, in Costa Rica, is the main infrastructure in Central Valley.
- 2) Why:** Ruta 27 is a 76.8km regional toll road, linking Costa Rica's capital city and surrounding metropolitan area with the Pacific Coast via a critical corridor through the mountains. It is the fastest and most efficient route between the capital and the Pacific coastal areas, including Puntarenas City and the important Port of Caldera. Users are willing to pay tolls given material value added for users, time savings of up to 72 minutes.
- 3) What:** Social inequalities reduction by generating significant direct and indirect jobs, and significant fuel savings by time-travel reduction, linking badly connected areas with the capital (San José) and the Pacific coast with a new road;
- 4) Who:** CNC-MOPT (Costa Rica Govern) as promoter, taking the risk of not receiving interest from international firms and GLOBALVIA as concessionaire, taking the risk of not receiving enough traffic/revenues to payback its investment;
- 5) When:** 1978 First designs and engineering / 1998 Start Bid Phase / 2001 Concession Contract Signed / 2008 Notice to proceed / 2010 Commercial Operations Date ("COD") achieved in January 2010

GLOBALVIA Ruta 27





a) Increase access to essential services and promote equity

As a new road infrastructure, Globalvia Ruta 27 is the main axle to connect San José and Pacific coastal areas, providing the fastest and most efficient route between the capital, the Pacific coast, and the interior of the country, promoting the economical development and easing some congested areas:

- San José is the seat of Costa Rica's national government, the focal point of political and economic activity, and a major economic and population hub that brings in more than a million people daily.
- Although few people live in the city center (286,000), the greater San José metropolitan area comprises almost a third of the country's population with 1.5 million people.
- San José's proximity to Juan Santamaria International Airport (just few km from Ruta 27), the country's largest airport, makes the city a frequent stopover for visitors and travelers.
- Ruta 27 is a gateway to vibrant beach, nightlife and tourism hotspots near Port Caldera, including Los Sueños, Jaco, Puntarenas and Tortuga Island, in addition to the Carara National Park, a 13,000-acre biological reserve. In addition, Ruta 27 provides access to Guanacaste, La Fortuna and Manuel Antonio Beach.
- Port Caldera is one of 6 ports in Costa Rica, and the launch point for both cruise and international freight ships.

Globalvia Ruta 27 is uniquely positioned to benefit in future growth arising from:

- Increase in industrial activity at the Caldera Port and also several warehouse, distribution and logistic developments.
- Real estate development in the Escazú and Alajuela regions.
- Development of the new international airport to be located in Orotina, a city halfway between San José and the Port of Caldera along Ruta 27.

GLOBALVIA Ruta 27





b) Develop a resilient infrastructure and improve environmental sustainability

Ruta 27 is a National Road owned by Costa Rica' Government, and after the construction phase, it started to be operational in 2010. Since then, Globalvia Ruta 27 is responsible to operate, manage and maintain the road under a PPP scheme. The project has been very successful in terms of demand, service provided and safety, and now the preliminary phases of its widening are on progress, due to capacity constraints.

According to average fuel cost and consumption data, average yearly traffic and average time savings, compared to its northern alternative route (Ruta 1), Ruta 27 is saving USD 100M to its drivers.

For the construction phase, with the proper permits land movements and felling of trees were made. As mitigation measures, areas near rivers were repopulated with trees in the project.

Already during the operation, for its good environmental management, the project has the Blue Flag award for environmental protection, as well as the country brand license "Somos esencial COSTA RICA" in recognition of management good practices.

GLOBALVIA Ruta 27





c) Demonstrate the economic and financial effectiveness of the project

Ruta 27 is a toll road with direct payments at toll plazas. Since opening, Ruta 27 has experienced more traffic than the financial model considered, having sufficient financial returns by its own operations to meet payback scheduling.

On May, 2017, Globalvia Ruta 27 issued successfully a US\$300MM international offering Senior Secured Notes (Ba2 (Moody's) / BB (Fitch)) due 2030, concurrently with a US\$50.75MM Costa Rican offering Public Senior Secured Notes due 2027 (AA (Fitch)).

- 144A/RegS notes were rated in line with the sovereign, demonstrating the robustness of the structure which includes standard project finance provisions.
- First project bond from a non-investment grade Central American country.
- Largest bond issued in Costa Rica by a non-government owned institution.
- The notes are backed by cash flows from the toll road, with investors taking volume risk.

This refinance operation received the award of “Transport Finance Deal of the Year” by Bonds & Loans Latin America.

GLOBALVIA Ruta 27



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

d) Be replicable and scalable

- This model can be fully replicated in any country, and GLOBALVIA is doing so at 27 PPP road and rail international projects, including USA, Chile, Mexico, Ireland, Portugal, Andorra or Spain.
- Concession Contract includes the design, financing, construction, rehabilitation, extension, repairmen, maintenance and conservation of the toll road. Concessions are coordinated and managed by the Grantor.
- Globalvia Ruta 27 has been a very successful project, to the extent of being now under preliminary discussions with the Govern (CNC-MOPT), to extend (widen) the road with new lanes, enhancing a capacity increase. The conditions that need to be met for this to happen may be reflected under a Contract Variation, or even in a New Contract.

GLOBALVIA can replicate this successful project due to:

- Strong management team with over 20 years of experience managing infrastructure assets overseas, governs GLOBALVIA's concessions.
- Since its opening, Ruta 27 has been meeting all technical requirements set forth in the Concession Agreement.
- The Grantor appointed ITEO to ensure that technical standards are met. ITEO is also responsible for controlling compliance with the fee collection regulations, verifying compliance with the economic conditions of the proposal, detecting delays or breaches of Globalvia Ruta 27's obligations.
- Globalvia Ruta 27 has 107 well-trained employees, with the control and operations center located in Escazú, its day-to-day operations and maintenance activities are carried out by contracted employees working in shifts.
- In addition to 24/7 monitoring by 33 cameras operated from the control center, roadway teams patrol constantly and provide assistance as needed.

GLOBALVIA Ruta 27





e) Engage all stakeholders

On top of its aforementioned goals, Globalvia Ruta 27 is a project that promotes, by many CSR initiatives the benefit of the communities in the social, environmental and education areas.

Just to name a few, in partnership with the Real Madrid Foundation, every year, 125 children from socially vulnerable areas and very poor background benefit from sport scholarship in a comprehensive manner.

Globalvia Ruta 27 supports some surrounding National Parks (Carara) by cleaning, maintenance and painting actions. There is also an animal rescue program that includes Globalvia Ruta 27 employees training programs to help them in case they find wildlife in the surroundings of the road or hit by vehicles.

And in the schools, road safety brigades are created with the children, and safety programs are coordinated with Police Dept.

GLOBALVIA Ruta 27



Case 17

Cote d'Ivoire

Transport Sector

Bridge in Abidjan

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Henri Konan Bédié Bridge
Project Proponent:	Bouygues Group
Project Organization:	Société Concessionnaire du Pont Riviera Marcory ("SOCOPRIM")



Public Organization: Government of Cote d'Ivoire

Private Organization: Bouygues Group

Capital Providers: AFC provided total facilities €40.0 million, comprising senior and junior loan facilities, and an equity investment, while the Government of Côte d'Ivoire contributed equity of 50 billion CFA francs. Other financing partners included West African Development Bank (BOAD); the ECOWAS Bank for Investment and Development (EBID), the Moroccan Bank for Foreign Trade (BMCE); the Dutch Development Bank (FMO), and Société Financière Africaine (SFA) and the AfDB

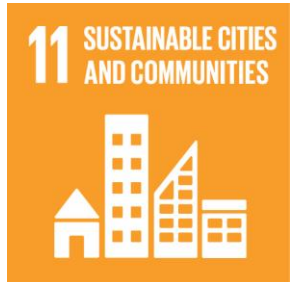
Why is this project a Case Study for Peoples First PPPs:

The Henri Konan Bédié Bridge frees up its two predecessors, the Houphouët Boigny Bridge (built in the 1950s) and the Charles de Gaulle Bridge (built in the late 1960s), which are heavily congested at peak times – and much of the day. With the HKB Bridge, motorists no longer have to drive around the lagoon, the only route up to now, allowing motorists to save 30mins and 10km in commute time daily, resulting in 2,600km per year and 260 hours per vehicle. An estimated 100,000 vehicles use the HKB bridge per day and with the lower travel times, emissions have reduced by 90,000 tonnes. The HKB has also resulted in 50,000 fewer cars on the Charles de Gaulle bridge, resulting in 30 minutes savings in journey times.



- **Where:** Abidjan. The HKB Bridge provides a more direct expressway link between the north and south of Abidjan, bringing the districts of Riviera and Marcory closer together, only 7km.
- **Why:** Prior to the Henri Konan Bédié Bridge, the Houphouët Boigny Bridge and the Charles de Gaulle Bridge, were heavily congested at peak times – and much of the day and the only route for motorists was to drive around the lagoon (a 17km journey).
- **What:** Expectations of the HBK Bridge are high, and are not only connected with easing traffic (2,600km and 260 hours per vehicle commuting to work daily). The whole socio-economic situation of Abidjan is expected to be impacted – in addition to the hundreds of jobs created during construction. Adjoining land is developed and districts become less isolated and with proper sanitation, improved quality of life, modernised urban development for a more attractive capital city. Improved access to basic social services and infrastructure, such as Cocody University Hospital, Félix Houphouët-Boigny Airport.
- **Who:** Bouygues Group, as the anchor investor of SOCOPRIM whom developed the Henri Konan Bédié Bridge and the Government of Cote d'Ivoire also as an equity investor to the project, absorbed a significant portion of the traffic risk through the provision of a minimum revenue guarantee and was responsible for providing the Project site to the Project sponsor.
- **When:** SOCOPRIM and the Government of Cote d'Ivoire executed a 30 year concession agreement, Construction began in 2011 with commercial operations commencing in 2014

Henri Konan
Bédié Bridge





a) Increase access to essential services and promote equity

Completion of the bridge has provided residents in Abidjan access to basic social services and infrastructure, such as Cocody University Hospital, Félix Houphouët-Boigny Airport, and Cocody University have been improved for those living in Ile de Petit-Bassam, to the south, and other districts to the north of Abidjan

b) Develop a resilient infrastructure and improve environmental sustainability

The reduced commute times on the HKB and the existing bridge is estimated to recued CO2 emissions by as much as 90,000 tonnes annually.

**Henri Konan
Bédié Bridge**





c) Demonstrate the economic and financial effectiveness of the project

	Amount
Total Debt (AfDB, other development banks and private banks)	€166 M
Total Equity	€28 M
Ivorian Government	€76 M
Total Project Costs	€270 M

- Multi Investment Guarantee Agency (“MIGA”) provided up to Euro165.0 million in guarantees for equity investments and loans made by Bouygues, PAIDF, AFC, BMCE Bank International Plc and FMO to SOCOPRIM.
- The Government financed the grant by creating a special tax and simultaneous public bond issue. The fuel tax of CFA 20.0 / litre of fuel, targeted users of the road network and was collected in an escrow account dedicated to the financing of the bridge.

d) Be replicable and scalable

The project development risk was jointly borne by private sector (Bouygues) and the Government of Cote d'Ivoire, which allowed interests of all parties to be managed in an efficient manner and also ensure that project development activities are completed in a timely and efficient manner.

**Henri Konan
Bédié Bridge**





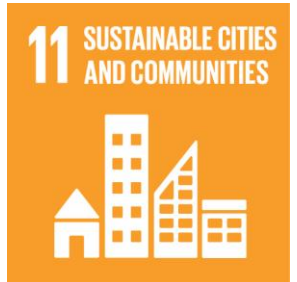
e) Engage all stakeholders

The project required the resettlement and compensation for a total of 2,499 affected persons. Some of the activities includes the

- Requisitioning of heavily populated lands including homes, small businesses, craftspeople and agriculture and grazing – especially in Marcory. It was then necessary to move and relocate all these people – not only once, because the suspension of work during the conflict had led to land freed up in 1998 for the project being reoccupied. The revised resettlement plan for people who had reoccupied project land resolved this matter, in compliance with the standards required by funders.
- It was also necessary to redevelop areas that posed serious environmental problems, such as Anoumabo Island, a "village" with a population of 27,000 in the heart of Marcory with piggeries in full operation not far from a rubbish dump next to the lagoon.
- Other community support actions undertaken includes the refurbishment of classrooms; relocation of a major rubbish dump located very close to the future bridge, below the University of Abidjan,

Affected persons that were economically active in the project area, mostly small craftspeople and traders, was handled by the project developers, the Ivorian Government and Socoprim.

**Henri Konan
Bédié Bridge**



Case 18

Croatia

Education Sector

PPP School Programme in Varazdin County

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	PPP School Programme in Varaždin County, Croatia
Project Proponent:	Ljerka Golubić Bregant, Head of Division for Education and Cooperation with EU Institutions, Sector for PPP, Agency for Investments and Competitiveness (AIC)
Project Organization:	Regional (County) Government



Public Organization: Varaždin County (NW Croatia)

Private Organizations: T.P.N. Varaždin Co. – 3 contracts

T.P.N. Graberje Co. – 1 contract

Meteor Privatno Partnerstvo – ALFA Co. Varaždin – 5 contracts

Capital Providers: Private Capital (Commercial Bank loan), Varaždin County budget and State budget

Why is this project a Case Study for People First PPPs:

Varaždin County has set main strategic priority back in 2006 – „Educated people as a guarantee of economic growth and social prosperity.” To bring prosperity to the citizens, the County’s government has set the following objectives: to ensure equal standard in all schools, to stabilize the operation and maintenance cost and to provide the conditions for advanced educational programs. The classes in one core session are recognized essential precondition for achieving these objectives. In the early preparation phase, the County authority has assessed the conditions in all schools and identified 22 school buildings and 10 sport halls as a priority for achieving the main goal. Further, they have assessed affordability and decided to procure the schools through PPP model to provide better value for money. Prior to launch the public procurement procedure, regional and local governments signed the agreement for financing development of project documentation and later share of monthly rates to be paid to private partners. In the operational period of 10 years, the public sector successfully managed the contracts (8) and achieved the results beyond the scope of the typical facility management. Thus, the ‘People-first’ oriented policy is contributing to the sustainable development of the region in a long run.





- 1) Where:** Varaždin County (NW Croatia) with population 175.951, land area 1.261 km²; main economic activities: food industry, pharmaceutical industry, trade, SMEs, tourism, agriculture, construction and processing industry.
- 2) Why:** The county is among 9 developed counties in Croatia and has 22 municipalities and 6 cities. At the time of project identification in 2006, there was 12 680 pupils in the ground schools with 1 280 employees (33 mother schools with 30 district schools), 8 430 students and 725 employees in the secondary schools (11 schools and 1 dormitory). The classes were organized in two core sessions from 7.00 a.m. to 19.00 p.m. In the preparation phase, the county administration firstly have had conducted the analysis of the existing conditions of the facilities and have had identified 22 school premises and 10 accompanying sport halls for realization in the first phase. In the next step they have defined the volume of investments necessary to upgrade the standards considering affordability and project potential to attract the private finance. Together with the local governments, they have financed development of the project documentation and launched the public procurement procedure grouping the tenders on the basis of the necessary works requirements (upgrading and renovation of the existing premises, construction of the new premises, energy efficiency requirements). Since the traditional model was expensive and inefficient, the county government has decided to use the PPP model transferring the risks to finance, build, operate and maintain to the private partners.
- 3) What:** To achieve the equal standard in the schools and initiate the advanced programs it was needed to construct the school area of 50 000 m² and to ensure EUR 50 million in construction period from 2006 to 2008.

**Varaždin County
PPP School Programme**



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



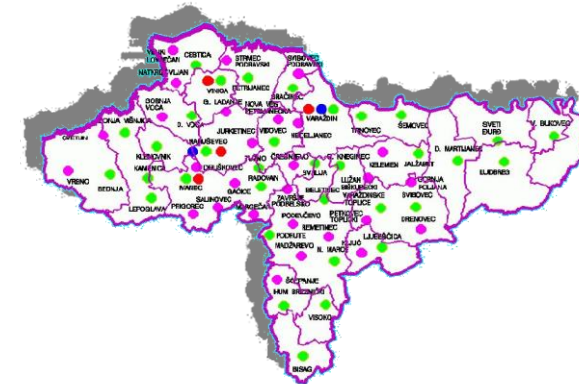
THE GLOBAL GOALS
For Sustainable Development

4) Who: The Varaždin county financed development of the project documentation together with municipalities (50%-50%) and provide availability payment in share 80% county and 20% municipalities. The county PPP School program is contracted through 8 contracts with three SPVs. The private partners provide finance, build, operate and maintenance of the school and sport halls in 20-30 years. The commercial bank provided the loan to the SPVs (private partners).

5) The project implementation milestones:

As early as in 2006 the County government have assessed the state of play in education. There were 74 schools and more than 20 000 pupils attending the classes in two core sessions. Working hours were from 7.00 a.m. to 19.00 p.m. 6 days in a week. The standard was unequal with no capacity for advanced programs and extracurricular activities. At the same time, the system was expensive and inefficient. In the preliminary phase, they have identified 22 schools to be upgraded and 10 sport halls considering several options and due to the previous experience with traditional model, they have decided to implement the school projects using PPP (PFI) model. The competitive dialogue have been chosen as a public procurement procedure. In early 2006 they published invitation for expression of the interest (4 invitations), by mid 2006 they have sent invitations to tender to the short listed bidders and after bid evaluation, the County has awarded and signed 8 contracts with three SPVs for 1 new school building, upgrade of 21 schools and 10 sport halls. The construction works have started by the end of 2006 and the premises were opened in September 2008. The contract period is 20 to 30 years in terms of availability payments shared between the county (80%) and the municipalities (20%). The contracts have stipulated the standards, key performance indicators and payment mechanism including service failure deductions over the contract's lifetime and other facility requirements (environmental, structural, health safety, fire protection, natural disasters). The contracts clearly stipulated availability period for school and for commercial use.

**Varaždin County
PPP School Programme**





a) Increase access to essential services and promote equity

The main goals of the PPP School program are to ensure the equal standard enabling delivery of advanced education programs in one core session in 5 working days. When the county authority identified 22 schools and 10 sport halls to be upgraded, the priority was given to the schools located near the border with Slovenia. The intention was to upgrade the standard in this area and to bring it closer to the Slovenian standard preventing migration, since Slovenia is more developed country and EU member state since 2004. In 10 years of projects implementation, the goals were achieved providing the equal opportunity for the pupils in less developed municipalities in which the school premises were in poor condition. The program has great impact especially to the ground schools (eight-year elementary education in the Republic of Croatia is compulsory and free for all children at the age of six to fifteen) providing the higher standards in 90% of all ground schools in the County.

Varaždin County PPP School Programme





b) Develop a resilient infrastructure and improve environmental sustainability

The public partner has identified the implementation of the PPP School program as a long-term strategic priority for ensuring sustainable development of the region. While choosing the PPP model, the County's government intended to achieve the equal standard over the contract's lifetime for many generations. Although the program comprises the upgrading and refurbishing of the existing school facilities and construction of only one brand new school building, the County has negotiated the maintenance risk with the private partner which include preventive and reactive maintenance, maintenance of electrical and mechanical installations, fire protection and natural disaster management. By introducing energy efficiency measures in the schools, the objective was to reduce energy costs and modernize the energy and heat systems, which will be achieved through the following measures: compensation of reactive electricity, i.e. improvement of plant or device power factors, replacement of warm dot light sources and uncompensated sources lighting on the principle of impact ionization, reconstruction and repair of heating installations, thermal insulation of external walls, façades, roofs and windows. Energy efficiency measures were financed by public company (HEP Esco), UNDP and County's budget.

For efficient contract management, the private partners implemented software for malfunction reporting enabling fast communication channel, deduction calculation and e-invoicing.

Varaždin County
PPP School Programme





c) Demonstrate the economic and financial effectiveness of the project

At the time of PPP program initiation in 2004 this type of investment was not affordable for public authorities due to the financial conditions (the inability of the public sector to take out the loan from the bank for 25 years) and the budget constraint. The public partners assessed the affordability to invest and it was decided to procure the project using the PPP model because the financing was more advantageous for private sector. For project preparation they followed guidance for PPP issued by Ministry of finance and procure the private partner through competitive dialogue (two stages). Based on the MEAT criteria the contracts were awarded to three SPVs being private partners in 8 contracts. Commercial bank provided a long-term loan to the private partners. The lease contracts between public and private partners stipulated monthly rates to be paid conjointly by the county (80%) and by the municipalities (20%). The monthly rates are based on availability and thus the private partner is motivated to react in due time (no availability – no payment). Transferring the finance risk to the private partners, enables the public partner to maximise budget planning in long run (all costs are transparent) without jeopardizing other public investments. The unitary charge is lesser than current commercial price and decreased in the implementation period due to the financial market conditions (decreased interest rate and consumer prices indices).

With the program delivered in one core session from 7.00 a.m. – 16.00 p.m. and energy efficiency measures, they ensure energy saving and decreased the cost of transportation for the pupils.

Varaždin County
PPP School Programme





d) Be replicable and scalable

This PPP School Program can be easily replicated in other counties and cities in Croatia, since the elementary and secondary education is regulated on national level and in the framework of the Croatian National Educational Standards which is mandatory for school founders. It establishes the best physical, medical, technical, computer and other norms that help ensure equal working conditions in educational institutions. However, it depends of the strategic goals of each promoter. Its financial model is replicable on the similar markets abroad.

On the basis of the results achieved, Varaždin County has prepared several PPP School projects approved by the Agency for Investments and Competitiveness. Besides, three other counties have developed PPP School programs using this model. It is worthy to mention that more than 250 delegations (from Croatia and abroad) paid the visit to the County to learn more about good PPP practice. The success of the project depends on the good relationship and cooperation between the partners and each party nominated the person in charge to monitor the operations on the daily basis. The effective IT system has been implemented for failure report and communication. The staff is trained for its usage and attending the courses in line with the annual training program.

The results achieved:

1. Classes in one core session
 - Socialization, motivation, decreased number of negative ratings, decreased number of unexcused absences
2. New schools program network
 - Vocational schools - sectors assignment and various Grammar schools programs
 - Increase number of students in Gymnasiums for 80% (10% from other counties)
 - All schools are implementing EU projects
3. Centres of excellences
 - Mathematics, Physics, IT, Chemistry, Entrepreneurship, Croatian language
4. Long-life learning (for adults)
5. Sports activities and cultural events
6. Schools open for local communities' activities (festivals, manifestations, NGO's etc.)
7. Improved social standard (uniform standard in majority of schools ensured in short term); advanced programs available to all pupils

Varaždin County PPP School Programme





e) Engage all stakeholders

In the early preparation phase, the County authority establish cooperation with local governments (cities and municipalities) responsible for 22 schools to be procured through PPP model and with the school principals in order to optimize the procurement process and later implementation and monitoring. In the first step, they have successfully implemented communication strategy targeting officials in the county, cities and municipalities, school principals, business sector and financial institutions to mitigate political risks. To raise public awareness of these long term objectives and familiarize the citizens with benefits of the future projects getting their support, they have organized open days prior to initiate public procurement procedure. Besides, the county's government later established good cooperation with the responsible line ministries (of finance and education) and with the Agency for Investments and Competitiveness. Although political risks in this project is significant (due to the different political parties in power), both governments (regional and local) are committed to fulfil their contractual obligations primarily because of good results in education (achievements of the students), social impact to the communities and operational efficiency (good facility management).

The program success is result of good cooperation between the parties: each party provide its know how at its best – public partners are providing payment and monitor the contract implementation, the private partner operate and maintain the facility, and the school principals are focused on quality of education programs.

The sources of data: Agency for Investments and Competitiveness - AIC
Miroslav Hudjek, PhD, Head of Department for Education, Culture and Sport in Varaždin County
Croatian Bureau of Statistics

Varaždin County PPP School Programme



Case 19

Croatia

Education Sector

Koprivnica High School

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Koprivnica High School, Croatia
Project Proponent:	Ljerka Golubić Bregant, Head of Division for Education and Cooperation with EU Institutions, Sector for PPP, Agency for Investments and Competitiveness (AIC)
Project Organization:	Local (City) and Regional (County) Governments



Public Organization: City of Koprivnica and Koprivnica-Križevci County

Private Organization: Tehnika SPV

Capital Providers: Private Capital (Sponsor: Tehnika Co. and Funder: Commercial Bank)

Why is this project a Case Study for People First PPPs:

The main challenge for the governments (regional and local) was to improve the conditions of the school facility and to upgrade the education standards at the time of a budget constrains. They initiated the social project ensuring the land for it in attractive location (city centre) committed to provide better opportunity for young. They have developed viable project which fulfil the goals (6) and in economic terms achieve value for money proving that the construction cost and the lease through PPP model is lesser than in traditional model if they bore all risks.

The achieved results are justifying the use of PPP model for other schools and they initiated new PPP school programme in this county as well as in several other counties in Croatia and abroad.

This particular school has become city landmark recognized internationally and awarded with prestigious prizes.

The success of the project in the operational period of 10 years is achievement of all stakeholders involved for a benefit of end-users: the students and the wider community having educated people as a key for sustainable development of the region.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

1) Where: Koprivnica-Križevci County (NW Croatia) with population 115.584 , land area 1.748 km²; main economic activities: food industry, oil&gass industry, pharmaceutical industry, trade, SMEs, tourism, agriculture and construction.

City of Koprivnica: population 30.854, land area 91 km²; main economic activities: food industry, pharmaceutical industry, SMSs, processing industry.

2) Why: The county has 22 municipalities and 3 cities and Koprivnica is county's administrative centre. The students attended three programs (2 vocational and grammar school programs) in one building constructed back in 1972 with 25 classrooms for 1500 students. In 2005 there were 2850 students in three core sessions and the conditions were poor. The public authorities decided to construct the new building in the first phase for 900 students of gymnasium including the sport hall available for sport clubs (women handball team was European champion) and for social events. The public authorities justified PPP solution due to the financial market conditions (lower cost of transaction for private sector) and better value for money in the period of 25 years comparing to the traditional procurement. The risks of finance, build, operate and maintenance was transferred to the private partner.

3) What: The public authorities provide better quality and efficacy of education and sport facility in the in long term.

High School Koprivnica





4) Who: The City of Koprivnica provided the land, developed project documentation and together with County provide availability payments. SPV obtained the construction permit. The private partner mother company provided equity (sponsor), the SPV (private partner) obligations are finance, build, operate and maintenance of the school and sport hall area of 11670 m² in 25 years. The commercial bank provided the loan to the SPV (private partner).

5) The project implementation milestones:

Back in 2004 the public authorities have considered the affordability of the new premises for the high school students and conducted option analysis. Due to the previous experience with traditional model, they have decided to implement the school project using PPP (PFI) model. The competitive dialogue have been chosen as procedure. In December 2005 they published invitation for expression of the interest and in January 2006 they reviewed the eligibility of the economic operators and subsequently in February 2006 they have sent invitations to tender to the short listed bidders. In May 2006 they evaluated the tenders and conducted negotiation during May and June. In July 2006 they have awarded and signed the PPP contract. The construction works has started by the end of July 2006 and the new premises were opened in September 2007. The contract period is 25 years in terms of availability payments shared between the county (61%) and the city (39%). The contract has stipulated the standards, key performance indicators and payment mechanism including service failure deductions over the contract's lifetime and other facility requirements (environmental, structural, health safety, fire protection). The contract clearly stipulated availability period for school and for commercial use.

High School Koprivnica





a) Increase access to essential services and promote equity

The main goals of the project are to improve the education program quality and efficacy; ensure the facility for students in the short term; ensure the sport facility for students, sport clubs and citizens meeting the IHF standards; ensure the uniform school standards in the long run; provide the city landmark and maximise the investment using the private capital. In the 11 years of implementation, all goals are achieved. The facility is constructed for 900 students in one core session and is consisting of 35 class rooms including 9 specially equipped rooms (foreign languages, musical room, room for corrective gymnastic), 27 cabinets and labs (science labs, multimedia rooms, computer rooms) with modern IT equipment (WIFI and intranet, school radio) and library. Sport hall for 2000 viewers is meeting IHF criteria. The facility is adjusted for disabled persons (school with no barriers). The school enrolment is open for all students from other counties too providing four education programs (general, STEM, languages and sport program). Besides in Croatian, the school is providing bilingual program in Croatian-French. In the implementation period the student's scores are among highest on the national level and they achieved high ranks at the international championships. In spite of increase of number of classes there is no vandalism. After regular core session, the rooms are provided for extracurricular activities (36 groups) and different social events (concerts, public forums, exhibitions, theatre plays etc. (insofar 500). At the same time the teachers are advancing in line with national regulations (mentoring, tutoring etc.). The school is among three most successful in sport and the most successful in national competitions in 2013-2016 and consistently strong in final exam results and thus competitive for university enrolment. The students are implementing EU funded projects (Erasmus+, Comenius).The students are publishing FRANzine bulletin (print and online versions).

High School Koprivnica





b) Develop a resilient infrastructure and improve environmental sustainability

The public partners both regional (County) and local (City) have identified the implementation of the project in education sector as a priority development goal. While choosing the PPP model, they intended to achieve the equal standard over the contract's lifetime for many generations. By overtaking the maintenance risk the private partner ensure the quality of construction works and upon contract expiry after 25 years shall transfer the facility to the public partner in good condition (replacement of raw materials and roof) without any charge. Over the implementation period, the building has become a city landmark and award-winner of many prestigious national and international prizes (EU *Mies van der Rohe* Emerging Architects Special Mention award to designer STUDIO UP <http://www.architectour.net/main/page.php?id=25>). The jury explained: „a system of shutters above the sports hall and the ducts through the cantilevered classrooms of the top floor ensure a constant flow of cool air during the summer months while the double polycarbonate skin creates a 'green house effect' in winter. The building transforms the suburban periphery of Koprivnica by creating a landmark and an emblematic place for the young people of the town.”

High School Koprivnica

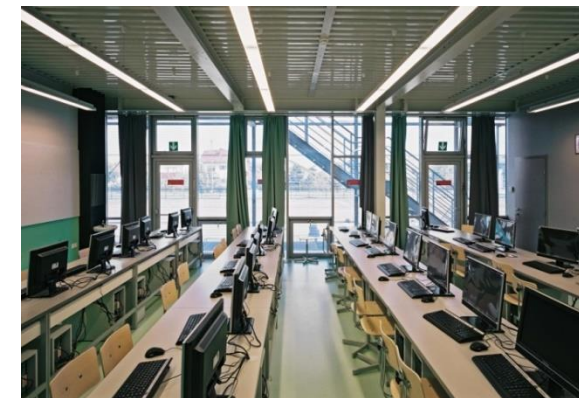




c) Demonstrate the economic and financial effectiveness of the project

Back in 2004 this type of investment was not affordable for public authorities due to the financial conditions (the inability of the public sector to take out the loan from the bank for 25 years) and the budget constraint. The public partners assessed the affordability to invest and it was decided to procure the project using the PPP model because the financing was more advantageous for private sector. For project preparation they followed guidance for PPP issued by Ministry of finance and procure the private partner through competitive dialogue (two stages). Based on the MEAT criteria the contract was awarded to Tehnika Co. who founded Tehnika SPV as a private partner in the contract. Private partner signed direct agreement with commercial bank for a loan on 25 years. The lease contract between public and private partner stipulated monthly rates to be paid fairly by the county (61%) and by the city (39%). The monthly rates are based on availability and thus the private partner is motivated to react in due time (no availability – no payment). Transferring the finance risk to the private partner, enables the public partners to maximise their budget planning in long run (all costs are transparent) without jeopardizing other public investments. The unitary charge is lesser than current commercial price.

High School Koprivnica





d) Be replicable and scalable

This unique project can be easily replicated in other counties and cities in Croatia, since the secondary education is regulated on national level and in the framework of the Croatian National Educational Standards which is mandatory for school founders. It establishes the best physical, medical, technical, computer and other norms that help ensure equal working conditions in educational institutions. However, it depend of the strategic goals of each promoter. Its financial model is replicable on the similar markets abroad.

On the basis of the results achieved, international recognition as well as gained experience in PPP, the City of Koprivnica has prepared three other projects (two Primary schools and Art School) approved by the Agency for Investments and Competitiveness. Besides, three other counties have developed PPP School programs using this model. It is worthy to mention that more than 250 delegations (from Croatia and abroad) paid the visit to the project to learn more about good PPP practice. The success of the project depends on the good relationship and cooperation between the partners and each party nominated the person in charge to monitor the operations on the daily basis. The effective IT system has been implemented for failure report and communication. The staff is trained for its usage and attending the curses in line with the annual training program.

The lessons learned:

- Clear identification of the project objectives
- Details of all elements of the PPP project for the achievement of those objectives
- Clear and transparent description of the public call for expressions of interest,
- Detailed and clearly elaborated tender documentation (from a technical, economic and legal point of view), in order to enable the private sector to prepare offer better and optimise the output specifications
- To plan sufficient time for preparing the tender and the deadline for receipt of tenders (requirement for a higher number of good-quality tenders made)
- Inclusion of project documentation for new projects
- Apply energy efficiency criteria and cost-optimal methodology of life cycle analysis and control energy costs in accordance with agreed energy performance of a building
- Detailed assessment of equipment by optimally integrated into the PPP project (the question of inclusion of consumable equipment, IT equipment, etc.)

High School Koprivnica





e) Engage all stakeholders

The facility is foreseen for 900 students, and currently there is 653 students in 28 classes, 72 school staff of which 14 is administrative staff. The school is recording increasing number of the students from other counties each year. The Sport hall is available for school, sports clubs and for commercial events in defined regime and become a central point of social life.

The county and city authorities have had crucial role in the preparation phase and later established good cooperation with the responsible line ministries (of finance and education) and with the Agency for Investments and Competitiveness. Although political risks in this project is significant (due to the different political parties in power), both governments (regional and local) are committed to fulfil their contractual obligations primarily because of good results in education (achievements of the students) and operational efficiency (good facility management).

The project success is result of good cooperation between the parties: each party provide its know how at its best – public partners are providing payment and monitor the contract implementation, the private partner operate and maintain the facility, and the school principal is focused on quality of education programs.

High School Koprivnica



The sources of data: Agency for Investments and Competitiveness - AIC
Ms. Jasna Golubić, City of Koprivnica, Head of Spatial Planning Department
Mr. Vjekoslav Robotić, High School Koprivnica, Principal
Croatian Bureau of Statistics

The School website: <http://www.gimnazija-fgalovic-koprivnica.skole.hr/>



Case 20

Cyprus

Transport Sector

Airports

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Concession Agreement For The Development And Operation Of Cyprus' Airports
Project Proponent:	Department Of Civil Aviation
Project Organization:	Ministry Of Transport Communications and Works



Public Organization: Ministry of Transport, Communications and Works, Department of Civil Aviation, Attorney General's Office, Department of Electromechanical Services, Department of Public Works

Private Organization:
Contractor: Bouygues Batiment International (22%)
Airport Operator: Egis Projects S.A. (20%), YVR Airport Services (11%),
Chambre de Commerce et D'Industrie Nice Cote D'Azur (2%)
Retail / Food and Beverage Operations: Cyprus Trading Corporation Ltd (11.34%)
Maintenance: Hellenic Mining Co. Ltd (11.33%)
Retail Operations: Aer Rianta International cpt (11%)
Sub – contractor / maintenance: Iacovou Brothers Ltd (5.66%), Charilaos Apostolides Ltd (5.66%)

Capital Providers: Royal Bank of Scotland plc, ING Bank N.V., Societe Generale, West LB

Why is this Project a Case Study for People First PPPs:

The aim of the Project, through applying the principles of public-private participation to a major construction project, is obtaining infrastructure capable of supporting and enhancing the growing economic activity of the island and at the same time boosting investment in the country's infrastructure without raising taxes or increasing public-sector debt.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Where: The districts of Larnaca and Pafos with 145,365 (2011) and 90,295 (2011) inhabitants respectively represent 27% of the island's population. Larnaca's central position between the other coastal towns and the capital Nicosia in combination with Pafos Airport cover the whole island's population of 856,960 (2011) inhabitants.

The major Economic Sectors of the island are tourism, financial services, real estate and shipping.

Why: The Project consists of the development of new facilities (Terminal Buildings and associated infrastructure) at the premises of existing Airport grounds. The low quality and environmental standards of the old premises, in combination with the lack of a sustainable development of the Airport in a way as to facilitate the increased needs of connectivity of the island, necessitated the need of a new project.

The project was evaluated based on a financial and environmental assessment. By introducing financial instruments to raise capital for carrying out the project, the financial feasibility was enhanced.

The mechanism introduced for supervising the construction works and monitoring the operation of the Projects, ensures the technical and operational feasibility.

The broad consensus existed on the importance of upgrading infrastructure to meet the needs of the economy, along with the need to attract private investments and also to preserve fiscal discipline.

**Concession Agreement For The
Development And Operation Of
Cyprus' Airports**



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

What:

The main aim of the State to fulfill their responsibility towards bringing access to air travel for every citizen, is achieved.

Moreover, with the Development increased regional urban development is achieved, gaining employment not only within the Project but also in the regional and national level.

The environmental concerns due to airport operations have been assessed. By adopting good engineering practices and appropriate mitigation measures during design, construction and use of the airports, positive impacts and benefits are expected to be derived.

Measures to monitor, reduce and mitigate the impacts of the Project, through the development and implementation of an environmental management plan, are implemented so that the upgraded facilities are more efficient.

In addition, the Project by freeing up of public funds, has enabled the Government to focus on a greater extend on social and environmental projects.

Who:

The key players of the PPP Project i.e Ministry of Transport, Communications and Works (owner of the Project), Hermes Airports Ltd (Operator and Investor), Department of Civil Aviation as well as several government services acting as Regulatory bodies, Service Providers such as Customs, Immigration, Air Control, Security Services, Postal, Catering, Retailing , have been identified and risks and responsibilities have been shared during the negotiations and development of the investment preparation phase (tendering procedure) among the public and private partner. The aim of a best possible stakeholder collaboration and risk allocation was important with respect to understanding stakeholder needs and requirements to achieve value for money and better project delivery.

**Concession Agreement For The
Development And Operation Of
Cyprus' Airports**





When: The planning for the development of new airports at Larnaca and Pafos commenced on 1996 and the procurement process started by short listing three consortia in 2000.

In July 2004 Hermes Airports was selected as the preferred bidder and on the 8th of July 2005 the commercial agreement was signed. After having achieved financial close, the concession agreement was signed between the Government of Cyprus and Hermes Airports on the 12th of May 2006.

The startup of operations was on the 12th of May 2006.

The opening of the new Pafos Airport was on the 11th of November 2008 and

The opening of the new Larnaca Airport was on the 11th of November 2009.

The term of the contract is 25 years.

**Concession Agreement For The
Development And Operation Of
Cyprus' Airports**





a) Increase access to essential services and promote equity

The PPP Project has enabled the development of Larnaca and Pafos Airports, in order to provide additional capacity and better accommodate the expected traffic growth in the future.

In particular, Larnaca Airport, which is the main international airport in Cyprus, serves as a gateway between Europe, Asia and Africa and its upgrading promotes the connectivity of the island, in an effort to attract further developments and boost the economic growth of the island.

The PPP Project has been structured through an innovative financing scheme, providing a competitive charging model through regulated aeronautical charges. During its operation phase a series of incentive schemes have been also introduced so as to attract more airlines within an effort to enhance competition and to provide competitive prices to both the local community that uses the Airports as well as to the visitors of the island.

**Concession Agreement For The
Development And Operation Of
Cyprus' Airports**





b) Develop a resilient infrastructure and improve environmental sustainability

Due to the expected lifespan of the new Developments and rigorous building specifications, the facilities are designed to high standards of sustainability and efficiency.

In order to develop the new Airports, parameters that might cause disturbance to the environment such as noise, waste water, solid waste, air emissions and energy and water consumption have been taken into consideration and mitigation measures have been taken, such as:

- The materials used for the construction works of the buildings, catered for water and energy conservation .
- The optimization and improvement of the ground service infrastructure enabled the reduction of aircraft and ground vehicle movements
- The use of the incinerators helped to reduce pollution.

The risks and incentives relating to sustainable practices (such as energy conservation and waste management) are passed through to the operator. Based on this, the contractual nature of PPP arrangement has provided for a strong accountability so that the facilities are appropriately managed by responsible counterparties in the delivery of a successful PPP investment and regularly monitored so as to ensure that the contractual arrangements are executed with competency.

**Concession Agreement For The
Development And Operation Of
Cyprus' Airports**





c) Demonstrate the economic and financial effectiveness of the project

The Project is financed by:

- Shareholders equity meeting the 10% of the project financing requirement
- Senior and mezzanine debt provided by financial institutions, meeting the 80% and 10% respectively of the project financing requirements.

The income is generated by operating the Larnaca and Pafos airports (air traffic, retailing, advertising, food & beverage, parking charges, rentals, etc.)

Under the terms of the concession agreement, the Operator must pay to the Owner of the Project the following:

- A fixed fee of 3.5 million euros a year
- 33% of the gross income from operating the airports
- Above a minimum profitability threshold (actual equity IRR of 12%), a portion of the Operator's net distributable profits.

The number of travelers to Cyprus has increased constantly since the country joined the European Union. The number of passengers of the two airports has exceeded 10 million on 2017 in comparison to 6.5 million passengers in 2006. The national economy of Cyprus depends inordinately on tourist industry and the development of the new and modern Larnaca and Pafos airports has attracted investments, new business and more inbound visitors generating income and employment to the country, enhancing at the same time the quality of life of the citizens.

**Concession Agreement For The
Development And Operation Of
Cyprus' Airports**





d) Be replicable and scalable

Through the construction of better facilities and services, which meet international best practices, the Airports have attracted more passengers and airlines and Cyprus' reputation as a destination has been enhanced.

The airports contributes to tourism and business, thereby supporting economic growth, and by the engagement of private funding, an important infrastructure project has been developed without draining the national budget.

Therefore, the PPP project can serve as a model that worked successfully and has accommodated for changes and challenges and could be replicated in other transport sectors such as the re-construction and development of ports both locally and internationally.

The lessons learned from the implementation of the Project are considered valuable and should be considered as a precondition to a successful PPP.

The public sector should provide for a PPP process that is fair and transparent for a sustainable agreement.

Careful preparation in the design stage, particularly through feasibility studies, provides the information both government and potential private sector partners need to make good decisions.

The project must make good business sense and be based on a fair public-private risk allocation for the partnership to be sustainable.

The private partners must have sufficient financing, technical and managerial expertise to bring the project to success

Human capital management: The smooth implementation of the Project called for an efficient and organized shift of services from the public to the private partner. Within the Agreement, a transition period has been set, during which the services that would be executed by the operator were transferred by public servants and both the public and private partner personnel were working together so that a proper « training on the job » could be performed.

**Concession Agreement For The
Development And Operation Of
Cyprus' Airports**





e) Engage all stakeholders

The three main groups of stakeholders that are involved in the Airports Project are the public sector, private sector and users of the assets and facilities.

During the Project preparation, the need for an efficient and effective performance, especially with respect to stakeholder expectations, was identified. For this purpose, KPI's that have been included in the Agreement and which are the main tool used for the monitoring of the performance of the Project, was based on stakeholders' objectives i.e. effectiveness and value for money for public sector, profitability for private sector, and level of service for users.

The role and responsibility of the development, design and operation of the Project lies on the private partner, which however relies on the cooperation of the public party for obtaining the necessary regulatory approvals.

Although supervising and regulating the PPP was the main role of the public sector, another important role it had was to communicate well and convince the public and the users of the Airports about the PPP Project by taking into account the project objectives, define value for money, and determine the project's viability.

Based on the above, maintaining positive relationships between the stakeholders has supported efficient resolution of issues and the achievement of the Project objectives. Good communication is maintained through regular meetings between the public and private partner and consultations with representatives of the users in order to ensure that the Project achieves its objectives and overcomes challenges. Main aim of the communication process is to monitor progress on current issues and to minimise formal disputes through strong stakeholder relations.

**Concession Agreement For The
Development And Operation Of
Cyprus' Airports**



Case 21

Democratic Republic of Congo (DRC)

Transport Sector

Land Transport (roads and rail)

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	<i>Sui Generis</i> Land Transport Public/Private Partnership (PPP) in the Democratic Republic of Congo (DRC)
Project Proponent:	Olivier Bustin, Managing International Adviser VdA
Project Organization:	



Public Organization: Public Contracting Entity (State or a State wholly-owned company)

Private Organization: the Sponsor - a consortium of two companies incorporated under the laws of the DRC:
(i) Company A is responsible for the construction, operation and maintenance;
(ii) Company B is responsible for the financing
The companies' shareholders are not mandatorily from DRC

Capital Providers: Bank syndicate with lenders from South Africa, Middle-East and Europe

Why is this project a Case Study for

People First PPPs: This Project reflects the possibility of overcoming the challenges of (i) the DRC PPP legislation and (ii) the financing of infrastructures in DRC

Interest for the private investors, for the State and for the private sector in general and People of DRC which may start to benefit from the infrastructures in all sectors of the economy



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



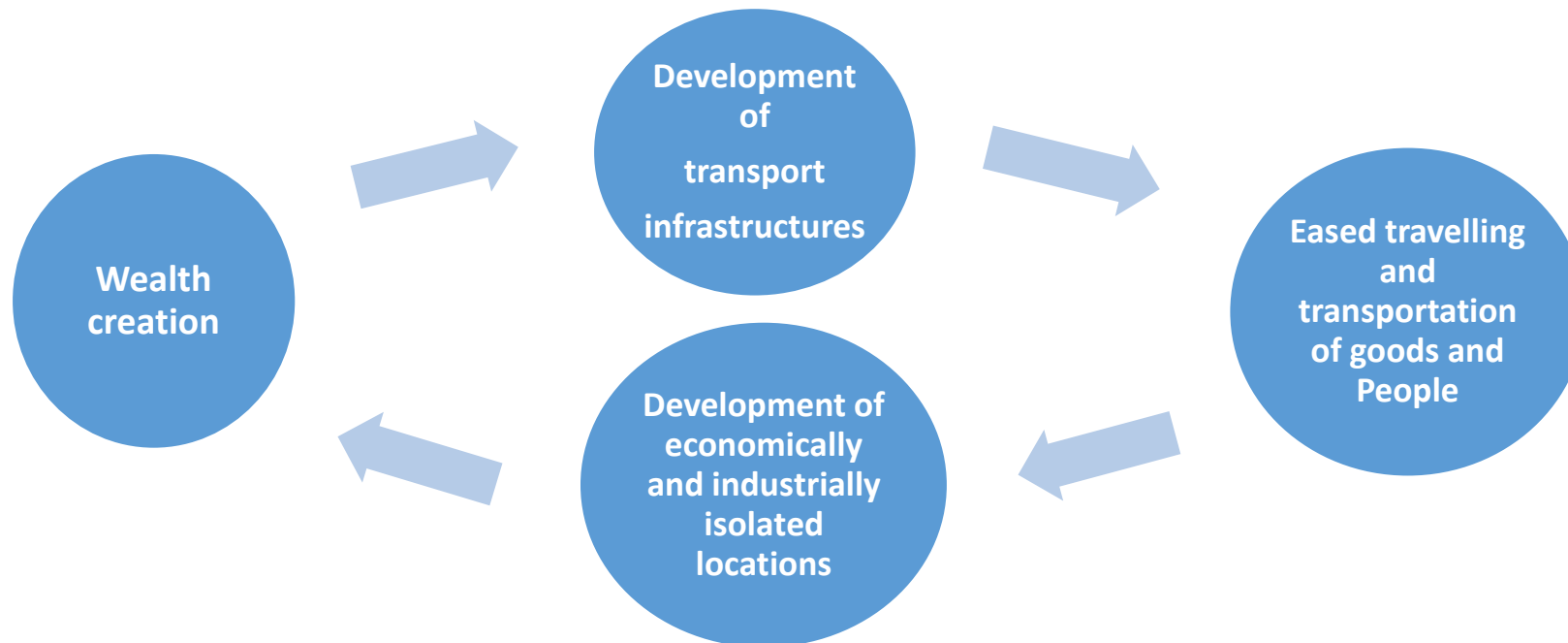
THE GLOBAL GOALS
For Sustainable Development

Project:

Sui Generis Land Transport Public/Private Partnership (PPP) in the Democratic Republic of Congo (DRC)

Sui Generis Land Transport Public/Private Partnership (PPP) in the DRC

Why is this project a Case Study for the People First PPPs:



UNECE 500 People First PPPs for the SDGs... *ending poverty, protecting the planet, and leaving no one behind*

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

- 1. Where:** the Project is located in the DRC but has an impact of national dimension;
- 2. Why:** the road and railway sector in the DCR is under development, the majority of the roads and railroads being constructed with no operation and maintenance and with poor conditions. Therefore, the transportation of goods and people is difficult and does not follow the growing needs and development of the private sector. The road and railroad sector is quintessentially a public interest sector whose responsibility is from the State. Therefore, the Sponsor has to enter into a partnership agreement regarding the exploitation and maintenance of the road (which is essentially a concession agreement, even if it may not be named as such) with a public contracted authority (the State itself, a company entirely owned by the State or a municipality). However, the PPP law being so unattractive so far to sponsors and investors for its requirements of investment amounting to \$ 1,000,000 and to avoid the call for bids, the main goal is to try to obtain the relevant authorizations for the general directorate for the overview of the public procurement and to negotiate directly with the public authorities, once having the Project structure and the financing in place;
- 3. What:** This Project's main goal is the sustainable and replicable development of an under-developed sector (the road and railroad sector) which allows for (i) the growth of the private sector which will benefit from faster and more accessible roads and railroads, and hence development of the local economy, and (ii) the employment and training of local people;

***Sui Generis* Land Transport
Public/Private Partnership (PPP) in
the DRC**



UNECE 500 People First PPPs for the SDGs... *ending poverty, protecting the planet, and leaving no one behind*



4. Who:

The key players are the following:

- (i) The **Sponsor** has the main task of (a) negotiating with the public authorities; (b) entering into a the partnership agreement with the contracting public authority and (c) seek the financing of the Project. Its main obligations under the partnership agreement are the re-habilitation and the operation of the road. The Sponsor is not paid by the State to perform such obligations: the payment of the Sponsor is the right to the toll fee. Apart from this risk, the Sponsor also may incur in the strike risk that shall be duly covered in the agreement;
- (ii) The **State** – The State has the right of receiving a percentage of the toll fee and may incur in the strike risk as well, in which case it has undertaken under the partnership contract to provide replacements for the strikers or the termination of the agreement is foreseen;
- (iii) The **Lenders** – The financing is benefitting to the Lenders for the long duration of the agreement which is a credit agreement with high interest rates. The Lenders benefit from a security package including share pledge, a pledge of future credits and pledge of accounts. However, the step-in of the Lenders in the Project in case of default is not foreseen.

Sui Generis Land Transport
Public/Private Partnership (PPP) in
the DRC





5) When:

Milestones of the Agreement:

- Duration of 15 years. In order for the term to be renewed, such renewal shall be expressly foreseen in the agreement (in this case, possible renewal for 5 years);
- 3 years for the construction works;
- At the end of the agreement, the equipment and assets return to the public sector.

Milestones of the negotiation proceedings:

- Request to the Direction Générale de Contrôle des Marchés Publics (DGCMP) for a direct negotiation;
- The DGCMP has a term of 15 days to grant the approval in urgent cases;
- Negotiation with the lead ministry (in this case the Ministry of Transports): in practice, the Sponsor shall draft itself the partnership agreement to be presented. The general key issues concern mainly: (i) remuneration, (ii) arbitration clause, (iii) resolution clause and (iv) default by the public bodies. In this phase, the Sponsor has to show the lead ministry the obtaining of financing arrangements;
- The DGCMP (i) issues a non-objecting opinion or (ii) requests for clarifications;
- Execution of the agreement by the State and the Sponsor. However, the agreement does not enter into force until the agreement is approved by either (i) the Prime-Minister or (ii) both the Ministry of Finance and the Lead Ministry that shall notify the Sponsor of the entry into force and start of works;
- The contracting public authority has to publish the awarding of the agreement.

***Sui Generis* Land Transport
Public/Private Partnership (PPP) in
the DRC**





a) Increase access to essential services and promote equity

This Project creates and increases the access across the DRC for both (i) the private sector, hence contributing for the benefit of the economy in general and (ii) the people of the DRC.

The Project corresponds to the delivery to the people of an essential service that until today was under-developed or scarce due to legal limitations.

Through the mandatory undertaking of hiring local workers under the agreement, the Project develops the hiring and training of locals, as well as undertakes to provide with health care and family help.

b) Develop a resilient infrastructure and improve environmental sustainability

The main goal of the Project, among the social impact benefits described in the previous slide, is precisely the construction of a resilient and long duration infrastructure that is lacking in the DCR.

As the model of the Project is replicable to other roads and infrastructures in general, the Project is pioneer for the development of infrastructures throughout the DCR.

c) Demonstrate the economic and financial effectiveness of the project

The Project is financially sustainable since it allows a division of the costs and profits throughout the lifetime of the Project: the key players from the Projects should start receiving profit after the three-year period of the construction.

The Project is also an enhancer of the local economy since new access and development of the road will bring: (i) work and training to the constructors and technical consultants and workers of the road, (ii) workers on the tolls, (iii) the localities and villages which were unreachable for the lack of roads and accesses will now become reachable and therefore will develop businesses, commerce and facilities to accommodate the travelers (for instance, the development of gas stations and shops throughout the road).

***Sui Generis* Land Transport
Public/Private Partnership (PPP) in
the DRC**





d) Be replicable and scalable

The Project was implemented as a *sui generis* PPP in order to accommodate the possibility of other companies and sponsors to replicate the PPP model adapted to other road projects or to other infrastructures in the public sector, such as ports, hospitals, energy or water infrastructures.

The main lesson to be learned in order for other Projects to be implemented is to plan and structure the potential project, as well as obtaining the financing, prior to the discussions and negotiations with the State/Government.

The negotiation previously described shall be adapted to the sector in question (for instance, the lead ministry approving the Project).

e) Engage all stakeholders

This Project model may evolve not only the direct sponsors of the Project (private sector) and the public entities that negotiate the Project and the Lenders financing the Project: a great importance of this Project, as mentioned, is given to the workers on the construction, operation and maintenance and technical, as well as their families. Therefore, it is extremely important that prior to the implementation of the Project, the working committees and unions are heard and take part of the process.

Similarly, once the Project is under development, in order to improve the conditions it is also important to closely monitor and hear the eventual concerns of the local communities for their development.

***Sui Generis* Land Transport
Public/Private Partnership (PPP) in
the DRC**



Case 22

France

Energy Sector

Cogeneration Plant in Mayenne Region

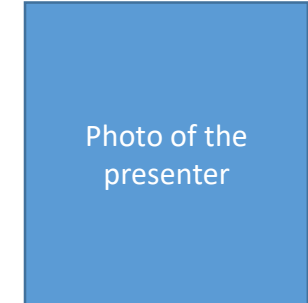
International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Mayenne Biogas Cogeneration
Project Proponent:	AB2M and Meridiam



Public Organization:

French Energy Regulation Commission (“CRE”)
Electricité de France (“EDF”)

Project Organization:

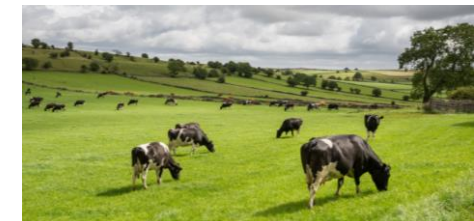
Project sponsors: AB2M and Meridiam
EPC contractors: Elcimaï (civil engineering) and Biogest (methanization components)
O&M provider: Idex
Feedstock supplier: AB2M

Capital providers:

The project was wholly financed through equity.

Why is this project a Case Study for People First PPPs:

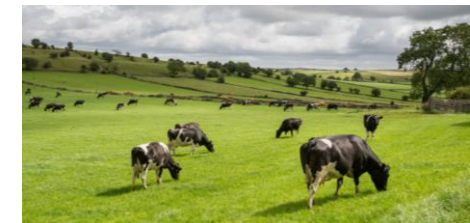
This project exemplifies an innovative partnership model (Multi-Stakeholder Partnership) that ensures delivery of infrastructure supporting energy transition and helping develop a circular economy with strong local impact.





- 1) Where:** In the Mayenne region (West of France), where the economy is mostly based on agriculture (1st producer of beef in France).
110 farmers of the region created AB2M, a company to develop and invest in a cogeneration plant. AB2M farmers produce 20% of the region's agriculture biomass resources (126 800 t/year) and are located within 25 km of the project site.
- 2) Why:** To recycle the livestock effluents of their farms and turn them into 100% local green energy and heat and as well as an additional revenue source by promoting circular economy.
- 3) What:** The project consists of the design, construction, financing, operation and maintenance of a 3.65 MWe biogas cogeneration plant.
It uses a controlled process that stock farm effluents to produce biogas (methane) and, after some treatment, burn it to generate electricity and heat. The process residues can then also be used as fertilizer by the farmers.
- 4) Who** AB2M and Meridiam (after a Call for Proposal process in Q2-2017) that developed and financed the project.
The French government via the CRE (Commission de Régulation de l'Énergie) that awarded the project with a preferential long-term tariff for the electricity generated after a tender process.
- 5) When** The initial development and validation phase started in 2011. After completing the EPC/O&M contracts and financial close in 2017, construction has started in January 2018. Final completion is expected in Q3-2019.

Mayenne Biogas Cogeneration





Mayenne Biogas Cogeneration

a) Increase access to essential services and promote equity

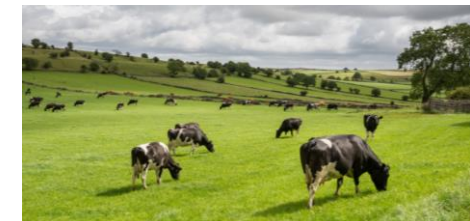
By contributing to the development of renewable energies, the Mayenne cogeneration plant will give the Region **access to 100% local green energy**.

On an annual basis, the plant will produce :

- 32 GWh of electricity (electricity to 9,200 homes)
- 10 GWh of heat (1/3 of annual thermal energy needs of the industrial heat off-taker)

This project will also positively impact the **socio-economic fabric of the area**, which sometimes suffers from desertification and difficulty to find a profitable agriculture business model.

The 110 shareholders of AB2M are all farmers located in a 25-km zone around biogas unit. This model based on circular economy will provide them with extra revenues through the sale of their produced biomass and a remuneration related to the electricity and heat sale.



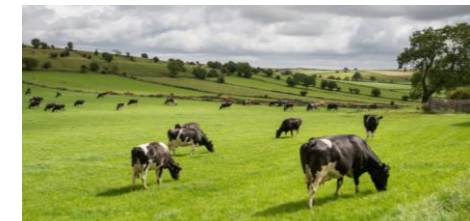
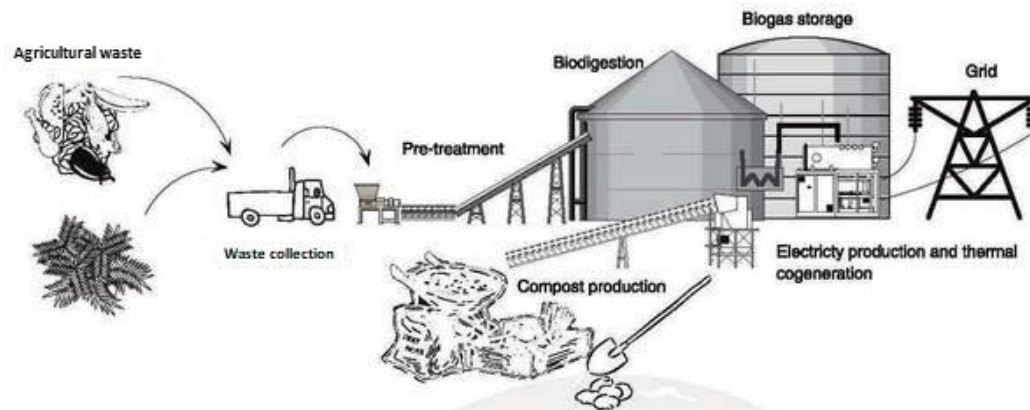


Mayenne Biogas Cogeneration

b) Develop a resilient infrastructure and improve environmental sustainability

This project will contribute to achieving goals set by the French energy law regarding waste treatment, recovery of non-recyclable solid waste, replacing fossil fuels by renewable energy sources producing “green” energy:

- it is expected to reduce Methane and CO₂ emissions ;
- heat production enables the heat off-taker’s plant to reduce its reliance to polluting fossil fuels ;
- the plant will recycle over 120,00 tons of effluent each year, that will be redistributed to the farmers as fertilizers after the biogas process





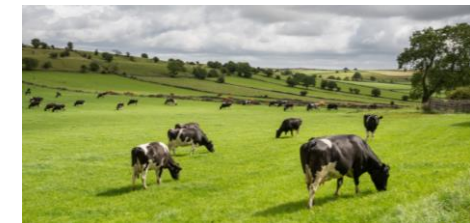
Mayenne Biogas Cogeneration

c) Demonstrate the economic and financial effectiveness of the project

Total project costs amount to €25m, wholly financed through the equity of Meridiam and AB2M.

The Mayenne Biogas plant will benefit two types a revenues :

1. Preferential long-term tariff for the electricity generated awarded by the government after a dedicated selection process (the project was one of the two methanization projects selected under the CRE#5 procurement) ; and
2. Heat production sold to a local subsidiary of a large French agro-industrial player.





Mayenne Biogas Cogeneration

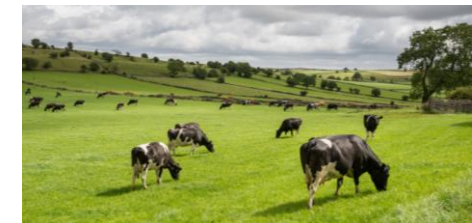
d) Be replicable and scalable

The success of the project depends on 3 key factors:

- 1) Proximity to a continuous biomass stock which is large enough to provide a plant ;
- 2) Willingness of a public partner to support the energy transition and develop rural areas ; and
- 3) Ability of a private developer to structure a project that align the interests of different stakeholders.

By enabling farmers to capture new revenues and authorities to develop rural areas while supporting the energy transition, biogas projects are effective solutions to address today's challenges.

This project is easily replicable because it can be adapted according to the biomass stock and the capacity of the private sector.



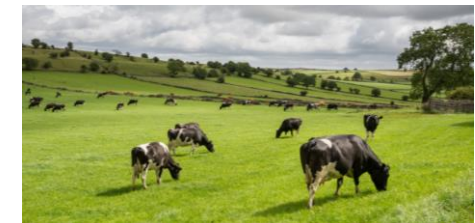
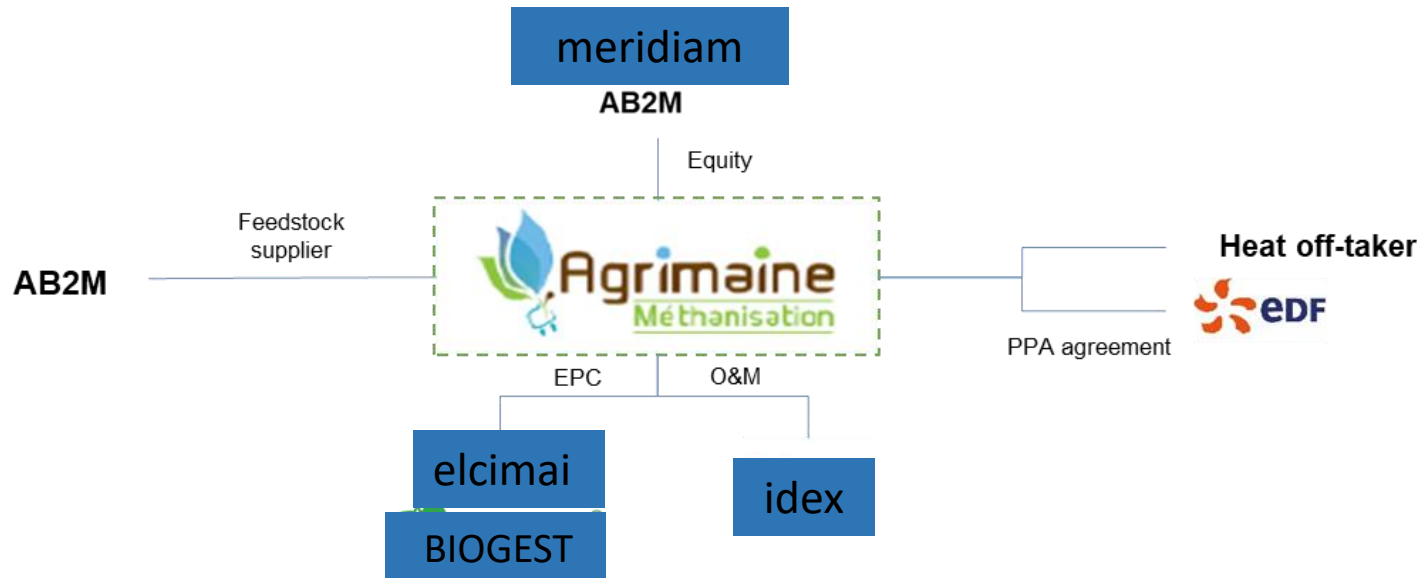


e) Engage all stakeholders

Launched by 110 farmers in the region, the project is a showcase for an innovative partnership model that brings together the interests of local economic actors, local and national authorities, and private financing actors.

By enhancing farms residues and turn them into environmental friendly electricity and heat, it provides not only additional revenues for farmers, investment opportunities for the private sector, but also contributes to reduce carbon footprint.

Mayenne Biogas Cogeneration



Case 23

France

Transport Sector

High Speed Train



Project:	Bretagne - Pays de la Loire High Speed Line, France
Project Proponent:	Laurent Bouchilloux, Co-Head of Infrastructure Project Finance in Paris, SGCIB
Project Organization:	Société Générale Corporate and Investment Banking

Public Organization: SNCF Réseau, local authorities, French Government

Private Organization: Eiffage Rail Express (ERE)

Capital Providers: Eiffage

Why is this project a Case Study for People First PPPs:

The French rail network has historically been largely centered around Paris, with only limited – if any – access to high speed lines between other major or minor French cities.

By extending the already existing high speed rail line between Paris and Le Mans, this project increases mobility within a region which, because of its location, did not use to have a strongly developed rail network. It will significantly reduce the travel time from Paris to Rennes and to other local cities, and improve the access to the national high speed rail network.

As such, this project aims to bridge the unequal access to means of transport between Paris and the rest of France, and by doing so, to draw jobs to the region and to ease the lives of the local inhabitants.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

- 1) Where:** The project is located in the west of France, between the cities of Connerré in the Loire Valley region, and Rennes in Brittany. Those two regions are respectively the 8th and 10th most populated in France, and have an average density of 120 habitants per sq.km.
- 2) Why:** Until recently, this part of France only had limited access to the national high speed rail network. This meant that it took long for local inhabitants to travel to Paris, or even within the region between local cities. To try to bridge this gap, the French state launched a national plan to develop new high speed lines.
- 3) What:** This project aims to extend the existing Paris – Le Mans high speed line, and by doing so, to increase mobility within the region and between major and minor French cities. It significantly reduces the travel time from Paris to Rennes, Saint-Malo or Laval, and will also further reduce the travel time to Nantes.
- 4) Who:** This project is a top priority of the French government. It is also strongly promoted by SNCF Réseau, which maintains the national rail network, and the regions of Brittany and Loire Valley, as confirmed by the high level of public subsidies. SNCF Réseau is also the public body (part of French national rail company SNCF) that awarded contract. Through a PPP scheme, SNCF Réseau delegated the design, the construction and the maintenance of the line to Eiffage Rail Express, a subsidiary of Eiffage Group.
- 5) When:** The tender for the design, construction, maintenance, renewals and financing of the 182-km high speed rail link was launched in December 2008. Eiffage was then awarded the project in February and, following a 6-year construction period, the railway was delivered on July 2nd, 2017.

**Bretagne – Pays de la Loire High
Speed Line**





a) Increase access to essential services and promote equity

In France, the high speed rail network was built to link Paris to other important French cities. That means that people who do not live near a train station on one of the high speed lines (in blue on the image) do not have access to the French national high speed rail network.

This project, which aims to build a 182-km high speed rail link between Le Mans and Rennes, is supposed to decrease the time needed to travel from the west of the country to Paris, to other main French cities, or to the rest of Europe.

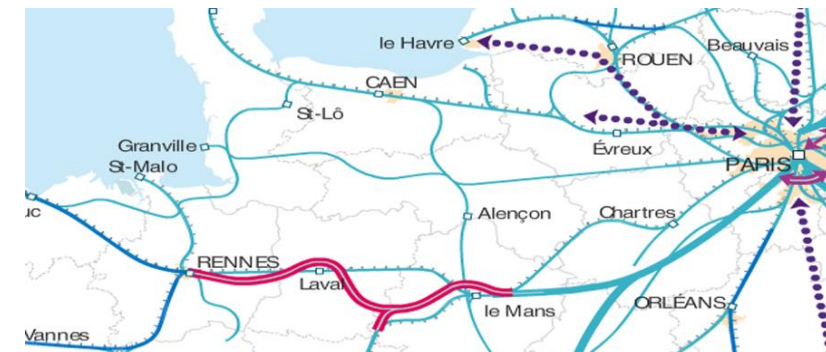
For instance, the travel time from Paris to Rennes is decreased by 37 minutes, from more than 2 hours to less than 1 hour and a half.

Furthermore, this project will also increase mobility within the region. The regular Le Mans – Rennes line will also more regional trains to pass, and an extra 3.6km rail link (the red line going south on the image) will reduce the distance from Sablé-sur-Sarthe to Laval to 51km, instead of 137km before the construction.

All in all, this rail line will increase mobility for the inhabitants of the west of France.



Bretagne – Pays de la Loire High Speed Line





b) Develop a resilient infrastructure and improve environmental sustainability

Eiffage Rail Express (ERE) has taken strong measures to minimize the adverse impacts on the environment that such a large construction project tends to cause.

The construction avoids as much as possible all the environmental protection zones defined by the government; it also avoids other areas with a very high biodiversity, such as the Vicoin valley, west of Laval.

Among the concrete measures taken by ERE, it has set up a fund that aims to promote technical solutions that emit less greenhouse gases, by funding those solutions. Furthermore, all of ERE's suppliers need to detail their own actions with respect to sustainable development.

On top of this, a better rail network is bound to decrease road traffic within the region. Subsequently, the long-term consequences of this rail line will largely make up for the minimal negative impacts of the construction phase.

Bretagne – Pays de la Loire High
Speed Line





c) Demonstrate the economic and financial effectiveness of the project

The cost of this project reached over EUR 3bn of initial capex.

The project was financed through a mix of public subsidies (EUR 1.9bn) provided by the state and local authorities, private debt (EUR 1.1bn) provided by 12 commercial banks, the Caisse des Dépôts and the EIB, and equity (EUR 0.1bn) provided by Eiffage.

In return, over the 25 years of the PPP contract, Eiffage received subsidies during the construction period (a portion of which flowing from local authorities or the EU), and will receive availability payments from the Grantor, SNCF Réseau, during the operation period.

The PPP framework was an opportunity for the Grantor to accelerate the development of the national rail network, by realizing more projects and faster.

Bretagne – Pays de la Loire High
Speed Line





d) Be replicable and scalable

Similar projects have been developed in other parts of France already, for instance in the cases of the Contournement Nîmes-Montpellier or the Tours and Bordeaux high speed rail lines.

Other case studies show that the other projects boast a strong economic performance and are fairly popular, as they increase mobility for people that used to not have access to the rail network. HSL projects are therefore replicable. Whilst potential replication is heavily dependent on the rail strategy deployed in a given country or across Europe, the PPP model as implemented for BPL is clearly a proven, efficient and successful option available to other rail authorities in the EU or in other jurisdictions.

They are also scalable, since it is not necessarily harder to build a long line than a short one. It does however take longer, and more risk factors (including environmental) need to be accounted for.

Bretagne – Pays de la Loire High
Speed Line





e) Engage all stakeholders

The development of this project involved multiple stakeholders. The preliminary study phase lasted a few years, during which all parties involved were heard.

Furthermore, subsidies came from multiple counterparties, and in particular the European Union, the French Government, local authorities (both at the regional and at the local level), and SNCF Réseau.

In addition to this, this project also engages the civil society, since it generated around 10,000 jobs direct and indirect jobs during the construction phase. Eiffage Rail Express also subcontracted at least 8% of the works to small local companies.

Finally, now that the construction has been completed, local authorities are developing projects around the train stations on this rail line to further serve the local inhabitants.

Bretagne – Pays de la Loire High
Speed Line



Case 24

France

IT and Broadband Sector

Grand Est Broadband PPP

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Grand Est Broadband, France
Project Proponent:	Laurent Chabot, Co-Head of Infrastructure Finance France, SGCIB
Project Organization:	Société Générale Corporate and Investment Banking

Public Organization: Région Grand Est, France

Private Organization: Losange

Capital Providers: NGE Group, Altitude Infrastructure, Marguerite, Quaero European Infrastructure Fund

Why is this project a Case Study for People First PPPs:

After water, gas, power and telephone, optic fiber appears as an essential infrastructure for the 21st century. The French Government has launched in 2013 a national plan to provide access to high speed broadband to 100% of the French population.

In largely rural and low-density areas such as the Grand Est region however, economic sustainability can only be achieved through a mix of private investment and public subsidies, for the marginal cost of one extra plug in low-density areas is high. Grand Est project is key to bridging the digital divide in France, as it is the largest rural Broadband project in the country, with a total investment of ca. € 1 300 million for 1 million connections. The concession framework has aligned public and private interests, reducing cost and delays for the roll-out of the network, with a final proportion of subsidies much lower than anticipated.





- 1. Where:** The project is located in the Grand Est region, in the East of France. Grand Est is the 6th most populated region in France with 5.5m inhabitants, but it has a low density compared to the French average (97 inhabitants per sqkm), with a strong contrast between the highly-populated eastern departments of Haut-Rhin, Bas-Rhin and Moselle (ca. 200 inhabitants per sqkm), and the western and central departments such as Meuse, Haute-Marne and Aube (less than 60 inhabitants per sqkm).
- 2. Why:** The Grand Est region being a low-density area, the marginal cost per optic fiber socket is high and as such, it is hard for optic fiber operators to reconcile the connection of all households on one hand and the economic profitability of the other hand. the Concession/PPP scheme and public subsidies allowed this project to be sustainable
- 3. What:** This project aims to bridge the digital divide between high- and low-density areas in France, as the deployment of almost 1 million FTTx plugs (Fiber to The Home and Fiber To The Office) will allow people and companies in lowly populated areas to have a better access to the Internet and thus to the use of digital tools and services.
- 4. Who:** The Grand Est region is the Public Authority counterparty signing the Concession agreement, delegating the public service. The Special Purpose Company Losange is in charge of design, build, operate, commercialize and finance the network. Losange contracts with Telecom operators, which will pay usage rights to commercialize the optic fiber sockets to the end customers.
- 5. When:** The tender was launched in early 2016 and the project reached financial close in August 2017. Roll-out of the sockets is under way and will be completed in 2022. The concession tenor is 35 years.

Grand Est Broadband





a) Increase access to essential services and promote equity

Bridging the digital gap between the urban and the rural world is at the very heart of this project.

Before, 73% of homes passed in the Grand Est region were limited to max. 30 Mbit/s (including 22% under 3 Mbit/s).

The projects aims to cover approximately 1m optic fiber connections, to be deployed in rural homes and small businesses, providing 1 Gigabit/s connection. This project will allow them to use digital services and innovative applications, such as industry 4.0, cloud computing, data intensive applications, telemedicine, visual media, etc...

Fiber subscription prices are quasi equal to DSL prices and do not work as a barrier to low-income families that wish to subscribe to a better access to the Internet.

All in all, this project will increase territorial cohesion and participate to the economic development of the non dense areas (McKinsey estimates that 25% of French GDP growth and job creation is due to the digital economy).

Grand Est Broadband





b) Develop a resilient infrastructure and improve environmental sustainability

The roll out of optic fibre does not request large infrastructures which could have an impact on flora or fauna. The network layout will mainly follow the existing infrastructures (public roads, electrical posts and existing trenches) and reuse existing buried and overhead infrastructure.

No adverse environmental and social risks and/or impacts have been identified.

Grand Est Broadband





c) Demonstrate the economic and financial effectiveness of the project

The low density in rural areas makes it hard for network providers to be economically sustainable.

However, the Concession has provided an adequate legal and financial framework:

- (i) The Concessionaire benefits from a long term contract of 35 years. The network will afterwards be transferred to the grantor.
- (ii) The Concessionaire has to meet strict performance requirements for the roll-out and operation of the network, with penalties due in case of delay.
- (iii) The network is open to all Telecom operators, which pay usage rights to use the network on a long term basis (revenues are not received directly from end users but from internet service providers) according to the tariffs determined by the Concession. The commercial risk on Telecom operators (i.e. the amount of fees collected) is fully borne by the Concessionaire.
- (iv) The Concessionaire will receive two types of subsidies: Subsidies for the first establishment of the network, Subsidies for terminal connections

Regarding subsidies, they amount to EUR 222 million for ca. EUR 1.3 billion investment. Of note, due to the competitive bidding the proportion of subsidies has been significantly reduced compared to previous projects and initial evaluation of the Grantor. When the French State launched its Broadband plan in 2013, EUR 6.5 billion subsidies were initially provisioned for ca. EUR 13 to 14 billion investment in rural areas. Grand Est broadband achieved a much lower ratio of subsidies to investment.

Grand Est Broadband





d) Be replicable and scalable

Overall, this project could be replicated in other areas with a low population density, provided the project have the critical size required for a non recourse financing

Similar projects are already being developed in Germany, Italy, or Ireland.

Broadband is not in any way controversial ; as a result, political parties are unlikely to contest any project of this kind. Support is likely to be bolstered by the fact that using a PPP scheme is less expensive for the public authorities than a solely public initiative.

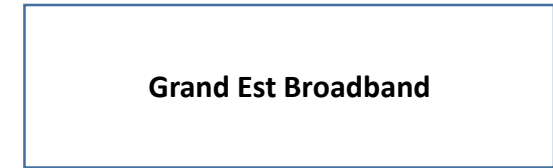
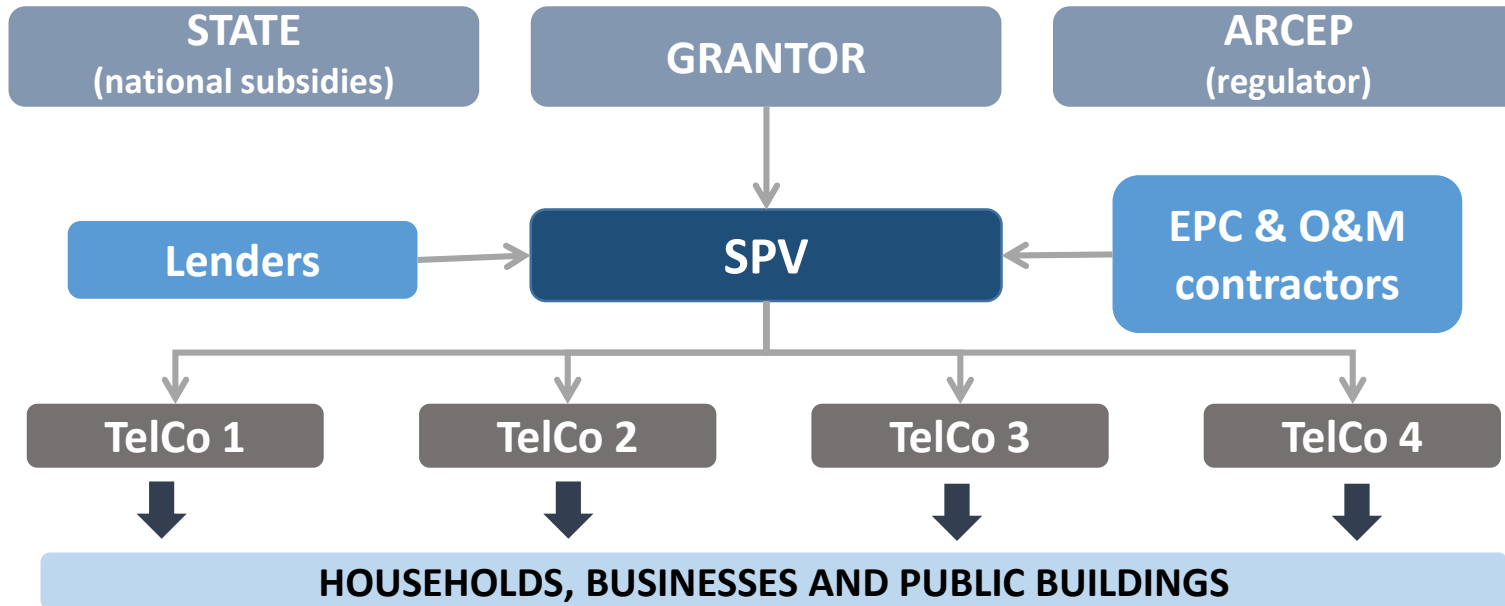
Grand Est Broadband





e) Engage all stakeholders

The development of this project involved multiple stakeholders, along the scheme pictured as follows :



Furthermore, subsidies came from various counterparties, and in particular the French Government's *Fund for a Digital Society*, the European *FEDER*, and local authorities.

In addition to this, this project also engages the civil society, since it could create up to 2,000 jobs during the roll-out phase.

Case 25

Germany

Agricultural Sector

Affordable Nutritious Food 4 Women



Project:	Affordable Nutritious Foods for Women (ANF4W)
Project Proponent:	The (German) Federal Ministry for Economic Cooperation and Development (BMZ), the Bill & Melinda Gates Foundation and the Children's Investment Fund Foundation
Project Organization:	GIZ and 7 Private companies

- Public Organization:** Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
- Private Organization:** AGLUKON GmbH & Co. KG, Ajinomoto Co. Inc. (AJIco), BASF SE, Bayer CropScience, DSM/ Sientra and Life, Mühlenchemie and Stern-Wywiol Group
- Capital Providers:** Share of project cost in relation public (~47%) and private partner consortium (~53%)
- Why is this project a Case Study for People First PPPs:**

ANF4W increased the local production of and access to micronutrient-rich foods and to promote their consumption by women of reproductive age.

ANF4W aimed to set an example by developing innovative interventions to reduce micronutrient malnutrition. The main focus has been on women of reproductive age and developing local business models that are economically self-sustaining.

Smallholder farmers and small- to medium-sized enterprises (SMEs) in the food processing industry are involved in the project, linking agriculture with nutrition security.





Context and strategy supporting the project:

Where: Bangladesh (Rangpur Division, Nilpharmari and Dinajpur District), Ghana (Northern Region, Brong Ahafo), Kenya (Meru County), Tanzania (Arusha, Morogoro and Manyara Regions); 1,500,000 people covered by the project; agriculture, health and nutrition sector especially promotion of SMEs

Why: Around two billion people, almost one third of the global population, receive insufficient nutrients from the food they eat. **'Hidden hunger'**, or micronutrient malnutrition, refers to the insufficient intake of vitamins and minerals, known as micronutrients. Women of reproductive age, including adolescent girls, pregnant and breastfeeding women, have an increased requirement for micronutrients.

What: **Main objective:** The number of women of reproductive age with an improved intake of micronutrients (iron, zinc, iodine, vitamin A and folic acid) has increased in selected countries.

Country objectives:

Bangladesh: To increase the local supply and demand of affordable nutritious foods through utilizing nutrition-sensitive agriculture.

Ghana: The number of women of reproductive age with an improved intake of micronutrients has increased.

Kenya and Tanzania: To improve access to fortified staple foods for women of reproductive age.

Who: Key players are the GIZ (e.g. technical support, country specific knowledge, capacity development) and the private partners (e.g. specific knowledge, business interest, country specific production) local SMEs and authorities (e.g. Tanzania Food and Drugs Authority, Meru County Government)

When: July 2013 – May 2017

Affordable Nutritious Foods for Women





a) Increase access to essential services and promote equity

Overall outcome/impact:

- 70 local small and medium-sized food processing companies improved the quality and nutrient content of their products
- 2000 small farming households increased the diversity and quantity of the grown vegetables
- 4 million people have been approached/reached through nutrition communication; 170.000 of these people through intensive ways of communication (e.g. workshops)
- 115.000 women in the reproductive age have overcome the deficiency of folic acid, iron, zinc or vitamin B12 through the contribution of ANF4W
- 630.00 women in the reproductive age have overcome the deficiency of vitamin A through the contribution of ANF4W

Affordable Nutritious Foods for Women



develoPPP.de





c) Demonstrate the economic and financial effectiveness of the project

Finance:

• Total cost of entire project:	10,359,400 EUR
• Contribution by private partner consortium:	3,680,000 EUR
• Contribution by the public sector:	3,300,000 EUR
• Contribution by third parties (GAIN, McCann Health, Uni-social, Teck, BioAnalyt) :	833,400 EUR
• Co-Financing contribution: Bill & Melinda Gates Foundation	1,100,000 EUR
Children Investment Fund Foundation	1,446,000 EUR

Local Economy:

Bangladesh:

- 2000 small-scale farmers and 200 medium-scale farmers have been trained in agronomic bio fortification of rice containing zinc and 100 demonstration fields have been created → Increased average yield of 20%
- Women of 2000 households have been trained for house gardening and 50 model gardens have been created
→ Increased variety of vegetables (from 8 to 20); 3x more house gardening areas; 89% of households sell surplus vegetables

Ghana:

- Three products have been registered; are available in Tamale and Sekondi since May 2017
- Products are available in 13-21% of all Outlets (August 2017) and 56.000 portions have been sold (July 2017)
→ increased access to micro-nutritious / fortified food for women

Kenia & Tanzania:

- Production of 2.200t/month fortified maize flour (quality check by local authorities) through 4 medium-scale mills in Kenya and 56 SMEs mills in Tanzania → enough for est. 400.000 people each day
- Production of 96.000l/per day of fortified (vitamin A) sun flower oil through 1 medium-scale mill and 4 small-scale mills
→ enough for 4.000.000 people

Affordable Nutritious Foods for Women





d) Be replicable and scalable

Bangladesh:

- Helen Keller International is using experiences and lessons learned for other projects in the country
- Bayer shows instruction videos and nutrition poster in its crop clinics

Ghana:

- Three SMEs continue selling their products, but need further (financial) assistance regarding the marketing budget
- Royal DSM supports the created quality standard OBAASIMA in new develoPPP.de project

Kenya:

- Fortification keeps on running through large oil- and flour mills managed by BASF and Mühlenchemie
- Ongoing promotion for SMEs and quality monitoring in Kenya through new fortification projects namely Technoserve, Jomo Kenyatta University or Nutrition International



Affordable Nutritious Foods for Women



Tanzania:

- Up-scaling of fortification through SMEs – maize flour mills in Tanzania financed by US Center for Diseases
- Cooperation between SANKU and Mühlenchemie still exists, most likely SANKU will achieve self-financing in 2018
- Project has been extended after two years, hence it has been grown in size and had a variety of positive outcomes and impacts in the project countries
- Main focus on SDG 2 but moreover it affects SDG 3 and SDG 5 through the measure objectives and result indicators



e) Engage all stakeholders

Connected different initiatives and movements:

- Goals of the G8's New Alliance to Improve Food and Nutrition Security
- G8 Muskoka Initiative on Maternal, Newborn and Child Health
- The international Scaling-up Nutrition (SUN) movement.
- The BMZ special initiative EineWelt ohne Hunger (OneWorld without hunger)

Third Parties:

McCann Health; Unisocial; Teck Resources Ltd (Canadian company); BioAnalyt (spin-off of the University of Potsdam; privately-held company); Sanku

Further stakeholders:

- Government institutions: Tanzania Food and Drugs Authority; Tanzania Ministry of Health; Kenya Ministry of Health; Kenya Bureau of Standards; Meru County Government; Ghana Ministry of Health tbc.
- Local food processing (SME's) in Ghana, Kenya and Tanzania
- Research institutions: University of Ghana; Bangladesh Rice Research Institute; Research Network HarvestPlus tbc.
- International organizations such as WHO and FAO
- International nutrition networks such as SUN and REACH, where the project contributed within the partner countries through dialogue, participation at meetings and invitation of representatives at country level

Affordable Nutritious Foods for Women



develoPPP.de



Case 26

Germany

Agricultural Sector

Worldwide 1st CO2 neutral food store

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development



Project:	Worldwide 1st CO2-neutral Supermarket made from timber
Project Proponent:	Charlotte Koch & Jürgen Koch – 4 Green Architecture – London, UK
Project Organization:	REWE Group; Architecture with integrated Energy-Design: Jürgen Koch, Architect RIBA

Public Organization: City of Berlin / Germany

Private Organization: REWE Group - is a co-operative organization

Capital Providers: REWE Group

Why is this project a Case Study for People First PPPs

The project demonstrates that modern sustainable green buildings constructed from local wood and from sustainable forestry are economically successful, save energy and costs, protect the environment, store CO2 and at the same time strengthen the domestic wood industry in rural areas.

This again creates and secures jobs in rural areas, helps local and national economic growth and national development. The presented pilot project has changed the whole supermarket architecture in general. LIDL, EDEKA and other supermarket chains have taken over essential elements of our pilot market, especially the timber constructions, the controlled use of daylight and the use of other available renewables.

This pilot project has a very positive and huge impact on at least two major national and international sectors, the food trade and the wood-based industries. This pilot project and the impact of its role model function is making an important contribution to reducing CO2 emissions and mitigating global warming for all. This example shows that environmental protection, economic growth and community responsibility are no contradictions.



UNECE 500 People First PPPs for the SDGs... *ending poverty, protecting the planet, and leaving no one behind*

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Context and Strategy supporting the project:

The success of Sustainable Forestry / Forest Management (a good example for Germany's Natural Capital)

The annual turnover of €178 billion, sustainably earned by 125,000 companies in Germany's rural areas.

A model of success that has existed for more than 300 years and continues to grow:

The wood-based industry is one of the largest business sector in Germany. One third of Germany consists of forests. Every year this area grows. **The meaning of the word "Sustainability" comes from German legal regulations regarding forest management 305 years ago.** Today approximately **430,000 forest owners** have organised themselves into 3,600 forestry associations to better deal with the specific disadvantages of the fragmented property structures.

Income and the position of the forestry and timber cluster in the national economy:

The forestry and timber sector provides income for around **2 million forest owners** and around **1.1 million employees in 125,000 companies, concentrated in rural areas** and at the same time it is highly integrated in the global economy. **The national cluster of forestry and timber** is a profitable economic viable sector and generates sales of **€ 178 billion** and a **gross added value of € 55 billion.**

The 305 year old success story from Germany and the beginning of Sustainability starts in 1713.

A strong population growth towards the end of the 17th century and the increasing deforestation by silver mines increased the pressure on the resource wood and threatened to destroy the forests. A 17th century "Guide to the natural cultivation of wild trees," by **Carl von Carlovitz**, is still considered a standard reference work and not just because its author summarized everything worth knowing about forestry for the first time. In view of the increasing scarcity of wood, he also criticizes sectors that are purely focused on short-term profit. His most important finding is that only a carefully balanced relationship with nature can sustain it for future generations. The principle of sustainability is born because people without forests cannot survive.

Timber, a renewable raw material & energy source with an excellent ecological balance. Local and sustainably produced timber is an indispensable raw material for domestic enterprises, especially in rural areas and for the rising bioeconomy.

Worldwide 1st CO2 neutral Supermarket build from Timber



Carl von Carlovitz



UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind



Other Forest Functions:

- Water, Air and Soil** forests are natural air conditioners, air filters and water treatment plants. They have a balancing effect on the climate and play a special global and local role as water cycles. The forest soil blocks and filters outflowing rainwater better than any other ecosystem.
- Wildlife** Forests are important habitats for many wild animals.
- Leisure, Recreation & Health** visiting forests promotes well-being and health. In Germany, access to recreational forests is free. More than 70 percent of the population use this opportunity.
- Raw materials use** Timber from sustainable forestry is a technologically and ecologically outstanding renewable resource. The future focus will be on new hardwood technologies.
- Building with wood** From a climate policy point of view, timber construction has the greatest importance. Currently 40% of global CO2 emissions are caused by buildings.

Worldwide 1st CO2 neutral Supermarket build from Timber

The Project: Worldwide 1st CO2-neutral sustainable daylight Supermarket build from Wood

Where: Berlin / Germany, Rudow, Retail/Supermarket

Why: Before the Berlin pilot project was developed, supermarkets in Germany and other countries were mainly constructed out of concrete and metal, mostly without use of daylight, combined with high energy consumption. The resulting CO2 emissions and energy costs were correspondingly high. The lifespan of these supermarkets was usually less than 20 years, as they could not be used for other purposes. The REWE Group wanted to implement their building sector in their overall sustainability strategy. We developed and realized an ambitious pilot market holistically and integrally. Due to the buildings wood construction, 435 t CO2 are stored and saved from entering the atmosphere. The energy demand was reduced by 48% compared to the previous generation and covered with local photovoltaic and geothermal energy. The food cooling is done 100% by certified green electricity.

What: The project, in its best practice role, has a great positive impact on millions of customers, supermarket employees and the environment.

Who: The co-operative REWE Group, with a total turnover of € 54 billion and 330,000 employees in 21 countries, is one of the leading trading and tourism groups in Europe.

When: Start project planning: 10.07.2008; - Planning permission application: 28.11.2008; Planning permission received: 31.03.2009; - Start of supermarket store construction: 25.05 2009; - Opening: 05.11.2009.

Today: The success of this multiple awarded pilot market in Berlin not only led to a new generation of green supermarkets and not only in Germany, not only for the REWE Group. We are satisfied and proud that with this project we were able to give the REWE Group its pioneering role that benefits the entire society, protect the environment and saves costs. **More than 150 of these green supermarkets** have been realized, are in the planning process or are under construction. We call this "**Green Corporate Architecture**".

We strive to realize similar projects based on wood from sustainable forestry in African countries.



a) Increase access to essential services and promote equity

1. Sustainable forestry and the production of wood products strengthens the rural regions economically, ecologically and socially.
Creating long-term skilled jobs, education, infrastructure and decentralized grid-independent energy production will provide adequate long-term income for many people & families, especially in underserved rural areas and will lay the foundations for sanitation, healthy living, clean water and clean air, as well as protection of the soil.
2. However, a healthy and well managed forest ecosystem not only enables a woodworking industry, but also provides meat from hunting, berries, fruits, mushrooms and natural medicine, as well as many other useful things for daily life.
3. Wood and all the other things in the forest are local, renewable resources that can easily be used locally with little effort and transportation, but naturally be exported as well.
4. Another big advantage is the reusability of wood, its environmentally friendly nature, its good recyclability and capability to capture carbon .
5. Sustainable forestry is a local and national indispensable long-term natural resource for the many-sided benefit of people today and future generations.
6. Sustainable forestry according to the German example reduces poverty in rural areas, enables a good rural infrastructure and prevents too large social differences, crime, strife and migration.

**Worldwide 1st CO2 neutral
Supermarket build from Timber**



15 LIFE ON LAND





b) a resilient infrastructure and improve environmental sustainability

1. Wood products are naturally very environmentally friendly and at the same time robust, durable and recyclable.
2. Wood from sustainable forestry is absolutely linked to sustainability, finally the concept of sustainability comes from the German forest management system 305 years ago.
3. The timber industry and its products are the only industry in Germany that not only produces CO₂-neutral but even removes CO₂ from the environment in the long term and stores it in the products.
4. Compared with plastic, steel, aluminum and other metals or concrete, the wood industry requires only a very small fraction of its energy/embodied carbon for wood processing and manufacturing of products.
5. Also the water consumption and water pollution for wood production is many times lower than for other materials.
6. Last but not least, wood as a construction material has excellent characteristics in many directions, provided that it is processed and protected in accordance with the material, then it can become hundreds of years old.
7. To implement the sustainable forestry system together with timber manufacturing industry into the national strategy of sustainable country development means: to build up and to secure long term infrastructure especially in the rural areas of the country.

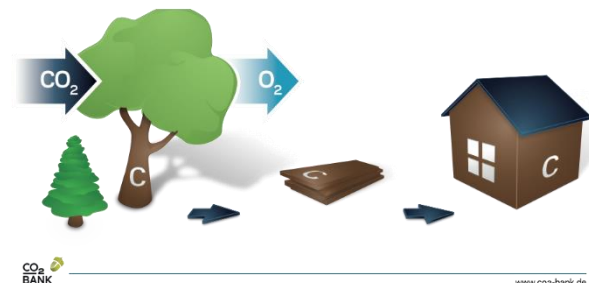
This can sensibly be connected to Nationally Appropriate Mitigation Actions strategies (NAMAs).

Cradle 2 Cradle

The lifecycle of the supermarket, built of wood, does not begin with the day of its opening, but with the growth of the busts in sustainable forestry.

After as long as possible building life, the wood can be reused for other purposes or finally be used as an energy source.

**Worldwide 1st CO₂ neutral
Supermarket build from Timber**



Timber „eats“ CO₂



c) economic and financial effectiveness of the project

Because the pilot project in Berlin offers great economic advantages, the REWE Group board management decided after a one-and-a-half-year test phase to rate the pilot project as the beginning of a new generation of sustainable green supermarkets in all countries where REWE and its subsidiaries operate.

The initial investment is only slightly higher than in the previous generation of supermarkets, but the new sustainable generation has many advantages in comparison to the former ones:

1. significantly lower energy costs (about 50% savings),
2. significantly lower costs for water,
3. higher construction quality,
4. higher real estate value,
5. longer life time,
6. better recyclability,
7. better flexibility in long-term use (reusability),
8. significant CO2 savings for production and operation,
9. strengthening the local and national economy,
10. Higher comfort, health and well-being for the people due to the use of controlled daylight.

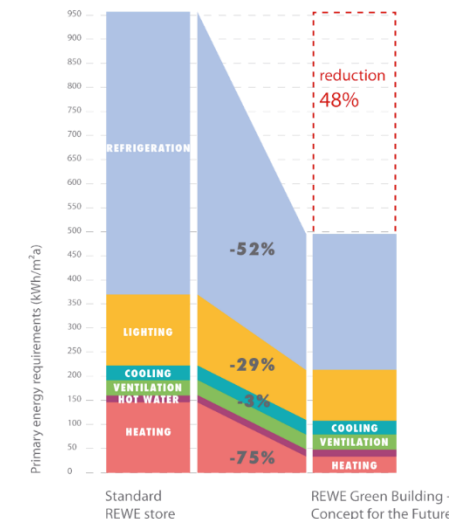
For financing and amortization we can not make statements.

These data are treated confidentially by the owner.

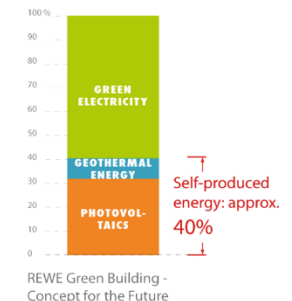
The fact that the REWE Group has decided to realize all new supermarkets following the example of the sustainable pilot market in Berlin and the fact that almost the entire supermarket industry in Germany, but also in other countries in the mean-time follow the same principles like in our developed concept (wood construction, use of daylight and renewable energies), clearly shows and explains that they have now adopted this for their new supermarkets due to the fact that the concept is economically successful.

Worldwide 1st CO2 neutral Supermarket build from Timber

Energy savings including refrigeration



CO₂ - neutrality Renewable energies





**Worldwide 1st CO2 neutral
Supermarket build from Timber**

d) Be replicable and scalable

1. The pilot project today is replicated more than 100 times in different scales due to modular principles and more than 50 projects are in the planning process or under construction.
2. This project is adaptable and thereby replicable in other countries and climates as well.
3. It has a positively effect on the local timber based Industry in Germany's rural areas, and the industry dealing with green technologies for renewable energy.
4. In Germany, caused by climate change the tree species are changing, the wood based industry is therefore forced to research and focus on the use of hardwood for the construction industry. There are still some challenges to overcome here, especially the optimization of cost-effectiveness. The high European labor costs play an essential role in this. The existing knowledge is particularly important for the use of local tree species also in tropical climates. Some prestigious studies predict a very large European market for hardwood products from tropical countries in the next decades, provided that the wood comes fro sustainable forestry.
5. Due to modular prefabricated construction wise and the controlled use of daylight, the building type is very flexible in use and subdivision even beyond the initial use.
6. The building type can not only be used as a supermarket, many other usages are possible as well like, schools, day care, trade, showroom, sports hall, community center, church and many other once.





e) Engage all stakeholders

1. Building with wood is based on a holistic approach that requires sustainable forest management.
2. Timber construction and other wood products are the logical consequence of the sustainable use of the national and local natural resource wood.
3. However, sustainable forestry has far more aspects than the sensible use of the recourse wood.
4. Healthy forests are the indicators of a healthy society. Without forests we will not be able to survive.
5. Forests are a vital basis for coming generations as well.
The various advantages have already been mentioned above.
Consequently, the entire society and each single one is affected.
6. Sustainably used forests and re-forestation bring significant benefits to each and every one on the local, national and global community level.
7. This wonderful economic system is a model for a global sustainable society and a prerequisite for the preservation of livelihoods for a rapidly growing world population.
8. Sustainable forestry is a fantastic system for conserving and using the **Natural Capital**.
9. The depletion of the finite resources of our Mother Earth must finally be stopped.
10. Sustainable forestry, wood-based products and building structures show us the principle of sustainable thinking, action and success.
11. This principle of the sustainable forestry applies to all and is not limited to a few participants.

**Worldwide 1st CO2 neutral
Supermarket build from Timber**



Case 27

Guinea-Bissau

Energy Sector

Renewable Energy

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	<i>“Bambadinca Sta Claro”</i> Community Programme for Access to Renewable Energy (Guinea-Bissau)
Project Proponent:	TESE – Association for Development



Public Organization: DGE - National Energy Directorate/ DREB - Regional Energy Directorate (Guinea-Bissau); UL - University of Lisbon (Portugal)

Private Organization: ACDB – Bambadinca Community Development Association (Local Partner; DIVUTEC – Local NGO

Capital Providers: European Union (ACP-EU Energy Facility); Portuguese cooperation, UNIDO (GEF project)

Why is this project a Case Study for People First PPP's:

For all of us, energy is life, for most of us it's quality of life, but there are countries with serious limitations: Guinea-Bissau, a country with no national grid where 94% of the population has no guaranteed access to electric energy, forced to use other sources, more expensive and inefficient.

Contributing with a solution for this problem, TESE has created an innovative project in Bambadinca, in Bafatá region, that will transform the lives of 6.500 people, guaranteeing sustainable access of electric energy of renewable source – Energy Community Service of Bambadinca (SCEB), with an efficient production and distribution grid of clean energy to people of Bambadinca 365 days a year, through a local and sustainable community-based management. In Bambadinca, energy is here to stay!



Bambadinca
sta **claro**

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development



Bambadinca
sta **claro**



1) Where: Bambadinca



- 6.500 inhabitants
- Average Income (HH/day): 4,1 \$
- Rich and big ethnic mosaic
- Official language Portuguese, but population talks in Creole
- Economic activities: agriculture, fisheries and trade
- 70% of the population lives below the poverty line (2 \$ / day).

2) Why: Access to energy

- 5 to 7% electricity access
- Expenditure on energy sources (lighting):
 - 16,49 \$ (PD, 2012)
 - 21,32 \$ (ESEC, 2012)

3) What: Energy Community Service of Bambadinca

Goals:

Ensuring sustainable access to electricity using renewable energy sources

Results:

1. Participatory management Model created & implemented
2. Local population aware on Safety and Energy Efficiency
3. Village with electricity via Decentralized Energy System

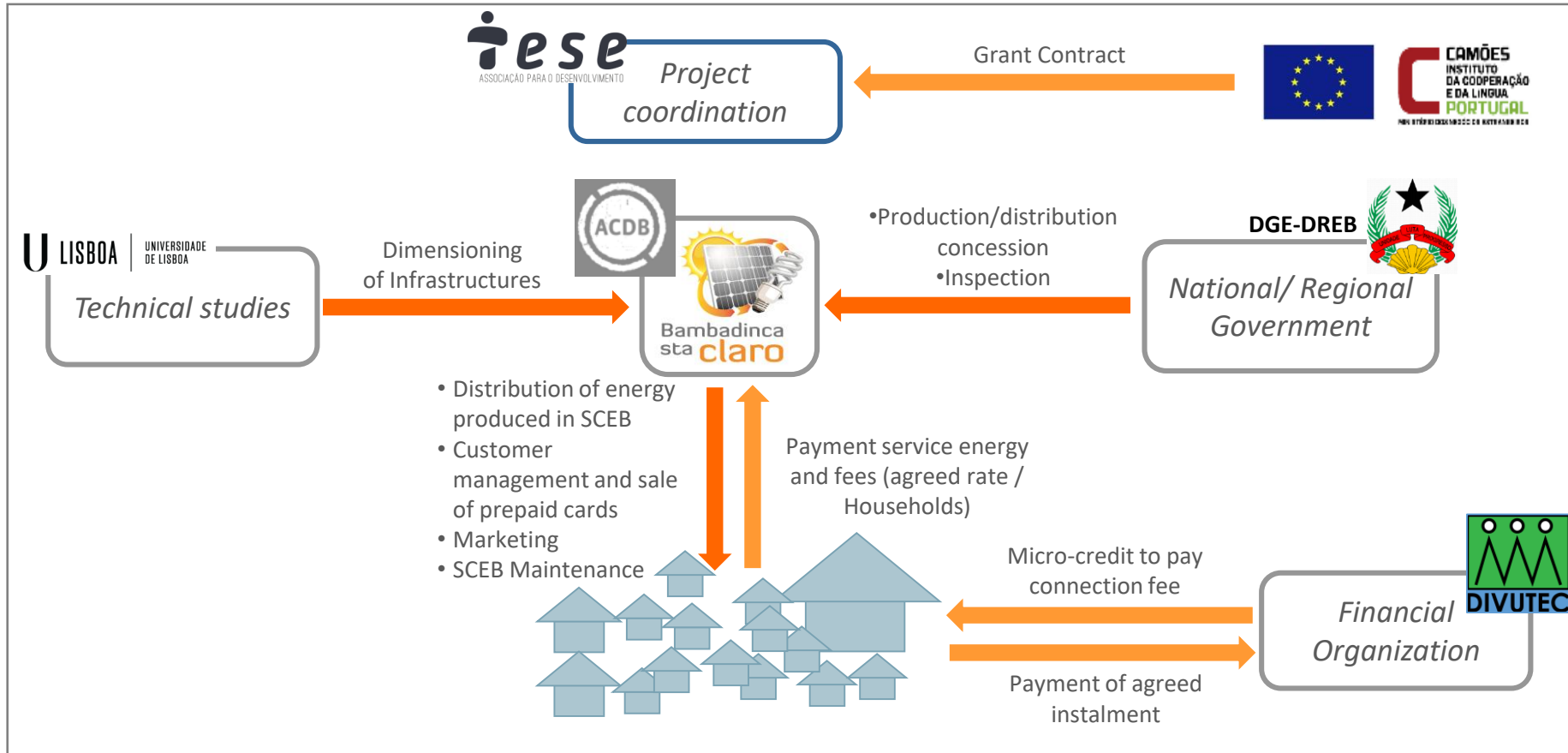
International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

4) Who: Partnership between state and non-state actors (national and international)



Bambadinca
sta **claro**



5) When: October 2011 to March 2015

Period in which the Republic of Guinea-Bissau was going through a moment of particular governmental instability resulting from military action which took place in April 2012



UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development



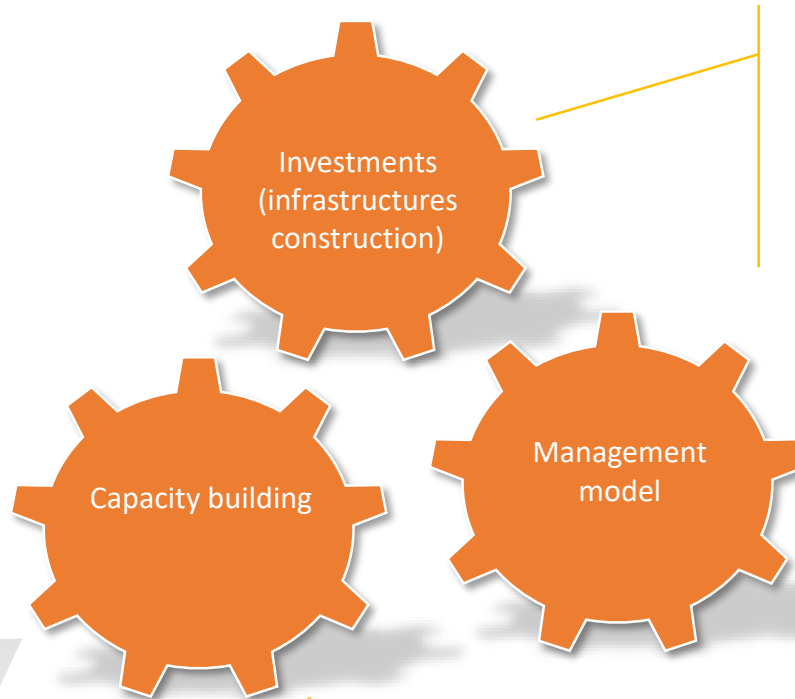
Bambadinca
sta **claro**



a) Increase access to essential services and promote equity



Service promotion and consciousness
for energy efficiency



- Hybrid photovoltaic power plant (solar field area: 15.000 m²; power produced: \cong 270 kW).
- Electrical distribution network.

- Public-private community partnership between ACDB and DGE.
- Management model definition and implementation.
- Rate setting.

- Awareness campaign for microcredit for the acquisition of connection contract.
- Awareness campaign for safety and energy efficiency.

- Institutional and technical capacity of the ACDB and DGE to implement the enhanced management model.
- Capacity of electricians for good practices in electrification of housing and commercial establishments strengthened.

International PPP Centre of Excellence

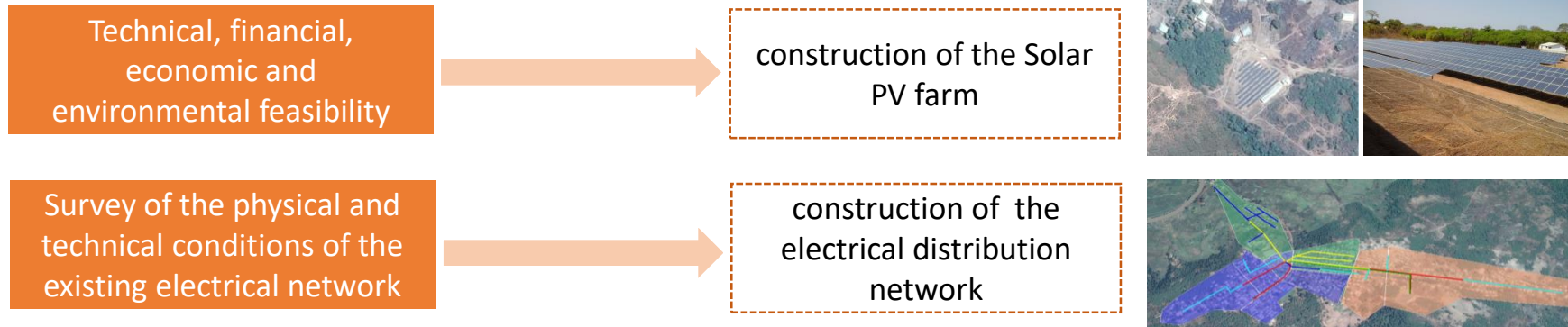
People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

b) Develop a resilient infrastructure and improve environmental sustainability

Resilient infrastructure: the realization of technical studies that were the basis of the infrastructure design ensured the reliability and technical adequacy of the proposed solutions for an efficient energy service, economically accessible to the entire population and adapted to the real needs:



Bambadinca
sta claro



Environment: environmental sustainability was not overlooked in the design and implementation of the project:



Construction phase:

Measures were taken to minimize the negative impacts associated with this phase

Operation phase:

The replacement of diesel generators by the plant operation contributes to the reduction of greenhouse gas emissions



UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development



Bambadinca
sta **claro**

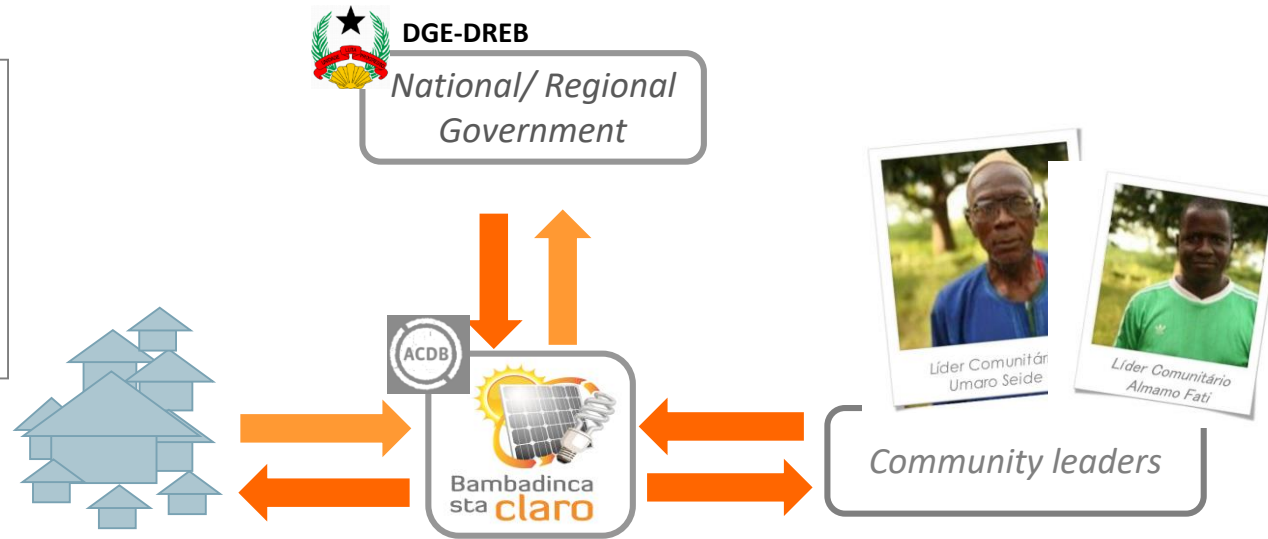


c) Demonstrate the economic and financial effectiveness of the project

The project cost € 2,193,724.20, financed by the EU (€ 1,605,543.00), with co-financing from Portuguese Cooperation (€ 535,181.00) and from UNIDO (€ 50,000.00).

Economic sustainability:

Model Management
Public-Community' Partnership (PCP), developed between ACDB and DGE. Under the PCP, the project developed a **tripartite model**



Economic impact:

- Family spending on electricity declined, on average, to \$ 18 / month;
- Several cases of women engaged in income-generating activities;
- New income-generating activities have emerged, creating more than 23 job opportunities;
- Unpredictable impacts on price fluctuations were noted: some prices declined (eg, ice started being produced in Bambadinca, rather than imported from Bissau), others increased (for example, kg of meat, due to its conservation).

UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind



Bambadinca
sta **claro**



d) Be replicable and scalable

Replicating the project:

Also during the implementation of the project, DGE and UNIDO requested TESE to prepare two feasibility studies for the replication of the Bambadinca's technical solution in the islands of Bubaque and Bolama.

Replicate globally:

The model of intervention in Bambadinca is referred as an example to follow in the energy sector. From its implementation, the Bambadinca electrical network is considered, by the energy sector, as the largest hybrid mini-network of the world.

Other sectors:

The management model (public-private community partnership) applied in the project has also been replicated in the water supply sector.





e) Engage all stakeholders

Identification and formulation of the project phase:

- Participatory meetings with stakeholders;
- Survey and further characterization of the energy consumption for domestic purposes;
- Semi-structured interviews aimed for the energy consumption for commercial and institutional purposes.

Project implementation phase:

- Elaboration of a Participatory Monitoring and Evaluation Plan;
- Focus groups with the project beneficiaries (monitoring and evaluation of the project, definition of management model, validation of messages for energy efficiency and security, definition of messages for savings and adherence to micro-credit);
- Actions to boost partners' empowerment (ACDB and DGE).



Bambadinca
sta **claro**



Case 28

India

Transport Sector

Jharkhand Road Programme

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Jharkhand Accelerated Road Development Program
Project Proponent:	Government of Jharkhand, India
Project Organization:	Jharkhand Accelerated Road Development Company Limited



Public Organization: Government of Jharkhand (GOJ)

Private Organization: Developer: Infrastructure Leasing & Financial Services, IL&FS Transportation Networks Limited,

Concessionaire: Jharkhand Road Projects Implementation Company Limited, Primary Supplier and Operator: in O&M phase

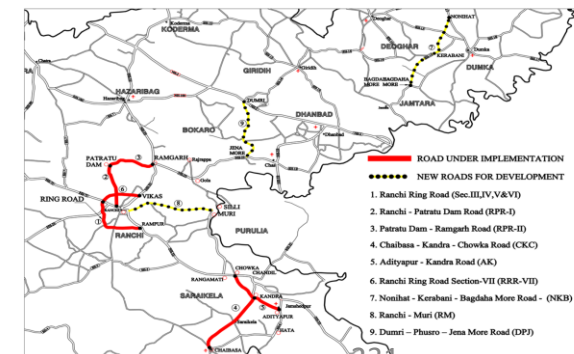
‘Elsamex Maintenance Services Ltd’

Capital Providers: Equity IL&FS – Rs 5085 Million, **Debt-** Consortiums of Banks Rs 16,323 Million

Why is this project a Case Study for People First PPPs: Jharkhand as a state was formed in November 2000, accounts for 40 % of mineral resources of India, was ploughed by widespread poverty , primarily a rural state as about 24% of the population only resides in the cities.

Jharkhand accelerated Road Development program (JARDP) was initiated under the Public Private Partnership (PPP) framework and the GOJ has entered into a Program Development Agreement with IL&FS for improving about 1500 Lane KM in the state.

This project is a classic example to be a part of people first PPP because, the project provide accessibility to tribal community and economically weaker section along the corridor by providing an opportunity towards enhanced livelihood. The project also attempted to promote equality and improve efficiency of the economically weaker community. Environment management plan was incorporated and social impacts on the community were minimized with adequate stakeholder participation.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals

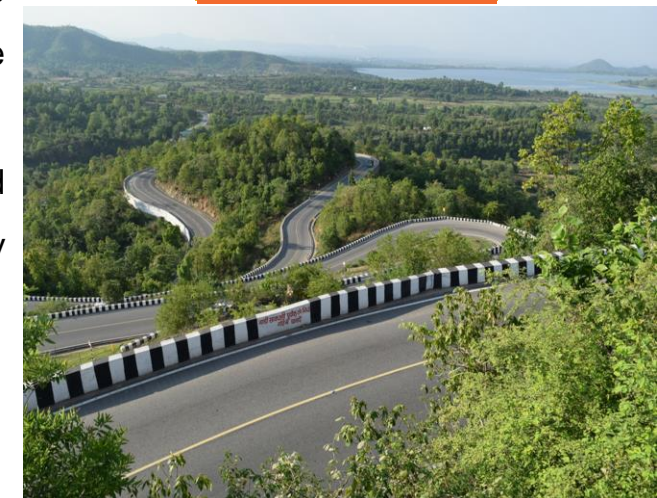


THE GLOBAL GOALS
For Sustainable Development

Please use this slide to describe briefly the context and strategy supporting the project:

- 1) Where:** Project highways are located in the state of Jharkhand, India. The road projects connects the tribal areas to the City of Ranchi. The economic sectors involved along the project highways are a) Mining, Glass Manufacturing, Dam , Power Plant & Agriculture.
- 2) Why:** Communities involved were mostly tribal, the people residing along the project corridor were mostly followers of naxalism, to enhance the Socio economic development of the respective area and the overall state, Government of Jharkhand initiated the JARDP program under the preferred PPP mode. Feasibility studies include geo-technical investigation, environmental and social impact assessment, detailed reconnaissance survey and identification of possible improvements, traffic studies including forecast for next 20 years, Inventory and condition survey for roads, bridges, cross drainage structures and drainage conditions.
- 3) What:** Social and economic life of the people who resides at the project influence area and neighboring areas are totally changed. Schools, Hospitals and various employment opportunities are available in the area. Adequate environment impact and mitigation measures incorporated during the construction phase and the operation phase.
- 4) Who:** key players include Jharkhand Accelerated Road Development Company Limited (JARDCL), Jharkhand Road Projects Implementation Company Limited (JRPICL) along with the proactive support and guidance given by functionaries of Govt. of Jharkhand and (GOJ).
- 5) When:** The implementation of the JARDP was initiated on February 6, 2008 at Ranchi, Date of Signing of Concession Agreement : October 14, 2009, Date of Financial Closure: March 25, 2010, Date Of Commencement : April 13, 2010, Commercial Operation Date: October 12, 2012 (Concession Period : 17.5 years, Construction Period: 2.5 years, Maintenance Period : 15 years).

Jharkhand Accelerated Road Development Program



UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

a) Increase access to essential services and promote equity

- The Project road has become an important conduit for enhancing the livelihood of project influence area. The upgrade of the project roads from Single lane/ Two lane/ four lane carriage way with paved shoulders have facilitate the road conducive for traffic movement.
- The project roads have resulted in Improved access to markets, health services, school enrolment and, increased transport services and lower transport costs.
- Increased market activity has lead to increased income & wages, consumption, non-farm employment, agricultural production and less waste, poverty alleviation and some positive impacts on women.
- The project has demonstrated its success in Planning, Financing, Construction, Operation & Maintenance and provided returns back to the state government in a very cost effective way and allowed the state to deploy its valuable resources for socio infrastructure development.
- Tourism: The valley has become accessible due to project road one of the best tourist spots all around the state. Its hair pin bands and all nearby areas are considered as one of the scenic wonders of Jharkhand.
- Network: The project road network and increased connectivity supplemented the efforts in easing up of traffic congestion helped in setting up of many new mineral based heavy and medium industries in the state.

**Jharkhand Accelerated Road
Development Program**



UNECE 500 People First PPPs for the SDGs... *ending poverty, protecting the planet, and leaving no one behind*



b) Develop a resilient infrastructure and improve environmental sustainability

- The state falls under the Tropical to Sub-tropical climatic region with three distinct seasons; winter, summer, and monsoon. Minimum and maximum temperature varies from as low as 30C in winter and 40C in summer. Average rainfall of the state is 1300 mm.
- Attempts are made during all the phases of road lifespan, from planning to design & Construction, operation and maintenance to incorporate three pillars of (environmental, economic and social).
- During Development phase, around 11000 trees were to be shifted and to mitigate its impact 70,000 trees were planted all along the project highway. Additional plantation will improve the micro climate of the region in long term.
- Critical environmental issues were subject of detailed examination of environmental impact assessment
- Social impacts have been minimized by planning alignment not to pass through commercial and built up areas and villages
- CO2 emission levels over the time will increase due to traffic volume, however, we are attempting to reduce the emissions by maintaining the road roughness below 3.0 m/km during the entire project life as well as enhanced capacity of the road (from 1.5 lanes to 2.0/ 4.0 lanes will result in reduction of annual CO2 emissions of the project road below threshold limit.

Jharkhand Accelerated Road
Development Program



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals

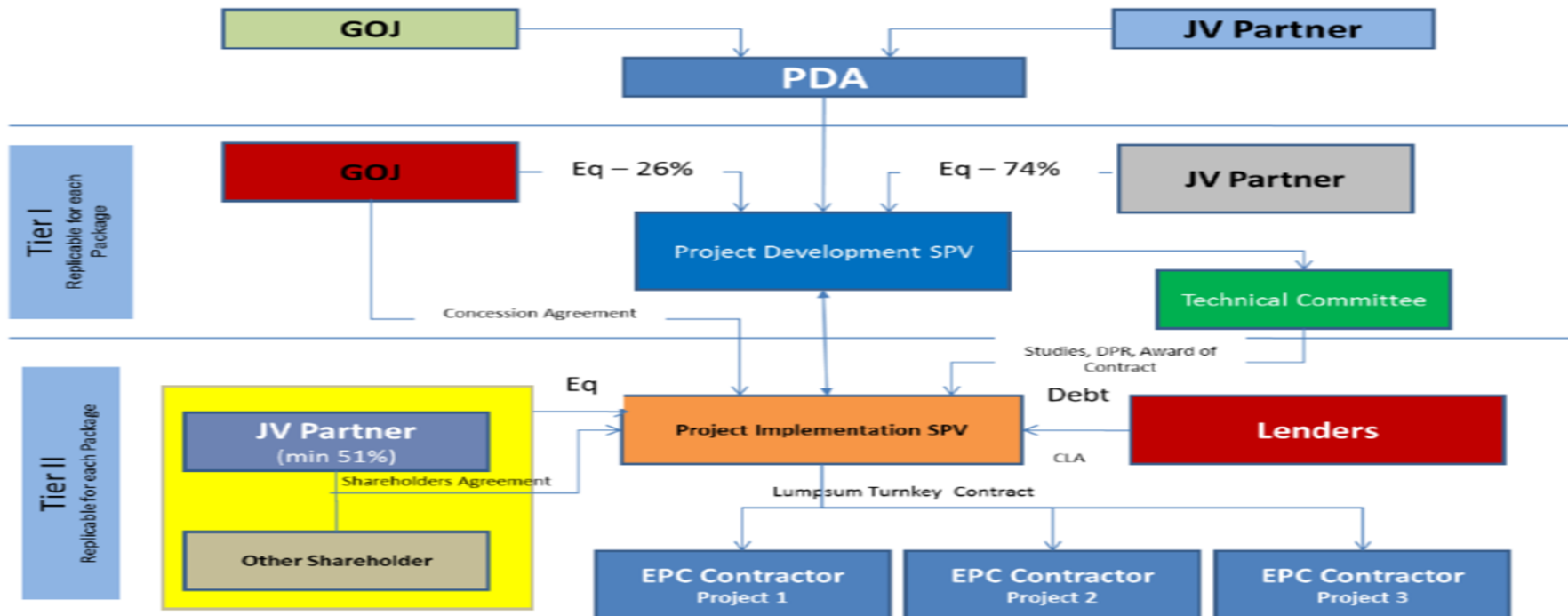


THE GLOBAL GOALS
For Sustainable Development

c) Demonstrate the economic and financial effectiveness of the project

- Model: BOT – Annuity
- Program Development Agreement
- JV- Government of Jharkhand & IL&FS
- SPV: Jharkhand Accelerated Road Development Company Limited (JARDCL)
- Funding Source : Developer (IL&FS) Equity 24% Debt (Consortium of Banks) 76%

Jharkhand Accelerated Road Development Program



UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind



d) Be replicable and scalable

- Project Development Approach – Joint Venture between Government and Private Sector
- Few other states in India replicated the model in the road sector and urban infrastructure projects
- Government of Jharkhand in process to award more road projects under transparent bidding process in the same PPP mode
- Board comprises 3 Non Executive Directors nominated by GoJ, Chief Secretary- GoJ, Secretary, Road Construction Department- GoJ, Secretary, Finance cum Planning Department, GoJ
- Private sector – CEO of the project
- Concessionaire facilitates the project completion and financing
- Independent Consultants for reviewing the project during construction and O&M

Responsibilities

- Public Sector: Approve the contractual structure, Land , All Statutory Clearances, Annuity
- Private Sector : Design, Build, Finance Operate & Transfer
- Human Capital Managed: We trained lot of unemployed youth and provided them job during construction
- Various training & incentives provided to Women around the project influence area to enhance their livelihood

Jharkhand Accelerated Road Development Program





e) Engage all stakeholders

- First PPP Project in the state of Jharkhand : discussion on PPP with various stakeholders
- The Equator Principles were an integral part of our financing evaluation and decision-making process
- Engagement process with Government of Jharkhand
- Consultation process with the local residents prior to starting of the project regarding land acquisition and R&R
- Project assessment and preparation was done based on the engagement with users and affected persons
- User feedback and complaint mechanism
- Engagement with population of 75,000 in 40 villages with Mobile Medical Units
- Educating the school students in the village area regarding technology and skilling
- Adequate compensation and rehabilitation assistance to affected households
- Villagers initially resisted but with adequate engagement and assistance welcomed the decision of road widening and improvement proposal
- Socio economic standing of the local people improved due to better accessibility of infrastructure facilities, reduction in migration, appreciation in value of land and many others.....

Jharkhand Accelerated Road Development Program



Case 29

Ireland

Transport Sector

N25 Bypass

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	PPP contract for the New N-25 Waterford City Bypass
Project Proponent:	Irish National Roads Authority
Project Organization:	JSTI GROUP EPTISA SERVICIOS DE INGENIERÍA,S.L. (Designer)



Public Organization: Irish National Roads Authority

Private Organization: EPTISA SERVICIOS DE INGENIERÍA,S.L.

Contract value: € 9 million (Eptisa 2,7 M)

Total Investment: € 240 million



Case supplier: Qian Yi
JSTI Group
Environmental Scienc Division Dean Assistant
National Development & Reform Commission PPP Storage Experts



This project is being procured by the National Road Authority under their PPP programme as part of the National Development Plan (NDP),

The N25 Bypass project comprises the design and construction of **18 Km of new dual carriageway** and corresponding links/side roads, with 20 structures; including **9 Viaducts, 7 overbridges** and **4 underpasses**.

As a member of the design consortium, Eptisa provided the **detailed design of Structures & Earthworks of the section** located north to the River Suir (including N9 link and corresponding side roads), pavement detailed design for the whole scheme, site supervision of the section located north to the River Suir (including N9 link and corresponding side roads).

**PPP contract for the New
N-25 Waterford City Bypass**





General Background

- 1) City of Waterford: the city was built in 914, it was once the most important trade center and currently the busiest port city in Ireland
- 2) Adequate tourism development potential: Waterford has some of the most beautiful villages and towns near the Nire Valley, museums, galleries and cathedral etc.
- 3) Already well-known tourism related industry: crystal from Waterfords, established crystal center for visitors
- 4) Relatively weak transport infrastructure between the northern and southern shore of the Suir River: hard to meet future tourism development in the future and unbalanced development between both areas

**PPP contract for the New
N-25 Waterford City Bypass**





a) Increase access to essential services and promote equity

The N25 through Waterford passes along congested city quays and crosses the River Suir on the open-span Rice Bridge, the only crossing for motor traffic in the city, with an average daily traffic load of 40,000 vehicles. The **need for a second river crossing** had been recognized over many years.

- About 14,000 vehicles use the Waterford bypass each day **reducing** the traffic volumes currently using the Rice bridge **by about 30%**. Usage of the Waterford bypass has helped in taking out about 10,000 to 12,000 vehicles a day from the city quays
- By providing a bypass route including a new crossing of the River Suir, the N25 Waterford Bypass PPP scheme has greatly **eased traffic congestion** and benefited the local community of Waterford by **improving the environment and travel times**
- The scheme will also bring significant benefit to the **wider public** as the route is a vital national artery, being a **pivotal point** on the N25 Cork to Rosslare port route.

PPP contract for the New N-25 Waterford City Bypass





b) Develop a resilient infrastructure and improve environmental sustainability

The tender process for the project was suspended in 2004 by the Department of Environment Heritage & Local Government (DOEHLG), following the discovery of significant archaeological finds known as the 'Woodstown Viking Site'. This site was a defended riverside settlement, with associated industrial activity. Artefacts and radiocarbon dating placed the site within the early Medieval period. The Norsemen occupying the site possibly used an existing settlement of native Irish origin.

The site was discovered during the course of pre-contract archaeological testing undertaken on the scheme.

- Continuous **environmental monitoring** during the project:
Include **water surveys, well monitoring, noise surveys, wildlife and plant surveys.**
- **Archeological monitoring** is also an aspect of the works, **consultations** are ongoing with all the relevant local authorities.

PPP contract for the New N-25 Waterford City Bypass





c) Be replicable and scalable and economic and social impact

- Created a model that demonstrates a **feasible approach** for areas or countries that share similar **unbalanced development situations**.

More specifically, benefiting from the previous Rice Bridge (R680), the northeastern area of Waterford has established a certain commercial scale, while Waterford's northwestern and northern areas have been in an undeveloped state because of the lack of direct transportation, even if it is broader and more in need of development. Not only the inconvenience of transportation lags behind the development of certain areas. What is more serious is that it is not conducive to the establishment of a sense of commonness among the residents, a sense of **distance** between “us” and “them” will be formed.

- In the long term this project can bring a positive impact on promoting this area's **equity** and **solidarity**.
- **Transformation** of resource advantage into economic advantage by **promoting a sustainable development** of the tourism industry in Waterford. Therefore promote the **increase of employment**, ease the pressure of local employment and re-employment.

PPP contract for the New N-25 Waterford City Bypass





d) Engage all stakeholders

Following the discovery of significant archaeological finds known as the 'Woodstown Viking Site', Waterford is a city with numerous resource with **archeological value**, The Minister for the Environment, Heritage and Local Government issued archaeological directions for the Woodstown site on 2005.

During the project **archeological monitoring** is also an aspect of the works, **consultations** were ongoing with all the relevant local authorities with include **Waterford City Council, Waterford County Council** and **Kilkenny Country Council**.

**PPP contract for the New
N-25 Waterford City Bypass**



Case 30

Japan

Smart and Sustainable Cities Sector

Ogal Shiwa-public real estate project

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	<i>Ogal Shiwa</i> Public Realestate Project (Shiwa, Iwate, Japan)
Project Proponent:	<p>Shiwa Town A small northern town with a population of 34,000. The town owned a 10.7 ha of vacant land in front of a train station, which had been left unused for a decade because of the severe financial condition of the town and economic downturn. The town also aimed to build a library and rebuild the municipal government building.</p> <p>Toyo University A private university in Tokyo, which has a Master’s degree program in Public Private Partnership. Toyo provides a consultation/advisory program, Regional Development Advisory Program (RDAP) to local governments in and outside of Japan.</p>
Project Organization:	<p>Public: Shiwa Town (PPP office—PPP Unit of the Town)</p> <p>Private: Ogal Shiwa Public Corporation Acted as a “PPP agent” for the town. Founded as a town-owned corporation to plan and implement the project and coordinate with local industries and market consultation. Later the stocks were sold to local financial institutions and local community leaders.</p> <p>Private (SPCs): Ogal Plaza Co. Ltd., Ogal Base Co. Ltd. Equity provider: Organization for Promoting Urban Development (A quasi-governmental agency that provides equity and mezzanine finance to urban developments and PPPs) Debt: Tohoku Bank (a local bank)</p>



Conceptual design

Why is this project a Case Study for People First PPPs:

This project is a small-scale economic development project. It does not depend on mega shopping malls, but create local economic ecosystem among local industries. The area attract about one million visitors. The town receive land leasing fees and property tax from the development.



OGAL



紫波町



TOYO UNIVERSITY

UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Please use this slide to describe briefly the context and strategy supporting the project:

- 1) Where:** Shiwa Town, *Iwate* Prefecture, Japan
A small municipality in Iwate Prefecture. The city's main industry is agriculture, but the town is considered as a commuter town, and most people commute to nearby prefectural capital and other cities. The town has been experiencing continuous population decline, and needed economic activity. In addition, the Town was seeking to build a library and redevelop old municipal hall.
The town purchased a 10.7 hectares of land in front of a small train station in 1997, which had left unused.
- 2) Why:** The project site had been sitting unused for almost 10 years because of severe financial condition of the town and economic downturn. Utilizing this site to create economic activity was vital for the town to generate new revenue. In 1990's many municipalities made vast investment to stimulate economy after the burst of economic bubble in early 1990's. But the town did not have enough money to utilize the land.
One local businessman joined the Toyo University PPP School, and spoke with Mayor about the program. Inspired by him, the Town government sent a staff to the graduate school to seek an advice from the university. The Town and Toyo University concluded a memorandum of understanding to study the potential of a PPP project, including the library and municipal hall development and other economic developments.
The study focused to find out the strength of the town and the site. Toyo's study found that the town's location is in between several large cities and easily accessed by train. The city is located in the center of several population centers, so that the town is strategically located to attract customers. In addition, the Town had some great agricultural products. Thus, there was a good potential to attract people to the area. Toyo emphasized the necessity of creating a local economic ecosystem, based on local production, local consumption, local human resources and culture, rather than locating a mega shopping mall. In addition, Toyo recommended the Town to develop long-term vision and to use PPP method in order to achieve the goal with lower public burden and more private participation to improve the Town's financial condition and stimulate the local industry. By using PPP methods, private financial industry will evaluate the financial feasibility and sustainability of the project, so that the project will have better chance to succeed than publicly funded projects. Toyo also recommended to establish a dedicated PPP organization to implement the project.



Ogal Shiwa



MOU signed between the Town of Shiwa and Toyo University (2007)



UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development



Ogal Shiwa

Please use this slide to describe briefly the context and strategy supporting the project:

- 3) What:** The ultimate goal is to vitalize the economy in the region, especially to consume local products by the local people so that the economic activities in the area directly benefits the local people. Project objective was to create economic activities utilizing the town-owned land and attract people to the area. The Town also wished to build a library. The municipal hall was old and needed to be redeveloped. In addition, the Town aimed to promote the use of regionally grown woods to sustain the local ecosystem.
- 4) Who:** Led by then Mayor Mr. *Fujiwara*, the Town was in charge of the policy setting, hosting public hearings, workshops, and to gain understanding of PPP project among the general public. Mr. *Kamata*, a graduate of Toyo PPP School and other officials supported the activity under Mayor Fujiwara's leadership. Ogal Shiwa public corporation, a 100% town funded "PPP agent," who took the responsibility of the project planning and implementation. Mr. *Okazaki*, a graduate of Toyo PPP School was responsible to implement the project by coordinating and consulting with business groups on behalf of the Town. Such coordination and consultation gained the understanding of the project by local and external industries and increased the probability of success. Design Committee, consists of architects, urban designers, graphic designers, and marketing specialists, set the design guideline and marketing strategy to realize the Town's vision and masterplan and make it more attractive. SPCs created for projects are in charge of finance, design, construct and operate the facility. The land ownership remained in the public. Project schemes varied from one project to another depending on the project risks, development phase, and characteristics of project organizations. As the development progressed, more and more private sectors are confident in the projects and participated.



Mayor Fujiwara
(Then)



Mr. Kamada and Mr. Okazaki



UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Please use this slide to describe briefly the context and strategy supporting the project:

5) When: The project was developed gradually. In the beginning, the proposal of PPP project by the university was not well accepted in the beginning and a local media called it an “invasion by the West.” Therefore, the town hosted more than hundred public hearings to discuss PPP concept and process to gain the public consent. Mayor Fujiwara proclaimed himself a “broken tape recorder,” who repeatedly spoke about the project. The city held more than 100 town meetings and public hearings in two years and gained understanding in public opinion poll. The Town promulgated a PPP masterplan in 2009. First project: Soccer field by Iwate Prefectural Football Association. Ogal Shiwa invited Iwate Prefectural Football Association, that was looking for a site for relocation within the prefecture. Moved by the strong commitment by the town and Ogal Shiwa, Association decided to relocate to Shiwa and developed the Association headquarter and a soccer field. This field generated new confluence to the area, especially the young ones. Underneath the soccer field was the storm water reservoir for flood control to improve the security of the area. Second Project: Ogal Plaza (Library and commercial development). Then the city aimed to build a public library. After the construction, the library is transferred and operated by the Town. The rest is operated by the private sector. The retail store sells the local agricultural products and produce, which is helping local farmers to diversify the revenue sources. The structure uses woods grown within the town. Town’s municipal hall: The Town decided to use PFI (BTO) method to develop the municipal government building within the site. The town hall uses locally grown woods as well. In addition, the town built a district heating system to provide heating/cooling and hot water to the town hall and nearby houses. Other projects: Ogal Base (Lodging and Volleyball court) An SPC developed a hotel and a volleyball court. The volleyball court is a candidate for pre-game training camp site for Olympic games in 2020. Ogal Center: The latest building developed in the site was Ogal Center which consist of child care and public educational support services.



Ogal Shiwa



Volleyball court at Ogal Base



UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind

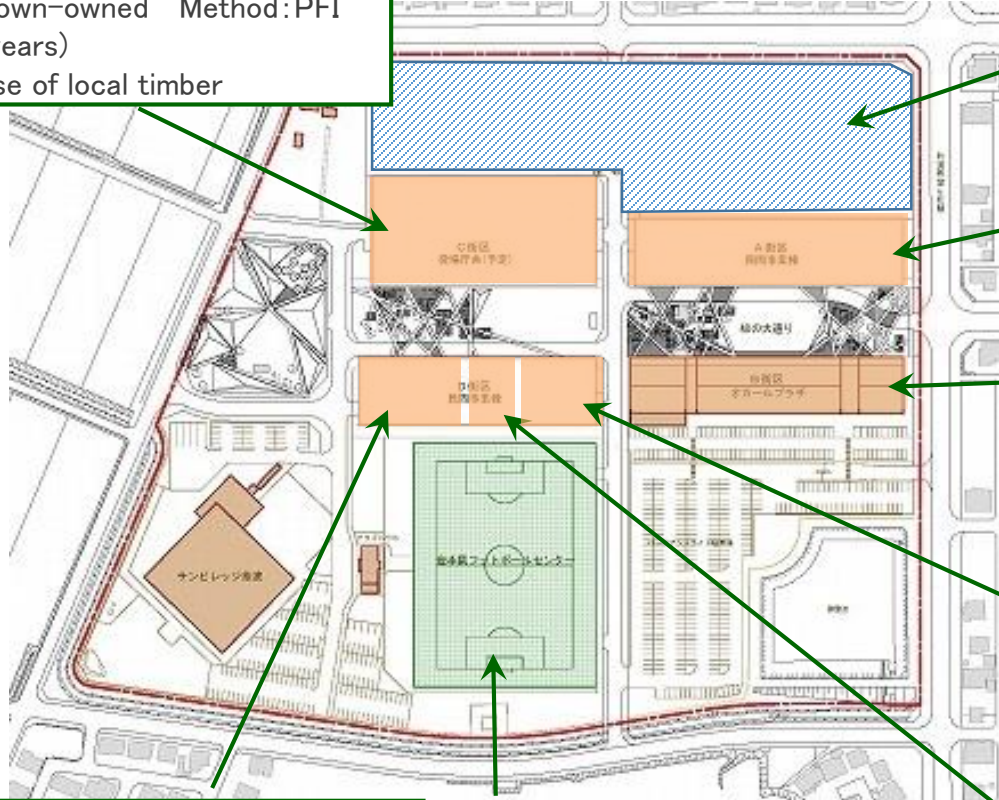
International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Town Municipal Hall 2015
Building: Town-owned Method: PFI (BTO, 15 years)
Feature: use of local timber



Ogal Town (private residential area) 2013~
Land and building ownership: homebuyers
57 lots to be sold
Feature: Eco-friendly house development to cultivate the industry

Ogal Base (Hotel and volleyball gym) 2014
Building ownership: Ogal Base Co.
Method: Leasehold, Town prepared RFP

Ogal Plaza 2012
Ownership: Ogal Plaza Co. and town
Method: PPP, town-owned land
Feature: Library (Public) and commercial (private)

Ogal Center 2016
Method: PPP
Feature: Public educational support, child welfare center, Private: children's clinic, retail and

Energy Station 2014
Building: Shiwa Green Energy Co.
Method: Quasi public business, town-owned land
Feature: District heating system to provide heating and cooling to Ogal Base, Town Hall, and houses in Ogal Town

Child care (Nursery) 2017
Method: private business, town-owned land

Iwate Football Center 2011
Facility: Iwate Football Association
Cost: 175 Million yen
Method: PPP, town-owned land
Feature: built on the storm water reservoir



Ogal Shiwa



UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind



Ogal Shiwa

a) Increase access to essential services and promote equity

Ogal project has increased access to some public services and improved welfare of the residents:

- Library: It was a long time wish of the residents to have a public library in the town. The library collects books on agriculture and local history and culture
- One-stop support for children: Nursery, children's clinic, child welfare, other educational services are provided in one place by both public and private
- Football center and volleyball court: provides teens and youth places to spend time after school and practice and game field on high grade facilities. Volleyball and soccer training programs are also available at the facilities.
- Farmer's market: provides farmers another market access and helps them to diversify the income source. Return from the sales at the farmer's market



Soccer field



Library



Shiva Town municipal hall



Ogal Shiwa

b) Develop a resilient infrastructure and improve environmental sustainability

- The former municipal hall was old and not structurally strong. The new municipal hall is earthquake proof
- All buildings utilize locally grown woods. Domestic forestry has become less competitive in the market and it made forests not well maintained and made mountains vulnerable to disasters. Use of local woods at fair price will help sustain the local industry as well as the local environment.
- District heating station also uses locally grown woods to provide heating/cooling and hot water to the newly developed area and nearby houses
- The storm water reservoir installed underneath the football field makes the surroundings safe in storms



Wood chip boiler



Ogal Shiwa

c) Demonstrate the economic and financial effectiveness of the project

- Private financial institutions' loan evaluation and advice made the investment lean and sound. It made the projects' maturity periods as short as possible to make them more profitable (ROI more than 15%). That also made the town's financial burden low
- Ogal Shiwa Co. Ltd. helped to find tenants before the construction started and made the facility (shop) size suitable for prospective tenants, and 100% of spaces were occupied when each building opened
- The town can gain land leasing fee and property tax from the development. The leasing fee from Ogal Plaza (library and commercial building) can cover library operation and management cost
- Public facilities (municipal hall, library and football field) constantly generate confluence to the area and that makes private business profitable and attractive
- Town municipal hall's VFM is 6% (BTO, 15 years). The RFP requested private proponent to propose the ways to reduce the facility size to reduce the construction cost
- Farmer's market provides the farmers another channel to the market. Farmer's market gives better return to the farmers than agricultural cooperatives. Farmers can use mobile phones to check inventory, and bring their produce depending on the inventory and maximize their profit
- Farmer's market also provide breakfast and lunch at Ogal Inn and utilize market leftovers, and minimize food waste
- The whole Ogal area generated over 250 full- and part-time jobs. While the population in the town decreases, the population in the area increased
- Each project SPC structured equity and return (dividend) scheme to equity providers. For example, Ogal Shiwa Co. Ltd. (PPP Agent) which operates farmer's market provides equity to Ogal Plaza (SPC) but do not receive dividend. Instead, farmer's market receive discount on the rent, which makes the cost burden of the market lower and made farmers more profitable. Farmers who also took the initial risk receive a discounted rate on their commission fee.



Lunch at Ogal Inn



Shiwa Marche (farmer's market) at Ogal Plaza



Ogal Shiwa

d) Be replicable and scalable

- Making the system stable: Town promulgated PPP masterplan for the development and PPP unit. Such efforts makes private business confident in the town's commitment
- Phased approach: Phased development generate confluence gradually and make the latter project's investment easier. Especially at the first phase of the project, develop the facility that can attract people, so that it can make the project scale up gradually
- Hosted many observation missions from overseas (Kyrgyz Republic, South Africa and others)



Ogal base
(Inn and Volleyball court)



Ogal Shiwa

e) Engage all stakeholders

- 100 public meetings: Toyo University's proposal did not receive understanding from the general public and media at first. It was reported as an "invasion by the West," because the word "Public Private Partnership or PPP" was not well known in the country and region. Therefore, the town decided to hold public hearings and visit many community gatherings, industry groups, and other meetings. The town held more than 100 sessions. Mayor Fujiwara proclaimed himself a "broken tape recorder," that repeat the same phrases over and over. The town also underwent several public pools over time to find the understanding and consensus of the people
- The development aimed at all generations from children to adults.



Mayor and town staffs visited community meetings



Toyo's reporting meeting



Case 31

Korea (Republic of)

Health Sector

Chugju Medical Center

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Chungju Medical Center Relocation and Construction Project
Project Proponent:	Chungchoengbuk-do
Project Organization:	Chungju Medical Center Ltd.

Public Organization: Ministry of Health and Welfare, Chungcheongbuk-do

Private Organization: Chungju Medical Center Ltd.

Capital Providers: Equity: construction investors(72%), Korea BTL Fund(25%), Operation company(3%)
Debt: Korea Finance Corporation (KoFC), LIG Insurance company, Korea BTL Fund, Korea Development Bank(KDB)

- Why is this project a Case Study for People First PPPs:**
- Providing quality health services to local residents who have relatively limited access to qualified medical services
 - Promoting engagement of local community, offering visiting services for disadvantaged and vulnerable local residents as well as organizing regular meetings to receive feedback from local community



258

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

1) Where	<ul style="list-style-type: none">• Location : Central and northeastern part of South Korea• Population : As of March 2018, 214,487 residents(4.1% of total population in Korea)
2) Why	<ul style="list-style-type: none">• To improve quality of the service with advanced medical facilities for local residents who have relatively limited access to qualified medical services
3) What	<ul style="list-style-type: none">• To provide adequate medical services after relocating into a new building<ul style="list-style-type: none">- newly introduced rehabilitation medicine dept.- expanded its accommodation to 300 beds for patients(originally operated with 257 beds)
4) Who	<ul style="list-style-type: none">• (Competent authority) Chungcheongbuk-do• (Concessionaire) Chungju Medical Center Ltd.
5) When	<ul style="list-style-type: none">• Initiation through solicited project (December 2007)• Designation of a potential concessionaire (June 2008)• Conclusion of concession agreement (October 2009)• Start of operation (April 2012)

**Chungju Medical Center Relocation
and Construction Project**



UNECE 500 People First PPPs for the SDGs... *ending poverty, protecting the planet, and leaving no one behind*



a) Increase access to essential services and promote equity

Background

- Chungju city is a geographically remote area where the residents have quite limited access to advanced public medical services
- In addition, due to aging population, there was a growing need for ensuring adequate and necessary public medical services for the residents

Performance

- Responding to those challenges, this project contributed to increase access to advanced medical services for local residents who have relatively limited access to qualified health and medical services
- ,In particular, this project introduced special services to promote equity on essential health services
 - Providing healthcare education for local residents
 - Introducing visiting services for the pregnant women living in remote area

Chungju Medical Center Relocation
and Construction Project

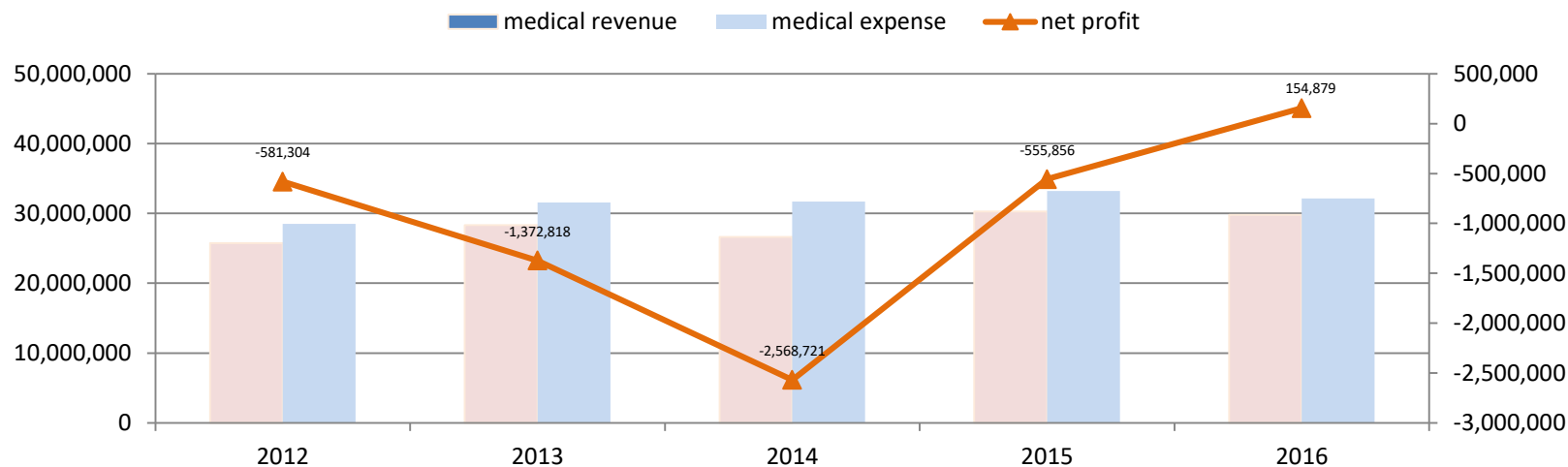




c) Demonstrate the economic and financial effectiveness of the project

Generation of Profits

- In general, public medical service center is not considered as a highly profitable one in Korea, however, this project started to make profits, generating 154 million KRW in 2016.
 - Profit increase has resulted from the increase in demand, mainly due to expanding its space and providing advanced medical facilities to its residents.



Chungju Medical Center Relocation and Construction Project





d) Be replicable and scalable

Replicable in the country or other countries

- This project may be replicable in the area where it is relatively inaccessible to essential medical services.
- In particular, some aspects of the project positively replicable in other sector/project such as promoting partnership with local community.

Scalable in the country

- Some of the public medical facilities/services are still required to expand or introduce advanced services/facilities in a certain area.

**Chungju Medical Center Relocation
and Construction Project**





e) Engage all stakeholders

Competent authority

- Provide support for free use of state-owned land
- Administrative support for completing the project in time
 - Make arrangements on the dialogues among all stakeholders, if necessary
 - Supervise the overall project
 - Approve the issues relevant to construction and operation of the project

Concessionaire

- Design, construct, manage, and operate the project
- Provide innovative and qualified services to the public

User

- Join as committee members to evaluate performance of the project
- Participate in regular meetings to provide feedbacks on the main issues of medical center

Chungju Medical Center Relocation
and Construction Project



Case 32

Korea (Republic of)

Water and Sanitation Sector

Yongin Waste Water

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Yongin Sewage Treatment BTO Project
Project Proponent:	Yongin City
Project Organization:	Yongin Cleanwater Co. Ltd.

Public Organization : Ministry of Environment, Gyeonggi Province and Yongin City

Private Organization :
Developer : (Largest share) Samsung Engineering Co., Ltd. (SECL)
Contractor : (EPC Contractors) SECL, Korea Development Co., Ltd., Taeyong Co., Ltd., Environment Management Co., Ltd., Taulim Co., Ltd.
Primary Supplier : Not applicable in this type of project
Operator : SECL, Taeyong Co., Ltd., Environment Management Co., Ltd.

Capital Providers :
Equity (100%) :

- **Constructors (56.1%) :** SECL (19.9%), Korea Development Co., Ltd. (15.1%), Taeyong Co., Ltd. (10.0%), Environment Management Co., Ltd. (10.0%), Chaikwawon Co., Ltd. (1.1%)
- **Financing Institutions (43.9%) :** National Agriculture Cooperation Federation (15.0%), Tongyang Life Insurance Co., Ltd. (15.0%), The Military Mutual Aid Association (10.0%), Hyundai Marine & Fire Insurance Co., Ltd. (3.9%)

Why is this project a Case Study for People First PPPs:

- 256,530m³ of domestic sewage is being disposed safely everyday, which improves environmental sustainability of Yongin City
- Domestic sewage management enables sustainable management of water and provides clean water and sanitation
- Community facilities and educational system engages the general public effectively



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

1) Where	<ul style="list-style-type: none">• Scope of Project : 12 new sewage treatment facilities, 3 pre-existed facilities and 6 community facilities• Location : All these facilities are installed throughout Yongin city.• Population : As of 2018, there are more than 1,000,000 residents in Yongin city• Key Economic Sector : Manufacturing business
2) Why	<ul style="list-style-type: none">• Background : The status of Yongin was elevated to city level in 1996 and since then number of residents have increased dramatically• Problem : Lack of sewage treatment facilities caused poor sanitation and unclean urban environment• Solution : Building sewage treatment facility• Why PPP : Private bidder's efficiency in terms of building and operation and the overall cost efficiency were carefully assessed. Result of the feasibility study proved VfM of the project.
3) What	<ul style="list-style-type: none">• Environment Impact : Sewage treatment facilities keeps urban environment clean• Social Impact : Community facilities can improve well-being of citizens
4) Who	<ul style="list-style-type: none">• Public Partner : Financing, constructing, operating and maintaining• Public partner : Providing subsidies for land acquisition and construction as well as passing, promoting and implementing sewage treatment policies.
5) When	<ul style="list-style-type: none">• Yongin Cleanwater Co. Ltd. submitted unsolicited PPP project proposal (May 2002)• Concession agreement concluded between Yongin city and Yongin Cleanwater Co., Ltd. (January 2005)• Construction began (December 2005)• Total of 12 sewage treatment facilities fully constructed (February 2010)• Operation of sewage treatment facilities began (March 2010)• Community facilities fully constructed (May 2012)

Yongin Sewage Treatment BTO Project





Yongin Sewage Treatment BTO Project

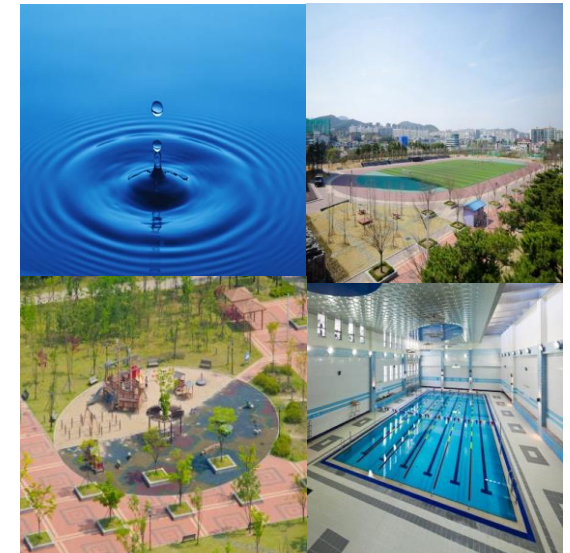
a) Increase access to essential services and promote equity

Increased Access to Essential Services

- Greater access to essential services specifically clean water and sanitation for all citizens of Yongin
- Sustainable management of water and sanitation for all through the effective management of domestic sewage

Promoting Equity

- Community facilities, which includes swimming pool, gym, art hall, football field, park, basketball court, gateball field, tennies field, observatory etc., promote equity due to their increased accessibility and availability for all citizens.
- The community facilities ensure healthy lives and promote well-being for all ages of Yongin citizens.





Yongin Sewage Treatment BTO Project

b) Develop a resilient infrastructure and improve environmental sustainability

Improving Environmental Sustainability

- The project's positive impact on environment is regularly measured
 - Since operation, 256,530m³ of sewage has been treated per day





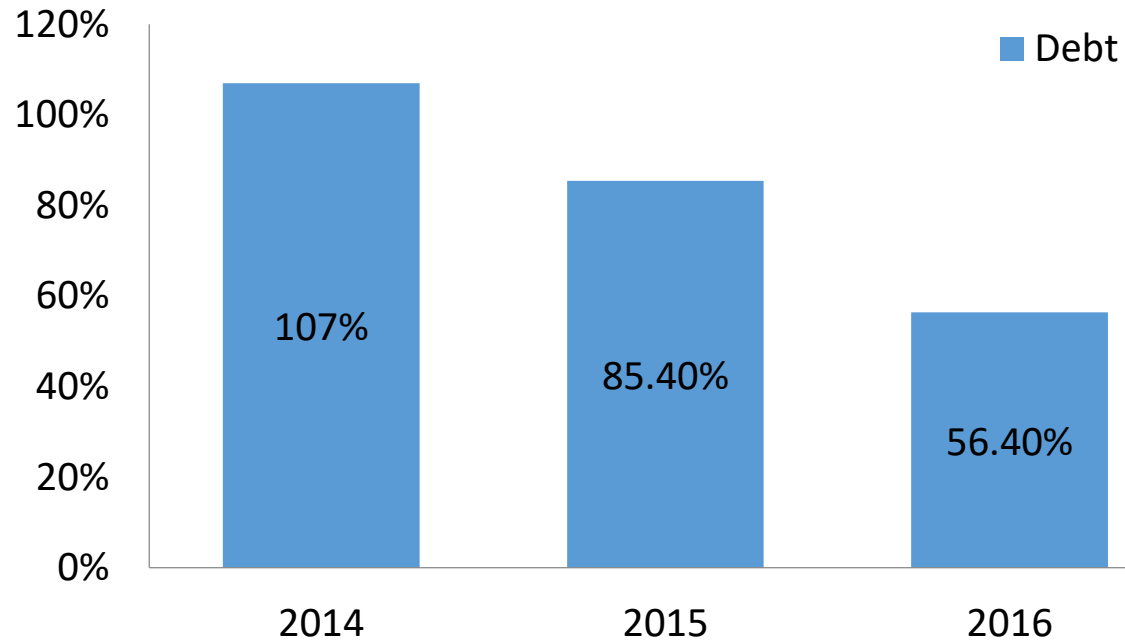
c) Demonstrate the economic and financial effectiveness of the project

Revenue & Profit, November 2017

Total Asset	Revenue	Profit	Net Profit
78 Million USD	24 Million USD	1 Million USD	1 Million USD

Yongin Sewage Treatment BTO Project

Debt Ratio



Source: <http://www.catch.co.kr/Comp/CompInfo.aspx?CompID=481565>



d) Be replicable and scalable

Policy Replicability

- **Government Support** : The Ministry of Environment of Korea encourages the facilities for environmental recycling and disposal to be installed underground and build community facilities on top of the facility
- **Policy Support** : Increasing number of cities and regional governments tend to make the installation of community facility as mandatory in the ordinance on installation and management of environmental recycling and disposal facilities
 - To cope with a negative public perception towards such environmental facilities

Domestic Replicability

- Through both government and policy support, the case of Yongin Sewage Treatment is expected to be replicable to other cities of Korea

International Replicability

- Since Yongin Sewage Treatment fulfills both needs for environmental sustainability and safe sanitation and demands on community facilities, similar projects may be replicated in other cities of developing countries with similar condition.

Yongin Sewage Treatment BTO Project





e) Engage all stakeholders

Role of Stakeholders

- **Public** : Support through 1) policy and subsidies for 2) land acquisition and 3) construction
- **Private** : 1) Design, 2) Finance, 3) Build, 4) Operate and 5) Maintain

General Public

- By providing community facilities, which includes favorable facilities such as venues for various sports, observatory and auditorium and offering education in regard to the mechanism and importance of sewage treatment system, Yongin Sewage Treatment has been successfully engaging general public and generated positive feedback from the local community.

Yongin Sewage Treatment BTO Project



Case 33

Korea (Republic of)

Energy Sector

Waste-to-Energy Project

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Seoul Metropolitan Area(SMA) Landfill Gas Resource Project
Project Proponent:	Ministry of Environment of the Government of the Republic of Korea
Project Organization:	Ecoenergy



Ministry of Environment

Public Organization: Ministry of Environment of the Government of the Republic of Korea

Private Organization: Kimpo Energy (now Ecoenergy)

Capital Providers: Equity (25%): Korea Infrastructure Fund 30%, Ecoenergy Holdings 70%
Debt (75%): IBK 60%, Korea Infrastructure Fund 40%

- Why is this project a Case Study for People First PPPs:**
- The use of gases containing 50% methane gas (CH₄) as power generation fuel has contributed to preventing contamination of the surrounding environment and combating global warming through the reduction in greenhouse gases.
 - Use of LFGs as fuel has generated energy import substitution effects of approximately KRW 40 billion (US\$37 million) per year (equivalent to 500,000 barrels of crude).
 - The project's timely implementation, without additional costs such as construction subsidies has resulted in economic gains, including the financial contributions from the operating revenues.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

<p>1) Where</p>	<ul style="list-style-type: none"> • Location : 53 Baekseok-dong, Seo-gu, Incheon, Republic of Korea (15,410,000 m^2) • Population : 2,951,442 (March, 2018)
<p>2) Why</p>	<ul style="list-style-type: none"> • To develop new energy resources and improve the quality of the surrounding environment. • To generate energy substitution effect and economic value-added through electricity production.
<p>3) What</p>	<ul style="list-style-type: none"> • Power generation facilities designed to capture LFGs from the landfill sites and convert them into electric energy. <ul style="list-style-type: none"> - Power facilities: One 50MW steam turbine - Lot Size: 38,000m^2 - Electricity Transmission: One three-phase circuit (154 KV)
<p>4) Who</p>	<ul style="list-style-type: none"> • Ministry of Environment of the Government of the Republic of Korea, Kimpo Energy (now Ecoenergy) <ul style="list-style-type: none"> - The SMA Landfill Site Management Corp. was made responsible for installing and equipping LFG collection facilities, while the project company was tasked with management and maintenance.
<p>5) When</p>	<p>Request for Proposal (RFP) Announced (October 2, 2000) Concession Agreement Concluded (March 21, 2003) Construction Period: 33 months (March 8, 2004 - December 15, 2006) Operation Period: 132 months (March 7, 2007 - March 6, 2018)</p>

**Seoul Metropolitan Area(SMA)
Landfill Gas Resource Project**





Seoul Metropolitan Area(SMA) Landfill Gas Resource Project

a) Increase access to essential services and promote equity

- The project developed new energy resources and improved the quality of surrounding environment.
 - Removed the root of stench and created pleasant environment for public.
- SMA Landfill Gas Resource project created jobs and boosted investment in environmental technology development.
- The project supplied electricity to approximately 180,000 households with landfill gases (LFGs) generated from the waste of Seoul Metropolitan Area.





b) Develop a resilient infrastructure and improve environmental sustainability

Atmospheric Pollution Reduction and Energy Resource Substitution

- The Landfill Gas Resource Project involves collecting LFGs, incinerating unnecessary components in an incinerator, and transmitting the usable gas for use as generation fuel to produce usable electricity for sale.
- By collecting landfill methane for power generation and heating, landfill gas development facilities reduced chemicals that are responsible for the greenhouse effect.

Seoul Metropolitan Area(SMA) Landfill Gas Resource Project

Methane Recovery from Managed Landfills

Year	1998	1999	2000	2001	2002	2003	2004
Amount Recovered	56,305	62,490	64,511	45,547	50,789	47,786	102,039
Year	2005	2006	2007	2008	2009	2010	2011
Amount Recovered	102,015	104,369	134,867	137,819	131,818	137,058	138,712



- The substitution equivalent of 2.67 million drums of crude oil was achieved through operation from 2007 to 2013.



c) Demonstrate the economic and financial effectiveness of the project

Financial Success and Government Cost Reduction

- Using LFGs as fuel has generated energy import substitution effects of approximately KRW 40 billion per year (equivalent to 500,000 barrels of crude oil).
- The MRG clause requires government to make up the difference if the project company's actual revenues fall below 90% of the project revenue, and allows government to redeem the difference if actual revenues exceed 110% of the projections. Despite the MRG clause, during the project's completion date between 2007 and 2013 the government was never required to compensate for any shortfall.
 - The surplus exceeding 110% of projected revenues has contributed constantly to the Ministry of Environment's budget.
- The initial project investment by the private sector was KRW 95 billion (US\$89 million), and as of 2012, the Korean government had redeemed additional KRW 97 billion (US\$90.7 million) from the project revenue surplus, saving approximately KRW 2 billion (US\$1.7 million) for the government.

Seoul Metropolitan Area(SMA) Landfill Gas Resource Project





d) Be replicable and scalable

Replicable in Overseas Business

- Seoul Metropolitan Area (SMA) Landfill Site Management Corporation has contributed to the dissemination of Korean environmental technologies across the world by sharing its knowhow in operating the SMA landfill site in an environmentally friendly manner and providing educational programs to developing countries.

Seoul Metropolitan Area(SMA) Landfill Gas Resource Project



Level of Cooperation	Country
Bilateral MOU	Hawaii, Columbia, Peru, Sudan, Angola, Mozambique, South Africa, Cambodia, Vietnam, China, Philippines
Master plan/feasibility study	Hawaii, Angola, Tanzania, Mozambique, South Africa, Pakistan, Sri Lanka, Cambodia, Uzbekistan, Russia, Vietnam, Philippines, Indonesia, Australia
Facility construction/operation plan	Columbia, Sri Lanka, Vietnam, China





e) Engage all stakeholders

Government

- The government selected a preferred bidder via a public announcement for the basic plan on SMA Landfill Gas Resource Project.
- Ministry of Environment and Korea Environment Corporation conducted an initial analysis of the project's feasibility (June, 2000).
- Ministry of Planning and Budgeting (currently Ministry Strategy and Finance) made the decision to support the project as a PPP project (September, 2000).

KDI PIMAC

- The PICKO (former body of PIMAC) conducted an examination of the project (2001) and participated in selecting and assessing preferred bidders afterwards.
- PIMAC assisted throughout the PPP process, providing feasibility examinations, negotiation, and evaluation services along with future management plans after the operation period ends.

Private

- Kimpo Energy (now Ecoenergy) was responsible for installing and equipping collection facilities as the project company.
- The project company generated profits from sales of electricity, but also bore revenue risks, operation and maintenance risks of the project.

User

- SMA Landfill Site Management Corporation has actively engaged with local community .
 - Dream Park Project: Eco-friendly project to restore the nature of the landfill site at the time of its closure and to form an environmental theme park while maintaining the functions of landfill facilities as much as possible.
 - Environmental, Cultural, and Sports Projects for Residents: Youth Soccer Lessons, Sports Facility Operation, Residents' Welfare Complex, Youth Golfer Support, and Baseball Lessons.

**Seoul Metropolitan Area(SMA)
Landfill Gas Resource Project**



Case 34

Lithuania

Education Sector

New Balsiai Progymnasium School

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	New Balsiai Progymnasium (Primary and secondary school)
Project Proponent:	Jekaterina Šarmavičienė, Head of PPP competence center, Lithuania
Project Organization:	Vilnius city municipality



Public Organization: Vilnius city Municipality

Private Organization: UAB Merko statyba and E.L.L. Kinnisvara AS consortium

Capital Providers: Subordinated debt (40 %) provided by Private partner and Bank loan (60 %).

The project has addressed the problem of accessibility of educational service for quickly growing remoted Vilnius city district . During the 20 years of development the Balsiai district did not have any school, although the population

New school project was initiated by the Balsiai habitant society, who promoted and negotiated the PPP idea to Vilnius municipality. The new school not only ensured the accessible and high quality educational training for Balsiai residents, but also became the centre of social, cultural and



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Where: Balsiai district (suburb) of Vilnius city, sector of primary and secondary education;

Why: During the 20 years of development the new “sleeping district” of Vilnius – Balsiai - did not have any local school, although the population was approaching 10 000 inhabitants.

What: Planning, construction and maintenance of new school building: Gross area 14,334 m²; net area 11,236 m², 3 floors and one underground floor, 50 well-lighted classrooms, two-storey library, a transformable dining hall, performance and sport halls. Sport grounds and a stadium, parking lot and a courtyard with roofed bicycle parking next to the school building.

Who:

- initiated by Balsiai community,
- tendered, signed and paid by Vilnius municipality
- planned, build and being maintained by private entity - SPV established by the Consortium of
- UAB “Merko statyba” and E.L.L. Kinnisvara AS
- supervised by Municipal enterprise “Vilnius construction company”

When:

- Project was developed in 2007;
- PPP tender was announced in 2009, December
- PPP agreement was signed in 2010, July
- School was opened in 2011, September
- Construction and maintenance period – 25 years

Balsiai progymnasium





a) Increase access to essential services and promote equity

Better accessibility to educational service for more than 1000 children, center for community sport, social and cultural life

- The project has significantly improved the access to primary and secondary education to the community of more than 10,000 inhabitants
- The project has created the environment for development of strong community and neighborhood, integrating and connecting people, children and adults
- The project has provided better condition for healthy and active life of local community
- The project has created the condition for small business and services development for Balsiai community

Balsiai progymnasium



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development



Balsiai school project has received the golden medal award “Lithuanian construction project 2011” from the Industry confederation and became the winner of the Sustainable development competition, organized in 2012 by Real estate development association of Lithuania

Balsiai progymnasium



UNECE 500 People First PPPs for the SDGs... *ending poverty, protecting the planet, and leaving no one behind*



c) Demonstrate the economic and financial effectiveness of the project

Financing sources:

- Capital financing: Subordinated debt (40 %) and Bank loan (60 %).
- The contractual capital value is 10,5 million Eur
- Annual payment: budget appropriation of the Vilnius Municipality
- Annual payment: 2 260 445 Euro

Availability type payment

The annual payment components :

- Construction
- Facilities (General Management , Waste Management, Cleaning, Security, Pest Control, Utilities Management)

Balsiai progymnasium





d) Be replicable and scalable

Vilnius since 1990 has experienced an intensive development of suburban districts of individual houses, remoted from the city and almost not connected by public transport to the city. Many people, especially young families with small children, moved to new houses, and now are facing the problem of accessible social and educational services at the places of living.

The problem of Balsiai district is similar for all recently developed suburban districts, lacking the accessible educational and leisure services. The popularity of new Progymnasium in Balisiai, the variety of additional non-formal training services, social activities, cultural activities, sport activities and services for children and adults developed and offered in and around the school building demonstrates the high demand for such services in the new growing communities.

School is closely cooperating with local community, hosts the Community center premises, Community library and Community events.

Balsiai progymnasium



Case 35

Lithuania

Police Infrastructure Development

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Optimisation of National police infrastructure
Project Proponent:	Jekaterina Šarmavičienė, Head of PPP Competence Center, Lithuania
Project Organization:	Police Department under the Ministry of Interior, Lithuania



Public Organization: Police Department under the Ministry of Interior, Lithuania

Private Organization: Investor –JV „Pilies projektai“, project SPV – JV „PPP projektas“.

Capital Providers: AB SEB bankas, loan 70 %; JV “Pilies projektai”, equity 30 %

Why is this project a Case Study for People First PPPs:

General context:

The assets and infrastructure used by Police department across the territory of Lithuania to perform the functions are old and out of date, maintenance is expensive and running costs are high. Due to the fact of decreasing population in Lithuania (meaning less of service recipients and tax payers), Police department faces the necessity to optimize the service, making it more mobile and flexible, bring it closer to people, make more reliable. Also it is the need to reduce the costs of service, to review the need for existing infrastructure and assets and to optimize the assets. Police department has launched the Service optimization program, which includes the construction, renovation or adaptation of infrastructure and assets to new service organization model. Three PPP projects in Vilnius, Kaunas and Panevėžys were approved.



288



First phase: IMPROVEMENT OF THE QUALITY OF PUBLIC SERVICES PROVIDED BY VILNIUS COUNTY POLICE HEADQUARTERS

- 1) **Where:** Vilnius, Capital city of Lithuania, 600 000 inhabitants, sectors of public safety;
- 2) **Why:** The Custody of Vilnius County Police Headquarters was located in the premises of a former monastery leased from the Ministry Culture. They are not suitable for the custody of the city due to their location, architectural, physical and moral aspects. The working conditions for police officers were below the hygienic norms. The City Police station was located in different leased premises, remoted from Custody. The infrastructure was out of date and not efficient, the costs of transportation and escorting of arrested persons were high.
- 3) **What:** Planning, Construction and Maintenance of new Police headquarter building together with Custody and provision of related services.
- 4) **Who:** Project initiator and Procuring Body – Police department under the Ministry of Interior, public consultants – Central Project Management Agency (PPP Competence center) and Agency „Invest in Lithuania“ and how were tasks, risks, responsibilities shared between public and private partners;
- 5) **When:**
 - Project designed - 2009
 - PPP approved – September 2011
 - Tender launched – September 2013
 - Partner selected – November 2015
 - Financial close – June 2016
 - Construction started – June 2016
 - Expected – June 2018
 - Maintenance period planned for 15 years

OPTIMISATION OF NATIONAL POLICE
INFRASTRUCTURE

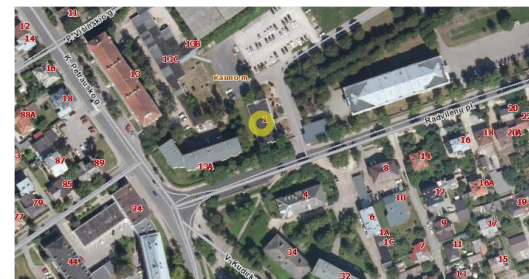




Second phase: IMPROVEMENT OF THE QUALITY OF PUBLIC SERVICES PROVIDED BY KAUNAS COUNTY AND PANEVĖŽYS POLICE HEADQUARTERS

OPTIMISATION OF NATIONAL POLICE INFRASTRUCTURE

- 1) **Where:** Kaunas, 500 000 inhabitants, Panevėžys, 200 000 inhabitants; sector of public safety
- 2) **Why:** The infrastructure of the police headquarter did not meet the requirements set for the activity of the territorial police units and the was inadequate for public services, provided by the police. The use of existing property was inefficient, high maintenance costs, inconvenient constructions causing non optimal use of space (from 2 to 23 square meter per person). The working conditions for police officers were below the standard norms.
- 3) **What:** Planning, Construction and Maintenance of new Police headquarters in Kaunas and Panevėžys. Selling part of existing building to generate revenue to repay investment
- 4) **Who:** Project initiator and Procuring Body – Police department under the Ministry of Interior, public consultants – Central Project Management Agency (PPP Competence center) and how were tasks, risks, responsibilities shared between public and private partners;
- 5) **When:**
 - Project designed: 2016
 - PPP approved: January 2017
 - Tender launched: May 2017
 - Partner selection expected by November 2018
 - Financial close expected by March 2019
 - Construction completion expected by March 2022
 - Maintenance period planned for 12 years





a) Increase access to essential services and promote equity

b) Develop a resilient infrastructure and improve environmental sustainability

Expected project results:

- better accessibility and quality of police service in Vilnius, Kaunas and Panevėžys
- better working conditions for employees
- more efficient use of property (30 % square meters less)
- effective performance and 25 % lower costs of police functions (reduced time for serving the visitors and increased time serving the citizens across the territory of cities, time savings for visitors)
- transportation and escorting time and transport costs savings
- improved safety and reliability of transportation and escorting
- guaranteed minimum conditions for the persons kept in custody

**OPTIMISATION OF NATIONAL POLICE
INFRASTRUCTURE**





c) Demonstrate the economic and financial effectiveness of the project

Payment type: availability payment

Vilnius: 52.209.491 (real) EUR, annual payment – 3.480.632 EUR

Kaunas (planned) – max. 20.446.826 EUR (NPV)

Panevėžys (planned) – max. 23.062.657 EUR (NPV)

Financial sources to support the project

- capital financing: AB SEB bankas, loan 70 %; JV “Pilies projektai”, equity 30 %
- annual payment: budget appropriation of the Police Department.

Public Sector Comparator assessment results:

- annual operational costs: 25 % less than present operational costs
- Area of buildings: 30 % less than present area
- Economic net present value – 26,4 %
- Economic benefits and cost ratio – 4,5

Risk sharing between the partners:

- Private partner accepts the construction and availability
- Public partner retains the demand risk
- Vilnius city project (first phase, already in construction) was classified as off-balance commitment for public sector

**OPTIMISATION OF NATIONAL POLICE
INFRASTRUCTURE**





d) Could be replicable and scalable

- Decreasing population and number of public service recipients, also migration from rural districts and small towns to the growing economic center creates the challenge for public service providers in Lithuania to adjust to the situation and to rearrange and optimize the service delivery models and infrastructure
- The possibility to attract private investors and partners allows to react to the changes more quickly, using the private capital at the moment of construction, selling the unused property after construction and generation the revenue to cover the partnership commitments
- Saved money (lower property maintenance and service delivery costs) allow to invest in better quality of services and better accessibility to all citizens

OPTIMISATION OF NATIONAL POLICE INFRASTRUCTURE



Case 36

Madagascar

Smart and Sustainable Cities Sector

Andrakaka Special Economic Zone

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Special Economic Zone Andrakaka, Madagascar
Project Proponent:	Thibaut Mourgues (tmourgues@4IPgroup.org)
Project Organization:	4IP Group



Public Organization: Economic Development Board Madagascar, M2PAT (Ministry for Large projects and Infrastructure)

Private Organization: EGIMS and others

Capital Providers: Private investors, banks and IFIs

Why is this project a case study for People First PPPs:

- new city project integrating all aspects of sustainable development
- renewable energy
- PPPs driven infrastructure scheme
- socially inclusive development





- 1) **Where:** region of Diego-Suarez, north of Madagascar. Main sectors: port, tourism, agriculture;
- 2) **Why:** untapped potential of the region; lack of funds from Government side and interest from international operators create a favorable context for a PPP approach.
- 3) **What:** development of Special Economic Zone through infrastructure:
 - 1) Airport
 - 2) Renewable energy (wind/solar)
 - 3) Business park
 - 4) Deep sea Port
 - 5) Social engineering work in the area

Economic activities would include tourism, agri-business and services (call centers, ship maintenance, finance and others) with emphasis on job creations and local empowerment

A total of 1 to 3 bn USD investment is expected in 5 years.
- 4) **Who:** project still in development stage (feasibility study)
- 5) **When:** first phase to be undertaken by 2019/20.

SEZ Andrakaka, Madagascar





a) Increase access to essential services and promote equity

- Affordable housing
- Access to electricity currently lacking will be guaranteed through wind (strong seasonal wind - varatraza) and solar power plants (from 10 MW in year 1 to 150 MW in year 5).
- Water treatment plant
- Creation of moderately qualified jobs (agriculture, tourism) prioritizing the local population (at least 7000)
- Creation of qualified jobs (3 000)
- Textile industry projects with Chinese investors could create 18 000 jobs

Social engineering fund funded by donors to invest in the social development of the area (25 M USD):

- Small size local infrastructure
- Creation of business activities for women, youth and impoverished population

**SEZ Andrakaka,
Madagascar**





b) Develop a resilient infrastructure and improve environmental sustainability

- Renewable energy up to 150 MW
- Increased focus on tourism will help protection of World Heritage Site and preservation of environment
- Agriculture will have a focus on sustainability and soil protection
- Public transportation network will be improved
- Green cities development

**SEZ Andrakaka,
Madagascar**





c) Demonstrate the economic and financial effectiveness of the project

- No financial involvement of the State
- Full private financing (up to 3 bn USD in 5 years)
- Interest of IFIs (conference of donors) to participate in the financial package
- Private investors have showed interest

Infrastructure budget:

- Port: 500 mln USD
- Airport: 300 mln
- Industrial zone: 100 mln USD
- New city (affordable housing, green zone): 250 mln USD
- Power: 100 mln USD

However detailed project analysis needs to be undertaken.

**SEZ Andrakaka,
Madagascar**





d) Be replicable and scalable

The project will affect the whole region of Northern Madagascar and will create a growth path trajectory at the national level.

New economic and industrial activities will be implemented with the development of the infrastructure.

- Textile
- Agribusiness (cotton, mango, litchis, ananas, maize, vegetables, ...)
- Naval maintenance
- Green Tourism
- Logistics
- IT
- Financial services
- Call centers

The project is managed:

- At the national level (Presidential administration, M2PAT, EDBM)
- At the local level (regional committee)
- With private developers (Egims)

**SEZ Andrakaka,
Madagascar**





e) Engage all stakeholders

- National authorities
- Local authorities
- Private developer has a mandate from Government to foster social inclusiveness of the project
- Social development fund to help gain support from local populations
- Environmental and social impact study to include all stakeholders
- Regular conferences covered by the press (latest February 2018)
- Interviews and news reports on national media to help lobby for the project

**SEZ Andrakaka,
Madagascar**



Case 37

Mali

Municipal Project

Covered Market



Project:	PROJET DE CONSTRUCTION DU MARCHÉ DE SABALIBOUGOU
Project Proponent:	MAIRIE DE LA COMMUNE V DU DISTRICT DE BAMAKO
Project Organization:	PUBLIQUE: AGENCE POUR LE DÉVELOPPEMENT RÉGIONAL DE BAMAKO; SERVICES TECHNIQUES DES COLLECTIVITÉS; DIRECTION RÉGIONALE DE LA PLANIFICATION ET DE LA STATISTIQUE
FOURNISSEURS DE CAPITAL:	PRIVEE: LA CHAMBRE DES COMMERCES ET D'INDUSTRIE DU MALI ET LE COMITÉ DE GESTION DU MARCHÉ DE SABALIBOUGOU



- **SECTEUR PUBLIC: 1,5 MILLIARDS DE FRANCS CFA (2,2 MILLIONS EUROS)**
- **SECTEUR PRIVÉ: 4,0 MILLIARDS DE FRANCS CFA (6,1 MILLIONS EUROS)**

ASPECTS LES PLUS IMPORTANTS DU PROJET:

- **AMÉLIORER LES CONDITIONS SANITAIRES ET DE SÉCURITÉ D'UN MARCHÉ IMPORTANT DE LA CAPITALE**
- **CRÉER UN ENVIRONNEMENT PROPICE À L'ÉMERGENCE D'ACTIVITÉS COMMERCIALES ET ÉCONOMIQUES**
- **CRÉER DES OPPORTUNITÉS SUPPLÉMENTAIRES D'EMPLOI**

PARTENARIAT GAGNANT-GAGNANT:

- **SUPPLÉER LE MANQUE DE RESSOURCES PUBLIQUES PAR DES RESSOURCES PRIVÉES POUR UN INVESTISSEMENT A PORTÉE SOCIALE ET ÉCONOMIQUE MAJEURE POUR LES 5 941 PERSONNES (4 193 FEMMES ET 1 748 HOMMES) DONT LE MARCHÉ CONSTITUE LA PRINCIPALE (ET PARFOIS LA SEULE) SOURCE DE REVENUS**



Project:

PROJET DE CONSTRUCTION DU MARCHÉ DE SABALIBOUGOU

CONTEXTE ET STRATÉGIE DU PROJET

LOCALISATION DU PROJET:

➤ LOCALISÉ DANS LE QUARTIER DE SABALIBOUGOU, EN COMMUNE V COMPTANT 60 000 HABITANTS. PRINCIPAUX SECTEURS ÉCONOMIQUES DE LA COMMUNE: COMMERCE; ARTISANAT, ÉLEVAGE, PÊCHE, CULTURE MARAÎCHÈRE

RAISONS DU PROJET:

- BESOIN D'AMÉLIORER LES CONDITIONS SANITAIRES, SÉCURITAIRES ET D'HYGIÈNE INADÉQUATES DU MARCHÉ, QUI EST IMPRATICABLE PENDANT LA SAISON DES PLUIES À CAUSE DE LA PRÉSENCE DE BOUE, D'EAUX STAGNANTES ET POLLUÉES ET DE DÉBRIS DIVERS. EN SAISON SÈCHE, LE MARCHÉ EST COUVERT DE POUSSIÈRE SOULEVÉE PAR LA CIRCULATION ROUTIÈRE À PROXIMITÉ
- BESOIN DE REDUIRE LES RISQUES POUR LA SANTÉ DES CLIENTS ET DES MARCHANDS

OBJECTIFS DU PROJET:

- DETERMINER LES HABITANTS D'UN QUARTIER COSMOPOLITE ET MULTI-ETHNIQUE D'UNE INFRASTRUCTURE MODERNE RÉPONDANT AUX NORMES SECURITAIRES ET SANITAIRES
- AMÉLIORER LES PERSPECTIVES DE GÉNÉRATION DE REVENUS POUR LA COMMUNE V, LES COMMERCANTS, ET LE PARTENAIRE PRIVÉ

ACTEURS DU PROJET: SECTEUR PUBLIQUE (MISE À DISPOSITION DU TERRAIN, FINANCEMENT PARTIEL, PRÉSERVATION DE L'ASPECT SOCIAL EN FAVORISANT L'ACCES AUX MARCHANDS LES PLUS VULNERABLES); SECTEUR PRIVÉ: FINANCEMENT, EXPLOITATION, MAINTENANCE; COMMERCANTS

DATES DU PROJET:

- PLANIFICATION DU PROJET EN AVRIL 2017; APPROBATION DU GOUVERNEMENT OBTENUE EN JUILLET 2017
- RÉALISATION ET LIVRAISON DU PROJET EN 24 MOIS
- PÉRIODE D'EXPLOITATION ET DE MAINTENANCE: 28 ANS



Project:

PROJET DE CONSTRUCTION DU MARCHÉ DE SABALIBOUGOU

A) UN PROJET QUI ACCROÎTRA L'ACCÈS AUX SERVICES ESSENTIELS ET L'ÉQUITÉ

- LE PROJET AMÉLIORERA LES CONDITIONS DE VIE DE LA PEPULATION DE SABALIBOUGOU ET D'AUTRES QUARTIERS ENVIRONNANTS, EN PARTICULIER CEUX ENGAGÉS DANS LES ACTIVITÉS COMMERCIALES.
- IL AMÉLIORERA LES CAPACITÉS DE GÉNÉRATION DE REVENUS DES FEMMES SANS DISTINCTION ETHNIQUE
- IL FAVORISERA L'INSTAURATION D'UN CLIMAT DE CONFIANCE ENTRE LA MUNICIPALITÉ ET LA POPULATION EN MATIÈRE DE COLLECTE DE TAXES ET REDEVANCES EN LIGNE AVEC LEURS CAPACITÉS
- IL PERMETTRA À LA MUNICIPALITÉ D'AUGMENTER SES RESSOURCES FISCALES FACILITANT AINSI SA CAPACITÉ D'ACCROITRE LA QUANTITÉ, LA QUALITÉ ET L'OFFRE DE SERVICES SOCIAUX AUX POPULATIONS EN MATIÈRE D'ACCÈS À L'EAU POTABLE, À L'ÉLECTRICITÉ, AUX SOINS DE SANTÉ, À L'ASSAINISSEMENT ET À L'ÉDUCATION, PARTICULIÈREMENT POUR LES COUCHES LES PLUS VULNERABLES



Project:

PROJET DE CONSTRUCTION DU MARCHÉ DE SABALIBOUGOU

B) UN PROJET QUI DÉVELOPPERA UNE INFRASTRUCTURE RÉSILIENTE ET AMÉLIORERA LA GESTION DE L'ENVIRONNEMENT

➤ LE PLAN D'AMÉNAGEMENT DU NOUVEAU MARCHÉ PRÉVOIT QUE 70% DES SURFACES A AMÉNAGER SERONT POUR LES ACTIVITÉS MENEES PAR LES FEMMES POUR LA VENTE DE PRODUITS FRAIS. LE BÂTIMENT SERA RÉALISÉ AVEC UN MATÉRIAU LOCAL (BRIQUE D'ARGILE COMPRIMÉ) QUI OFFRE UNE INERTIE THERMIQUE ADAPTÉE AU CLIMAT DU MALI (DIFFÉRENCE DE TEMPÉRATURE DE 3° - 4°C AVEC LE CIMENT), EST MOINS COÛTEUX, PRÉSENTE UNE ESTHÉTIQUE INTÉRESSANTE ET EST FACILEMENT DISPONIBLE. IL EST ESCOMPTÉ QUE CETTE APPROCHE RÉDUIRA SIGNIFICATIVEMENT L'EMPREINTE CARBONNE DE L'INFRASTRUCTURE.

➤ DES GUICHETS ET KIOSQUES DE CAISSES D'ÉPARGNE CONVENTIONNELLES OU TRADITIONNELLES (TONTINES) DESTINÉS A GLANER L'ÉPARGNE DES FEMMES ONT ÉTÉ PRÉVUS ET SERONT OPÉRATIONNELS À L'OUVERTURE DU NOUVEAU MARCHÉ

➤ LE PLAN D'AMÉNAGEMENT DU MARCHÉ PRÉVOIT ÉGALEMENT UNE GARDERIE D'ENFANTS AFIN DE PERMETTRE AUX COMMERCANTS COMME AUX CLIENTS DE CONFIER EN TOUTE SÉCURITÉ LEURS ENFANTS PENDANT LEUR TEMPS DE PRESENCE AU MARCHÉ

➤ SUR LE PLAN SANITAIRE, IL EST PRÉVU UN LABORATOIRE POUR VÉRIFIER ET ANALYSER LA QUALITÉ DES PRODUITS AVANT LEUR MISE EN VENTE. UN SERVICE DE NETTOYAGE JOURNALIER DE HAUTE QUALITÉ SERA INCLUS DANS LES CRITERES DE PEFORMANCE DU PARTENAIRE PRIVE, DE MÊME QUE L'ASSAINISSEMENT GÉNÉRAL DU MARCHÉ.



Project:

PROJET DE CONSTRUCTION DU MARCHÉ DE SABALIBOUGOU

C) UN PROJET QUI DÉMONTRERA SON EFFICACITÉ ÉCONOMIQUE ET FINANCIÈRE

- LES FONDS PROPRES DE LA COMMUNE SONT DE 500 MILLIONS DE FRANCS CFA DONT LE VERSEMENT SERA ÉTALÉ SUR 3 ANS POUR LA PHASE DE RÉALISATION DU PROJET. L'APPORT DU PARTENAIRE PRIVÉ POUR LE PROJET EST PREVU D'ÊTRE DE 4,0 MILLIARDS POUR LA PHASE RÉALISATION DES TRAVAUX, CE MONTANT DEVRAIT ÊTRE GARANTI PAR L'ÉTAT MALIEN
- L'APPORT DE L'ÉTAT POUR LE PROJET EST DE 1,0 MILLIARD POUR LA PHASE DE RÉALISATION DES TRAVAUX.
- LE REMBOURSEMENT SERA ÉTALÉ SUR UNE PÉRIODE DE 28 ANS.
- LES RECETTES ANNUELLES ACTUELLES DU MARCHÉ SONT DE 18 MILLIONS DE FRANCS CFA
- LES RECETTES ANNUELLES PROJETÉES APRÈS LA CONSTRUCTION DU NOUVEAU MARCHÉ SONT ESTIMÉES À 500 MILLIONS DE FRANCS (SOURCE ADR-BAMAKO).



Project:

PROJET DE CONSTRUCTION DU MARCHÉ DE SABALIBOUGOU

D) UN PROJET QUI SERA RÉPLICABLE ET ÉVOLUTIF

- LE PROJET POURRAIT ÊTRE REPRODUIT DANS D'AUTRES COMMUNES DE BAMAKO ET EVENTUELLEMENT DANS DES RÉGIONS ET CERCLES DU MALI, ÉTANT DONNÉ LE BESOIN IMPORTANT DE RENOVATION DE MARCHES À TRAVERS TOUT LE PAYS,
- LE PROJET POURRAIT INFLUENCER POSITIVEMENT LES ÉCHANGES ENTRE SECTEURS ECONOMIQUES, EN PARTICULIER L'ARTISANAT, LA PÊCHE, L'ÉLEVAGE, LA CULTURE MARAÎCHÈRE, LE TRANSPORT, ETC.
- LE MARCHÉ DE SABALIBOUGOU EST ACTUELLEMENT GÉRÉ PAR UN COMITÉ DE GESTION DU MARCHÉ COMPOSÉ DES REPRÉSENTANTS DES COMMERCANTS DU MARCHÉ. CE COMITÉ POURRAIT JOUER UN IMPORTANT RÔLE DE FACILITATION AUPRÈS DE LA COMMUNE V ET DU PARTENAIRE PRIVÉ DANS LA GESTION DU FUTUR MARCHÉ



Project:

PROJET DE CONSTRUCTION DU MARCHÉ DE SABALIBOUGOU

E) LE PROJET ENGAGERA TOUTES LES PARTIES PRENANTES

➤ SÉRIES DE RENCONTRES ET CONCERTATIONS ENTRE TOUTES LES PARTIES PRENANTES À SAVOIR L'AGENCE POUR LE DÉVELOPPEMENT RURAL (ADR), LE GOUVERNEUR DU DISTRICT DE BAMAKO, LE MAIRE DE LA COMMUNE V, LE COMITÉ DE GESTION DU MARCHÉ ET LES REPRÉSENTANTS DE LA POPULATION

➤ CREATION D'UNE COMMISSION DE TRAVAIL COMPOSÉE DES PARTIES PRENANTES AFIN DE DÉFINIR LES STRATÉGIES DE MISE EN ŒUVRE DU PROJET. AU TRAVERS DE CONSULTATIONS PUBLIQUES (PHOTOS CI-DESSOUS), UN PLAN D'OCCUPATION DU NOUVEAU MARCHÉ A ÉTÉ ÉLABORÉ ET ADOPTÉ. CE PLAN PRIORISE LES ACTUELS OCCUPANTS DU MARCHÉ COMPOSÉS À 70% DE FEMMES.



Case 38

Mauritius

Energy Sector

Landfill Gas to Energy Project



Project:	Landfill Gas to Energy Project in Mauritius
Project Proponent:	Mr. D. Khoodeeram, Acting Head BOT Projects Unit, Procurement Policy Office, Mauritius
Project Organization :	Ministry of Social Security, National Solidarity, and Environment and Sustainable Development (Environment and Sustainable Development Division) (Solid Waste Management Division)

Public Organization: Ministry of Environment and Sustainable Development (Solid Waste Management Division)

Private Organization: Joint Venture Sotravic/Eneotech (The Project Developer, as well as the Contractor operating the landfill)

Capital Providers: Joint Venture Sotravic/Eneotech supported by Local Commercial Banks

Why is this project a Case Study for People First PPPs

An unavoidable consequence of landfilling operations is the generation of Landfill Gas (LFG) which is composed of Greenhouse Gases (GHGs) – about 50% methane, carbon dioxide and other constituents. Given the high potential of the LFG to cause global warming and risks of explosion at the landfill, the LFG needs to be managed properly.

The Mare Chicose Landfill is the sole landfill in Mauritius, and the traditional way of managing LFG generated therein has been through the flaring of the LFG, which is basically the combustion of the methane gas into carbon dioxide which results in a lower global warming potential. Business as usual would have been a continuation of this practice, until a feasibility study for enhancement of LFG capture and setting up of a Landfill Gas to Electricity Plant demonstrated that such a project would bring about environmental and socio-economic benefits to Mauritius.





Why is this project a Case Study for People First PPPs (Cont'd...)

The PPP scheme has enabled the Private Sector (the landfill Contractor) to conduct a Feasibility Study backed by testing to demonstrate the viability of electricity generation from LFG. The culmination of this study has been the submission of a proposal from the Private Sector to Government for

- Injection of private funds to enhance capture of LFG & setting up of a Landfill Gas to Electricity Plant at the landfill
- Production of electricity for sale to the Central Electricity Board (CEB);
- Trading of avoided Carbons, known as Certified Emissions Reductions (CERs), on the world market in order to bring further revenues to both parties and to make the project financially sustainable; and
- Registering the project under the Clean Development Mechanism (CDM) of the Kyoto Protocol.

The setting up of a Landfill Gas to Energy Plant was a first of its kind in Mauritius. Given the uncertainties and risks associated with the project, it was considered appropriate to develop the project under a concession scheme to create a win-win situation, whereby the Private Sector would bear the technical and financial risks of the project and accrue revenues through the sale of electricity and CERs. On the other hand, Government was able to provide an enhancement in environmental protection through reduced emissions of GHGs and also financially benefitted from the project through the sharing of revenues accrued from the sales of CERs. Proceeds from sales of CERs were shared in the percentage 67.5 % (Developer) : 25% (Government) : 7.5% (CEB)

Landfill Gas to Energy Project in Mauritius





Where: The Project is based at the Mare Chicose landfill, which is the sole ultimate solid waste disposal facility in Mauritius, located in the south-east region of the country. The landfill serves the whole population of Mauritius (1.3 Million), including commercial and industrial sectors.

Why: The Mare Chicose landfill started its operation in 1997, with the inevitable generation of LFG, which has been traditionally flared to minimise emission of GHGs into the atmosphere. Even though the landfill contracts have the necessary provisions (installation of gas wells, pipeline system, pumps and gas flares) for abstracting and flaring of the LFG, there was no guarantee that a reasonable portion of the LFG was being captured and destroyed. Moreover, the reduction in air pollution could not be ascertained as it was not visible. A far better way to manage the LFG would be by using it as a renewable resource to produce electricity.

The Feasibility Study of the project included a modelling of the LFG generation with its characterization and potential to produce power for sale. It was demonstrated that the abstraction of the LFG and power generation were intertwined, i.e. the better the quality of the LFG extracted (higher methane content), the more power could be produced, which would in turn bring more revenue. Therefore, the LFG was no more regarded as a nuisance but rather as a valuable resource.

The fuel for power generation, i.e. the LFG, was provided in the first instance free of charge to the Developer against all capital investments to enhance capture of the LFG and setting up of the Landfill Gas to Energy Plant. However, revenues accrued from the sales of CERs would be shared. This type of contractual arrangements, involving optimum risk sharing fully fell within the ambit of a PPP solution.

What: The Project was favoured by Government as it would meet the following main objectives:

- To increase the amount of LFG captured (closer to the theoretical LFG generation model) and destruction of same in combustion chambers of high efficiency in view to reduce emissions of GHGs;
- To earn revenues from the sale of CERs; and
- To increase the share of power generation from local fuel sources in view to save on the country's foreign currency reserves;

Landfill Gas to Energy Project in Mauritius



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

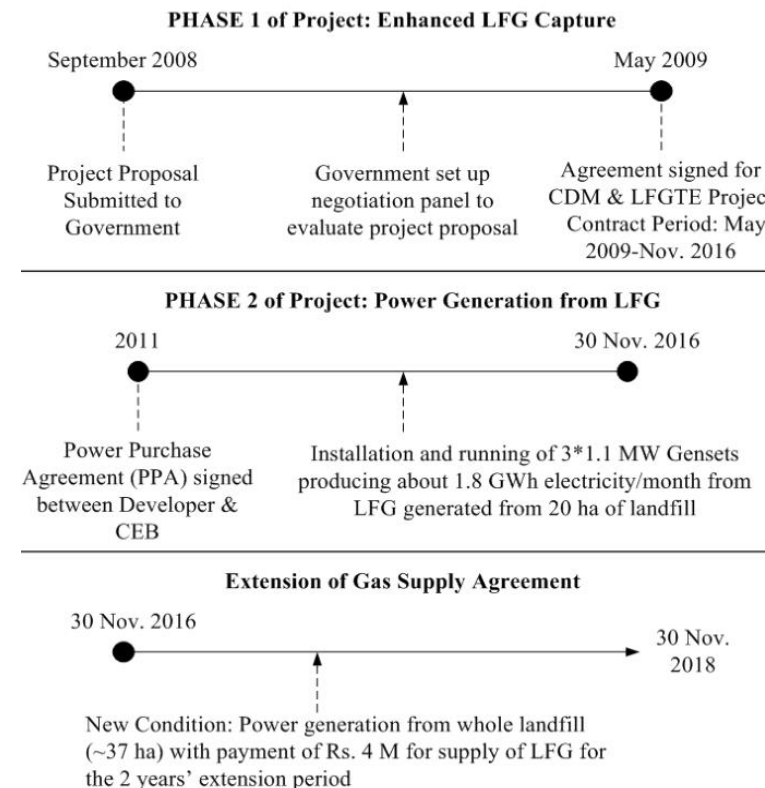
Who: (1) Ministry of Environment: Owner of the Landfill and its contents, including the waste and the LFG. The Ministry has the responsibility to provide the infrastructure (through the landfill Contractor) for waste disposal including basic pipelines and pumping works to abstract the LFG.

(2) The Developer: JV Sotravic/Eneotech, who is also the landfill Contractor. The Developer has through its own investment (i) enhanced LFG extraction (ii) provided, installed and run 3 x 1.1 MWe Generators for power generation (iii) recruited consultants for registering the Project under the Kyoto Protocol with regard to Climate Change.

When: The first phase of the Landfill Gas to Energy project, was related to the first 20 ha of the Landfill, and started in 2009 following the proposal received from landfill Contractor. The project was therefore implemented through direct procurement with the existing landfill Contractor (following negotiations). At that time, it was deemed appropriate to have the Contractor servicing the Landfill (including landfill gas management) to be the Developer for power generation as the two components were intertwined.

The Contract for the Landfill Gas to Energy project will come to an end on 30 November 2018. It is being envisaged that a Second Landfill Gas to Energy Project will be implemented to capture LFG from the entire landfill for power generation. The procurement will be on a competitive basis, whereby the selling price of the LFG may be fixed and the bidder offering the lowest per KWh price per unit of electricity will be retained.

Landfill Gas to Energy Project in Mauritius





a) Increased access to sustainable power

Mauritius has been 100% electrified since 1982. However, it is important to note that over 80% of the electricity produced by the CEB is from fossil sources (coal and oil). The balance of 20% is from renewable sources such as bagasse (14%) and other sources (solar, hydro, landfill gas & wind) amount to about 6%. Ensuring access to electricity in a sustainable manner and at affordable prices imply increasing the share of local renewable energy production.

Generation of electricity from landfill gas is considered as 'green energy' as the fuel, i.e. the landfill gas is generated over the lifetime of the landfill, and therefore can be considered as a renewable resource. The Landfill Gas to Energy Project, has been contributing about 100 GWh electricity to the CEB grid since 2011. This positive contribution to the CEB grid has enabled the CEB to meet the power demand of the population and industries, reduce its dependence on the import of fossil fuels, thereby minimising depletion of the country's foreign currency reserves and mitigating the effects of global warming due to reduced combustion of fossil fuels. The setting up of the Landfill Gas to Energy Plant in Mauritius has also created about 10 direct green jobs to local people.

b) Enhanced Equity in Electricity Production in Mauritius

The CEB is a parastatal body responsible to 'prepare and carry out development schemes with the general objective of promoting, coordinating and improving the generation, transmission, distribution and sale of electricity'.

It has the role of a Regulatory Agency as well as a Producer and Buyer of electricity. The CEB produces around 40% of the country's total power requirements from its 4 thermal power stations and 8 hydroelectric plants; the remaining 60% being purchased from Independent Power Producers (IPPs) such as solar and wind farms.

Equity in the production of electricity may be achieved by further increasing the share of IPP projects in Mauritius e.g. through the Landfill Gas to Energy Project, which is also a form of IPP.

From a holistic point of the view, the Landfill Gas to Energy Project has brought about socio-economic benefits to the small Island of Mauritius, as well as enhanced environmental stewardship.

Landfill Gas to Energy Project in Mauritius

13 CLIMATE ACTION



7 AFFORDABLE AND CLEAN ENERGY





c) The Landfill Gas to Energy Plant as a resilient infrastructure to improve environmental sustainability

The PPP Scheme has created the necessary conducive contractual arrangements to encourage the Private Sector to:

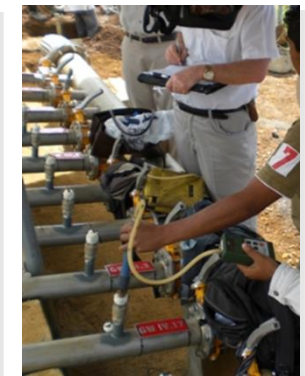
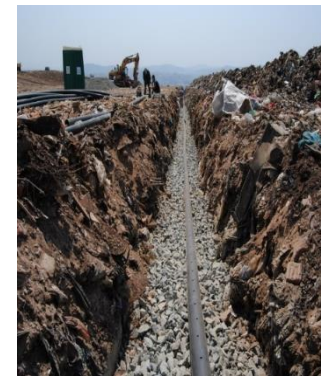
- Enhance the design capacity of the landfill gas abstraction system to increase capture of LFG; and
- Build the system in a durable manner to avoid operational /maintenance issues during execution that could adversely affect power generation, hence, revenues e.g. by reducing downtime.

The Landfill Gas to Energy Plant, together with its gas collection system is considered to be resilient for the following reasons:

- Adequacy of LFG supply as proved by modelling.
- Adequate design and robustness of system (wells, pipeline, pumps, control equipment, etc.)
- Traceability: As the project is registered under the UNFCCC, carbon emissions are quantified and validated before they are sold (thus known as Certified Emissions Reductions, CERs)

The amount of CERs achieved annually is a **Key Performance Indicator (KPI)** of the project. For instance, CERs sold in 2014 and 2015 were 86,228 tons and 83,352 tons of Carbon Equivalent respectively.

Landfill Gas to Energy Project in Mauritius



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

d) Economic and financial effectiveness of the Landfill Gas to Energy Project in Mauritius

The project has resulted in a win-win situation for both the private Developer and the Government of Mauritius (and its public). The economics of the project, with indicative values, is summarised below:

	Developer	Government
Costs	Capital investment: Rs 160 Million	Virtually zero investment costs on this project (except provision of gas abstraction system infrastructure under existing landfill contracts)
	Rs 30 Million: Upgrading of LFG capture system	
	Rs 5 Million: Registration of Project under UNFCCC including Consultancy Services	
	Rs 125 Million: Installation of 3 x 1.1 MW Gensets, step up transformers and control room	
	O&M costs: assumed Rs 20 Million per year as from 2011	
	For O & M of power generation plant including labour, consumables, maintenance and repairs	
	Supply of LFG: Rs 4 Million for 2 years' extension period as per revised Agreement	

IRR ≈ 30%

	Developer		Government of Mauritius			
Revenues	Sale of electricity at a rate of Rs 4.50/kWh		Sharing of proceeds from sales of CERs in the proportion of 25%			
	Year	Approximate Power Generated (kWh)	Revenue (Rs, Million)	Year	CERs (tons eq)	Estimated Revenue (Rs, Million)
	2011	6,000,000	27	2011	30,000	2.7
	2012	13,000,000	58.5	2012	80,000	7.3
	2013	20,000,000	90	2013	80,000	7.3
	2014	20,000,000	90	2014	86,000	7.8
	2015	20,000,000	90	2015	83,000	7.6
	2016	15,000,000	67.5	2016	70,000	6.4
	2017	13,000,000	58.5	2017	70,000	6.4
		Sale of CERs to Swedish Energy Agency		The revenue from sale of CERs is directed to the Government's consolidated fund which is used to finance other waste management or environmental protection projects.		
Year	Approximate CERs sold (tons carbon eq)	Revenue (Rs, Million)				
2011	30,000	7.4	Revenue of about Rs 4 Million for supply of LFG over a two-year extension period. Intangible socio-economic benefits as described in previous slides			
2012	80,000	19.7				
2013	80,000	19.7				
2014	86,000	21.2				
2015	83,000	20.4				
2016	70,000	17.2				
2017	70,000	17.2				
	Scrap value of Plant after end of Contract in Nov 2018: Rs 12.5 Million (assumed 10% of capital investment of Plant)					
	Enhanced corporate image due to initiative contributing towards environmental stewardship					

Note: 1 USD ≈ Rs 33.50

Landfill Gas to Energy Project in Mauritius





e) Replicability and Scalability of the Landfill Gas to Electricity Project

The expertise to convert LFG to electricity is a specialised one and there is definitely no room for amateurism. The equipment are expensive and professional staff are required to set up and run a project. Usually, this is conducted through a PPP agreement, whereby the technical and financial risks are borne by the selected competent Private Party.

Although the investment to set up and run a Landfill Gas to Energy Plant may seem quite high (in the order of 2 to 4 million USD), it may require no additional investment from the Government or the Owner of the Landfill. If the selling price of the electricity is not too low, the revenue to be earned by the project may be adequate to cover the initial capital investment, operation & maintenance costs and allow a reasonable return on investment for the developers.

Landfill Owners or Governments could stimulate the development of landfill gas to energy projects through the following measures:

- Issue of Request for Expression of Interests to attract Developers to invest and run Landfill Gas to Energy Plants;
- As far as possible, ensure that the landfill is fitted with basic infrastructure to prevent escape of LFG into the atmosphere, e.g. timely capping of wastes cells;
- Compilation of data on quantity and quality of wastes to enable the preparation of gas generation modelling exercise as part of the project feasibility study;
- Consider selling the LFG to developers so as to sustainably recoup on investment made for the infrastructure/equipment for abstracting the LFG such as wells, pipeline and pumps;
- Furthermore, Governments may come up with a scheme to encourage the production of electricity from renewable sources with associated financial incentives.

All in all, it is believed that the project of converting LFG to electricity is easily replicable provided that Governments and Landfill Owners have the will power to undertake some preparation works to attract competent developers and to have commitment towards environmental stewardship

The scale of the project will normally depend on the landfill size and LFG (both in terms of quality & quantity) being generated therein. A feasibility study with a realistic LFG generation modelling exercise will serve as a baseline for the optimum design of the Plant. The Plant may be upgraded/downscaled (e.g. through addition or removal of the power generators units) over time as per the design.

Landfill Gas to Energy Project in Mauritius



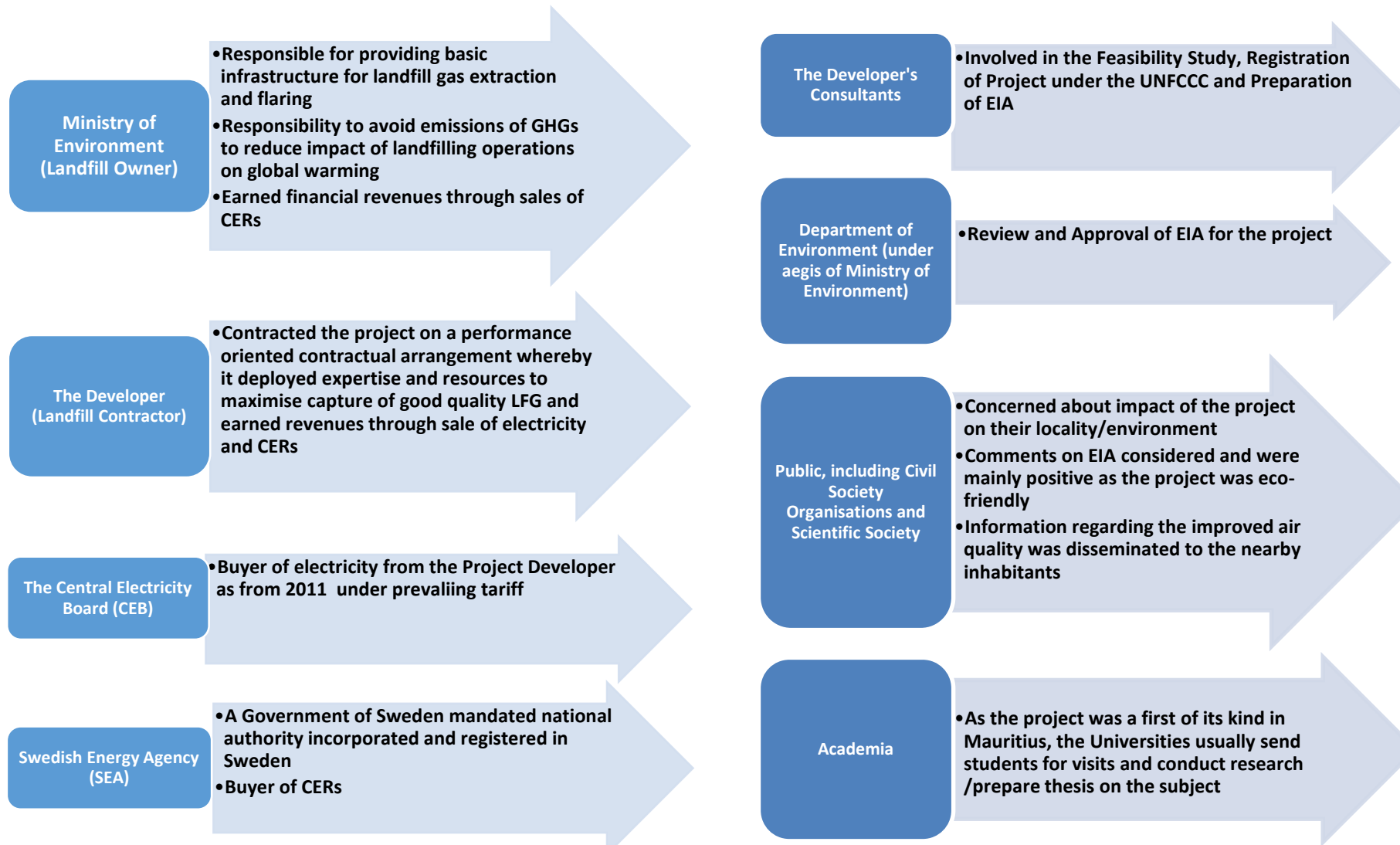
International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

f) Engagement of Stakeholders



Landfill Gas to Energy Project in Mauritius



Case 39

Mexico

Water Sector

El Realito Aqueduct

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	El Realito Aqueduct (México)
Project Proponent:	State Water Commission of San Luis de Potosí (CEA-SLP) - Metropolitan inter-municipal water, sewerage, sanitation and related services body (Interapas)
Project Organization:	AQUOS El Realito

Public Organization: State Water Commission of San Luis de Potosí (CEA-SLP) - Metropolitan inter-municipal water, sewerage, sanitation and related services body (Interapas)

Private Organization: SPV: **AQUOS El Realito** (a joint venture of Aqualia, Gestión Integral de Agua S.A. (44%), Aqualia Infraestructuras S.A. (5%), Conoisa (50.999%) and Servicios de Agua Trident S.A (0.001%)); **Contractor EPC:** Ciapsa (a joint venture of Aqualia Infraestructuras (24.5%), FCC Construcción (24.5%) and ICA (51%)); **Contractor O&M:** Aqualia (15%), ICA (15%) and Proactiva Medio Ambiente Mexico (70%)

Capital Providers: 2,382,463,909 pesos (\$167,125,459) of investment financed 22.8% with private capital; 39% with debt (Banco Santander, Banco Nacional de Obras y Servicios Públicos (Banobras) and Banco Mercantil del Norte (Banorte)), 38,2% with public founding (Finfra/FNI)

Why is this project a Case Study for People First PPPs:

The overexploitation of underground water wells, mainly in the northern, northeastern and centric areas of México, which are arid areas and concentrate a big proportion of the population and an increasing urbanization rate, is a concerning issue for the Mexican public authorities. A PPP was issued to conduct and purify the water coming from El Realito water dam and prevent for this overutilization of underground waters. The Administration benefited from a new infrastructure with an efficient management of the natural resource and an efficient financing structure that came from the international experience of the private firms. While the private firms participate in a profitable and sustainable project that promotes the environmental preservation, with the utilities from a conventional PPP





- 1) **Where:** El Realito Aqueduct was designed for the conduction and purification of water from the El Realito dam (located on the Santa María River) to the metropolitan area of San Luis Potosí (MASLP), in Mexico.
- 2) **Why:** The northern, northeastern and centric areas of Mexico are characterized to be arid zones and concentrate a big part of the population and GDP, what has derived in an increasing urbanization. Given the lack of water in the zone, the citizens have been pressured to obtain the natural resource from natural underground water wells. Their overexploitation has negative impact in the ecosystem and the quality of water and the geography of the area. The efficient use of water then is a pressing issue in these areas, that needs to be solved in order to attain sustainability.
- 3) **What:** Face the problem of overutilization of underground water wells and reduce extraction costs and levels of water contamination derived from their exploitation. Reduce the proportion of sinking grounds in the cities.
- 4) **Who:** The Contracting Authority assumes the risks of land and space and inflation; while the Concessionaire assumes the risks of design and construction, interest rates, exchange rates, operation and management and political. The environmental, financing and demand risks are shared between both parts.
- 5) **When:** (February, 2009) publication of the tender process; (June, 2009) AQUOS El Realito wins the tender process and signs the contract; (September, 2014) Finalization of the construction process; (2015) The contract ends.

El Realito Aqueduct





a) Increase access to essential services and promote equity

El Realito Aqueduct represents a project that promotes an efficient use of scarce natural resources such as water, and promotes their reutilization to avoid problems of sustainability. It was designed to avoid many problems derived from the overexploitation of underground water wells and water pollution. Hence the benefits for the citizenship are:

- A new infrastructure where the residents have more availability of purified water, and a bigger control in their consumption.
- This is derived in an improvement in public health due to the lower consumption of fluorine in the water and in improvement in the quality of life.
- Higher security for the citizens by minimizing the effects of the sinking ground that comes with the exploitation of underground water.
- The generation of an average of 864 new jobs during the construction process.

El Realito Aqueduct





b) Develop a resilient infrastructure and improve environmental sustainability

The new infrastructure generated allowed to promote a more effective use of the water resources and face the significant urbanization growth in the region that threatens to consume the available resources in a higher rate than they can be produced.

The infrastructure represented a good opportunity to apply new technologies in the water management, which could not be accomplished without the participation of the private firms. This, with the objective to attain a sustainable consumption of this precious resource.

In addition to hydraulic works, the contract also includes the construction of about 46 kilometers of tracks of asphalted service, substations, electrical connections (9km) and a remote control system. Improving other industries like the energy and transportation, and generating positive spillovers in the system

The direct environmental benefits come from the reduction of the exploitation of underground water wells - which up to that moment represented the 90% of the water consumed- reducing the contamination in the water and improving the environmental conditions in the area

El Realito Aqueduct





c) Demonstrate the economic and financial effectiveness of the project

The project is structured as a PPP where the Concessionaire finances the project with private capital (22,8%) and seeks funding (39%), while the public sector contributes with a subsidy through Finfra/FNI (38,2%).

The funding structure of the project's cost and payments was particularly innovative. A trust was used to increase the payment guarantees to the SPV and to the financial lenders. This should encourage the participation of companies and banks, encourage competition, ultimately reducing project costs.

Into this trust, the Contracting Authority offered warranties to mitigate the risk associated to the payments to the Concessionaire by availability and volume of contained water. This structure results in a reduction of the financial cost of the project, since the guarantees provided by the trust system (contracts) mitigate the project risk, both for the concessionaire and the Contracting authority.

Regarding financing to the concessionaire, AQUOS El Realito, the senior debt was facilitated by a group of banking entities with Banco Santander as the agent bank.

El Realito Aqeduct





d) Be replicable and scalable

Although this is a project with a time period of 25 years, there are many lessons that can be learned from this first evaluation:

- The correct use of a project that presents many characteristics of the utility of a PPP
- Construction of a complex infrastructure with multiple agents of different administrative levels, some of them with little experience of PPP.
- Use of innovative payment guarantee mechanisms to the private sector, which reduces the risk and financial cost associated with an administration with unstable revenues.
- Methods to achieve solutions for the benefit of citizens and the environment through PPPs.
- Ways to make the payment of PPP linked to water supply.

El Realito Aqueduct





e) Engage all stakeholders

Given the magnitude and the importance of this project in the country, many stakeholders are involved

National Authorities: National Commission of Water of Mexico (Conagua)

Regional Authorities: CEA-SLP

Public entities: Interpas

Private entities: ICA, Aqualia, FCC Construcción, Proactiva México, Servicios de Agua Trident, Banco Santander (acting as agent of different private banks)

Citizens of the region benefited by the project

This aqueduct was built with the objective of reversing the overexploitation of aquifers and improving the balance of extraction - aquifer load, limiting the risks of earthworks in the city and avoiding the problems derived from the extraction of underground waters.

A good governance system is critical for the correct development of the process and involvement of the main stakeholders in the decision-making, and will also assure the correct progress of the project over time. In this PPP contract, there are two stages at which discrepancies can appear.

- Construction stage
- Operation Stage

In order to avoid such discrepancies, the contracting authorities hired external institutions that supervised each of these stages. Although the need of an entity, specific to the project with presence in all the stages is called and constitutes an issue that can be learnt for future projects.

El Realito Aqueduct

6 CLEAN WATER AND SANITATION



Case 40

Peru

Transport Sector

Kuelap Cable-cars

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Kuélap Cable-Cars (Perú)
Project Proponent:	Ministry of Foreign Trade and Tourism of Peru (MINCETUR)
Project Organization:	Telecabinas de Kuleap S.A

Public Organization: Ministry of Foreign Trade and Tourism of Peru (MINCETUR)
Agency for the Promotion of Private Investment in Peru (PROINVERSIÓN)
Municipality of Tingo

Private Organization: ICCGSA (75%), POMAGALSKI, SA (25%)

Capital Providers: Co-financed PPP between MICETUR (through PROINVERSIÓN) and Telecabinas de Kuleap S.A. Capital 100% provided by the Public Administration

Why is this project a Case Study for People First PPPs: The need to provide a proper service to the tourists that connects the Kuléap Fortess with the nearest municipality (Tingo Nuevo) was an issue that MINCETUR started to evaluate since 2005. Before the implementation of Kuélap Cable Cars, the travel route took between 2 to 4 hours on a road with poor conditions. A PPP was used to build a cable car wiring route of 4 Km between these two locations that improves the accessibility; encourage tourism and economic development. The administration benefited form the private know-how, capital investment, and higher outcomes than forecasted. The private firms participated in a milestone profitable and sustainable project, not yet done in Perú.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

- 1) Where:** The project is located in the Department of Amazonas, in the Northeast area of Peru, specifically in the District of Tingo, Province of Luya, whose capital is Chachapoyas;
- 2) Why:** Before the implementation of the Cable Car, the travel route between Kuélap and Tingo Nuevo had to be done in a poor condition road that took about 2 to 4 hours. Also, the public services for tourism were inappropriate. The evaluation of a Cable Car system starts in 2005, but it is delayed for 8 years, where in 2013 MINCETUR and PROINVERSIÓN sign an agreement to start with the pre-investment studies and the tender process. Given that the anticipated revenue from the tariff can not cover the operating costs, and the complexity of the project, the Administration decides to use a PPP. This would bring the capital needed and the know-how transfer by the private sector.
- 3) What:** Solving transportation needs and a dynamization of the tourism industry in the territory. This brings innovation and labor market increase and diversification, with job positions different from the traditional agricultural market in the area.
- 4) Who:** Telecabinas S.A was assigned the risk of design, construction, operation and management; The contracting authority, assumed the demand risk. The risks of land and space, environment, archaeological, financing, inflation, interest rates and political, were assumed by both parts.
- 5) When:** (2013) MINCETUR and PROINVERSIÓN sign an agreement to start with the pre-investment studies and the tender process; (2014) Adjudication and contract signature of the tender contest winner; (2016) Construction finished; (2017) Operations' start (2034) contract ends.

Kuélap Cable-Cars (Perú)





a) Increase access to essential services and promote equity

Kuélap Cable-Cars are the first cable-car system in Perú. Before its implementation the travel route to Kuélap Fortress took up to 4 hours with poor road and services.

Kuélap Cable-Cars was designed to:

- Improve the accessibility to Kuélap Fortress, which represents one of the main touristic attractions in the country
- Promote touristic industry and economic development in the territory.

The benefits for the residents and the society are:

- Labor opportunities derived from the increase of the touristic industry
- Diversification of the labor market, which was mainly focused in the agricultural sector
- Better accessibility between Kuélap Fortress and Tingo Nuevo

Kuélap Cable-Cars (Perú)





b) Develop a resilient infrastructure and improve environmental sustainability

The know-how of the private sector for cable-car projects brought both innovation and economic efficiency to the public administration, which saw no delays in the construction and obtained higher results than forecasted. The implementation of the Cable-Cars also brought along the improvement of 3 Km of the access road between Nuevo Tingo and the platform of departure.

Environmental improvements come along with the use of an alternative transportation system, that allows the upgrading of the main road of access, that had low quality conditions before the Cable-Car implementation.

Kuélap Cable-Cars (Perú)





c) Demonstrate the economic and financial effectiveness of the project

A Cost-Benefit analysis is done in 2013 to evaluate other alternatives to improve the public touristic services. But the decision for the Cable-Car is made due to its lower investment costs and higher NPV compared to the second alternative. The IRR expected to be obtained was 14,7%, while the NPV was 16,620,572 soles (\$ 5,934,858.95, prices of November 30th, 2013).

The project follows a co-financed PPP by the Public Administration given the technical complexity of the project, and that the anticipated revenue from the tariff can not cover the operating costs. The co-financing consist in the Administration to make a Pay-by-Work (PPO) during the execution of the project and a Retribution for Maintenance and Operation (RPMO) to the Concessionaire during the exploitation of the service. To these payments the income from the tickets sales is subtracted.

To manage these payments, the contract states the hiring of a trust where all the payments will be deposited. This includes the income from the sales of tickets by the Concessionaire and the payments from the Administration from PPO and RPMO. The Bank responsible of the trust will pay to the Concessionaire a periodic fee. This structure allows a reduction in the financing costs given that the guarantees offered by the trust system mitigate the risk of the project.

Moreover, the PPP presented a number of warranties to all the participants, in order to fulfill the obligations and the risk management that corresponds to every part.

Finally, the local authorities in charge of the PPP hired an independent institution for the supervision of the project, both in the construction and in the maintenance stages. This can favor the reduction of the transaction costs that the public authority assumes.

Kuélap Cable-Cars (Perú)





d) Be replicable and scalable

The Kuélap Cable-Car project is a good example of a good implementation of a PPP, and as the first PPP for construction of a transportation alternative such as Cable-Cars in Perú, a number of lessons, both national and international can be derived:

- The creation of public and opened competitive tender process. Albeit there was just one bidder, this is justified because the companies that specialize in this kind of projects are scarce.
- The efficient use of a trust to guarantee the payments to the Concessionaire to mitigate risks and attract companies to invest.
- The application of a Cost-Benefit analysis that allows to corroborate the positive net social value that the project offers.
- A good financing structure that allows for no delays in the construction stage and higher benefits from those expected.
- The promotion a project with the potential to foster the touristic sector and revitalize the economy of the region.

Kuélap Cable-Cars (Perú)





e) Engage all stakeholders

The Kuélap Cable-Cars involved different stakeholders:

- Public entities: MINCESTUR, PROINVERSIÓN and the Municipality of Tingo.
- Private entities: ICCGSA, POMAGALSKI, SA
- Independent bodies: external institutions hired to the supervision of the project's stages.
- The citizens of the District of Tingo and the province of Luya, tourists benefited

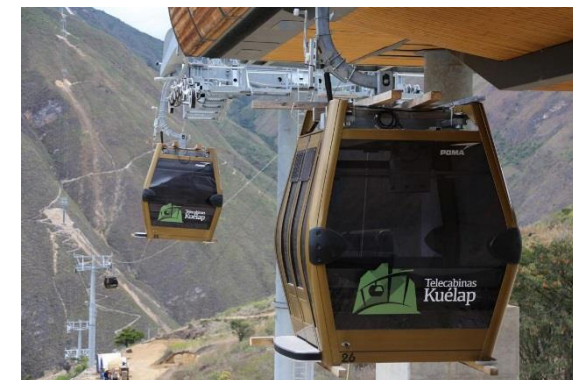
This project arises due to the need for a better transportation mean that strengthen the tourism and the economy and improves the accessibility to kuélap Fortress. The construction of a Cable-Car system was a pressing issue previously evaluated by MINCESTUR that took 8 years to be formalized in conjunction with PROINVERSIÓN.

A good governance system is critical for the correct development of the process and involvement of the main stakeholders in the decision-making, and will also assure the correct progress of the project over time. In this PPP contract, there are two stages at which discrepancies can appear.

- Construction stage
- Operation Stage

In order to avoid such discrepancies, PROINVERSIÓN hired external institutions that supervised each of these stages.

Kuélap Cable-Cars (Perú)



Case 41

Poland

Transport Sector

A1 Motorway

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	A1 Motorway in Poland – Amber One
Project Proponent:	TIIC
Project Organization:	Polish Ministry of Transport



Public Organization: GDDKIA, a Road Monitoring Entity within the Polish Ministry of Transport

Private Organization: The project was developed by GTC – Gdansk Transport Company, a private company incorporated under the Polish law, which was owned by Skanska, John Laing, Intertoll, NDI and TIIC

Capital Providers: Equity was provided by the shareholders, whereas Debt was provided by EIB, NIB and Swedish Export Credit.

Why is this project a Case Study for People First PPPs:

The development of A1, between Gdansk and Torun, was a strong contributor to the communication network in Poland, and represented a strong boost on the quality of the road sector in the country. The smart partnership between the private partners and the Grantor allowed all parties to achieve their own objectives, keeping control of the variables that they considered to be more important, providing clearly a win-win solution for both public and private.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Please use this slide to describe briefly the context and strategy supporting the project:

- 1) Where:** Project is located in Poland, and links Gdansk and Torun. Gdansk is one of the most important ports in Poland, serving the Baltic Sea, and all the export and import activities in Poland. It is also a very popular touristic destination for the Polish people, so a strong location in terms of leisure;
- 2) Why:** the development of the road infrastructure in Poland became a relevant issue with the economic growth of the country, and as a step through the pre-accession and accession to the EU. Developing the back bone of the network became an important national issue, and the use of PPP schemes was a way to accelerate the development of the network;
- 3) What:** the success story of GTC can represent a boost in the development of the Polish Road network, if the Polish Government wishes so;
- 4) Who:** On the private side, the project was developed by three groups of key players: construction companies developing the works, an operator capable of providing the operation of the Road, and financial players providing equity, and their experience across other projects in Europe. On the public side the project benefited from the experience of GDDKIA, the entity responsible for Roads within the Ministry of Transport.;
- 5) When:** The concession was awarded in 2004, construction started in 2007 and was concluded in 2011. The concession includes full maintenance and operation, and toll collection, and will end in 2039.





a) Increase access to essential services and promote equity

- The A1 is a key infrastructure in Poland and part of E75 European road linking Scandinavia to the countries located along the Mediterranean Sea;
- It is the main north-south motorway in the country. It is part of a priority Transeuropean Network starting at Baltic Sea, running through the Czech Republic, Slovakia and Austria:
- The road has been divided in several sections, which have been developed under different schemes: PPP's (concession with private partners), conventional public procurement, etc;
- Once completed it will have 582 kilometres and it will run from Gdańsk through Toruń, Łódź, Częstochowa and Katowice down south to Gorzyczki, where it should pass on the State border to the Czech Republic;
- A1 is a critical infrastructure for the Polish economy, both for export and import and goods, and for the touristic industry. It represents, together with the remaining network of existing highways, a significant increase in the mobility within the country.





b) Develop a resilient infrastructure and improve environmental sustainability

- The A1 stretch that was built by GTC, under the concession agreements, provides a road with excellent quality. Under the concession agreement, GTC is responsible for all the maintenance works, releasing the Grantor from all those responsibilities.
- The motorway right of way cuts across country-pockets unique for their natural and landscape values. Even though motorways in general rank among the transport systems most friendly to the environment, the execution of a road project of that scale does not leave its neighborhood unaffected. For this reason, it is vital to keep alert, care for, and conserve the precious elements of the natural environment, as well as protect the cultural, historic, and environmental values of the areas spanned by the motorway right of way.
- At the project operation stage, GTC pays much attention to monitoring the impact the A1 motorway has on its surrounding environment. All mitigating or compensating solutions introduced are instantly assessed and monitored. The quality of the waters discharged to the environment is permanently checked, to make sure there are no contaminations
- Moreover, GTC monitors the motorway impact on the plant communities and ecotone zones on the verge of the A1 right of way.
- A special focus is given on actions aimed at ensuring effective noise protection.
- Other lines of action that will complement the above efforts over the operation term will focus on reducing power consumption, managing the green around the motorway, and developing methods of recycling materials so as to reduce the waste volumes. The major issues faced include monitoring the level of noise and fumes generated by the road users, and reacting accordingly to reduce those levels. The preventive measures proposed to protect the environment at both the construction and operation stages of the A1 motorway guarantee the attainment of maximum effectiveness. They embody the modern approach to the environmental issues, and the currently binding and available methods of counteracting any negative impact the road might have on particular elements of the natural environment.





c) Demonstrate the economic and financial effectiveness of the project

- The investment project comprising the A1 Motorway section managed by GTC was financed by international financial institutions and GTC's Stockholders.
- The international financial institutions, namely the European Investment Bank, Nordic Investment Bank, and Swedish Export Credit Corporation, provided GTC with loans which covered 95% of the project's demand for financing; the GTC Stockholders contributed the remaining 5%.
- The loans extended to GTC to finance the project added up to the aggregate of approximately EUR 1.5 billion (both Phases). The above amount was designated to cover such costs as: direct construction and design costs, purchase of the motorway equipment, interest and fees on the loans, the Independent Engineer's fees, cost of insurance, and rental.
- In the motorway operation period, GTC receives availability payments from the National Road Fund. The proceeds thereof are spent on providing for: the debt service costs (interest on the balance outstanding and principal instalments), taxes, operating costs which include e.g. consideration for the Motorway operator (for operation and maintenance of the tolling system, and keeping the road up to the specified standard), insurance costs, services rendered by the Independent Engineer, tolling expansion, and costs related to Motorway rehabilitation.
- The Motorway rehabilitation costs comprise the costs of all overhaul and repair works on the wearing course and engineering structures (e.g. flyovers, bridges, buildings, service areas, etc.), and all other facilities appurtenant to the motorway (e.g. barriers, road signs, weather stations, etc.), plus the costs of replacing the tolling system equipment.
- GTC has two other sources of income: variable remuneration paid from the National Road Fund to cover the variable costs of operating the Motorway (linked to the traffic volume), and a return on the GTC Stockholders' investment in the project.
- The account settlement system incorporates payment deductions for reduced motorway availability to the drivers (e.g. traffic lane closures), or inadequate Motorway maintenance standards.
- GTC transfers the entire toll collected on the Motorway to the National Road Fund. The toll rates are fixed by the Minister relevant for Transport.





d) Be replicable and scalable

- The model used for the implementation of the A1 concession awarded to GTC was quite unique, providing a good balance between the various stakeholders, and allowing each one of them to have control over what was seen as more important to them;
- The model could be replicated to other concessions in Poland, and elsewhere, including roads or other transport infrastructure;
- There is a need to adapt the specific issues related with the way the model works, to the stage of development of each country and region, and the economical and financial risks associated. Poland can act as a landmark for other similar countries, providing expertise based on their own experience.





e) Engage all stakeholders

The role of each stakeholder is very clearly defined, and engagement of all parties is a constant effort of the GTC:

- Banks – are committed to financing the project, and provide a close follow up of all the events
- Shareholders – are committed to build and maintain the road, and keep it under perfect operational standards, according to the definitions of the Concession Agreement
- Minister of Transport and GDDKIA – committed to assuring that the road is open to traffic under the best possible conditions. Due to the nature of the risk profile of this concessions, it is the role of this stakeholder to define the level of tolls, and to decide if and when to open the toll barriers to improve the fluidity of traffic. This decision has been taken several times in the past, during peak hours in peak days, mostly close to the summer weekends
- Local Community – engaged on the success of the road, and closely linked to it through a competition promoted by GTC, with the name AmberOne Close to Us, where applicants propose projects to serve the local communities, improve the way the road is operated, or improve the environmental measures



Case 42

Portugal

Education Sector

Entrepreneurship Development

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Entrepreneurship Development
Project Proponent:	Agrupamento de Escolas de Carcavelos (<i>Carcavelos Municipal Society of Schools</i>)
Project Organization:	Agrupamento de Escolas de Carcavelos (<i>Carcavelos Municipal Society of Schools</i>)



Public Organization: Agrupamento de Escolas de Carcavelos (*Carcavelos Municipal Society of Schools*)

Capital Providers: Public capital provided by the municipality; private funds provided by the Junior Achievement organization along with the following enterprises: Science 4 U, StartIUPI and Universidade Europeia (*European University*).

The entrepreneurship project, developed by the Carcavelos Municipal Society of Schools, will enable students aged 6 to 17, regardless of their level of education and economic status, to implement innovative ideas in the areas of business and social intervention. By developing their creativity and communication skills, and by providing them with a window into the world of business, the project will allow these students to assume an autonomous role within the workforce – notably through self-employment – thus contributing towards social and economic development. The project will therefore help to ensure the provision of quality education and better employment, as well as economic growth.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Entrepreneurship Development
Project Proponent:	Agrupamento de Escolas de Carcavelos (<i>Carcavelos Municipal Society of Schools</i>)
Project Organization:	Agrupamento de Escolas de Carcavelos (<i>Carcavelos Municipal Society of Schools</i>)



Project Objectives:

- To foster a business mentality for change, and stimulate economic competitiveness;
- To encourage collaboration and the creation of partnerships between the public and private sectors, as well as between the school environment and the community at large;
- To demonstrate how entrepreneurship may contribute to the promotion of economic growth within communities and regions by fostering competitiveness at both the local and global scales;
- To prepare students for the world of employment by providing a place in which to develop the necessary knowledge and skills, not only presupposing the acquisition of a certain technical know-how, but also a broad understanding of how to run a business and effectively employ interpersonal skills;
- To strive towards the development of skills which will not only be useful business environments, but in everyday life as well;
- To provide an education in entrepreneurship which will help to develop a broader understanding of the modern world;
- To promote, through entrepreneurial education, the development of a broad array of practical knowledge and skills.





Project Development Strategy:

- 1) Where:** The project will involve a sample of ~2600 students at all stages of education within the Carcavelos/Cascais area. In this area, services make up the largest economic sector. Most residents classify as middle class, though a significant percentage is also made up of low-income families. Nevertheless, all have suffered the effects of the 2008 economic and financial crisis, which had a significant impact on employment levels.
- 2) Why:** The Portuguese school system has been found to be dated, if not obsolete. Lessons are often excessively direct, leaving little room for students to think for themselves and learn in their own ways. In short, the Portuguese educational model has stifled creativity, autonomy, self-reliance, initiative, and the development of communication skills. Ultimately, an enormous gap was identified between the skills of students and the requirements of the labor market, especially in the private sector, where more is expected of workers every year. In part, this entrepreneurship project aims to address these challenges.
- 3) What:** Over 11 years of project implementation, it's become clear that students are become more proactive, both in the field of business building and as employees. Moreover, this phenomenon is present even in the field of social intervention.
- 4) Who:** Public-private partnerships have so far yielded very satisfactory results – enterprises have provided volunteers to welcome students into the labor market and heed their ideas; they've open their doors to students, so that they may experience life within a work environment. In short, this partnership has enabled students to present their own ideas and become acquainted with international hubs of innovation.



As an example of the impact that the programa have had along these years, here are the results of 2016-17 School Year:

PARTICIPANTS

Year 1 Program – *A Família (The Family)* – JUNIOR ACHIEVEMENT

Year 2 Program – *A Comunidade (The Community)* – JUNIOR ACHIEVEMENT

Year 4 Program – *Entrepreneurship Program* – IUPI

Year 5 Program – *SCIENCE 4 U*

Years 4 and 5 Program – *Europe and the European Union* – JUNIOR ACHIEVEMENT

Years 5 and 6 – *DNA: YOUNG ARTISTS*

Years 7 or 8 – *My Business Program* – JUNIOR ACHIEVEMENT

Year 9 – *Entrepreneurship Program: “Economy for Success”*

Secondary Education – *“The Enterprise”* – DNA/JUNIOR ACHIEVEMENT;

Secondary Education – *“Right Arm”* – JUNIOR ACHIEVEMENT.





Example: 2016-17 School Year

RESULTS

- 14 groups of students participated in the 11th Young Entrepreneurs Contest; 7 groups were selected to present their projects at the semifinals, sponsored by *DNA Cascais*; 3 groups went on to participate in the finals;
- Presentations of business projects conducted by 6 groups of students under the “A Empresa” (“*The Enterprise*”) program, organized by *Junior Achievement*, which allowed students to develop project planning methodologies, as well as business-starting and financial plans;
- Other Secondary-level students also participated in the “Braço Direito” (“*Right Arm*”) project. They were thereby empowered to come into contact with the average environment in their favored profession. The presence and experience of volunteers helped to boost their eagerness and determination to pursue their goals, thus making the students more acquainted with the labor market.
- Students in their 5-6th years of formal education were enabled to develop their creativity, through their participation in the *Science 4 U* program, which was geared towards spreading awareness of scientific research amongst students and the general public.





Example: 2016-17 School Year

RESULTS

- Participation at the Feira Ilimitada (*No Limits Fair*) at the Cascais Marketplace;
- Participation in the *A Empresa (The Enterprise)* contest, organized by *Junior Achievement* at the Museu do Oriente (*Orient Museum*);
- 7 student groups took part in the 11th *Jovens Empreendedores (Young Entrepreneurs)* organized by DNA Cascais;
- Won the *Escola Empreendedora (Entrepreneurship School)* prize;
- 12 Secondary-level students found job placements in private enterprises, under the *Right Arm (Braço Direito)* program, organized by *Junior Achievement*;
- Participation in the *Science 4 You* contest, having won 2nd prize;
- Participation in the *IUPI* program.
- *Participation in the Novos Artistas (New Artists)* program.

Through these projects, students had a chance to develop their group work skills and foster a critical attitude, having learnt to work with others and build their ideas through dialogue, especially vis-à-vis a critical audience.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development



Replicable and Scalable

The entrepreneurship project implemented within the Carcavelos Municipality Society of Schools can be replicated in other schools and municipalities at both the national and international levels.

This, however, will require the establishment of similar public-private partnerships, as well as the appointing of motivated and well-trained teams of educators.

In the case of the project which has been implemented in the Carcavelos municipality over the course of the past 11 years, the involvement of a broad and diverse team of teachers in these trainings has been key to ensuring the successful development of the project. Additionally, numerous local businesses and the Cascais City Council have provided support staff with experience in the field of entrepreneurship who, throughout the years, have paid regular visits to the schools covered by the program, and have overseen the various stages of project implementation since its inception, witnessing its development and contributing to the dissemination of this idea among various and diverse audiences.



Case 43

Portugal

Social Sector

Breaking Bars

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

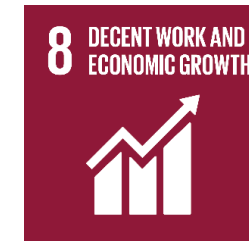
Project:	BREAKING BARS
Project Proponent:	Carina Abreu (On Link), Carolina Almeida Cruz (On Vision) and Patrícia Assis (On Global)
Project Organization:	SAPANA.org



Public Organization: **Portuguese Government:** Ministry of Justice, General-Directorate of Prison Services, Detention Facilities

Private Organization: **SAPANA.org** registered as private entity with public utility (NGDO). In Portugal there is no legal status for social enterprise, if there was it would be the best fit for SAPANA behavior. All types of private entities that adjudicate our services of consultancy and soft skills training who are potential employers of people in need.

Capital Providers: European Fund ERASMUS+ (EDUCATE program), Aromatic Herbs Vases Campaign - Social business, SAPANA.org' Equity Capital



Why is this project a Case Study for People First PPPs: SAPANA.org has developed its own methodology - iPath, published in Paper - "Social entrepreneurship as an opportunity system" - applied to 3 different target-audiences:

Unemployed, Youth at-risk and Inmates. In this case study, we will focus on Breaking Bars project that is intended for Male individuals in seclusion, between the age of 18 and 45 and who are at one year distance from the end of sentence. This project aims to empower people in imprisonment, their subsequent social and labor integration, and mentoring after being released. In this way, the purpose is to combat the rate of criminal recidivism, which in Portugal is estimated to be at least of 51%, and the prison occupation rate, currently of 111% . This project is only possible with the involvement of the three economic sectors: public, private and the third sector (non-profit); namely the public sector allows us to work with this target-audience and the private companies are the entities that welcome them and promote their professional inclusion.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

WHERE	<p>The project is currently underway at the Caxias Prison Establishment, in Portugal. This male prison has an occupancy rate of 147.99% (Capacity: 398 people; Occupation: 589 people). This project is focused on the imprisoned population, between the age of 18 and 45, who are one year distance of the end of their sentence. Each program edition is intended to empower 15 people.</p>
WHY	<p>The Portuguese Judicial system defends the social and labor integration of former inmates, however due to the lack of technicians in the Detention Facilities, the Portuguese State cannot guarantee this reintegration to be effective, reflected in the high rate of criminal recidivism, higher than 51% . In addition to this rate, Portuguese prisons are overcrowded (occupancy rate of 111%) and each prisoner yearly costs the State 14.600€. This is an important and neglected problem, and it is therefore crucial to work in partnership with the public sector, MJ (Ministry of Justice) and DGSP (General-Directorate of Prison Services) and having the support of the private sector, not only to ensure social and labor integration, but also to sensitize and raise awareness within the Society to the importance of a second chance.</p>
WHAT	<p>The great impact of this project focuses on social and labor integration of former inmates, thus contributing to reducing the rate of criminal recidivism. This is because in the vast majority of cases, people are re-offending due to lack of job opportunities, social exclusion and lack of a supporting network.</p>
WHO	<p>The Ministry of Justice and the General-Directorate of Prison Services guarantee the conditions for the program to take place within the Prison Establishment. Private companies are the project's main Ambassadors, not only providing a job opportunity to people but also raising awareness of the importance of a second chance for this public and deconstructing beliefs and prejudices about seclusion.</p>
WHEN	<p>The program's 1st Edition ended in December 2017. 4 of the young people empowered, have already been released and are currently working. The 2nd Edition started in April 2018. A “guerilla” marketing campaign will be launched in November 2018 (experiential marketing campaign for raising awareness through arts and impactful messages), in partnership with a nationally renowned Communication agency. Three applications to European Funds are being carried out: Firstly, to scale the project at national level, secondly, to develop a stock management platform to sell food products produced within PE's, thirdly, to carry out a pilot edition to test a co-created methodology with European partners, consisting of best practices on capacity-building for an effective labor integration of inmates (EDUCATE program). By the end of the year, a social business will be implemented in partnership with a private company, which aims to give a new life to wasted articles by the private company.</p>

UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind



A) Increase access to essential services and promote equity

Project main goals:

To increase job accessibility for people who are / have been in prison.

To raise awareness within society to the importance of a second opportunity/chance

To deconstruct beliefs in relation to the theme of seclusion, a topic that is still very little socially spoken

To decrease social exclusion of this public

To sensitize the society for the importance of investing in capacity-building programs within prisons as a strategy for effective social and professional integration and consequently, reducing the rate of criminal recidivism.

Breaking Bars project aims to promote equal access to job opportunities for former inmates, people who are often socially excluded and with few job opportunities.

Through employability, it will be possible to guarantee the financial sustainability of the individual, thus allowing access to essential basic goods, such as food, preventing them from relying on crime to meet basic needs.

How?

Preparing for release

- Development of behavioral skills such as: entrepreneurship, interpersonal communication and employability;
- Cognitive, emotional and behavioral restructuring;
- Promoting autonomous self-management;
- Creating alternative support networks;
- Mentoring inside prison after the empowerment phase, a 2hours' session per week, in group or individually.
- Pitch to possible employers – reducing the gap between their reality and the society reality (external)

After release

- Individual mentoring;
- Inclusion in the labor market;
- Individual monitoring of the person in the company;
- Joining efforts with the company for a better integration of the individual;
- Referral to other necessary answers, essential for the acquisition of required skills before integrating the labor market: psychological assessment / psychological monitoring, skills training, residence, food bank, etc.



B) Develop a resilient infrastructure and improve environmental sustainability

All SAPANA.org projects, including Breaking Bars, are based on the Bootstrapping concept. The mindset through Bootstrapping revolves around good practices of common sense and conscious waste. That is, whenever a resource is effectively needed, the first thought is to borrow or rent before buying new. The use of paper and plastic in the organization is minimal, always prioritizing re-use.

Social Business of the project under development:

In the environmental sphere, and with the aim of awakening society to the importance of reusing materials and / or the transformation of wasted or unused materials, also giving them a second chance, a social business is being developed in partnership with a private company. This business aims to transform company's wasted and unused containers, into ornamental interior pieces. The entire process of transformation will be done by people in seclusion, within the Prison Establishment. Thus, it will be possible through this business to empower people for their subsequent social and professional integration and also to make society aware of the importance of environmental sustainability.

DO YOU BELIEVE IN SECOND CHANCES?



C) Demonstrate the economic and financial effectiveness of the project

Financial Return:

Breaking Bars project is intended to be self-sustainable in the medium term, by using the following solutions:

- Social Business (*under construction*)
- Social Impact Bonds (application to the European fund Portugal 2020 Social Impact Bonds - *under construction*)
- Other European funds (mentioned in the previous slide)

Economic Return:

This project intends to have a direct impact in reducing the rate of criminal recidivism, leading to a direct saving in the amount spent by the Portuguese State in the penitentiary system, thus impacting the national economy. The amount saved in this area may be invested in other areas that are fundamental to society, such as Health and Education.

AS IS of the Portuguese Prison System

14600€/year/inmate
(DGPI, 2013)

Criminal recidivism rate: 51% (estimated value - Jorge Monteiro, DGRSP & in DGPI)

SAPANA.org Intervention

PROJECT
BREAKING BARS  Social Reintegration

SAPANA.org Vision

Reduction of Criminal Recidivism Rate

Cost Savings to the Portuguese State with the Prison System

Increasing employability opportunities for former inmates

Transforming loss in social cohesion and financial/impact saving



D) Be replicable and scalable

Replicable

- The core methodology of Breaking Bars project - iPath, has already been replicated by SAPANA.org in other target-audiences, such as unemployed people and youth at-risk, where the success rate in terms of employability for both audiences, exceeds 80%.
- This same methodology is also adapted and replicated in companies through consulting and training services on behavioral skills.
- In partnership with other social organizations, which target-audiences are disabled people and cancer patients, SAPANA.org has adapted and replicated the same methodology for a behavioral skills training program, also focusing on the subsequent employability of these people.

Scalable

It is a SAPANA.org's goal to scale Breaking Bars nationwide to other Prison Establishments. This process is currently under development. Internationally, under the EDUCATE program, funded by ERASMUS +, the methodology and structure of Breaking Bars, has been integrated into a set of best European practices to prepare people in seclusion for employability. A pilot edition is also being applied to test at European level the methodology, co-created with European partners, Spain, Italy, Greece and Romania (in this methodology is included that of the Breaking Bars program).

Team

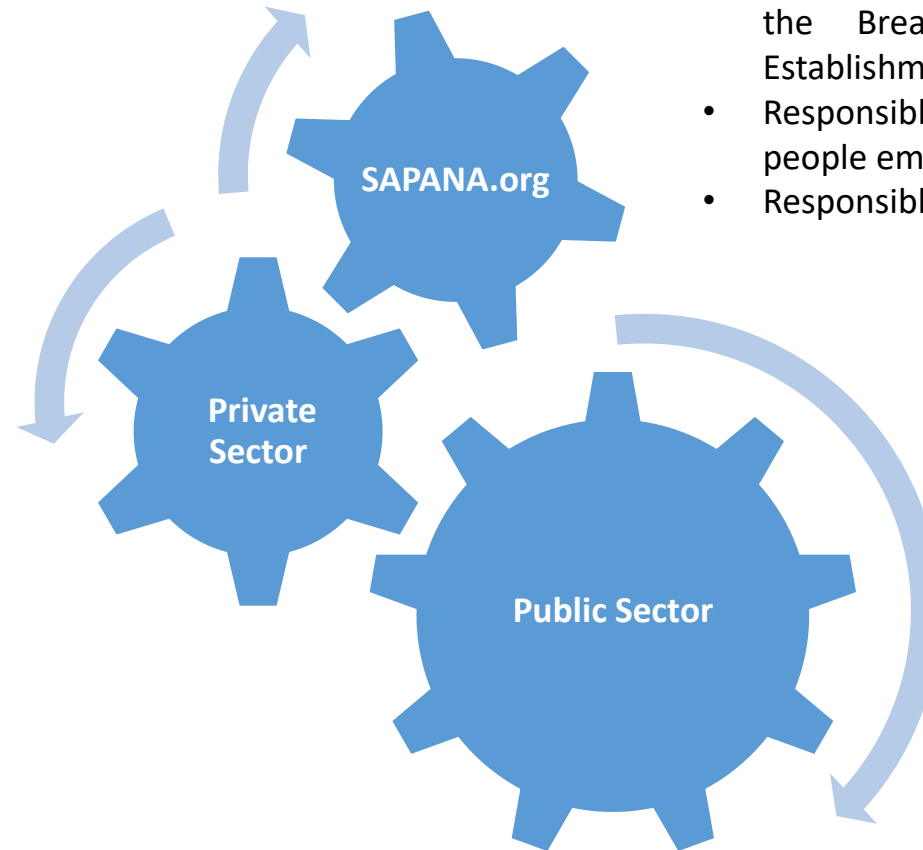
It is a priority for SAPANA.org to continuously invest in training for its team, not only for the acquisition of new skills, but also to enable the improvement and continuous updating of all the projects that it develops.



E) Engage all stakeholders

Private sector (one or more of the following involvement options)

- Provide the labor integration of former inmates
- Provide Professional / Specialized Mentoring
- To be an ambassador of Employability through SAPANA - Company Funding
- Integrate a part of the value chain of its business within the prison establishment, thus initiating the qualification of the inmate, for its later integration into the labor market
- To implement a business idea that can start within the PE (prison establishment) and to employ people in seclusion
- To finance one program edition.



SAPANA.org

- Responsible for the coordination and implementation of the Breaking Bars program inside the Prison Establishment
- Responsible for the individual mentoring of each of the people empowered
- Responsible for partnerships with private companies.

Public sector

- Signing a protocol with the General-Directorate of Prison Services to allow the intervention of SAPANA.org inside the Prison Establishment (done)
- Guarantees the conditions for the program to take place inside the Prison Establishment
- Responsible for the first screening of potential participants in the program
- Potential investor through financing
- Involving and developing the relationship with the Ministry of Justice through the implementation of our projects/ trainings/ funds proposals.

Case 44

Portugal

Smart and Sustainable Cities Sector

Regeneration project in Lisbon

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	City Regeneration Project - Parque das Nações in Lisbon, Portugal
Project Proponent:	Global Solutions _ Pedro Neves
Project Organization:	Parque Expo : 99% Portuguese State & 1% Lisbon Municipality

Public Organization: The Portuguese State and Lisbon Municipality created Parque Expo

Private Organization: Local (Portuguese) & International Developers

Capital Providers: Local & International Financial Institutions, (equity, mezzanine and debt providers)

Why is this project a Case Study for a People-First PPPs:

North & East Lisbon was probably the worse area in Lisbon, when considering a People and a Planet angles. The Portuguese State and the City of Lisbon Governments decided jointly, to create Expo 98 and Parque Expo to transform it into a living world landmark destination. For this it was decided to Invent a City, that would raise the self-esteem of the Portuguese, would bring PEOPLE back to Lisbon, would break the poverty path dependence of the area, and would transform this environmental nightmare into an example on how to protect the planet.

The vision, development policy, urban design and culture were managed by a public organization created specially for this purpose. As the Expo 98 finished the Urban project was developed and at this stage the Private Sector namely through explicit PPPs was invited to bring its dynamism and capital.

Nations Park (Parque das Nações) is a dream come true and the proof that People and Planet Agendas can be combined with Prosperity for all.

Pedro Neves designed the PPP Unit and managed all PPP projects of the SOE from 2000 to 2004, having presented the PPP Governance Model to the Court of Auditors of the Portuguese State; pictures and diagrams are from Parque Expo website.



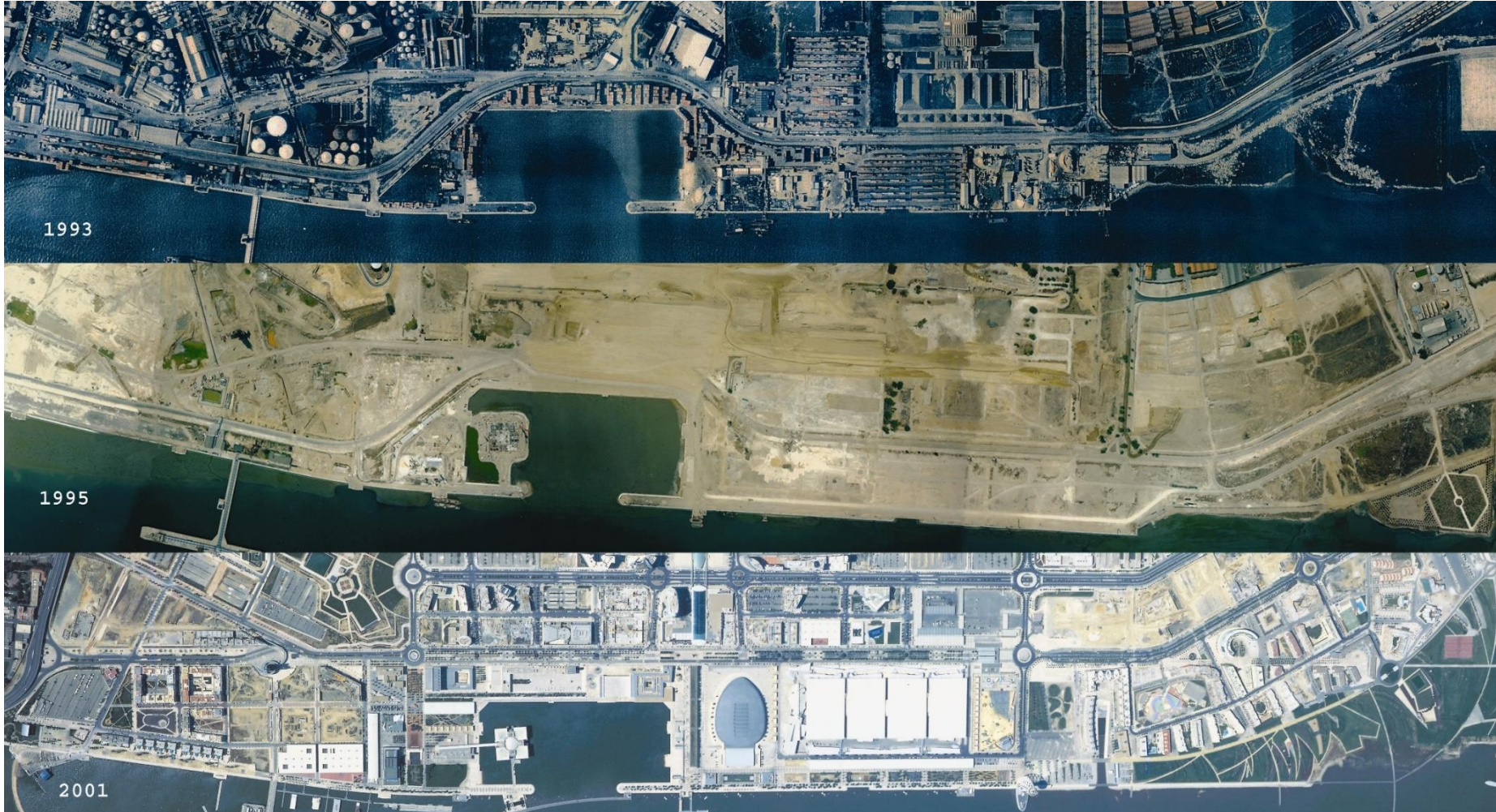
UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development



*You can design
and create, and build
the most wonderful
place in the world.*

*But it takes **PEOPLE**
to make dream reality.*
Walt Disney

Lisbon, Portugal
Transforming the worse
330 ha into an
Invented City
Parque Expo

UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind

11 SUSTAINABLE CITIES
AND COMMUNITIES

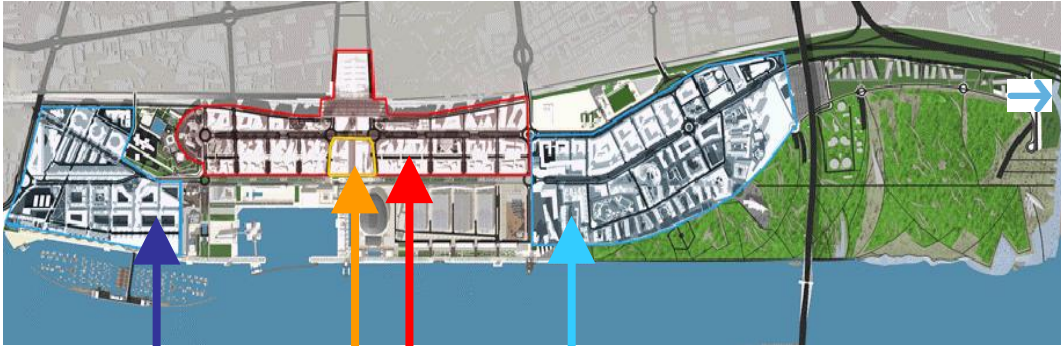


International PPP Centre of Excellence

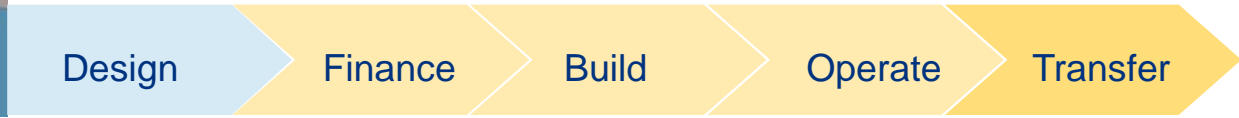
People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development



Urban and Regional Sustainable Transformation Process Phases



- **Residential:** 1,240,000
- **Offices:** 610,000
- **Retail:** 170,000
- **Others:** 300,000
- **Total:** 2,320,000

Urban project	State Budget	Infrastructure s	Urban Management	Public Management
Urban Design	Municipalities	Utilities Buildings	Mobility Social Cohesion	Private Management
Urbanism	Budget	EU Funds	Urban Environment	
Architecture	Private capital		Animation	
Planning				

a) Increase access to essential services and promote equity



International PPP Centre of Excellence

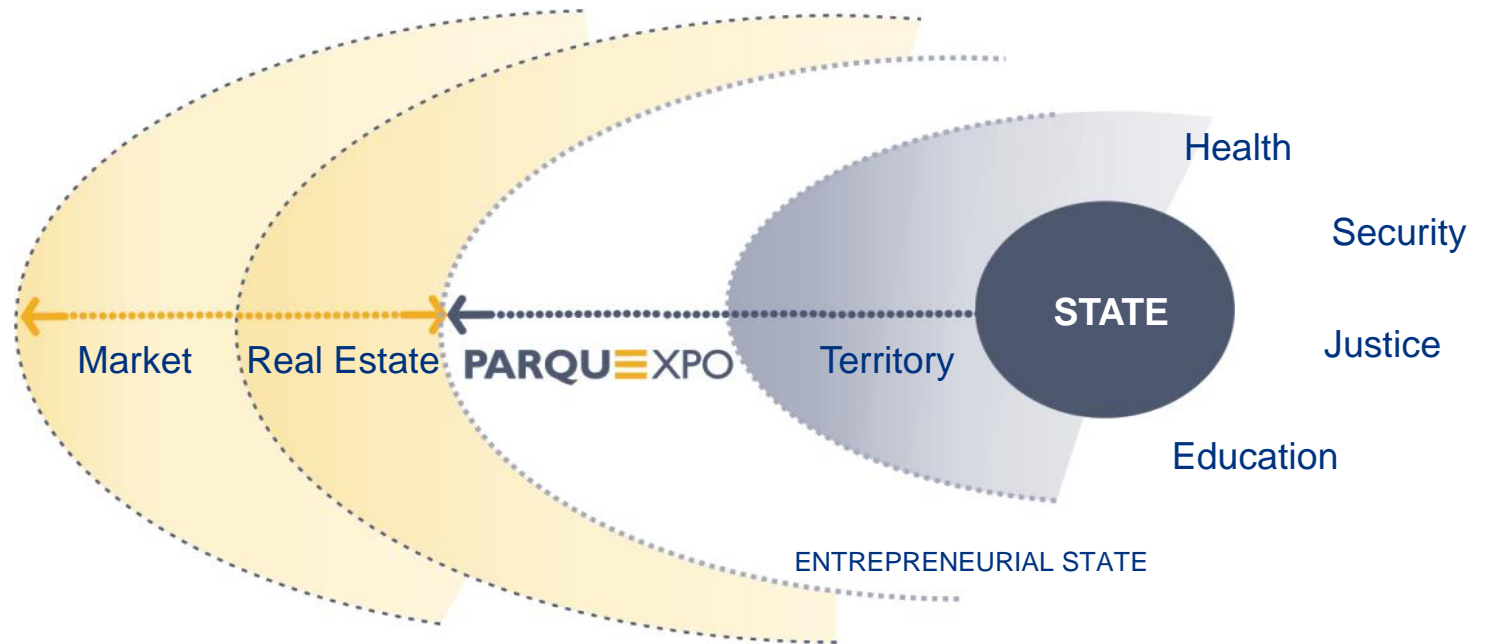
People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development



→ Public Strategy | Private Dynamic



b) Develop a resilient infrastructure and improve environmental sustainability

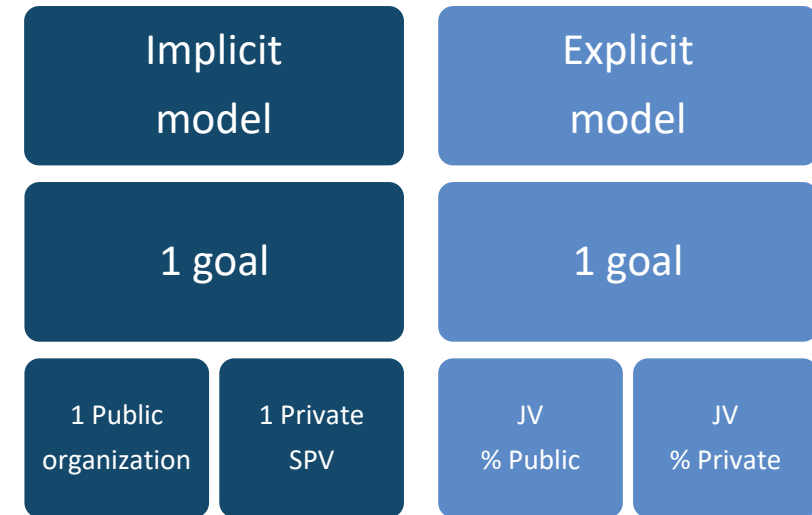
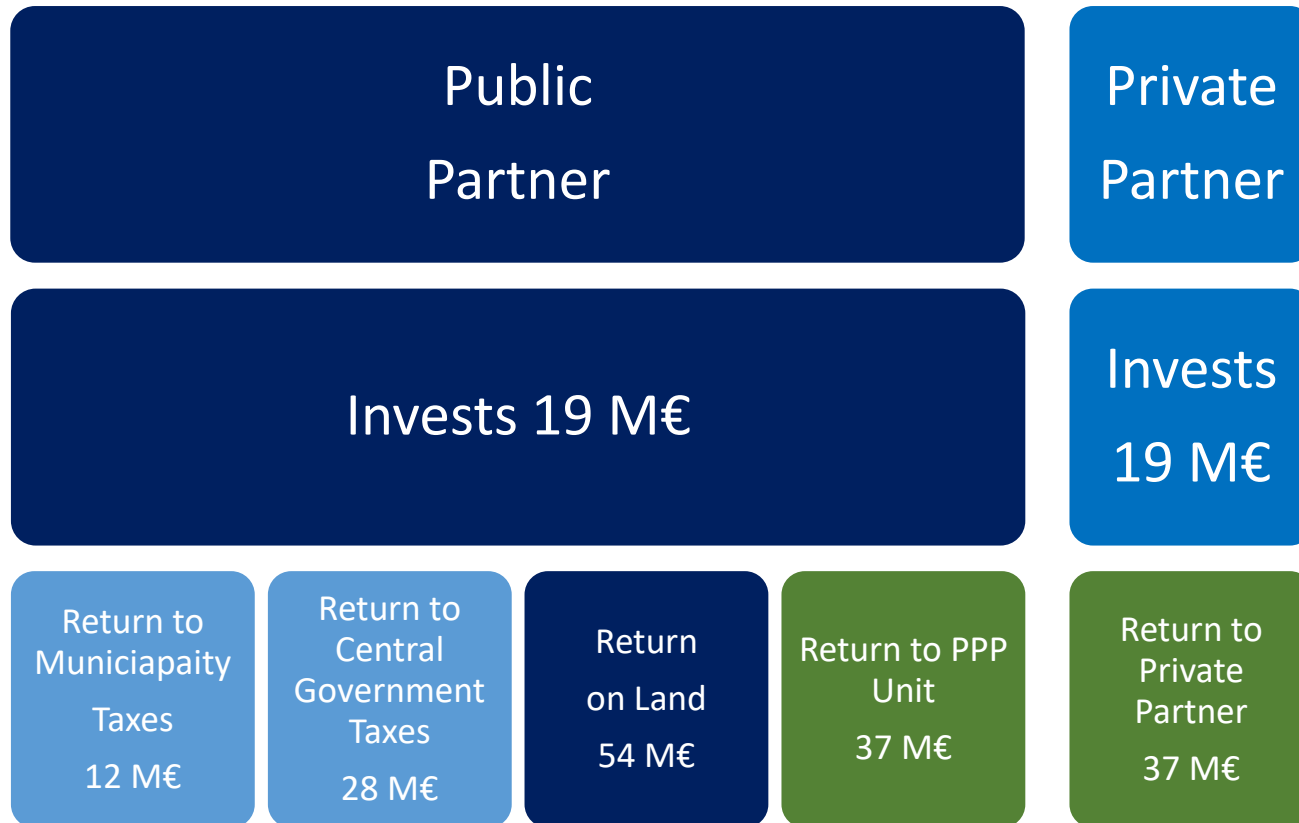
←..... State economic range of intervention

←..... Private economic range of intervention

UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind

11 SUSTAINABLE CITIES AND COMMUNITIES





Implicit versus Explicit model
Looking for the best way to implement Quality of Life

c) Demonstrate the economic and financial effectiveness of the project

Investment process and return analysis on Explicit Model





We aim to create a “bridge” between Communities with Urban Gaps and Private Capital Providers

An **SDGs virtuous cycle Replicable and Scalable** is proposed to be the catalyzer, and to transform Urban Gaps into Investable Projects

Investable Projects are then transformed into Sustainable Business for the Public and the Private Sector

d) Be Replicable and Scalable

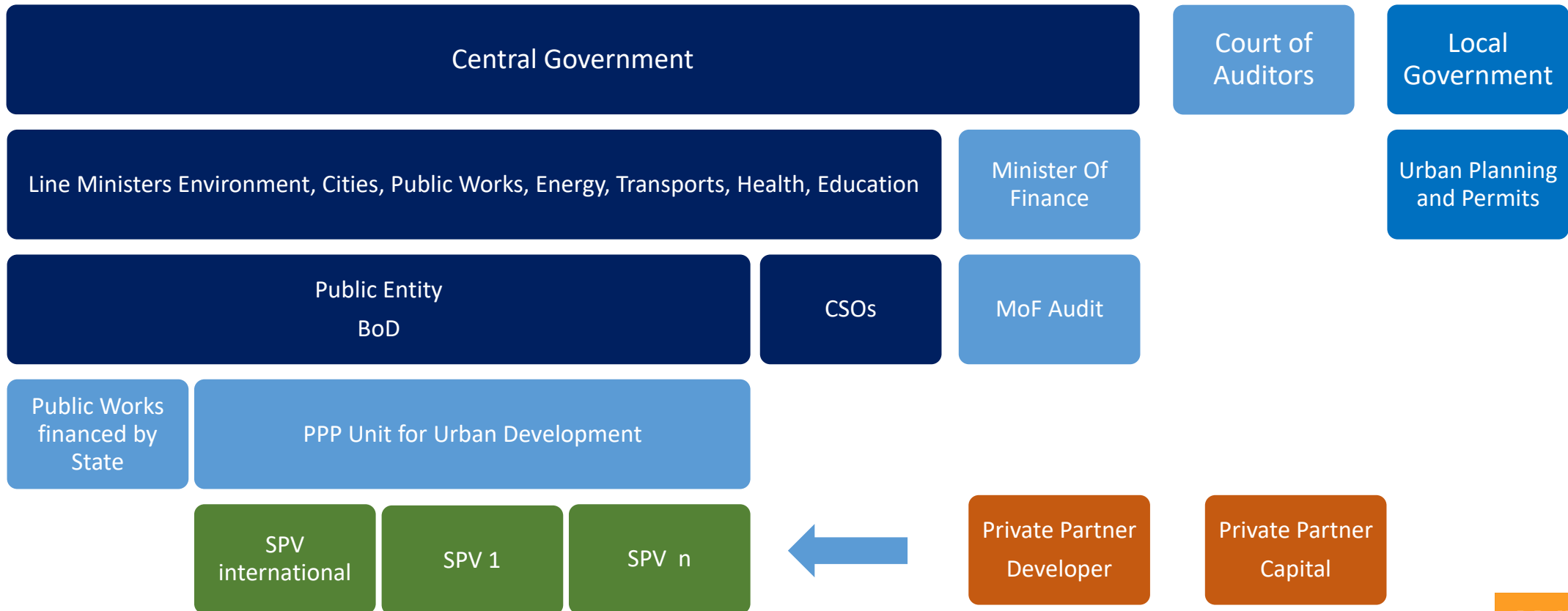


International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development



e) Engage all stakeholders

Governance Model interface with Public Shareholders and Stakeholders

UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind



Case 45

Portugal

Smart and Sustainable Cities Sector

Abrantes Urban Regeneration

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

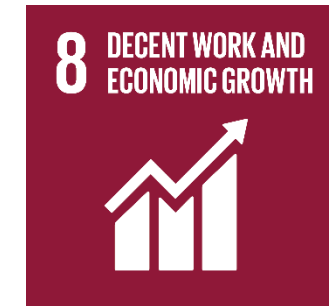
Project:	ABRANTES Urban Regeneration
Project Proponent:	Mayor of Abrantes - Maria do Céu Albuquerque
Project Organization:	Abrantes Municipality



Public Organization | Abrantes Municipality

Private Organization | Investors

Capital Providers | Public - Abrantes Municipality | Central State | Federal State
Private - Different investors



Why is this project a Case Study for People First PPPs

- ⦿ Urban Regeneration of the Historical Center - Decarbonization and Humanization
- ⦿ Economic development, leveraged by the municipal budget, stimulating private investment and creating employment
- ⦿ Replication and scale-up of the development model already tested





WHERE

Historical Center(HC) of the most central city of Portugal – ABRANTES



WHY

PHASE 0 - CHAOS

- ⊙ Traffic Disorder
- ⊙ Disorganized urban space
- ⊙ Vacant commercial spaces

PHASE 1 – HC’S HUMANIZATION AND DECARBONIZATION

- ⊙ Pedestrian streets and peripheral car parks
- ⊙ Urban regeneration of buildings and public space
- ⊙ More efficient urban solid waste collection
- ⊙ Installation of permanent services
- ⊙ Cultural and animation initiatives

PHASE 2 - INCENTIVES FOR THE INSTALLATION OF COMPANIES IN THE HC

- ⊙ Reorganization of the Public Space
- ⊙ Creation of the “Urban Regeneration Area”
- ⊙ Creation of incentives for Urban Regeneration
- ⊙ “+ Trade in the Center” (PPP's) - 90% survival rate
 - 23 companies
 - 28 jobs created

The best way to combat poverty and promote social cohesion is job creation





WHAT

PHASE 3 – HC’S REPOPULATION



Trade and Services |

- ⊙ “+ Trade in the Center” (PP's)
 - ⊙ 25 new companies
 - ⊙ 30 new jobs

Residential |

- ⊙ + Housing (PP's) - Rehabilitation of vacant buildings
- ⊙ Availability of 35 apartments – low cost rents
- ⊙ 75 new inhabitants

Installation of new Public Services || New School Center || Abrantes Cultural Center
Population Rejuvenation

WHO

Municipality – Public |

- ⊙ HC’s Regeneration
- ⊙ Supporting trade in the Center

Central State – Public |

- ⊙ Incentives for Regeneration in the defined Urban Regeneration Area:
 - ⊙ VAT reduced from 23% to 6%

Federal State – Public |

- ⊙ Financing public and private works / projects

Private |

- ⊙ Business risk

WHEN

PHASE 0 - CHAOS

90’S

PHASE 1 - HUMANIZATION AND DECARBONIZATION OF HC

PHASE 2 - INCENTIVES FOR THE INSTALLATION OF COMPANIES IN THE HC

PHASE 3 - HC’S REPOPULATION

2018 - 2030

1996 - 2018



a) Increase access to essential services and promote equity

MOBILITY INCLUDE

- ⊙ Peripheral parking facilities - less traffic in the Historical Center
- ⊙ aBusa - Sustainable Mobility
- ⊙ Fully pedestrian circuits
- ⊙ Accessible routes

UTILITIES INCLUDE

- ⊙ Urban Solid Waste Collection Systems Optimization
- ⊙ Free Wi-Fi
- ⊙ LED Lighting, Flow Reduction Systems and Consumption Measurement/Monitoring of street lighting
- ⊙ Management of water consumption and remote watering of green public spaces

SOCIAL INFRA INCLUDE

Currently |

- ⊙ Abrantes Daily Market
- ⊙ Family Health Unit
- ⊙ Student Residence
- ⊙ Support to the installation of Central Administration Services - Environment || Justice || Social Insertion
- ⊙ Support for the installation of Services - Red Cross || Portuguese League Against Cancer || Non Governmental Organizations || Higher Education Institution

Future |

- ⊙ Citizen's Shop - Municipal Services || Social Security || Financial Services
- ⊙ New School Center
- ⊙ Abrantes Cultural Center || MIAA || MAC || Requalification of Quartel - Contemporary Art Gallery, Figueiredo Ribeiro Collection

URBAN AND REGIONAL

- ⊙ Relocation of the Fire Station outside the Historical Center:
Installation of Quartel - Contemporary Art Gallery, Figueiredo Ribeiro Collection
Firefighters relocated in building with higher responsiveness capacity and better conditions

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

b) Develop a resilient infrastructure and improve environmental sustainability

FINANCIAL

Municipal Investments |

- ⊙ Municipal Budget

Private Investment |

- ⊙ Private Budget
- ⊙ Exemption of municipal property tax (up to 10 years)
- ⊙ Exemption on corporate taxable income (up to 10 years)



ENVIROMENTAL

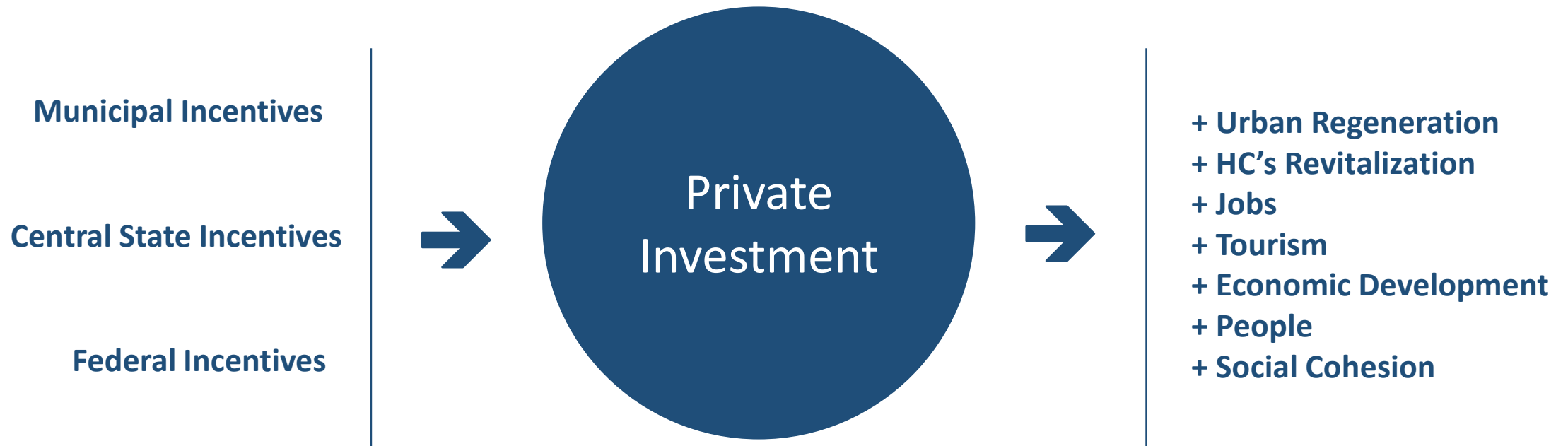
Decarbonization |

- ⊙ Historic Center with reduced traffic
- ⊙ Installation of a charging station for electric vehicles
- ⊙ LED Lighting, Flow Reduction Systems and Consumption Measurement/Monitoring of street lighting
- ⊙ Optimization of Urban Solid Collection circuits
- ⊙ Constructions with environmentally friendly and sustainable materials and techniques
- ⊙ Management of water consumption and remote watering of green public spaces





c) Demonstrate project economic and financial effectiveness – PPP's Model





c) Demonstrate project economic and financial effectiveness – PPP's Model

“+ Trade in the Center”

Municipal Incentives
50% rent support
↓
44.400,00 € in 4 years
11.000,00 €/year



**20 new
business's**



23 vacant stores occupied
23 innovative businesses created
28 jobs created

+ Tourism
+ Economic Development
+ People
+ Social Cohesion

33 € / month / workstation



c) Demonstrate project economic and financial effectiveness – PPP's Model



REPLICABILITY: NEW URBAN REGENERATION AREAS || + Forest || + Housing || Municipalities || Countries



d) Engage all stakeholders



Case 46

Portugal

Water Sector

Aguas do Planalto Water Concession



Project:	Águas do Planalto Water Concession
Project Proponent:	Diogo Faria de Oliveira, Former Chairman of Águas do Planalto; Former Executive Director of Aquapor; Managing Director of Defining Future Options



Public Organization: Local association of 6 Portuguese municipalities (AMPB): Carregal do Sal, Mortágua, Santa Comba Dão, Tábua e Tondela

Private Organization: Aquapor Serviços, S.A. Founded in 1997, Aquapor manages water supply and sanitation concessions and services in 27 municipalities, covering a population of about 1.3 million inhabitants. Until 2008, Aquapor was a sub-holding of the state-owned company, AdP - Águas de Portugal, SGPS, S.A.. In December, 2008, Aquapor was acquired by private capital

Capital Providers: European Union cohesion funds; Comercial bank loans; Private capital

Why is this project a Case Study for People First PPPs: The project was pioneer in Portugal by merging 6 small municipalities into a single system with the dimension capable of attracting cohesion funds, private capital and know-how and create scale to assure efficiency and sustainability.





Context and strategy supporting Águas do Planalto:

- 1) Águas do Planalto is located in an rural interior region of Portugal. The company was founded in May 1997 with a share capital of EUR 2,675,000 following an international tender procedure for the “Operation and maintenance of the water supply system and distribution services to the municipalities of: Carregal do Sal, Mortágua, Santa Comba Dão, Tábua e Tondela. Population covered is of 76 thousand inhabitants
- 2) Before capital investments were done and put into operation (2007), the water supply to these municipalities was done through small subsystems, using about 92 wells and holes. In terms of reliability, these subsystems - not connected to each other - did not allow solving problems of water supply failures, nor did they adequately assure quality and pressure of water, which varied greatly from system to system. In addition, the need to pump water continuously from those holes was requiring a huge effort on groundwater resources and would certainly jeopardize the future of the region's soils.
- 3) The new water supply and distribution system is environmentally sustainable, protecting the aquifers and soils of the region and ensuring the passage of those resources to future generations. It is an economically sustainable system, as the costs and profits are balanced over the next 20 years. In addition, block tariffs discourage high consumption and promote water saving in the region, while assuring affordability for all.
- 4) CAPEX of 39,7 million was needed to construct a new dam, water treatment plant, 17 tanks, 153 kms of water mains, among other assets. To attract cohesion funds and bank loans it was necessary to present a reliable management and a feasible, sustainable solution. Private operation proved to be the best solution considering the Portuguese context at that time.
- 5) Initially, the Association of municipalities was responsible for the investment. In 2007 CAPEX was transferred to the concession. Maintenance, operation, demand and water collection are private risks. From 2017 onwards CAPEX responsibility was shared according with concession arrangement..
- 6) Águas do Planalto is a 30 year concession contract
- 7) In August 1998 the tender was announced. Concession's activity started in May, 1998.



Águas do Planalto key figures

Population: 76 thousand inhabitants

Network Coverage: 94%

3 Water Treatment Plants

27 pumping stations

129 reservoirs

Water network length: 1370 km

CAPEX 1998-2007: € 39.734.285

These are resilient infrastructures, capable of supplying quality water, 24/24h, throughout the year, even in severe draught years.

Affordability is assured for all, with the cost of water representing 0,86% of average family income.

Águas do Planalto is a financial and economic balanced company. As many of long term concession projects, net results were negative at the beginning of the contract (1008-2011), and positive afterwards.

In 2014, the concession was awarded with the National Regulator Authority (ERSAR) Quality of public water supply and Quality of potable water for human consumption.



c) Economic and financial effectiveness

- The Concessionaire pays a “rent” or “royalty” to the Grantor (Associação de Municípios). The Grantor uses the rent to invest in its assets, assuring capacity to renewal of infrastructures.
- Tariffs are affordable for all while assuring full cost recovery.
- Regarding externalities:
 - The Concession increased local economy, by contracting local works, suppliers and constructors;
 - It contributed decisively for public health;
 - It decreased fire damage;
 - It increased reliability and trust in the consumers, by providing quality water 365 days, 7 days/week, 24h;
 - It protects the environment and the groundwater and sustainability;
 - And it contributes to quality tourism.



Águas do Planalto can be replicable and scalable

By merging small municipalities into a single project, scale was obtained.

This was key to attract European Union funds, bank loans and private capital and know-how and create dimension to assure efficiency and sustainability.

By gathering municipalities with the same challenges and goals, it is possible to develop and establish feasible projects.

By closing unreliable small water systems (92 wells and holes) and constructing resilient assets (one reservoir, one WTP) OPEX is controlled and predictable, water quality is assured and supply is continuous, even in severe draught years.



e) Engage all stakeholders

In the preparation phase, as well as during the construction and operation phases, the following entities participated actively:

- Portuguese Government;
- Local authorities (Association of Municipalities, Town Councils and Parishes);
- Environment Agency;
- Civil society (even a “Consumer’s Movement was created);
- Engineering Designers;
- Local contractors and suppliers.

The Dam and the Water Treatment Station design were previously presented and discussed with civil society and only later they were sent to approval by the Portuguese Government and the Environment Agency;

The environmental impact study was widely discussed and participated by civil society.

Case 47

Spain

Health Sector

Barcelona Telecare Programme

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Barcelona Telecare Program
Project Proponent:	Barcelona City Council - Social Services Department
Project Organization:	UTE Televida-Tunstall

Public Organization: Barcelona City Council – Social Services Department

Private Organization: UTE Televida-Tunstall (a joint venture of Tunstall Healthcare (5%) and Televida (95%))

Capital Providers: 100% Financed by the City Council.

Why is this project a Case Study for People First PPPs: Barcelona Telecare program comes in 2013 as a new replacing telecare program for the one developed by the Institute for the Elderly and Social Services (Imsero), in order to improve the life standards of the elderly through the provision of telematic and face-to-face assistance to them. A PPP was issued to supply the devices and operate the telecare service. The contracting authority benefited with the dynamic structure and innovation of the private firm, while the private firm benefited from the synergies that the contract allowed to reduce costs and deliver the service to a huge part of Catalonian Community cities and towns. Also, they were awarded a new contract in 2016.





- 1) Where:** The project is developed for the active vigilance of the elderly people, living alone in Barcelona, the second largest city in Spain with a population around 1,6 million citizens.
- 2) Why:** The telecare service system in Barcelona started in 2005, when the City Council decided to join the Imsero Telecare program. In 2012, due to the economic conditions, Imsero finished its contributions to the telecare programs, which pushed Barcelona City Council to announce a two year telecare concession plus an extension of two more years to start a local program.
- 3) What:** The project aims at the improvement of the live standards of the elderly and their felling of security. Also, it seeks to bring security and tranquility to the users' families.
- 4) Who:** The design and political risks are assumed by the concessionaire, UTE Televida-Tunstall; while the risks of financing, demand and operation and management are shared between the Concessionaire and the Public Authority (Social Rights).
- 5) When:** (September, 2012) Contract announcement, (November, 2012) Contract awarded, (January, 2013) UTE Televida-Tunstall starts operation, (December, 2016) Contract ends.

Barcelona Telecare Program





a) Increase access to essential services and promote equity

The project comes as a new Telecare program to the former one developed by Imsero. This new program tries to increase the well-being of the elderly by reducing the delay between the moment of the accident and the arriving of the help.

Positive externalities arrived at the moment of seeking this objective:

- The mental health of the user improved thanks to the feeling of safety.
- The feeling of loneliness that the users experience is reduced.
- The safety and tranquility of the users' families also shown an improvement, therefore improving their quality of life.

Barcelona Telecare Program

3 GOOD HEALTH
AND WELL-BEING





b) Develop a resilient infrastructure and improve environmental sustainability

By being the first project completely done by the City Council of Barcelona it can be specially designed to fill the spatial necessities of the Barcelonan citizens. This decentralization permits to develop the city's own telecare program depending on the size of the city and the necessities of the citizens, allowing to develop and take advantage of the its infrastructure to promote an effective plan for the telecare units to arrive to the users' house and to the nearest hospital; and map the necessities of the population.

The construction of landline gadgets and Remote Control Units (UCR) developed specifically to fulfill the objective of the healthcare program promotes a sustainable way to cope for the special emergency needs for the elderly.

Barcelona Telecare Program





c) Demonstrate the economic and financial effectiveness of the project

The Telecare program is completely financed by the City Council of Barcelona. They pay through the social services 0,44 € per day and user to UTE Televida-Tunstall in a monthly amount.

The key relation in the contract is the one between the Social Services and the Concessionaire which is divided in the payment and the supervision. In the latter, the Social Services have access to the intranet of the Concessionaire to know how the service is working on real time.

To elucidate possible problems, both the Social Services and the Concessionaire have monthly meetings

Barcelona Telecare Program





d) Be replicable and scalable

This PPP can be a good example as the first telecare project encouraged by local authority and bring some important lessons:

- A good regional project for an efficiently planification of a telecare system based on the size and infrastructure available in the region and the citizens' needs.
- Design a good governance system to foster good communication between the contracting authority and the SPV
- Incentivize international firms with good financial conditions that foster competitiveness and motivate efficiency through the decreasing costs.
- Incentivize the participation of public and private units.
- Promote a project characterized by a low investment and implementation cost but high positive effects on health and well-being of the population. It is important to quote that this is a feasible project when the family culture is characterized by a low degree of closeness (elderly are not taken care of by their sons or relatives in their own homes)

Barcelona Telecare Program





e) Engage all stakeholders

The stakeholders involved are:

Public entities and regional governments: The City Council of Barcelona, The Social Services Department.

Private entities: Tunstall Healthcare and Televida, La Caixa Bank.

Independent bodies: UTE Televida-Tunstall.

Elderly citizens of Barcelona and their families.

The PPP is the result of a contract between the Social Services of the Barcelona City Council and the SPV, UTE Televida-Tunstall. The main objective of the contract is to provide and operate the service related to the devices that make possible the immediate contact between the elderly that live alone and the local social services. It is however, not new as such. The contract is a new regional attempt to provide a telecare service that was previously financed by the Central Government, but that ceased due to the financial crisis. Potential problem that could have arisen due to Government changes where overcome by the strong institutions and the existing rule of law that allowed to smooth the Government transition.

A good governance system is critical for the correct development of the process and involvement of the main stakeholders in the decision-making. The Social Services had access to the intranet of the concessionaire in order to know how the service is working on real time. In addition, the Social Services carry on surveys in order to know if the data proportionated by the concessionaire is right and the opinion of the users in order to find possible improvements in the service

Also, they kept monthly meetings with the concessionaire in order to avoid possible problems and being informed of the progress of the service.

Barcelona Telecare Program



Case 48

Spain

IT and Broadband Sector

Barcelona IT infrastructure network

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Barcelona GIX. IT Network Integration (Spain)
Project Proponent:	Barcelona City Council-Municipal Institute of Information Technology (IMI)
Project Organization:	Tradia Telecom S.A.

Public Organization: Municipal Institute of Information Technology (IMI)

Private Organization: Tardia Telecom (100% owned by Cellnex); **Advisor companies:** Aggaros and Nae; **Equipment provider:** CISCO; **Outsourcing:** Eacom, Etra

Capital Providers: IMI: 945,000€ annually Tardia Telecom: 3.62 million for the new corporate network and € 475,000 to renew the Wi-Fi within the first three years.

Why is this project a Case Study for People First PPPs:

The (Actives and Passives) IT infrastructures and networks owned by Barcelona City Council were managed separately by different external contracts, which resulted in an inefficient, complex and costly management system. A PPP was issued to accelerate the process of integration, expansion and evolution of the IT network to obtain better, safer and customized IT service. The Administration benefited from an improvement in the IT infrastructure that enables the future of TELCO network deployment and the investment needed from the private firm. While the private firm benefited from the management of the infrastructure on Barcelona city and the participation in a smart city project in one of the leading cities in the world in this area





- 1) **Where:** The project is located in Barcelona city (Spain)
- 2) **Why:** Transforming Barcelona in a leading smart city worldwide has become a local government priority since 2011. To achieve this, it was necessary to adapt the city IT infrastructure and networks to the standards required, improving not just the existing network functioning, but also to spread a number of smart devices to provide service in different areas of the city
- 3) **What:** Integrate and improve networks in order to attain better services in the City Council offices that will provide more efficiency to the services provided to the citizens. Improve the connectivity to improve internet quality connections to the population of Barcelona. Benefit the population with the innovations deriving from the achievement of an smart and sustainable city
- 4) **Who:** The Contracting Authority assumed the risks of land and space and the political. The Concessionaire assumed the risks of (soft) construction, financing, inflation, demand, operations and supply of equipment. Finally the risk of design was shared by both bodies.
- 5) **When:** (2013) Contract announced by the Contracting Authority; (February, 2014); signature of the contract; (March, 2014) Start of the operation; (February, 2022) Ending of the contract

**Barcelona GIX. IT Network
Integration**





a) Increase access to essential services and promote equity

With the achievement of the objectives to expand and integrate the information technology network of the municipal administration and related services in order to become a leading smart city, the benefits to the population can be derived:

- An in the services provided to the people living in Barcelona city and to the incoming touristic visitors in the quality of services provided by the City Council.
- Better connectivity to the network in public areas.
- Benefits from the smart innovation that come with the achievement of the goals of a smart city process.
- Positive externalities coming from the knowledge spillovers derived from the new technologies implemented.

Barcelona GIX. IT Network
Integration





b) Develop a resilient infrastructure and improve environmental sustainability

The improvement and implementation of new IT infrastructure should lead to certain objectives:

- The integration of different municipality networks
- Cost reduction and efficiency in the operation and maintenance
- Increase of security according to the requirements of the municipal services
- Flexibility for design of services.
- Technology evolution.
- Increase the capacity of the network to incorporate more devices to achieve a reliable and resilient network on which build the future smart city

The City Council decided to integrate the management of the Active and Passive Networks to optimize investment, avoid management overlapping, and ease supervision. Additionally the integration will allow obtaining technological efficiency gains by sharing the width band among all organizations within the City Council.

The integration should allow for the interoperability of systems to manage the city in a smart way, and take the whole advantage of the increasingly growing number of sensors available in the city providing information about what is happening in the city in real time.

The integrated management approach and technology evolution would allow achieving enough capacity to adopt innovations associated to smart cities

**Barcelona GIX. IT Network
Integration**





c) Demonstrate the economic and financial effectiveness of the project

The PPP introduced an innovative business model in which the concessionaire provides corporate services to the City Council and the City Council allowed the firm to use the spare capacity of the infrastructure, owned by the municipality, to commercialize network capacity to operators in the wholesale market

This network sharing model between public and private agents would help to reduce IT network-operating costs for the City Council by receiving a yearly payment, finance the new equipment by the private firm, and generate new revenue streams.

The awarded firm would be paid an annually amount (945,000 euros plus costs of new demands of the City Council) but it will have to invest in new corporate network Multiprotocol Label Switching (MPLS) and the renew of the Wi-Fi within three years.

The City Council additional would receive a yearly amount from the concessionaire for the commercial use of the capacity of the network.

Barcelona GIX. IT Network
Integration





d) Be replicable and scalable

This project represent an important step in the accomplishment of the objective of smart cities established by the local government in 2011. Some lessons can be learned:

- A good example of innovation of IT infrastructure that allows for an efficient operation and management under one contract
- The implementation of an innovative business model, where both parties can be beneficiated from the new infrastructures
- Although the profits from the contract were partially limited in the national regulation. This case represent an important lesson learned to further develop and improve this innovative business model in other local areas
- The implementation of an innovative project that allows for the improvement and innovation, and that constitutes a big step into the achievement of a smart cities and the diffusion of knowledge

Barcelona GIX. IT Network
Integration





e) Engage all stakeholders

Regional Authorities: Barcelona City Council

Public entities: IMI

Private entities: Tradia telecom (Cellnex), Aggaron, Nae, CISCO, Eacom, Etra

Public staff, citizens of Barcelona and visiting tourists

A good governance system is critical for the correct development of the process and involvement of the main stakeholders in the decision-making, and will also assure the correct progress of the project over time.

In this Project, some disputes arose from unexpected situations, such as when the Spanish Government approved the new law of Telecommunications liberalizing the use infrastructures and increasing competition in the fiber optic business.

To solve conflicts, the contract includes three different committees in areas such as strategy, tactical and operative. Operation committees have as duties the supervision of the daily task to carry out the services, and solve the problems of these services. These committees will be composed by members of the City council and the concessionaire.

Barcelona GIX. IT Network
Integration



Case 49

Spain

Transport Sector

Barcelona Tram Service

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Barcelona Tram Service (Spain)
Project Proponent:	Metropolitan Transport Authority (ATM)
Project Organization:	Tramvia Metropolità S.A. - Tramvia Metropolità del Besòs S.A.

Public Organization: Metropolitan Transport Authority (ATM)

Private Organization: **Tramvia Metropolità:** current members (Globalvía Inversiones SAU (43.39%), Alstom (24.08%), Moventia (20%), Detren Compañía General de Servicios Ferroviarios SL (4.58%), Ferrocarril Metropolità de Barcelona (2.5%), Ferrocarrils de la Generalitat de Catalunya (2.5%), FCC Construcción SA (1%), Comsa Emte Concesiones SLU (1%), Transdev Group SA (0.95%))
Tramvia Metropolità del Besòs: current members (Globalvía Inversiones SAU (44.01%), Alstom (20.9%), Moventia (22.56%), Detren Compañía General de Servicios Ferroviarios SL (4.58%), Ferrocarril Metropolità de Barcelona (2.5%), Ferrocarrils de la Generalitat de Catalunya (2.5%), FCC Construcción SA (1%), Comsa Emte Concesiones SLU (1%), Transdev Group SA (0.95%))

Capital Providers: **Trambaix:** European Investment Bank €136.1 million (44.80%), own funds €30.5 million (10.04%), project credit €89 million (29.30%), VAT credit €22.6 million (7.44%), subordinated credit €3.4 million (1.12%), subsidy €22.2 million (7.31%)

Trambésos: European Investment Bank €125.1 million (45.18%), own funds €30 million (10.83%), project credit €88.8 million (32.07%), VAT credit €33 million (11.92%)

Why is this project a Case Study for People First PPPs: The plan to reintroducing a tram system network (after the disappearing of the old system in 1971) started in 1987. The necessity to integrate and promote social cohesion to the outskirt of Barcelona metropolitan area was one of the main objectives of the public authorities. To attain this, two PPP contracts were issued to build two tram networks in two of the outskirts of Barcelona, one for the southwest and another for the northeast areas. The Contracting Authority benefited from the know-how and the risk sharing that allowed to reduce social costs relative to other alternatives; while the private firms benefited from guaranteed profits derived from very low demand risk and the reputation affects of the partnership to increase its importance in the market



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

- 1) Where:** The project is located in the Southwestern and Northeastern outskirts of the city of Barcelona to Barcelona city (Spain);
- 2) Why:** Strategic interaction and social cohesion are main objectives in the sustainable development of cities an urban areas.
Before the implementation of the tram system, the southwestern and northeastern areas have traditionally been middle-low income areas of the city of Barcelona. The need to a revitalization of the area was a plan to bring integration and social cohesion
- 3) What:** (1) Improve transport connections within and between the area´s cities (2) Integrate, renew and provide cohesion to the outskirts of Barcelona metropolitan area
- 4) Who:** For both contracts, the risk of Land and Space were assumed by the respective City Councils. The risks of design and construction, financial and operation and management were assumed by their respective Concessionaire; while in both cases the demand risk was share by the Contracting Authority and the respective Concessionaire
- 5) When:** Trambaix: (2000) signature of the contract; (2001) start of the construction; (2004) start of operation; (2032) End of the contract
Trambesòs: (2002) signature of the contract; (2003) start of the construction; (2004) Start of operation; (2032) End of the contract

Barcelona Tram Service

11 SUSTAINABLE CITIES AND COMMUNITIES





a) Increase access to essential services and promote equity

This contract was designed to integrate, renew and provide cohesion to the outskirts of the city and improve the transport connections. This is part of a broader strategy to redevelop and renew the surrounding areas, and the introduction of other public services like the new UPC campus and public parks. With this, the benefits of the population are:

- New alternative –environmentally friendly- transport system, increasing the capacity of other public transport networks, and the accessibility of the population to the surrounding cities and city center.
- An increase in public health and quality of life due to the decrease of polluted air derived from the decrease of traffic.
- Renewed and improved public areas
- The generation of job opportunities derived from the construction and operation of the Tram system.

Barcelona Tram Service





b) Develop a resilient infrastructure and improve environmental sustainability

The Barcelona tram service is a fundamental part of the transport system in the city of Barcelona. Furthermore, the tram system affects multiple dimensions of the city, the most significant ones being mobility, the environment, urban planning, the economy and social cohesion. The trams have a tremendous impact on the environment because of the traffic that moves from private cars or even buses to clean trams as well as the influence that the trams may have on the use of other forms of transport in the city.

These two tram networks are a backbone for the city and have many implications for urban planning in Barcelona.

The connection with the surrounding cities in the metropolitan area has a tremendous impact economically and in terms of social cohesion. People in the tram networks' areas now have easy connections to get to work and go shopping in Barcelona.

Barcelona Tram Service





c) Demonstrate the economic and financial effectiveness of the project

The Barcelona tram system was funded principally using EIB loans. EIB funding represented 44.8% of the Trambaix network and 45.18% of the Trambesòs network. The second most important funding source was the project credit, principally supplied by Banco Sabadell and Société Générale, both shareholders in the concessionaires. The third and fourth most important funding sources were own funds and VAT credit.

It is worth to highlight the presence of an international institution like EIB which ensures that there will be pressure to achieve efficiency and financial discipline.

The payment method is divided into four component: an annual payment, a technical fare, advertising income and sales of single tickets.

The Concessionaires guaranteed a profit if the demand was at least half that expected, lowering the risk, so the benefits were almost certain

Barcelona Tram Service





d) Be replicable and scalable

This PPP is a successful case, where we can get many lessons, some of the most important:

- A successful case of cooperation between public and private bodies to attain a sustainable, environmentally friendly project that promotes well-being and economic growth.
- The practice of a successful PPP that allowed for an efficient risk mitigation and cost reduction
- A strong institutional structure, that allowed the project to survive two significant political changes in the Barcelona City Council.
- The involvement of International Institutions to mitigate risks and guarantee financial discipline and efficiency in the development of the project.
- The promotion of a project that encouraged social cohesion and integration of marginal areas, generating positive externalities to the citizens and dynamizing the labor market through the generation of new job opportunities.

Barcelona Tram Service





e) Engage all stakeholders

Public authorities: City Council, Generalitat de Catalunya, ATM, Entitat Metropolitana de Transport (EMT)

Private Entities: Alstom, FCC Construcción SA, Grup Sarbus, Necso SA (now known as Acciona), Comsa, BanSabadell Inversió Desenvolupament SA, Detren Compañía General de Servicios Ferroviarios SL, CGT Corporación General de Transportes SA, CGEA Connex, Soler i Sauret SA, Société Générale in Spain. Globalvía Inversiones SAU, Moventia, Ferrocarril Metropolita de Barcelona, Ferrocarrils de la Generalitat de Catalunya, Comsa Emte Concesiones, Transdev Group.

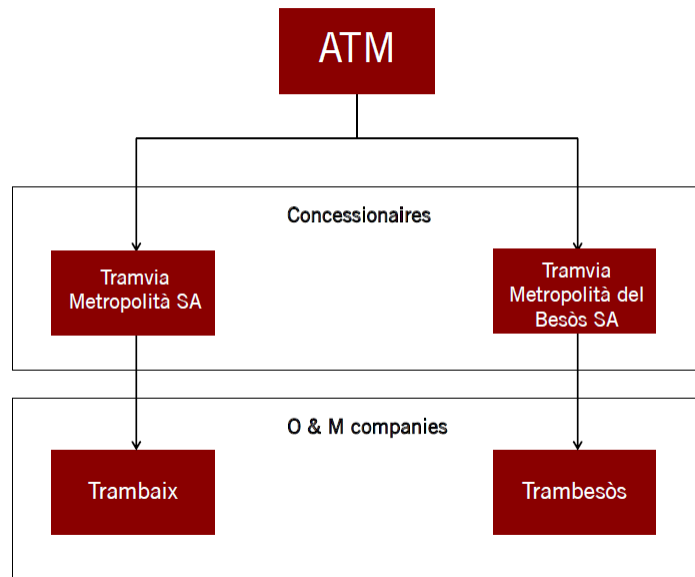
International institutions: EIB

Barcelona Tram Service

11 SUSTAINABLE CITIES AND COMMUNITIES



Barcelona tramway's organizational structure



Good governance is guaranteed by Barcelona's generally well-functioning metropolitan institutions and the integration of the project into the public transport network, which guarantees that the authorities and the contractors will be aware of the need to maintain high standards of transparency and a fair process.



Case 50

Spain

Transport Sector

Tenerife Light Rail Metro

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Tenerife Light Rail Metro
Project Proponent:	Cabildo Insular de Tenerife
Project Organization:	Metropolitano de Tenerife S.A.

Public Organization: Cabildo de Tenerife (CIT)

Private Organization: Metropolitano de Tenerife S.A. is a mixed capital company.
Private capital: Tenemetro (14%) (A joint venture of Transdev, Ineco and Somague), Cajas Canarias (6%)

Capital Providers: Initial investment financed through Metropolitano de Tenerife, with Caja Canarias Banco Europeo de Inversiones (BEI) (with BBVA warranties) as main founders. The financing was complemented by CIT (64%) and Metropolitano de Tenerife (36%) (Through a loan financed by Banco Europeo de Inversiones (BEI))

Why is this project a Case Study for People First PPPs: The high congestion in Santa Cruz de Tenerife was a pressing issue for the Public Administration, because of the delays in the public transport system and the environmental pollution that it generated. Aiming to reduce this congestion and bring a better mobility to the citizens and touristic visitors, an innovative PPP was issued. Here, the private sector has a participation in a public company as financing and technological partner. The Public Administration benefited from the private know-how and capital investment needed. While the private firm participated in an innovative PPP for a and sustainable project not yet implemented on the island.





- 1) Where:** The Project is located in Santa Cruz de Tenerife (203,692 inhabitants in 2017), the most important municipality of Tenerife Island, belonging to the Canary Islands (Spain)
- 2) Why:** The municipality of Santa Cruz de Tenerife has seen a growing rate of urban population due to the increase in the touristic industry, which has brought a problem of traffic congestion in the city. Although the public transport system is well developed, the need to reduce this congestion was a necessary issue that needed to be solved.
- 3) What:** (1) Alleviate the traffic congestion and facilitate and satisfy the demand of mobilization of the citizens and the touristic visitors (2) mitigate the pollution deriving from the high congestion and its environmental impact
- 4) Who:** **Land and space:** Entidad Viviendas Municipales de Santa Cruz de Tenerife. **Environmental:** Metropolitano de Tenerife. **Design and Construction:** CIT. **Financing:** Public Administration / Metropolitano de Tenerife. **Interest Rates:** Metropolitano de Tenerife. **Operation and management:** Metropolitano de Tenerife. **Demand and Political:** CIT
- 5) When:** (2002) The private entity acquires the 20% of the shares in the tender process; (2004) Metropolitano de Tenerife starts the construction; (2007) the construction ends and beginning of operation; (2017) CIT buys back the 14% of shares.





a) Increase access to essential services and promote equity

The Light Rail Metro of Tenerife had to be part of a railway network on the island (along with Tren del Sur and Tren del Norte) that wanted to offer an alternative fast, of quality and with capacity to reduce road collapse and boost the insular economy and the employment and services market in the South and North of the Island. With this, the benefits of the project are:

- A sustainable, environmental friendly to mobilization, bringing a better access to the population and visiting tourists.
- A reduced level of pollution derived from the lower traffic congestion, increasing the quality of life of the citizens.
- A dynamization of the economy due to the job opportunities generated in the short and long-run derived from the construction and operation of the Light Metro.
- In direct economic benefit to the region and people that live through the touristic industry, due to the increase in touristic visitors that use the new transport system.

Tenerife Light Rail Metro





b) Develop a resilient infrastructure and improve environmental sustainability

This is the first Light Rail Metro implemented in the Island. The Light Rail Metro is defined as a transport system that is positioned between the subway (underground) and the tram on one side, and the train on another. They share some characteristics both from the Tram and the Train system and are considered to be the best option to the cohesion of metropolitan areas of medium size.

This way, the Public Authority adds a new infrastructure and brings another alternative to the existing railway network on the island (along with Tren del Sur and Tren del Norte).

Along with the decrease in the traffic congestion that this transport system brings to the city, the the positive impacts to the environment are straightforward:

- Decrease in the emission of CO2
- Improvement of the green areas and quality air to the population

Tenerife Light Rail Metro





c) Demonstrate the economic and financial effectiveness of the project

The Tenerife light rail contract incorporated an important innovation with respect to traditional PPP contracts. The aim was for the public sector to maintain control of this strategic infrastructure while receiving know-how from private companies. To this end, the contract was structured in such a way that the private partner could enter the capital of the company (until then of public capital) with the objective of transferring technology through participation in the operation and exploitation of the infrastructure during a period of time.

To finance the costs of the project, the company was endowed with a capital that amounted to 50 million euros participated by three companies (CIT, Tenemetro, Caja Canarias). The main financing entities for the initial capital were Caja Canarias and BEI (through warranties granted by BBVA)

In order to complement the financing, the CIT was obliged to provide grants or social capital with own funds and the Government of the Canary Islands and City Councils for up to 64% of the total cost of the project. This way, Metropolitano de Tenerife would have to finance the remaining 36%. Which was done through a loan with the BEI

Tenerife Light Rail Metro





d) Be replicable and scalable

As the first Light Rail Metro project implemented in the Tenerife Island, we can retrieve some lessons:

- The use of an innovative PPP that motivates the private investment and the participation of public and private units
- The promotion a project with the potential to foster the touristic sector and generate a boost to the economy of the region (characterized by a high participation of the touristic industry in the economy).
- The promotion of a sustainable, environmentally friendly transport system to improve the quality of life of the population and promote the economic growth of the region.

Tenerife Light Rail Metro





e) Engage all stakeholders

As an urban project, the stakeholders comprehended:

Regional authority: Gobierno de Canarias.

Public Entities: Cabildo Insular de Tenerife, Entidad Viviendas Municipales de Santa Cruz de Tenerife.

Independent bodies: Metropolitano de Tenerife.

Private entities: Tenemetro (Transdev, Ineco, Somague) EIB, BBVA, Caja de Canarias.

Tenerife Light Rail Metro



Case 51

Sao Tome and Principe

Health Sector

Health for All

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Health for All (<i>Saúde para Todos</i>)
Project Proponent:	Ahmed Zaky
Project Organization:	Instituto Marquês de Valle Flôr (IMVF)



Public Organization: Ministry of Health of Sao Tome and Principe, Portuguese General Directorate for Health

Private Organization: Altice Portugal Communications, José de Mello Saúde

Capital Providers: Portuguese Cooperation (Camões IP) and Portuguese General Directorate for Health, Gulbenkian Foundation

Why is this project a Case Study for People First PPPs: The *Saúde para Todos* Program - implemented in Sao Tome and Principe by IMVF since 1988 – has put in place a programmatic and stepwise strategy for the provision of preventive, primary and specialized healthcare in this archipelago. The Program was built upon a broad coalition of actors: the Ministry of Health of Sao Tome and Principe, the Portuguese Cooperation, the Portuguese Directorate General for Health, the Gulbenkian Foundation, Academic Institutions, Public and Private Health Structures and other Technologies and Communication's Companies. Through the adoption of a holistic vision of the challenges and conditionalities of health, privileging an intervention in proximity and taking advantage of the potential of new technologies (through the development of a Telemedicine system), it was possible to make Sao Tome and Principe one of the countries in sub-Saharan Africa with the best health indicators.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



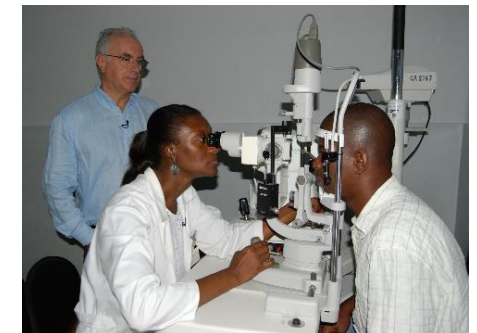
THE GLOBAL GOALS
For Sustainable Development

Please use this slide to describe briefly the context and strategy supporting the project:

- 1) Where:** Sao Tome and Principe (all regions). Initially implemented in the district of Mé-Zochi. The program was progressively extended to all regions of the archipelago, currently covering an overall population of more than 180 thousand inhabitants;
- 2) Why:** In a country marked by geographical isolation, external dependence, fragile public policies in the health sector and with an enormous deficit of health professionals, the strategy to progressively extend the project from district to district in a sustained way to cover the whole country.
- 3) What:** The overall objective of the program is to contribute to the universal access of the population of the São Tomé and Príncipe to better quality health care. Its specific objective is to promote the progressive sustainability of the provision of preventive, primary and specialized health care in this archipelago.
- 4) Who:** The long-lasting and trust-based collaboration between Sao-tomean institutions and a wide range of Portuguese health-related entities made it possible to create - and progressively strengthen - a reference network of health professionals. The development of the Telemedicine system gave a further impulse process to the collaboration and to the capacitation participation and the feeling of appropriation of Sao-tomean professionals placing them at the heart of the development process. The possibility offered by this Program for a group of Sao-Tomean professionals to develop long-term trainings in Portugal highlights one of the key concerns of the Program Health for All: the strengthening of national human resources (both clinical and technical) in order to improve the quality of the healthcare provided and to fight the brain drain and immigration statistics.
- 5) When:** Acknowledging that the transformation of health systems is a complex and slow process, the Health for All Program has adopted a stepwise approach from the start. Over 30 years of intervention, there are several milestones worth highlighting:
 - The beginning, in 1988, of the pilot project on primary healthcare in the Mé-Zochi district, gradually until 2008 the enlargement of the project to all 7 regions of the archipelago and the introduction of specialized healthcare;
 - Starting from 2009, conduction of the short-term missions in 25 different specialties of Portuguese professionals;
 - In 2011, the introduction of the Telemedicine System including necessary clinical investigations (CAT scan, echography, mammography, echocardiography, Teleye®...), as well as a specific project component aiming the Fight Against Non-communicable diseases;
 - Starting from 2012, several PhD in medicine were started, various screening and survey studies (HPV, urology, deafness, specific vaccination campaigns ...) were conducted, articles published in National and International reviews;
 - In 2014 the creation of the Sao Tomean sign language.



“Health for All”





a) Increase access to essential services and promote equity

The introduction of an integrated set of services promoted the accessibility, equity and effectiveness in healthcare services in all the country. The efforts made have already allowed the transition from an ineffective health service to a decentralized health service that presently reaches all the territory and the national population, having in its core the introduction of an integrated set of services that ensures primary, preventive and specialized healthcare. The mentioned set of services currently covers a network of 30 health centers and 2 hospitals in all the country.

It should be emphasized that, since 2011, the conduction of more than 600 short-term medical missions - in 25 different specialities - has ensured more than 33 thousand medical consultations and more that 5 thousand surgical procedures and over 300 training sessions in different medical areas. Moreover, The Telemedicine System has allowed the conduction (at distance and with sound and image precision) of more than 3 thousand clinical sessions. So far, more than 80 thousand exams and clinical archives have been introduced in this platform.



“Health for All”





“Health for All”



b) Develop a resilient infrastructure and improve environmental sustainability

The correlation between environment and health has soon been recognized by the Program Health for All. Under its preventive component, several education for health campaigns aiming to the prevention and early control of disease, others related to provide access to potable water - mainly related to access to drinking water and sanitation systems - have been supported since early stages of the Program. Moreover, the development of studies in these areas is still often supported.

Maternal and child health care, preventive and control programmes against communicable and endemic diseases, epidemics constitute a baseline approach in the project.





c) Demonstrate the economic and financial effectiveness of the project

The *Health for All* Intervention has economic, clinical and social gains vital to support the sustainable development of the country as it provides Sao Tome with the skills and effective techniques for the prevention, treatment and monitoring of complex clinical cases that until now could only be solved across borders. The results achieved by the project show effectively the potential for a more efficient financial management. Using less than 20% of the estimated costs of Diagnosis Related Groups (DRG) (costs for equivalent treatment in Portugal in a medical evacuation situation), the project contributed to the reduction in over 50% of the number of medical evacuations showing a substantial improvement in national healthcare (that therefore achieves health equity for consultations and incomparably better specialized interventions); and a double saving for the Portuguese State and the Sao Tomean Government (which applied on average 40% of their national budget in health medical evacuations).

Nevertheless, medical evacuations and separation of family members in fragile state represents a big human and social burden which has been greatly avoided by the project's strategy and intervention.



“Health for All”





d) Be replicable and scalable

The project provides a comprehensive operational and replicable paradigm for the implementation of effective and efficient aid in the health sector. It has been showcased in several organizations. Its results have been disseminated across medical and scientific communities. The adopted approach has been able to overcome economical and geographical barriers to health assistance with an extreme impact.

Being integrated in the National Health Care System, it provides comprehensive preventive primary and specialized care, guaranteeing universal equity of access. Worth to mention that when the project started, medical assistance in the country was only available in 7 of the 32 specialities. Capacity building and professional training within the country and abroad are fundamental components for sustainability and for avoiding brain drain.

Telemedicine solutions support screening, real and referred time clinical evaluation, sorting priorities, full diagnosis, immediate response and post-surgical follow-ups. Telemedicine is also a very efficient e-learning tool, providing further theoretical and practical training for local technicians.

The bottom-up approach can be replicated in other sectors. Worth to mention that health improvement has directly effect on human development, economic growth and social well-being.



“Health for All”





e) Engage all stakeholders

IMVF, a Portuguese non-profit organization, partnering with São Tomé Health Ministry, implement the latter's fundamental Health Policies.

IMVF and Health For All have been granted the statute of “Public Interest” both in Sao Tome and Portugal, encouraging all other partners of the project: Portuguese Cooperation, Calouste Gulbenkian Foundation, Portuguese Directorate General for Health and more than 50 Portuguese Hospitals.

Several pharmaceutical and medical industries are also motivated to contribute through their corporate social responsibility practices.

Together with these stakeholders, IMVF has built a model, and developed with “Altice Labs” a Telemedicine System that should ensure millions of underprivileged people access to care and make a real difference in the fight against disease.

While Portuguese specialists perform solely short-term missions, Sao-tomean professionals guarantee the ongoing operation of the project across the country. This local team ensures the screening and channeling of patients via the Healthcare Centers, even from the remotest communities.



“Health for All”



Case 52

Sudan

Health Sector

NGO Engagement in PPP

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Save a Life Initiative (SALI), Sudan
Project Proponent:	Complex Program Group (CPG)
NGO Organization:	SALI International, Sudan



PNP is an innovative form of PPP specifically designed to deliver the SDGs in Fragile and Developing countries.

PNP does not require PPP Readiness or external transaction managers.

SALI uses an innovative form of PPP called Public-NGO-Partnerships (PNP) to deliver sustainable services or services plus infrastructure to left behind people in Fragile Countries where traditional PPP will not work. PNP uses a process called Taqaddum to develop robust competences in local NGOs over two to three years and obtains funding for services delivery from government (eg Health Insurance) and user fees that remote and village communities can afford. Through PNP and Taqaddum local NGOs are transformed into For-Benefit Organisations that can obtain finance for services plus infrastructure projects through development banks, Impact Investing, and Crowd Funding.

Why is this project Best Practice People First PPPs:

NOTES:

- **Low transaction and contract management costs**
- **Capability and process development using pilot PNP projects**
- **PNP follows after capability and processes are development**
- **Has community outcomes as the core driver, not profit maximisation**



UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind



Public NGO Partnerships (PNP) and For-Benefit Organisations are the FUTURE for PPP to deliver the SDGs in fragile countries.

Local NGOs are fast-growing service providers that have access to and are trusted by remote needy populations and that will be more effective than governments and the private sector in achieving the SDGs. SDGs requires partnerships with those that have a real impact at ground level.

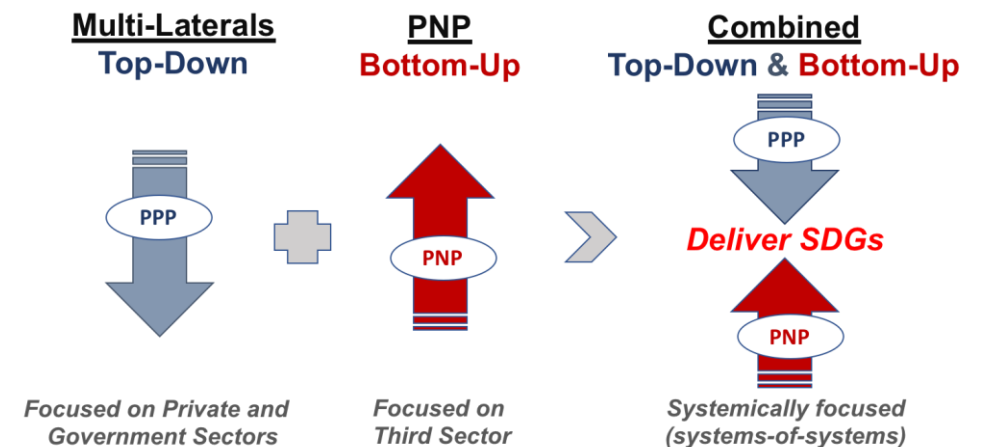
PNP can be used for services, or services plus infrastructure.

PNP are Bottom-Up and transform local NGOs into For-Benefit Organisations. PNP fast-tracks local competency development and delivers timely and fit-for-purpose services that the community trust, want, and are willing to pay for.

This is in stark contrast to top-down strategies that are focused on governments, are profit driven, may take decades to have any real impact, and deliver questionable value-for-money services that the community often don't trust or want.



A systemic strategy for core public services and infrastructure



International PPP Centre of Excellence

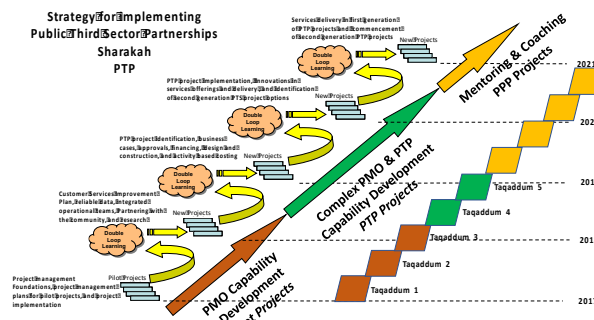
People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development



- 1) Where:** The project is located in Sudan and delivers health care services to remote and village areas
- 2) Why:** Fragile countries have no realistic chance of successfully using PPP, and top down strategies will not deliver change within our lifetime. Sudan was chosen as a Fragile country that is coming out of conflict to pilot an innovative form of PPP (focused on local NGOs) to deliver sustainable health care services / services plus infrastructure. NGOs are a fast-growing service provider that have access to remote needy populations that may be better than government and the private sector in achieving the SDGs. Delivering the SDGs requires partnerships with those that have a real impact on the ground level.
- 3) What:** In the short term to deliver health care services to extremely disadvantaged people. In the medium term to establish a Fourth Sector made up of local For-Benefit organisations that will drive capability development in the country. In the long term to drive economic growth. SALI was established as a NGO under the Humanitarian Aid Commission (HAC) in Sudan
- 4) Who:** Establishment funding was provided by Qatar; CPG designed and program managed the program; SALI works closely with the Sudan Governments, National Health Insurance, WHO, UNICEF, WFP, and local tribal communities.
- 5) When:** The pilot PNP health projects have operated for over two years. The Capability Development phase is nearing completion (after three years). The trial PNP services plus infrastructure project development exercise is completed. SALI is now identifying Pilot PNP services plus `infrastructure projects in Primary Health Care based on community-based or village-based insurance health insurance.



UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

a) Increase access to essential services and promote equity

There are currently three PNP services pilot projects:

Primary Health Care (PHC) in Kassala and Khartoum – these projects provides PHC to over 50,000 people in remote villages. Currently there are over 20 million people in Sudan with no PHC. The projects are working with the Ministry of Health and Health Insurance to pilot sustainable PHC using mobile clinics, village-based health insurance supplemented with user co-payment, and community health care workers. The project is piloting a new model to deliver PHC services through a PNP Model. The primary health care uses an outreach model in two sites: rural areas in Khartoum State and remote localities in Kassala State.

Nutrition in South Darfur – Sudan has over one million internally displaced people. The project in South Darfur provides nutrition and PHC to approximately 40,000 people. While this is an emergency aid type project, it is using its research component to develop a sustainable nutrition capacity.

NOTES:

- Each project includes an Evidence Based Research Component. The initial research was to establish reliable demographic data and an overview of the communities health. The projects are piloting alternative services delivery, treatment methods, and sustainable solutions.
- Enterprise Management System. SALI has developed an EMS for local NGOs and For-Benefit Organisations. It drives governance and transparency through its processes and provides reliable performance reporting and management that the international community can trust.
- Living Wage - The SALI team are paid a living wage. This is markedly different to the impoverishment level wages payed to locals by International NGOs.





b) Develop a resilient infrastructure and improve environmental sustainability

There is not enough money available from the Sudan government to cover the cost of health infrastructure or health care. This is typical of developing and fragile countries:

- The Sudan government spends 8% of its budget on health but this only equates to US\$142 per person per annum.
- The international community will not donate the US\$600 million pa to provide PHC to the 20 million extremely poor people.
- All too often international aid builds health centers in remote communities and they either only operate for a short time, or are abandoned and never operate at all.
- International NGOs often try to impose their value set on local communities.

To provide the most basic PHC costs around US\$20 per person per annum. SALI is piloting mobile clinics based around a local NGO run hospital to deliver PHC. The strategic intent is to develop a village-based form of health insurance that is run as a partnership between the government, Health Insurance, the local village, and SALI. The Partnering process includes local economic development as a core component.

Notes:

- Project Plans – all projects have robust project management plans that include clearly defined outcomes, schedule, cost breakdowns, risks and reliable performance measures.
- Customer Services Delivery Plans – customer services standards and outcomes are jointly developed with the community, are clearly defined, and outcomes and delivery methodologies are part of the evidence based research.
- Three stage business case development and Approvals – business cases are developed and approved using a version of the UK Treasury five case model.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

c) Demonstrate the economic and financial effectiveness of the project

Primary Health Care – The pilot projects are trialing different PHC services delivery methodologies and working with the government, health insurance, and village communities to develop cost effective and fit-for-purpose standards and services levels that the community want and can afford.

The PHC services plus infrastructure projects will use finance coming from health insurance, Impact Investing or Crowd Funding with funding from health insurance and user co-payments.

SALI uses a fit for purpose approach eg: specially designed mobile vehicles for PHC delivery,,, using community health workers (CHW) from local communities that need not to move or travel.

SALI is developing the software, hardware, and processes to use barcodes linked with insurance family cards. The model will deliver financially sustainable PHC to rural and village communities, provide reliable demographic data, and support evidence based local research.

Specialist Hospitals - SALI has completed a PNP services plus infrastructure business case to build and operate two new For-Benefit ENT hospitals. The business case is equal in reliability to OECD best practice and is based on an existing ENT hospital owned and operated by a local NGO:

- The ENT hospitals are financed through loans from investment banks, Impact Investing . Crowd Funding
- The ENT hospitals are funded from health insurance and co-payments.
- They provide services at no cost to disadvantaged people.
- They are profitable with surpluses reinvested in other health projects.
- They include back up power and technology refresh.
- They repay loan finance within fifteen years.



Constant Income at \$19.88 per patient and a compound income growth rate of 0.25% above inflation pa, and varying outgoings						
	16.00	16.36	16.50	17.00	17.50	18.00
Outgoings / Income Gap per patient pa	3.88	3.52	3.38	2.88	2.38	1.88
NPV	7,317,911	5,512,553	4,852,061	2,366,210	(109,640)	(2585491)
IRR	6.40%	5.30%	4.80%	3.00%	-0.90%	-1.70%
Payback	15 years	16 years	16 years	18 years	22 years	25 years

International PPP Centre of Excellence

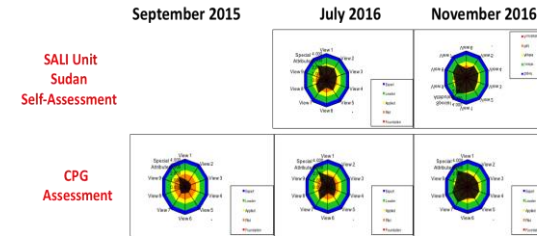
People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

d) Be replicable and scalable

Taqaddum – The Taqaddum process is designed to build PNP capabilities and processes in local NGOs to transform them into For-Benefit Organisations. A similar model was successfully used in the Malaysian Government. The Sudan Government has partnered with SALI to run courses for other local NGOs to lift their capabilities.



PNP – The PNP model builds in contemporary best practice and can be used in all sectors. It does not rely upon country PPP readiness, and satisfies core UN and financiers governance requirement.

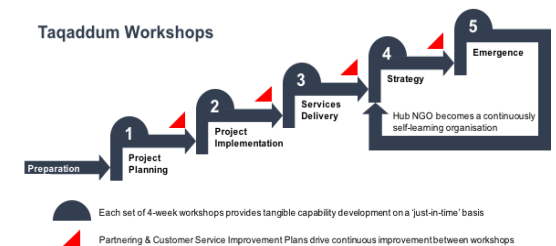
PHC – The SALI PHC project is piloting innovative PNP and services delivery solutions. The intent is to roll out the final version to the over 2,000 village clusters in rural / remote areas of Sudan. Just one health team is serving five communities at the same time, as compared to establishing five centres and having five health teams. SALI develops and uses multi skilled and self-directing teams.

Nutrition – The project includes planning for locally produced nutrients and fortified flour and food.

Hospitals – The ENT hospital demonstrates the financial viability and sustainability of PNP and provides the model and processes to develop health care facilities and deliver sustainable health care services in Fragile countries.

Other Projects – The PNP model is suited to the full range of infrastructure development programs as well as the much more complex integrated infrastructure development / service delivery programs.

Finance – The PNP model is suitable for Development Bank Finance, Impact Investing and Crowd Funding



UNECE 500 People First PPPs for the SDGs... ending poverty, protecting the planet, and leaving no one behind

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development



e) Engage all stakeholders

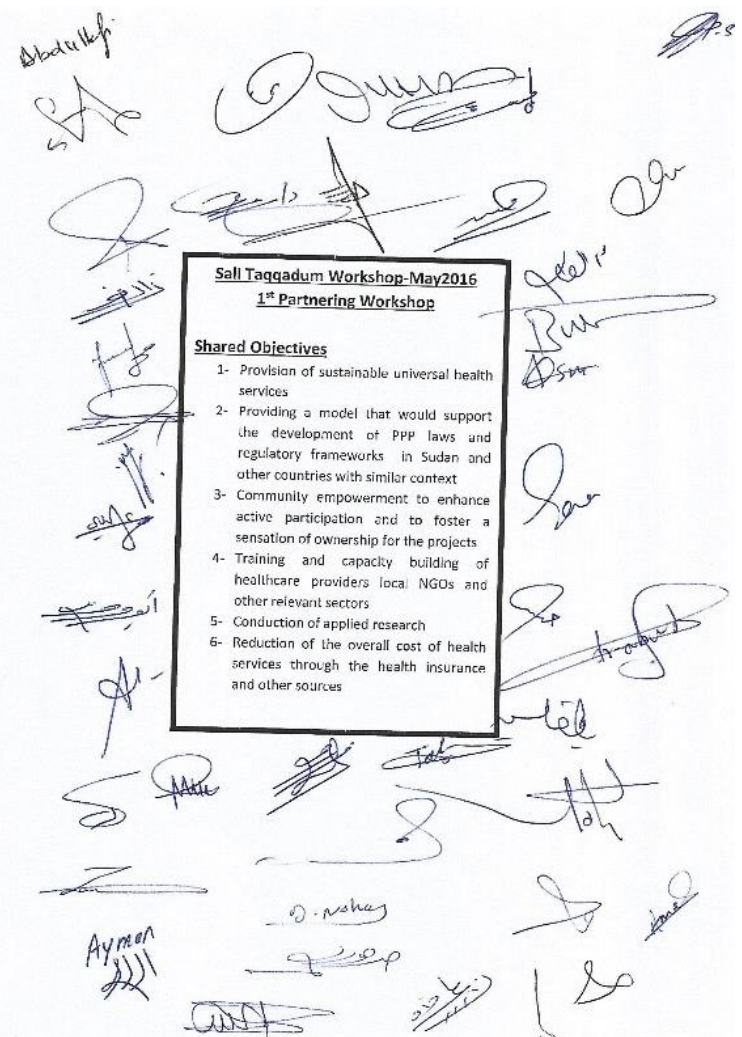
SALI has established formal partnering arrangements and signed a formal Partnering Charter with key stakeholders.

SALI works in Partnering based relationships with:

- Sudan Federal Government Ministry of Health
- Sudan Ministry of Finance
- Sudan Humanitarian Aid Commission (HAC)
- State Governments
- National and State Health Insurance
- Khartoum University
- Local villages
- Local community groups
- Multi-Lateral Organisations including WHO, UNICEF, WFP, UNPD, and Red Crescent

Notes:

- SALI uses formal Partnering Workshops.
- SALI projects have fully integrated teams with membership from partner organisations and the local community.



Case 53

Switzerland

Transport Sector

TOSA Electric Bus

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	TOSA Electric bus with flash charging
Project Proponent:	Transports publics genevois (tpg)
Project Organization:	



Public Organization: tpg (Transports publics genevois) – Geneva-owned mass transit

Private Organization: ABB – developed flash charging technology

Capital Provider: Canton of Geneva

Why is this project a Case Study for People First PPPs:

Social impact: Vital mass transit for regional population.

Environmental: Reduction of 3 types of pollution – atmospheric, noise, visual.

Financial: At a time of public budget constraints, a public private project with locally developed and produced cutting-edge technology and environmental sustainability goals was clearly a success.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Context and strategy supporting the project:

Where: Greater Geneva, Switzerland. Population of area including Vaud and neighboring France is over one million. Mass transit passengers of tpg were 215 million in 2017. The economy of the region is diversified and vibrant.

Why: Environmental pollution and traffic congestion are problems in the Geneva area. Cleaner transportation is an ongoing goal of the tpg. ABB wanted to develop a cutting-edge technology which would be Geneva-based, using the highly skilled ABB employees in the area. The high level of cantonal debt created a need for a PPP solution to finance the project.

What: New flash-charging technology charges the battery every few stops in 20 seconds while passengers are leaving and boarding the vehicle. 1) Avoids diesel carbon emissions. 2) Reduces noise pollution. 3) Eliminates visual pollution of overhead electrical lines which mar the physical beauty of the canton. 4) Increases the clean energy portion of tpg vehicles (now 50%). 5) Attractivity encourages people to switch from wasteful private cars to mass transit.

Who: Multiple partners: tpg, ABB, OPI (Office for Industrial Promotion), SIG (Services industriels de Genève), Canton of Geneva and Federal Energy Office in Bern. ABB developed and built the charging technology. tpg specified and ordered the buses from the Swiss producer Hess.

When: 2011: Project conception. 2013: Production of prototype. 2014: Testing of prototype on regular line.

2016: Signature by canton of Geneva and tpg of purchase contract for 12 vehicles.

December 2017: Launch of first vehicle on regular line in December 2017 followed by more tests.

March 2018: All 12 vehicles delivered to tpg, all charging equipment installed.

TOSA





a) Increases access to essential services and promotes equity

Mobility contributes to overall development in the following ways:

- Increases participation of population in economic & social tissue of region.
- Decreases inequality by allowing people of all income levels to access job market for a reasonable price.
- Opens all areas of region to accessibility by mass transit.
- Improves health of population by reducing pollution and increasing physical activity.

TOSA





b) Resilient infrastructure - environmental sustainability

The TOSA electric bus has a normal vehicle lifetime of 20 years.

The charging infrastructure is brand new and built to be reliable and long-lasting.

1'000 tonnes of CO2 emissions into the atmosphere are avoided on this line every year (line 23), compared to diesel vehicles.

The noise level while the bus is in operation is less than half of a diesel bus.

The electric engine has an efficiency ratio of more than 75%.

TOSA





c) Economic and financial effectiveness

The project was financed as follows:

- Development and production of charging infrastructure: ABB.
- Purchase of vehicles from Hess in Switzerland: Canton of Geneva.
- Project development coordination/maintenance/training/operation etc.: tpg.

TOSA project: showcase for new technology which is

- cutting-edge
- clean energy
- developed and produced in Switzerland.

Jobs preserved: ABB used local expertise.

Expertise developed: tpg has new expertise to offer (Nantes has purchased).

Image enhanced: Articles published all over world.

TOSA





d) Replicable and Scalable

This project can be replicated elsewhere.

It can be used as a model in other sectors of industrial production and public services.

Depending on the private and public finance provided, the project can be larger in scale.

The human capital on the project evolved over time:

- Technical teams from ABB, tpg and Hess worked closely together.
- The canton of Geneva organized regular technical and communications meetings.
- Because of the strike at ABB, tpg had to take on greater project management roles at a late date in the project.

TOSA





e) Stakeholders

The **four original developers** of the **TOSA** electric bus gave it its name:

- T:** tpg (Transports publics genevois)
- O:** Office for Industrial Promotion
- S:** SIG (electricity company of Geneva)
- A:** ABB

Other partners: Canton of Geneva
Swiss Federal Office of Energy in Bern
Academia: HEAD, the Geneva School of Art and Design decorated the first vehicle.

Challenges included:

- Concern about the financial stability of Hess, the producer of the buses
- Last minute strike by ABB Geneva workers to preserve local jobs
- Technical glitches which delayed the launch.

TOSA



Case 54

Turkey

Health Sector

Elazig City Hospital

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development



Project:	Elazığ City Hospital
Project Proponent:	Government of Turkey
Project Organization:	ELZ Saglik Yatirim

Public Organization: Turkish Ministry of Health

Private Organization: Rönesans Healthcare Investment, Meridiam, SILA Group, SAM

Capital Providers: €72 million equity by shareholders of ELZ Saglik Yatirim, €83million 18-year tranche and a €205 million 20-year tranche bonds for global investors including the FMO, IFC, Industrial and Commercial Bank of China (ICBC), Intesa Sanpaolo, MUFG, Siemens Financial Services, and Proparco
Credit enhancement tools developed by the EBRD (European Bank for Reconstruction and Development) and the World Bank through MIGA (Multilateral Investment Guarantee Agency)

Why is this project Consist of a 355,000 square meter facility that will service up to 20,000 patients and house 1,038 new beds
First green and social bond certified PPP hospital in Turkey
Unique financing mechanism created following the COP 21 and the commitments taken to support emerging countries to reach their sustainable development goals
LEED certification process in progress
Includes first High Security Forensic Psychiatric Hospital in the country



International PPP Centre of Excellence

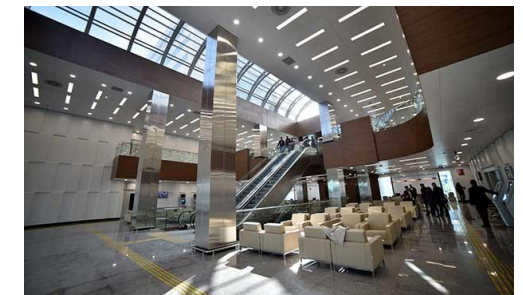
People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

- 1) **Where:** Elazığ, Turkey; Service area coverage of 3.4 million people
- 2) **Why:** The health service quality must be increased and qualified beds must be provided. PPP is chosen as it brings value for money according to the feasibility studies.
- 3) **What:** With modern hospital design, high quality healthcare is provided in spacious environments. Quality improvement through performance-based hospital services. Offering high-quality healthcare services that utilize technology will contribute to the development of medical tourism.
- 4) **Who:** The public sector benefits from the business and organizational experience of the private sector while focusing on its primary purpose of providing healthcare services.
- 5) **When:** 3 years construction, 25 years operation Tenor 28 years (€83million) and 20 years (€205 million)
High Planning Council Authorization: 7/2010, Implementation Contract: 8/2014, Financing Agreement: 12/2016

Elazığ City Hospital





a) Increase access to essential services and promote equity

1. Centralized location in the region

- Situated in the Eastern Anatolia region, has a population of 568,753 (Turk Stat, 2014)
- Daily population flux from the surrounding provinces (located at a distance of 142 km to Bingol province, 135 km to Tunceli province, 98 km to Malatya province and 153 km to Diyarbakir province)

2. Delivering services in all medical branches provides great convenience to the patients in the region

- 493 beds General Hospital
- 299 beds Women's and Children's Hospital
- 96 beds Psychiatric Hospital
- 150 beds Forensic Psychiatric Hospital
- 60-unit Oral and Dental Health Clinic
- 101 ICU, 33 operations room

3. High occupancy rates and low service and equipment quality in existing hospitals

- Due to absence of equipments and certain medical serviced, people needs to travel to big cities such as Ankara and İstanbul



Elazığ City Hospital





b) Develop a resilient infrastructure and improve environmental sustainability

- 1.No land take, expropriation, resettlement and/or economic displacement have occurred related to the Project
- 2.Earthquake isolation system will be implemented in all the buildings
3. Trigeration systems will be developed
- 4.Maximum wastewater generation (1,661 m³ /day) accounts 3% of the existing capacity of the Elazig municipality and managable.
- 5.During construction, limited and temporary emissions
- 6.During operation, baseline PM10, PM deposition and NO2 concentrations will be in compliance with the national and EU limit values

For construction phase:

- Air Quality Control and Monitoring Plan
- Noise Control and Monitoring Plan
- Hazardous Material Management Plan
- Emergency Preparedness and Response Plan
- Construction Camp Management Plan
- Construction Traffic Management Plan
- Human Resources Management Plan
- Occupational Health and Safety Management Plan
- Community Health and Safety Management Plan
- Security Plan
- Archaeological Chance Find Management Plan
- Subcontractor Management and Monitoring Plan

For operation phase:

- Air Quality Control and Monitoring Plan
- Hazardous Material Management Plan
- Emergency Preparedness and Response Plan
- IHC Traffic Management Plan
- Community Health and Safety Management Plan
- Occupational Health and Safety Management Plan
- Exposure Control Plan for blood-borne pathogens
- Radiation Exposure Control Plan
- Radioactive Substance Management Plan
- Life and Fire Safety Plan
- Security Plan
- Human Resources Management Plan
- Subcontractor Management and Monitoring Plan

Elazığ City Hospital





c) Demonstrate the economic and financial effectiveness of the project

Financing:

€89 million as interim liquidity by EBRD to mitigate the risks of construction and operation

+

MIGA political-risk insurance

=

Rating of Baa2, two notches above the rating of Turkey in 2016

Enabled participation by a larger pool of investors and mobilising new sources of funding - green and social bond

Funding:

1. Quarterly availability payments for the use of facilities.
2. Monthly service payments,
3. Project Company may collect revenues from the management of any commercial activities on the site at its own cost, risk, and responsibility.

Performance Management:

1. Due to unavailability of facilities, deductions can be made up to 10% of availability payments.
2. Due to service failure, deductions can be made up to 20% of service payments.

Elazığ City Hospital





d) Be replicable and scalable

1. Government support + Robust contractual framework + Interest of IFIs
 - Replication of the model
 - 21 projects under construction (30.688 beds, 12 billion US Dollar investment)
2. Similar structure intended to be used in other sectors
 - Schools
 - Dormitories

Elazığ City Hospital





e) Engage all stakeholders

1. Constant Interaction with All Stakeholders

Stakeholder (nearby residents, secondary residents, hospitals, official institutions, NGOs) engagements compatible with EBRD P10 and IFC PS1 requirements

4 stage negotiation process

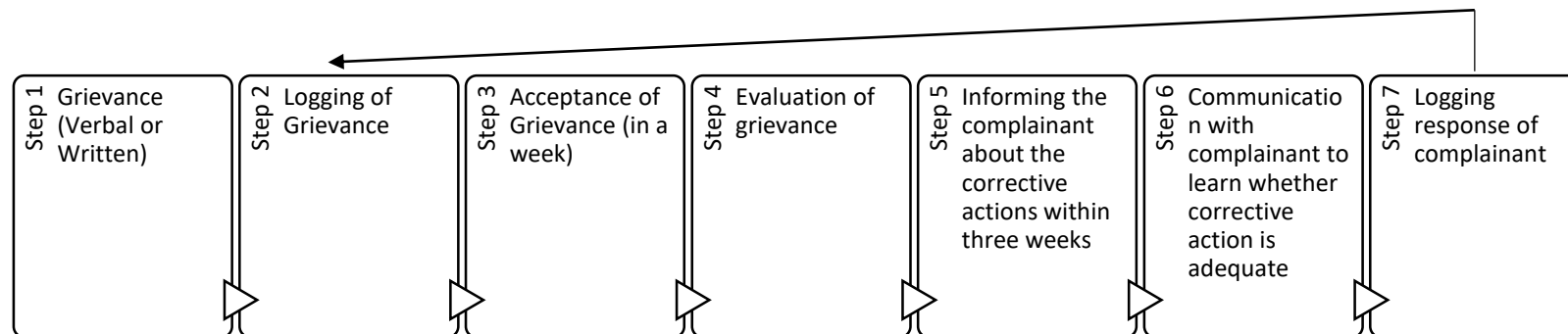
- I. Environmental and Social Impact Preparation Negotiation
- II. Final Environmental and Social Impact Negotiation
- III. Construction
- IV. Operation



First Community Briefing Meeting



2. Grievance Management Procedure



Case 55

Turkey

Transport Sector

Eurasia Tunnel

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Eurasia Tunnel
Project Proponent:	Government of Turkey
Project Organization:	Avrasya Tuneli İşletme ve Yatırım A.S.

Public Organization: Directorate General of Infrastructure Investments (AYGM)

Private Organization: Yapi Merkezi İnsaat ve Sanayi A.S.
SK Engineering & Construction Co. Ltd

Capital Providers: The project received a total of US\$960 million in fixed interest rate loans from the EBRD, EIB, Korean EXIM, the Korean Export Insurance Bank. Standard Chartered Bank, Sumitomo Mitsui Banking Corporation, and Mizuho Bank were involved in the transaction. Local banks (Garanti, Türkiye İş Bankası, and Yapi Kredi) were involved as guarantors. The SPV provided US\$277 million in equity.

Why is this project a Case Study for People First PPPs:

- Citizens save 52 million hours a year
- During the construction period of the project, 1800 people and 60 sub-contractors were employed daily. While the construction work was underway, a business volume of 1.5 million liras was created per day.
- By shortening and streamlining the route, the Eurasia Tunnel contributes 180 million TL per year to the fuel economy of Turkey and the time saved is the equivalent of a total of 520 million TL.
- With the Eurasia Tunnel, travel distances are shortened and the annual amount of emissions in Istanbul are being reduced by 82,000 tons CO₂ annually.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Where:

- Istanbul located at the crossroads of Europe and Asia and it is surrounded and divided by sea. The two sides are connected by 3 bridges (one of them with PPP, in operation for 1 year)
- According to «Turkstat Gross Domestic Product by Provinces 2004-2014 Report» İstanbul reached the highest GDP with 622 billion 762 million TRY for the year 2014 and gained 30.5% of total GDP.
- Istanbul has 40% of Turkey's total industrial output:
 - ✓ Automotive
 - ✓ Electronic
 - ✓ Textile
 - ✓ ICT
 - ✓ Chemistry etc.
- The tunnel constructed between Kazlıcesme on the European side of Istanbul and Goztepe on the Asian side of Istanbul and connects the two parts a city of 15 million together under the seabed together with the bridges.

Eurasia Tunnel



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Why:

- Before the construction of this Project, the two existing bridges which connect the different continents of Istanbul were carrying much higher than their capacity,
- The congestion on these bridges led to millions of hours spent in traffic, emission of millions of tonnes of CO2 and was causing a decrease in peoples' life quality.
- Project provides fast, safe and comfortable transportation alternative for Istanbul.
- Feasibility studies show that the project achieve Value-for-Money (VfM) if delivered as a PPP.

What:

- The tunnel contributes to the growth of Istanbul's air transport by providing the most practical link between the city's two airports: Atatürk Airport and Sabiha Gökçen Airport.
- By decreasing distance, it will indirectly contribute to reductions in fuel consumption, noise pollution and CO2 emissions.

Eurasia Tunnel



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Who:

- Key stakeholders for this project are Istanbul citizens and the other stakeholders are;
 - Government of Turkey,
 - Directorate General of Infrastructure Investments (AYGM)
 - Istanbul Metropolitan Municipality
 - Avrasya Tuneli İşletme ve Yatırım A.S.(ATAS)
- Private side : responsible for building and operating the tunnel, expansions on the existing connection roads of the tunnel.
- Public side: is responsible for permissions and guarantee mechanism (min. demand guarantee, debt assumption)

When:

- Construction Period: 3 years 11 months 3 days,
- Operation Period: 25 years 11 months 9 days,
- Project got the approval to be tendered as a BOT: 6/2006,
- Implementation Contract: 11/2011,
- Financing Agreement: 12/2012.
- The tunnel was officially opened to traffic on 22 December 2016.

Eurasia Tunnel





a) Increase access to essential services and promote equity

- Istanbul is the largest city in Turkey and also one of the largest cities in the world in terms of population.
- The number of registered vehicles in Istanbul reached 3.6 million in 2018.
- Together with rapid population growth and economic development considerable pressure has been added on the existing transportation system.



- Tunnel relieves Istanbul's transcontinental traffic pressure and serves as a 'Fast', 'Economic', 'Safe', 'Comfortable' and 'Environment-friendly' transportation alternative for the Istanbul Strait crossing.
- The project creates a convenient and direct link between Asia and Europe.

Eurasia Tunnel





b) Develop a resilient infrastructure and improve environmental sustainability

- Travel distances are shortened and the reduction in the annual amount of emissions in Istanbul are estimated as 82,000 tons annually.
- Two Air Quality Monitoring Stations, that Istanbul has created as part of the project, continuously monitor air quality in the region and ensure that emission values meet set standards.
- Seismic protection of the Project is one of the most critical design issues since the Project is located in an area of high earthquake risk.
- All structures are designed to meet and exceed the seismic standards required by the Turkish Seismic Code (2007) and the requirements of the BOT Contract.
- Also studies related to assessment of tsunami, flood, liquification risk etc. have been done.

Eurasia Tunnel





c) Demonstrate the economic and financial effectiveness of the project

- Total investment value: 1,4 billion dollars
Construction Period: 4 years 7 months
Operation Period: 25 years 11 months 9 days
- User-paid project with a traffic guarantee provided by the Contracting Agency. It has already reached %70 of guarantee level in 2017.
- SPV will pay 30% of surplus revenue over the minimum revenue guarantee to the Contracting Agency.
- The economic benefits of the Tunnel arising from the operation year 2018 is estimated 1,2 billion Turkish Liras.
 - ✓ Estimated time savings: 23 million hours
 - ✓ Estimated fuel savings: 30.000 tonnes
 - ✓ Estimated savings of operating a car: 109 million vehicle/km
 - ✓ Estimated CO2 emission savings: 18.000 tonnes

Eurasia Tunnel





d) Be replicable and scalable

- This project has replicates both in Istanbul and other cities:
- Marmaray is a Public Procurement project which is the first physical rail link between Europe and Asia under the seabed.
- A three-level sub-sea tunnel project under Istanbul's Bosphorus Strait which will connect the city's two sides with one railway and two highways will be tendered soon.
- Tender preparation for Izkaray Project that connect the two sides of Izmir Gulf with tube tunnel and bridge is still ongoing.

Eurasia Tunnel





e) Engage all stakeholders

- Besides the contracting authority and the SPV, the most important stakeholder is the people of İstanbul. The construction of this Project required some main arterial roads to be closed for months. Creating more congestion during the construction phase for a aiming to relieve congestion was a huge downfall. To manage the public reaction against the Project, the benefits were expressed clearly.
- During the Enviromental and Social Impact Assesment, process feedbacks were taken from the related municipalities, 25 different neighborhoods to ensure that the process includes their concerns. Besides this process is open to the participation of all affected parties (citizens and institutions).
- During the EIA, all stakeholders were involved.

Eurasia Tunnel



Case 56

Turkey

Energy Sector

Karapinar Solar Power Plant

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Karapınar Solar Power Plant
Project Proponent:	Government of Turkey
Project Organization:	Ministry of Energy and Natural Resources



Public Organization: Ministry of Energy and Natural Resources

Private Organization: Kalyon-Hanwha Joint Venture

Capital Providers: -

Why is this project a Case Study for People First PPPs: The project reduces the CO₂ emission and provides sustainable and affordable energy





1) Where

The Project is located in Konya-Karapınar:

One of the most advantageous regions in Turkey in terms of solar energy potential,

Karapınar region has the lowest annual rain potential in Turkey,

The region also suffers from the strongest wind erosion in the country.

Area of the project: 27.186.031 m²

Population: 48,968 in Karapınar (town), 2.2 million in Konya (city)

Key economic sectors: Dry agriculture, husbandry, potential for mining.

2) Why:

Turkey is not rich in fossil fuels,

Turkish energy supply is quite dependent on fossil fuels (~67%),

Export of energy causes a significant trade deficit (15% of import of Turkey in value)

The Project uses renewables for creating sustainable energy in a country which is dependant on fossil fuels,

This project by itself will provide more than 1% of energy supply,

The energy market is liberalized to a great extent,

To incentivize renewable energy investments, public procurement guarantee for a definite time.

Karapınar Solar Power Plant





3) What:

The Project is expected:

- to produce environmentally sustainable energy,
- to encourage further investments in renewable energy,
- to provide cheaper access to energy for the citizens.

4) Who:

- The private party: Is responsible for producing solar panels, financing, building and operating the solar power plant,
- Public: All permissions, land, geological feasibilities + 15 years of electricity purchasing guarantee at the bidded price.

5) When:

- In 2012, Karapınar was designated as an Energy Specialized Industry Zone.
- In 2015, the region was turned into a Renewable Energy Resource Field.
- In March 2017, the Project was tendered as a Renewable Energy Resource Field with the obligation of domestic production.
- The first phase is expected to be in operation in the first quarter of 2019.

Karapınar Solar Power Plant






a) Increase access to essential services and promote equity

- The project has a capacity of 1.000 MW (Total capacity of Turkey is 78,5 gW),



will provide affordable access to energy by all citizens
by decreasing prices and increasing supply

- The private party is required to establish a Research and Development Facility and a Production Facility for the photovoltaic panels as well as the power plant.
- 
- It is expected to provide jobs for more than 1.000 people in the Central Anatolia Region (which is ranking 3rd among 7 regions in terms of socio-economic development index)
 - The Project makes it possible to benefit from a soil that has not an economic value otherwise because of the climate.

Karapınar Solar Power Plant





b) Develop a resilient infrastructure and improve environmental sustainability

- The Project will be durable to the conditions of a desert climate which also includes strong winds.
- The region is one of the regions with least risk of earthquake in Turkey.
- The Project has a capacity of 1.000 mW
- Expected to produce 1,6 billion kWh energy annually.



- The Project will reduce the CO₂ emission by 1 million tonnes annually.

c) Demonstrate the economic and financial effectiveness of the project

- Investment cost of the solar power plant: 1 Billion USD
- Public purchasing guarantee: For 15 years, 0,06997 USD/kWh
- Duration: 30 years
- The bidding criteria: The purchasing price
- Employment: More than 1.000 domestic employment (90% domestic employment)

Karapınar Solar Power Plant





c) Demonstrate the economic and financial effectiveness of the project

The project is economically and financially feasible:

- The first phase of the Project has a capacity of 500 mW,
 - has a target for domestic production of installments by %60 percent
- The second phase also has a capacity of 500 mW
 - has a target for domestic production of installments by %70 percent.



- Project stimulates the domestic installment production in solar panels.



- This economic externality is a huge economic plus for the Project.

Karapınar Solar Power Plant





d) Be replicable and scalable

- This project is being replicated in different parts of Turkey with different scales, also for other renewable energy forms: Wind
- This Solar PP project area will grow to a second phase in the future:
 - A solar power plant on a 32.400.845 m² area with a capacity of 1.800 MW
- Wind PP: A total of 1.000 MW at 12 different cities: Kayseri, Niğde, Sivas, Edirne, Kırklareli, Tekirdağ, Ankara, Çankırı, Kırıkkale, Bilecik, Kütahya ve Eskişehir
- Many other WPP and SPP
- Decreasing the energy prices effects production positively and thus the end-user prices

Karapınar Solar Power Plant



e) Engage all stakeholders

- Stakeholder engagement during EIA.
- People of the region are happy because of employment opportunities.
- Price is lower than some other recent energy contracts, public is in general happy with the project.



Case 57

Ukraine

Transport Sector

Road Safety in Kiev

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	“Introduction of the system for fixation of violations in the field of road safety in the automatic mode in the city of Kyiv and in Ukraine”
Project Proponent:	LLC “Safe Roads of Ukraine”
Project Organization:	Academy of Public-Private Partnership, Ukraine

Public Organization: Kyiv City State Administration, Ukraine

Private Organization:



UKRAINE
TRAFFIC
SAFETY

www.utraffic.com.ua

Developer



www.appp.com.ua

Capital Providers:

Why is this project

The mortality and injury rate as a result of road accidents in Ukraine is one of the highest in Europe. Road accidents in Ukraine are the first cause of death among young people aged 15 to 24 years and the second most common cause of death for children aged 5 to 14 years.

During 2011 - 2016, there were about 170.8 thousand road accidents registered in Ukraine, in which 26.7 thousand have people died, including 1.4 thousand children under the age of 18, and 210.4 thousand people have been injured. More than 42.6% of those who died in road accidents in 2016 were pedestrians and cyclists.

As of 2016, the number of accidents in Kyiv amounted to 27.7% of the total number of accidents in Ukraine; the number of deaths in accidents - 3.5%, injured - 8.7%.

According to the calculations of the World Bank experts, socio-economic losses of Ukraine from road traffic injuries are estimated at 4.5 billion USD per year, representing about 3.4% of gross domestic product.

A significant number of accidents with severe consequences in our country arise due to violation of speed by drivers (the main cause of death in 39% of accidents) and violation of the rules of driving through crossings (the main cause of death in 30% of accidents)



469

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

- Where:** Kyiv - the capital and the largest city of Ukraine, located in the north central part of the country on the Dnieper River, population – more than 3 mln people
- Why:** The city of Kyiv belongs to the territories with the largest amount of accidents in Ukraine. In 2016, the city accounted for 27.7% of the total number of accidents in Ukraine. In 2017, the number of victims of accidents in the city has increased by 14.8%, the number of deaths - by 7.1%. The number of violations of the traffic speed in the city has been considerably growing - compared to 2016, by 190%. The number of injuries due to traffic accidents occurred in the city as a result of speed violation over the last year has increased by 264%, while in Ukraine - by 134%. Since 2018 the city has a speed limit of 50 km per hour. At the same time, due to lack of technical means of control, drivers do not observe the requirements of the legislation
- What:** As a result of the implementation of the project proposed by the private business, it is planned to reduce the number of accidents in the city by 25% until 2025, the number of injured and deaths - by 24%. Reducing of the driving speed will result in decreasing of the CO2 emissions and vehicle noise and as a consequence create more comfortable living conditions for people.
- Who:** Initiator of the Project is the Private Company “Save Roads of Ukraine”. Developer of the Project is Academy of Public-Private Partnership. The proposal on PPP implementation for this Project was developed in accordance with the Strategy of increasing the traffic security level in Ukraine until 2020 and Kyiv Smart City Concept 2020: leadership, innovations, collaboration.
- The Project was submitted to Kyiv City as unsolicited proposal on September 2017. Positive conclusion of the Kyiv City State Administration with recommendations to Kyiv City Council to support this project implementation was adopted by the Kyiv City Mayor V. Klichko in April 2018.
- When:** Final decision of Kyiv City Council regarding the Project implementation is planned to be taken in June 2018.
Tender announcement – until October 2018.
Commercial/financial close and project implementation start – until January 2019.
Operation start date (the first stage) - 01.01.2019.
Operation start date (the whole system) - 01.01.2020.
Term of PPP (availability fee based model) – 17 years.





a) Increase access to essential services and promote equity

Social impact of the Project

- ❑ improving the quality of life of the city residents as a result of enhancing the safety of road traffic, as well as reducing noise and CO2 emissions from vehicles
- ❑ reducing the expenditures of state and local budgets at the expense of the savings of funds, which today are spent for compensation of losses of the population as a result of deaths and injuries in accidents, and generation of additional revenues to the city budget, which could be used to increase the amount of budget expenditures of social nature and implementation of new social projects
- ❑ creation of up to 170 new jobs in Kyiv in the framework of the Project
- ❑ reduction of corruption in the field of road traffic control by eliminating the human factor in detecting traffic violations
- ❑ reduction of the country's overall economic losses from injuries and deaths as a result of road accidents, which will allow accelerating economic development in the country and the city
- ❑ increasing investment attractiveness of the city of Kyiv for private business, revitalization of investment activity aimed at creation of modern infrastructure in the sphere of life support and improving the quality of life of the city residents to the standards of the highly developed countries of the world

Additional proposal of the Project initiator

- ❑ *to install 10% of technical means in places near schools, kindergartens, medical facilities to reduce the number of victims among children and the elderly*



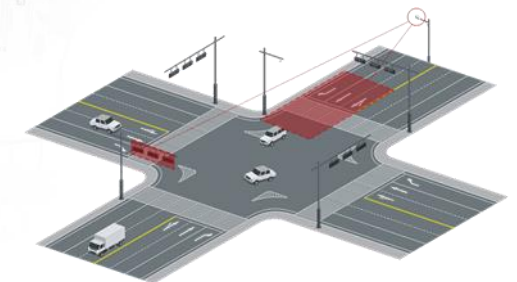
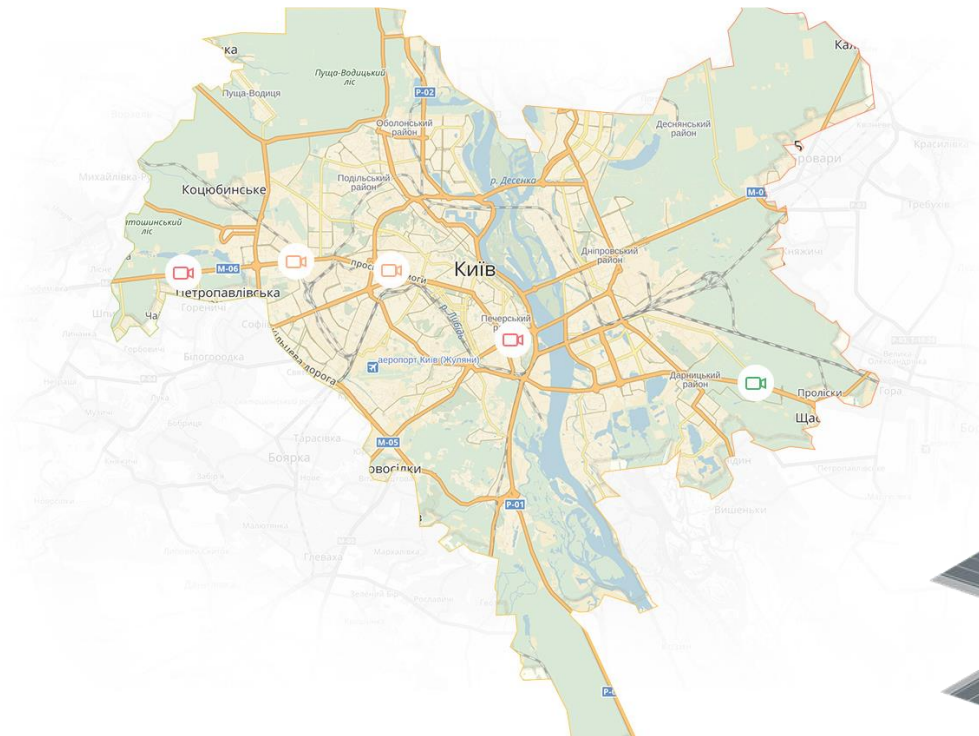


b) Develop a resilient infrastructure and improve environmental sustainability

The information collected by the technical means to be installed in the framework of the Project will be used not only by the National Police of Ukraine, but also by the City Government to analyze obstacles and problems in the area of city security as a whole, as well as to plan activities related to the construction of new road junctions, pedestrian crossings, creation of bicycle paths, installation of traffic lights.

Environmental impact

- ❑ Increasing the discipline and culture of driving behavior on city roads, a significant reduction in speed will significantly improve the environmental impact of road transport on the state of the environment, including air quality (cutting CO2 emissions).
- ❑ The noise effect of road transport will decrease, which will significantly improve the quality of living in the city, especially in buildings located near highways



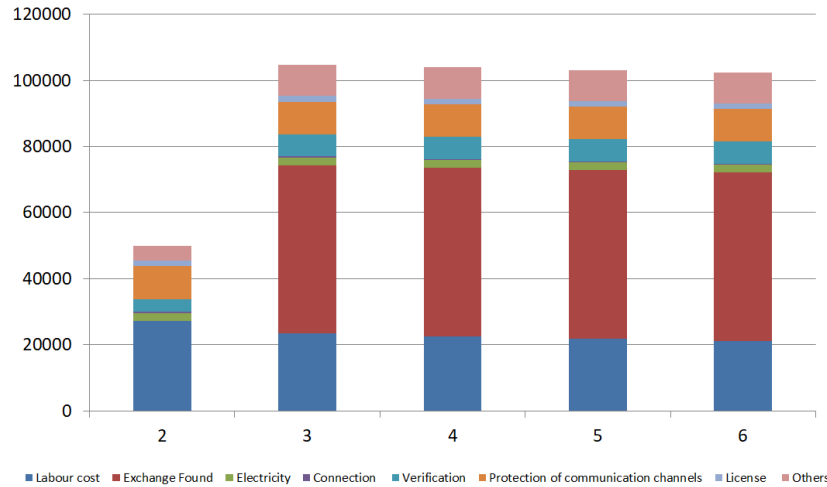
International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

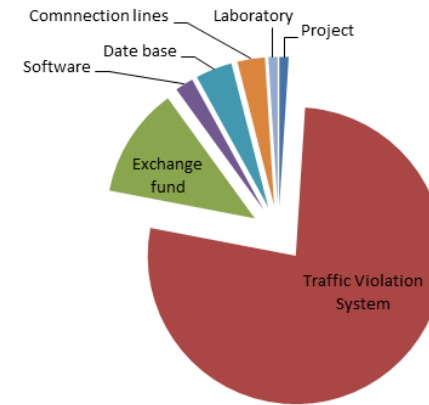
c) Economic and financial effectiveness of the project



Total investments: USD 23.7 mln

Stage I – USD 13.9 mln

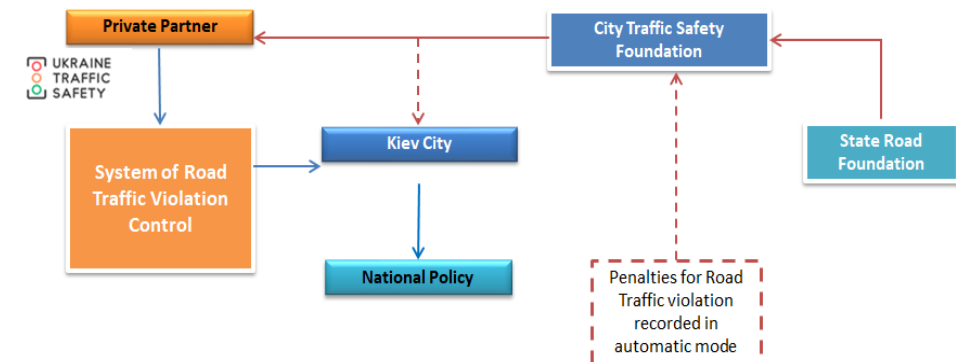
Stage II - USD 9.8 mln



Indicators of the project's marginal effectiveness for a private partner

Indicator	Value
Limit amount of availability payment, % from volume of penalties for road traffic violations registered in automatic mode	Public / Private partner (%) 1-4 years: 50 / 50 5 year: 59 / 41 6-8 years: 60 / 40 9-year and after : 63 / 37
NPV	USD 152000
Profitability index	1,008 > 1
IRR	12 = 12%
Discounted payback period	10,33 years

- **Source of the Project Financing:**
Private Partner equity
- **Business Model:**
Mixed PPP agreement based on availability payment





d) Be replicable and scalable



Proposals on PPP implementation for the similar projects have been submitted to:

- the National Policy of Ukraine (October 2017)
- Odessa City State Administration (April 2018)



Regional impact

- The Project could be very useful for other developing economies that have the same problems with road safety.
- The PPP model & methodology to be applied in the framework of implementation of the Project could be replicated in the countries with low institutional capacity of public authorities, lack of trust to private business participation in infrastructure modernization among the population, especially poor people.



e) Engage all stakeholders

- ❑ **Parliament of Ukraine**
- ❑ **Government of Ukraine**
- ❑ **Central Government:** the Ministry of Economic Development and Trade of Ukraine, the Ministry of Internal Affairs of Ukraine, the National Policy of Ukraine
- ❑ **Local Governments:** Kyiv City Council & State Administration, other city councils & city administrations of Ukraine
- ❑ **Project Developers:** Academy of Public-Private Partnership, Ukraine
- ❑ **Private sector:** Company “Safe Roads of Ukraine”
- ❑ **Associations:** International Safe Roads Association
- ❑ **Universities / Academies:** National Academy of Science of Ukraine, Kyiv National Trade & Economy University
- ❑ **Professional Unions:** Chamber of Trade and Commerce of Ukraine
- ❑ **Civil Society:** Local NGOs



Case 58

United Kingdom (England)

Health Sector

Healthcare Facilities in England

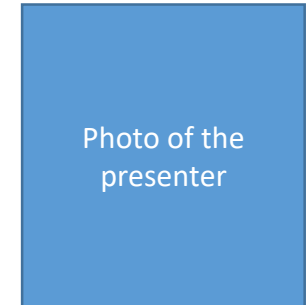
International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Local Improvement Finance Trust (LIFT) - Healthcare facilities
Project Proponent:	National Health Services (NHS) and Meridiam
Project Organization:	Local Improvement Finance Trust Company (LIFTCo)



- Public Organization:** The National Health Services (NHS) and the Department of Health.
- Private Organization:** *Project Sponsors:* Fulcrum Infrastructure Group (FIG), a subsidiary of Meridiam
Construction, O&M and Suppliers: Different for every project
- Capital Providers:** Usually the public sector takes a 40% equity stake, the private actors invests the remaining 60% of equity.
- Why is this project a Case Study for People First PPPs:** It is an efficient vehicle for procuring PPPs aimed at regenerating health estates and at providing value for money in delivering and managing portfolios of high quality facilities.
As per the definition of the 9th SDG first target, this project aims to “develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all”. The project also aims to give access to quality essential health-care services to all, in line with Target 3.8 of SDG 3 – Good health and well-being.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

- 1) Where:** Various centers in multiple locations (South and West London, Bristol, Oxford, etc.) that are made primarily for local communities; the key economic sector is the health services industry.
- 2) Why:** High quality healthcare facilities, mostly new premises and sometimes in deprived areas. The public sector authority, the NHS, is responsible for a substantial group of assets needing repair and renovation but with insufficient funds to do so. Partnering with private investors through a PPP was the chosen solution.
- 3) What:** Offering essential health services to communities and regenerating existing facilities to modern levels of quality, effectively addressing the social and medical needs of deprived areas.
- 4) Who:** Fulcrum Infrastructure Group (FIG), a subsidiary of Meridiam, is a private infrastructure investor that enters into public-private partnerships with the NHS and the Department of Health. The private sector partner, in this case FIG, raises the finance required to develop, build and manage the facilities, usually for a period of 25 years.
- 5) When:** The first Fulcrum-LIFT solution was implemented in 2007. The operation and maintenance period is expected to be 25 years.

Local Improvement Finance Trust
(LIFT)
Healthcare facilities





a) Increase access to essential services and promote equity

Fulcrum's projects, and the LIFT initiative in general, have tremendous positive social and economic impacts on local communities :

- The great majority of Fulcrum's projects are located in areas of significant deprivation where the most basic needs are lacking.
- Nearly a third of the total investment in LIFT initiatives – £790m – has been spent in the top 10% most deprived areas of the country.
- Buildings include co-located social care services, libraries, schools, leisure facilities and affordable housing.
- Fulcrum's projects have promoted local employment.
- These practices also include proactive recruitment of women, people from minority ethnic communities and people with disabilities.

The LIFT initiative projects, in addition to addressing the 9th Sustainable Development Goal by developing quality and resilient infrastructures with an access for all, also offer access to safe, effective and affordable medicine for all, especially in deprived areas, thus contributing directly to solve the 3rd Sustainable Development Goal (Good Health and Well-Being).

Local Improvement Finance Trust
(LIFT)
Healthcare facilities





b) Develop a resilient infrastructure and improve environmental sustainability

Fulcrum designed its buildings to be BREEAM (Building Research Establishment Environmental Assessment Method) by working with supply chain partners, particularly the construction teams, the designers and the engineers, to develop new buildings that have the lowest adverse environmental impact possible given the requirements of NHS partners.

Fulcrum works with end users at the design stage to include environmental solutions to reduce energy usage such as photo-voltaic panels, biomass boilers and rainwater harvesting, wherever possible shifting energy usage to renewable sources.

Through the LIFT model of ownership and management, estates are not allowed to deteriorate. The contract structures ensure the buildings remain in the same good condition throughout, so they will have the same or greater residual value at the end of the concession period. This resilient approach can be perceived through the design phase, the management of the supply chain and the implementation of efficient waste management and waste water plan.

Local Improvement Finance Trust
(LIFT)
Healthcare facilities





c) Demonstrate the economic and financial effectiveness of the project

Fulcrum has been working with the NHS organizations on LIFT projects for several years. Each partnership is different in detail, but generally, public actors take a 40% equity stake in the LIFT company and the private sector partner 60%.

Revenues are governed by a mix of standardized “Lease Plus Agreements” (LPAs) and “Land Retained Agreements” (LRAs) as availability payments.

An analysis of the work over that several year period shows :

- 25% reduction in construction costs;
- 20% reduction in rental costs for the NHS;
- £6m surplus – the result of cost efficient buildings and returns on investment shared between the public sector and Fulcrum;
- 50% increase in the public sector’s level of customer satisfaction with the quality of the buildings and how they are managed.

Commercial returns benefit both public and private sector partners. The public sector share can be re-invested in improved services. Many of the pension funds that Fulcrum’s money is invested into are pension funds that provide for many UK Public Sector pensions.

In addition to providing quality health services to local communities, 80% of the construction work was carried out by local SMEs, reinforcing the impact of these type of projects on local economies.

Local Improvement Finance Trust
(LIFT)
Healthcare facilities





d) Be replicable and scalable

The LIFT approach applies to other sectors and countries, but requires political drive and a mature PPP market to enable implementation on such a large scale.

PPP's are attractive to long-term investors such as Fulcrum's parents company Meridiam as their objectives are more closely aligned with public sector ones. Moreover, the underlying idea of aggregating a variety of facilities in a bundle offers a more attractive return to private investors and can be replicated to other sectors.

This particular PPP model is applicable to other estates, LIFTCOs have delivered new educational facilities, job centers, leisure centers and other local authority buildings.

Public and private sector teams cooperated throughout the different stages of the projects in order to deliver what people and the NHS need. This enhanced understanding enables more creative solutions to problems as trusting partner can generate brighter, faster solutions to the challenges of modern health care.

Local Improvement Finance Trust
(LIFT)
Healthcare facilities



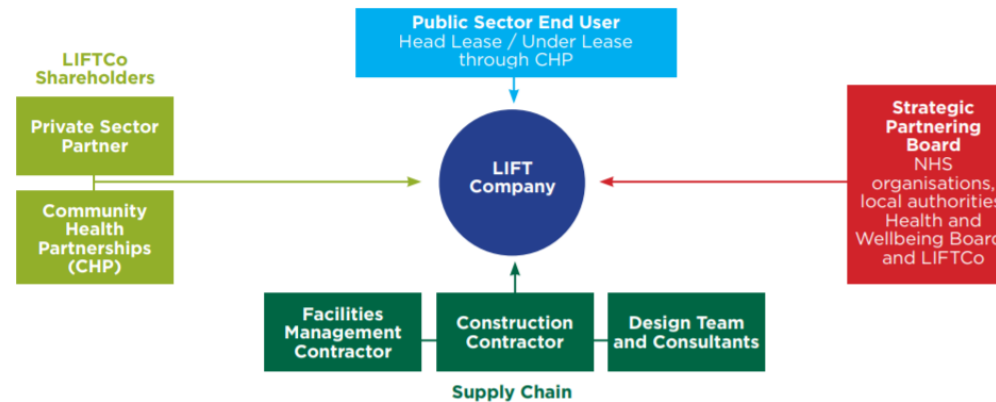


e) Engage all stakeholders

Stakeholders are at the heart of project conception and initiate the design and construction of the project:

- LIFT initiative building addresses a public and local need through reliable and quality health and social services.
- Central government director involvement in a program or project connects it to national policy as he or she acts as a 'critical friend' for the local public sector team.

Politically, projects can be very complex at a local level, but working closely with Clinical Commissioning Groups (CCGs) and local councilors, LIFT project implementers soon learnt how to support them. Problems are rarely insurmountable when politicians and the local community are engaged properly.



Local Improvement Finance Trust (LIFT)
Healthcare facilities



Case 59

United Kingdom (Scotland)

Smart and Sustainable Cities Sector

Hub Programme

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	hub Programme
Project Proponent:	David MacDonald, National hub Programme Director
Project Organization:	Scottish Futures Trust



Public Organizations: Scottish Government, Scottish Futures Trust

Private Organizations: 5 hub companies across Scotland (hub South East, hub North, hub West, hub East Central, hub South West), and associated private sector development partners

Capital Providers: Aviva, Nord LB

Why this project is a Case Study for People First PPPs:

Across Scotland, the five hub companies are developing a vast range of community infrastructure projects; from the development, construction and maintenance of multi-million pound high school campuses and health centres through to small refurbishment projects. Each hub company works to create a partnership with their public partners by identifying funding options, developing specific service solutions, reconfiguring existing assets and strategic service priorities by designing, building and maintaining bespoke facilities at value prices. The multi-award winning hub programme provides flexibility to enable high quality community infrastructure solutions to address the social, environmental and educational challenges facing Scotland. These exceptional and inspiring facilities promote equality for all, sustainability, value for money and efficient community outcomes across the nation.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Where: The hub programme is a Scotland-wide initiative to deliver community infrastructure through an innovative partnership between public and private sectors

Why: Requirement to improve service outcomes while replacing healthcare, educational and community facilities across Scotland as well as to provide advice and governance capabilities to the public sector to significantly improve the procurement process

What: Improve equality, health and attainment levels whilst simultaneously creating employment opportunities by delivering much-needed infrastructure

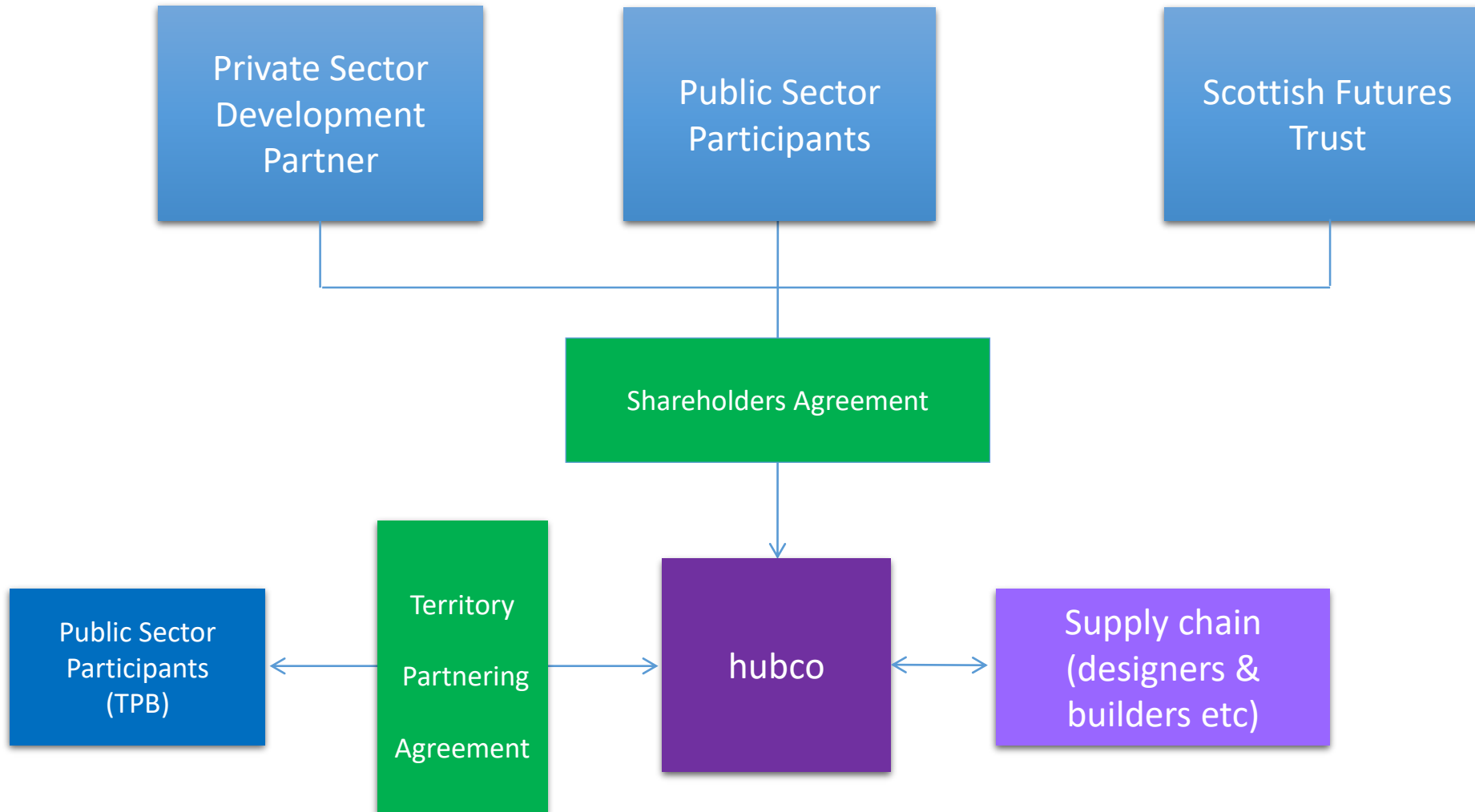
Who: Scottish Government, Scottish Futures Trust, Funders / Delivery Partners, hub companies

Haddington Primary School: delivered by hub East Central





Hub Company Structure



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



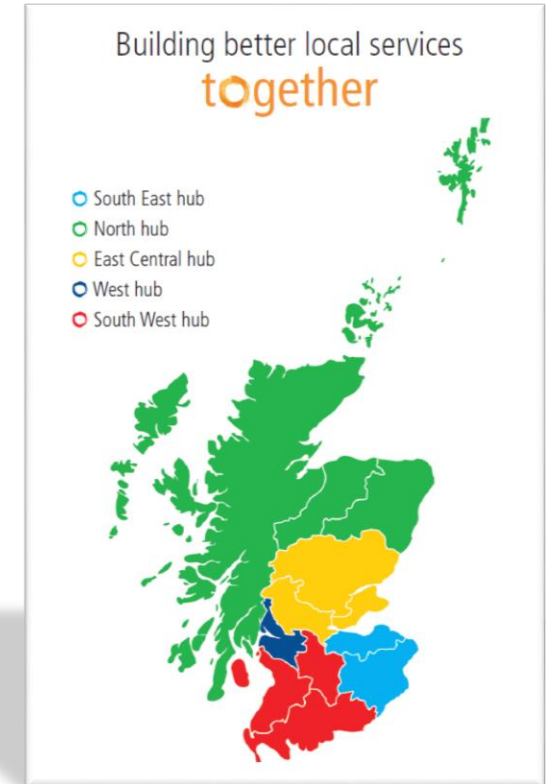
THE GLOBAL GOALS
For Sustainable Development

Vision

The main aim of the hub Company is to establish a long-term, trusted, working relationship with each of the public sector bodies within their area. Together the sharing of knowledge and encouraging joint working and efficiencies, the partnership environment contributes towards state of the art facilities such as schools, hospitals, health centres and other civic buildings for the people of Scotland. Economies of scale are achieved by the bundling of some projects within the portfolio, resulting in more facilities being built without increasing the original amount of funding. This combination contributes towards reducing inequality through improved educational spaces and fully integrated health care facilities. Improved outcomes are achieved by considering the needs of the community and wrapping bespoke building solutions around the service outcomes.

Governance

Scottish Futures Trust undertakes validation by carrying out Key Stage Reviews (KSRs) of projects at key stages in procurement. The KSR process is designed to support the successful delivery of revenue funded projects delivered through the hub initiative as Design Build Finance and Maintain (DBFM) projects by providing an assessment of the readiness and application of best practice (including SFT Value for Money (VfM) guidance) of the projects before they move onto the next stage in the procurement process. Each project will use the Standard Form Contract, resulting in reduced time and costs spent addressing legal issues relating to the hub Programme. The expectation is that the Standard Form Contract will be substantially un-amended, a certain degree of customization will be necessary to reflect the individual features of particular projects. Any customization to the contract must be approved Scottish Futures Trust as part of the governance process.





Measures of Success

The hub Programme is managed around the following:

- Optimum risk allocation
- Whole-life costing
- Lifecycle and facilities management
- Performance-based payments to the private sector
- Capped returns for the private sector
- Operational surpluses generated by the Project Company are reinvested in the public sector
- Standard contract agreements
- Delivering measurable, long-term benefits for the community



RIAS Award Winning Project: Eastwood Health Centre, delivered by hub West

The above features allow hub to secure value for money facilities and support the communities through job creation and educational opportunities. Scottish Futures Trust undertakes governance a guidance, enabling and governance role in the public private partnership, increasing transparency and accountability and providing vital financial / borrowing expertise.

Often, projects are bundled together across the programme, enhancing economies of scale for the procuring authority, access to better borrowing rates and reducing overall procurement timeframes. The picture in the top left is part of the award winning Maryhill and Eastwood Health Centres bundle. Eastwood Health Centre is now being used as a reference design project for health centres across Scotland and the programme.

The measures of success above and the increased efficiencies derived from the Standard Form Contract have contributed towards reduced costs and timeframes for delivering projects: the average weighted cost of capital is 4.44% and the average procurement time is 14 months.



Key Performance Indicators (KPIs):

Each hub project has a set of project specific Key Performance Indicators (KPIs) and each hub company benchmarks their projects against other public sector procurement routes to ensure they remain competitive and based on best practice. KPIs are set by the procuring authority and are designed to reflect the needs of the community.

RIAS Award Winning Project: Ardrossan Medical Centre, delivered by hub South West



Typical KPIs for a hub infrastructure project:

- Health and Safety
- Management Systems
- Programme Delivery
- Value for Money
- Quality
- Partnering and Collaboration
- Community Benefits
- Sustainability



Escalating the (Case Study) project:

The hub programme could be replicated in other countries where there is a need for both revenue and capially funded infrastructure projects:

1. Community healthcare and educational facilities could be built using a similar structure
2. Expertise within hub team is crucial to success of programme, emphasis placed on value for money, continuous learning, transparency, accountability, governance processes and collaboration between public / private sectors
3. Partnership, collaboration, commitment and joint working between different public bodies throughout Scotland is key to the success of the programme. Public sector bodies are brought together under one roof and space is rationalized, which results in greater efficiency in delivering service outcomes.
4. Governance role is vital in managing the public / private relationship, similar organisation to Scottish Futures Trust could be replicated elsewhere
5. Flexibility and the ability to react to change is vital. As an example, the initial value of infrastructure projects to be delivered through the hub programme was £1.5bn, which was extended to £2bn in a second phase of infrastructure projects. The adaptability of the hub model resulted in the hub companies being able to react effectively to the increase in infrastructure projects, illustrating the success of the programme in providing high quality infrastructure for Scotland

Multi-Award Winning Project: Johnstone Town Hall, delivered by hub West

Recently, Scottish Futures Trust has delivered presentations to representatives of the municipal authorities of Shanghai, focussing on the hub Programme and questions about the hub model structure and project delivery via a public / private partnership. Increasing interest from other governments and countries around the world demonstrates the innovative nature and success of the programme.



International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Stakeholder Engagement:

The hub programme creates community facilities for the community, in the heart of the community, by the community.

The benefits to the local area start before the facilities open, hub works with local stakeholders to ensure that the local community is engaged in the project development / planning.

Events are held to identify supply gain opportunities for small to medium enterprises, supported businesses and third sector organisations before construction of the facility begins.

There are clear recruitment and training opportunities identified for every project which focus on long term employment opportunities for graduates, apprenticeships, work placements and engagement with local schools and colleges.

To date, 4,500 work placements, 237 graduate placements and 1,206 apprenticeships have been created. Additionally 75% of hub contracts have been awarded to Scottish small to medium enterprises. Improving on the job learning is one of the main priorities for the Scottish Government, the hub Programme sets proportionate and challenging targets for working with schools and colleges and to date have delivered over 86,000 presentations to schools across Scotland.



Case 60

United Kingdom (Wales)

Financing Infrastructure

The Mutual Investment Method

International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	The Mutual Investment Model (MIM)
Project Proponent:	The Welsh Treasury
Project Organization:	The Welsh Government



Public Organization: The Welsh Treasury is a central branch of the Welsh Government. The Welsh Treasury is responsible for the development of the Mutual Investment Model (MIM), and the processes underpinning its delivery.

Private Organization: Private consortia will bid for the three projects to be delivered using the MIM.

Capital Providers: MIM projects will be financed using senior debt and risk capital, with an expected gearing of 90:10. While the senior debt will be provided exclusively by private institutions, the Welsh Government will provide 20% of the total risk capital. This investment will ensure a flow of dividends back to the public sector over the life of the project, which will be available for re-investment in public infrastructure.



Why is this project a Case Study for People First PPPs:

The MIM embeds transparency about the costs and performance of PPP projects in Wales, and also foresees the delivery of a number of important public policy objectives. PPP companies will be required to deliver community benefits, and to incorporate the Welsh Government's commitment to an ethical employment code. Furthermore, PPP companies will be required to deliver sustainable development objectives by helping the Welsh Government deliver its ground-breaking *Well-being of Future Generations* legislation.





Where

Three major infrastructure programmes will be delivered using the Mutual Investment Model (MIM). These programmes will be located across the whole territory of Wales.

Why

The MIM has been developed to foster additional investment in social and economic infrastructure in Wales. Through the provision of new public assets, MIM programmes will help to address the challenges of regeneration in areas such as the Welsh Valleys, which contain some of the highest levels of social deprivation within the UK.

What

The three programmes to be undertaken using the MIM comprise: redevelopment of the Velindre cancer centre (South East Wales); completing dualling of the A465 – the heads of the valleys road (South Wales); and investing in new school buildings and Further Education institutions through the 21st Century Schools Programme.

Who

The three programmes respectively will provide first class cancer care for patients, improve journey times and road safety for road users, and provide excellent new learning environments for students. Local communities are at the heart of each project, and significant consultation is being undertaken on each.

When

The first two programmes are expected to be in procurement in the first half of 2018. The Velindre cancer centre is expected to open its doors to new patients in 2022, whereas the heads of the valleys road is due to be completed in [...].



Access to Essential Services and Promotion of Equity

- The Velindre Cancer Centre will directly improve the quality of life for those people living with cancer. Poverty and social deprivation significantly increase the incidence of cancer and influence negatively the potential clinical outcomes for patients. This is an issue of great concern for the South East Wales population, which Velindre serves, as it has some of the highest levels of social deprivation within Wales and the UK. The Velindre Cancer Centre will be accessible to a catchment of 1.5m people.
- The A465 is a key transport link in Wales, and its dualling will significantly increase accessibility to the area. The scheme will provide local community benefits to those who are economically vulnerable, including recruitment and training, increased spend in the local communities and engagement with local schools and colleges. It will also improve safety, journey times and reliability for all road users including commercial, private and non-motorised users.
- The 21st Century Schools Programme is built on the principle of co-construction, which encourages the design of schools and colleges that reflect local character and meet local needs. The programme will improve access to Welsh medium schools for local children, supporting the Welsh Government's commitment of one million Welsh speakers by 2050.

The Mutual Investment Model





Resilient Infrastructure and Improved Environmental Sustainability

- MIM infrastructure projects will be built with long term sustainability in mind. This is in accordance with *The Well-being of Future Generations (Wales) Act 2015*, which sets out a range of overarching well-being goals and sustainable development principles to ensure that all public bodies act in a manner that the needs of the future generations are not compromised by the needs of the present.
- To provide environmental sustainability, key design principles for Velindre Cancer Centre include the use of natural resources and energy efficiency in all possible areas. The A465, while improving the safety, connectivity and congestion of the local area, will also improve the resilience of other Welsh roads by becoming an alternative route during periods of congestion, maintenance or major incidents. The local area will also see improvements in footways and cycleways, increasing permeability and physical fitness. Notable environmental enhancements will also be delivered by the scheme in regard to reduced flood risk and reduced pollution risks to watercourses. New learning environments built through the 21st century Schools Programme must achieve as a minimum an EPC rating of A and BREEAM* Excellent, national standards indicating the sustainability and environmental performance of buildings.
- A Public Interest Director will be placed on the board of each PPP Company to promote the public interest, ensuring that new public assets will meet the needs of generations to come.

The Mutual Investment Model



* Building Research Establishment Environmental Assessment Method (BREEAM) is the world's longest established method of assessing, rating, and certifying the sustainability of buildings, considering things such as: pollution, water and land use: <https://www.breeam.com/>



The economic and financial effectiveness of the project

- The MIM retains the chief characteristics of privately financed investment, such as optimum risk allocation, whole-life costing, and performance-based payments. In addition, the MIM will see the public sector share in the profitability of investment in public assets. The MIM is sufficiently similar to PPP to generate market interest in Welsh schemes, yet sufficiently different to deliver better value for money to the public purse.
- The MIM will enable the Welsh Government to fund over £1 billion worth of additional investment in public infrastructure. This method of financing represents a whole of life cost solution for the facilities, which includes design, build, finance and maintenance. Without the development of the MIM, this investment would have been unaffordable.
- MIM projects will be financed using senior debt and risk capital, with an expected gearing of 90:10. The Welsh Government will provide 20% of the total risk capital, creating a flow of dividends back to the public sector over the life of the project, which will then be available for re-investment in further public infrastructure projects. The senior debt will be provided exclusively by private institutions.

The Mutual Investment Model





Stakeholder Engagement

- Stakeholder consultation – both with citizens and bidders – is a critical component of the MIM.
- A virtual reality simulation has been developed for the heads of the valleys road investment to help key stakeholders better understand and visualise the potential impact of the project. Draft orders have been published and a Public Inquiry will be held in early 2018. Significant consultation in the form of market testing has also taken place with bidders to refine the proposition and the modalities of investment.
- A planning application has been submitted for the new Velindre cancer centre allowing local residents to voice their opinions. Stakeholder engagement events have taken place with patients, families, carers, local health boards, the third sector, higher education institutions, and clinicians. There have been four town hall events and forty-eight workshops so far.
- There has also been significant consultation on the MIM itself. Some two hundred and fifty contractors and funders participated in a market engagement event led by three Welsh Cabinet Secretaries in March 2017. One hundred and eighty delegates participated in a subsequent stakeholder engagement event for the PPP community in October 2017.
- Furthermore, the Welsh Government is committed to sharing best practice and lessons learned on the development of the MIM. Meetings have already taken place with delegations from India, Japan and China, as well as with European countries under the auspices of the European Investment Bank's European PPP Expertise Centre.

The Mutual Investment Model





Replicable and scalable

- Standardised documents have been developed for MIM projects both to assist parties interested in bidding for schemes, and to reduce project development and procurement costs. Standardised documents include relevant MIM procurement templates and standardised project agreements, as well as a user guide. The Welsh Government has made all of these documents available at:

<http://gov.wales/funding/wales-infrastructure-investment-plan/mutual-investment-model/technical-documents/?lang=en>

- All MIM schemes will be appraised in accordance with the Better Business Cases (BBC) methodology, and assured through both the Gateway process and a system of MIM commercial approval points. BBC is an internationally accredited standard owned by the Welsh Government. Information relating to BBC is published at:

<http://gov.wales/funding/wales-infrastructure-investment-plan/better-business-cases/?lang=en>

- The standardisation of documents and processes will ensure a replicable and scalable process of investment appraisal and assurance, and of procurement. The overall aim is to improve Value for Money by reducing the time and resources required to deliver MIM projects.

The Mutual Investment Model





Stakeholder Engagement

- Stakeholder consultation – both with citizens and bidders – is a critical component of the MIM.
- A virtual reality simulation has been developed for the heads of the valleys road investment to help key stakeholders better understand and visualise the potential impact of the project. Draft orders have been published and a Public Inquiry will be held in early 2018. Significant consultation in the form of market testing has also taken place with bidders to refine the proposition and the modalities of investment.
- A planning application has been submitted for the new Velindre cancer centre allowing local residents to voice their opinions. Stakeholder engagement events have taken place with patients, families, carers, local health boards, the third sector, higher education institutions, and clinicians. There have been four town hall events and forty-eight workshops so far.
- There has also been significant consultation on the MIM itself. Some two hundred and fifty contractors and funders participated in a market engagement event led by three Welsh Cabinet Secretaries in March 2017. One hundred and eighty delegates participated in a subsequent stakeholder engagement event for the PPP community in October 2017.
- Furthermore, the Welsh Government is committed to sharing best practice and lessons learned on the development of the MIM. Meetings have already taken place with delegations from India, Japan and China, as well as with European countries under the auspices of the European Investment Bank's European PPP Expertise Centre.

The Mutual Investment Model

