



UNECE

International PPP Centre of Excellence
People First Public-Private Partnerships for the United Nations
Sustainable Development Goals

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People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

The United Nations Sustainable Development Goal Number 17 identifies public, public - private, and civil society partnerships as a means to achieve poverty eradication and sustainable development. UNECE is developing international PPP standards to achieve the UN SDGs, recognising that PPPs must become ' People First '.

People First PPPs are compliant with the SDGs. They eradicate poverty, boost economic growth and prosperity, and make the world's ecosystem more resilient. They are projects that increase access to services of the poor and vulnerable; improve equity and efficiency; are effective and transformational; support sustainability and move to a low carbon economy; and are high quality investments that focus on People, Prosperity and the Planet!

Organisations everywhere - UN, World Bank , G7 , G20, and more - are now calling for such quality investments to be made in the global infrastructure to transform our world. To this end, at its March PPP Forum, the UNECE launched the largest mass mobilisation of People first PPPs ever attempted – a [Compendium of People First PPP Case Studies for the UN SDGs](#). By the end of 2016, UNECE aims to have 500 People First PPP Case Studies - examples that will be used to support awareness raising, to accomplish the UN SDGs, and to create a sea of social, economic and ecological transformation around the globe.

Please join us by submitting your own project, as well as your ideas for projects - all are welcome. We plan to showcase examples that are compliant with the UN SDGs and use them to inspire others to replicate the best practices in China and beyond. In addition, with our partners like the Tshingua PPP unit and colleagues from the NDRC, the case studies will be used to formulate our international PPP standards.

It is a challenge no doubt, but we can do it, and we need China with its expertise, excellence and enthusiasm to assist us in achieving these goals, and to make the world a far better place for all.



Geoffrey Hamilton

**Chief, Cooperation
and Partnerships Section
UNECE**

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The following **Compendium is a compilation of projects that aspire to meet the Sustainable Development Goals**. The projects are real rather than perfect, and come from all over the world, with all continents and particularly many LDCs (least developed countries) represented, to show people working every day to improve lives and communities and bring **enhanced public services in the public interest**.

The projects range from agriculture, health, education, water, transport and energy sectors, but all share the goal of **putting people first**. Projects that exhibit key characteristics like **increasing access to essential services**; **promoting equity** by improving social justice or making essential services more accessible; **increasing efficiency** by doing more with less; or **being replicable** so that they can be adopted by others and scaled up to achieve the transformational impact that is called for in the SDGs.

Projects such as in China where a waste water system created more than 4,200 jobs while processing waste, generating electricity, and reducing CO2 emissions, and a metro line that aims to alleviate urban traffic pressure and create a comfortable, safe and reliable, all-weather transportation option in a challenging environment. Projects like 'luz para todos' (light for all) in Brazil that has brought electricity to nearly 3.24 million families in rural communities and improve the lives of over 15.6 million people.

It is through this compendium, and the ICoE's efforts to compile many more inspirational examples like these, that we can show, share and improve the world by exchanging **real world experience in PPPs**. With this very important first step, in time we will be able to evaluate and showcase the very best models of PPPs that can contribute to **People, Planet, Prosperity, Peace and Partnership** and demonstrate integrated approaches for governments and stakeholders to achieve their needs and **the SDGs**.



Pedro Neves

PPP Business Advisory Board



List of case studies

Case 1: Haiti, Agricultural Sector, Produce Production
Case 2: Philippines, Agricultural Sector, Butuan Regional Development
Case 3: Bangladesh, Health Sector, Hemodialysis Centre at NIKDU
Case 4: Belarus, Health Sector, Hrodna City Clinical Hospital no. 3
Case 5: Ukraine, Health Sector, Oncology Centre
Case 6: Ukraine, Health Sector, Reparative Neurosurgical Operations
Case 7: United Kingdom, Health Sector, Forth Valley Royal Hospital
Case 8: United Kingdom, Health Sector, Alder Hey Children Hospital
Case 9: Australia and Spain, Health Sector, Hospitals
Case 10: Mongolia, Education Sector, Kindergartens Retrofitting
Case 11: Armenia, Water Sector, PPPs in the Water Sector in Armenia
Case 12: Madagascar, Water Sector, Androy Region Water Network
Case 13: Russian Federation, Water Sector, Clean Don
Case 14: China, Water Sector, Jinan and Sponge City
Case 15: Portugal, Water Sector, Mafra Water and Waste Water Concession

Case 16: Indonesia, Energy Sector, Central Java Power Plant
Case 17: Brazil, Energy Sector, Light for All
Case 18: Ghana, Energy Sector, Cenpower Generation Company
Case 19: Tajikistan, Energy Sector, Pamir Private Power Project (PPPP)
Case 20: United States, Energy Sector, Energy Efficiency Appliance Rebate Program
Case 21: Ghana and Kenya, Enterprise Sector, Invest in Africa
Case 22: Portugal, Enterprise Sector, Cascais Entrepreneurial Schools
Case 23: Finland, Road Sector, E18 Road Program
Case 24: India, Road Sector, DND Flyway
Case 25: India, Road Sector, Thiruvananthapuram City Improvement
Case 26: Slovakia, Road Sector, R1 Highway
Case 27: China, Transport, Hohhot Metro Line
Case 28: 14 emerging markets, Financial Sector, Sarona Frontier Markets Fund 2
Case 29: United Kingdom (Wales), SDGs Strategy, Well Being of Future Generation
Case 30: Colombia, SDGs Strategy, Sustainability Indicators in Colombia

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Africa

Ghana
Kenya
Madagascar

Americas

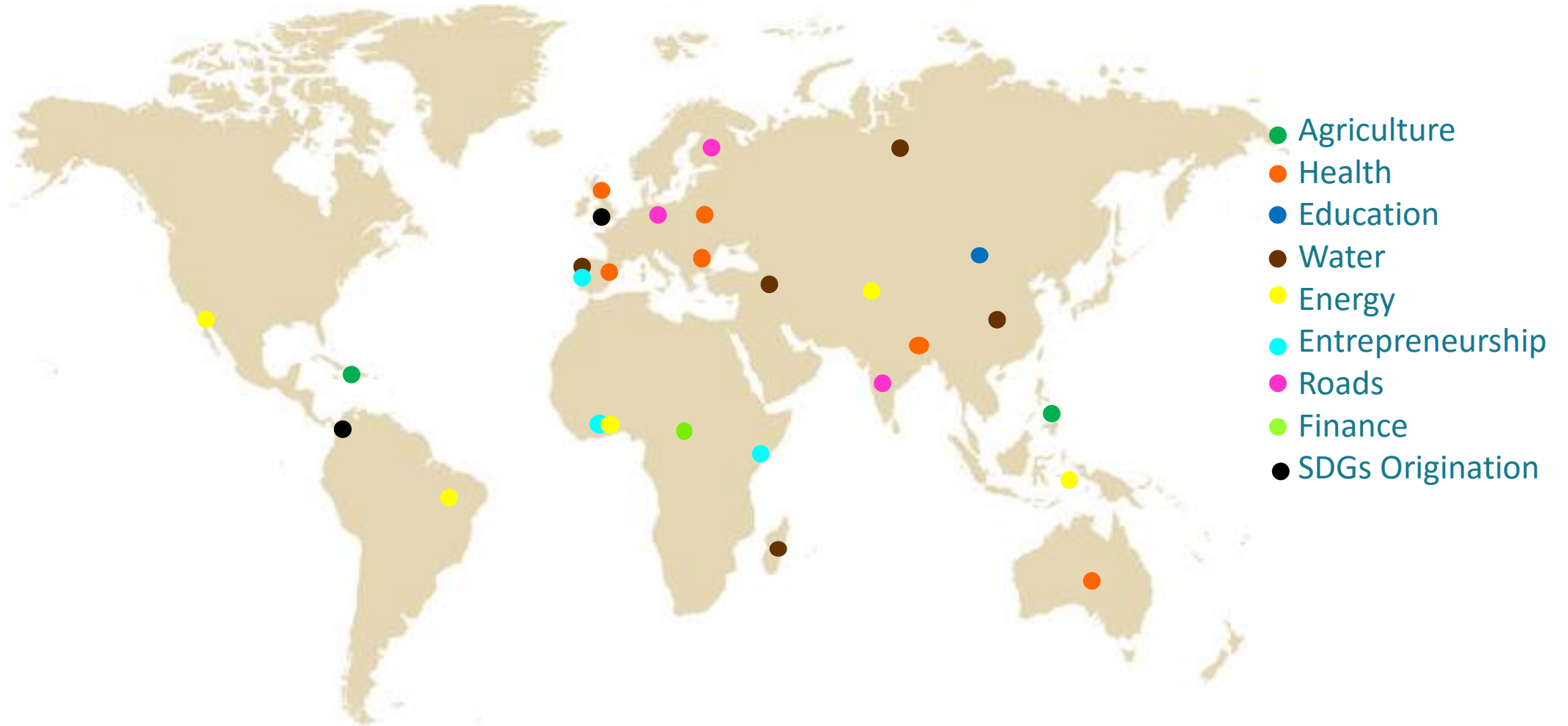
Brazil
Colombia
Haiti
USA

Asia

Armenia
Bangladesh
China
Indonesia
Mongolia
Philippines
Tajikistan

Australia

Belarus
Finland
Portugal
Russia
Slovakia
Spain
UK
Ukraine



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Project:	Agricultural Project for Production of Organic Bananas and Vegetables in Haiti
Project Proponent:	Rose-Lourdes ELYSEE Senior Adviser at the Ministry of Economy and Finance



Public Organization: Unit for the Management of Public Private Partnerships
(Ministry of Economy and Finance (UCGPPP / MEF) with the support of the Ministry of Agriculture)

Private Organization: AGRITRANS S.A.

Capital Providers: Private capital , Public Funds

Why is this project a Case Study for PPPs: Association of funds from the 2 sectors, contribution to the building of infrastructure for public use (roads, irrigation, wells, etc...) in an area fit for farming but unused due to lack of investments. A program established by the Government through the Ministry of Economy and Finance brought financial support to the private project which was also brought to support public infrastructure with newly available equipment and manpower. The project has a significant economic and social impact on the life of the peasants and small farmers of the North and North East and thereby on the Haitian population in general. In addition to export of truly organic products, the local market gets healthy and fresh produce. Other projects have since been submitted to replicate the model in other parts of the country.





Context:

- 1) **Before:** Land in the area was not irrigated and often subjected to conflicts of ownership. Small farmers used traditional, cultural methods for subsistence farming. Most farmland (government and privately owned) was unused and the rural population revenue very low.
- 2) **Push for improvement:** Depopulation of the area due to rural-urban migration, emigration to the Dominican Republic, continued increase of vulnerability.
- 3) **Improvement and Infra gap:** Link stemmed from the need to increase population revenue and guarantee production and sales, and the development of infrastructure in the Northern region (roads, international port and airport...)
- 4) **Infra Solution :** Have project contribute to building and maintenance of small agricultural roads, share know-how for innovative irrigation systems , packing solutions etc...
- 5) **PPP solution :** Bring land owners together, establish partnerships with them to consolidate available land rendering possible efficient market search, and scale economy for agricultural inputs and equipment.
Public sector makes land available, allocates ad hoc program funding.
Private company offers technology, jobs, marketable products.



Strategy:

1. **Design:** Given the scarcity of investments in the agricultural sector, promoters of AGRITRANS SA designed this project for a plantation of bananas and vegetables. The project was submitted to the farmers and the Government of Haiti which agreed to participate.
2. **Main feasibility factor and PPP solution:** The project was judged innovative by the market appeal and advantages of the products; the partnership with associations and federations of farmers, availability of equipment for other agricultural operations as well as public works in the area were key criteria for the selection of the project.
3. **Closure and other contracts :** The first disbursement occurred upon presentation of agreements with the small farmers for use of land as well as agreements with international buyers.
4. **Development :** The conditions involved with product exportation and purchase by international companies make quality standards absolute obligations. Timely delivery is also indispensable. Execution of the project brought about an increase in production capacity of the country through this comeback on the world market and certification of provider for organic produce.
5. **Quality of life guarantee:** The project promotes community efforts in association, entrepreneurship and capacity building. It fosters a significant increase in the revenue and capacity of the small planters, thereby improving their quality of life. It also contributes to the availability of equipment, new technology (water abstraction, irrigation, transportation rail for harvesting, etc.)



Project KPI's

Main figures of the project:

1. The project is implemented in the North-East Department, near the town called Trou-du-Nord, on land that belongs to the government, but is traditionally occupied by small farmers.
2. The budget was financed by company equity capital and government participation through a program called FREH jointly administered and managed by the PPP Unit of the Ministry of Economy and Finance and the Industrial Development Fund (FDI)
3. The initial cost was 14.5 Million US dollars, with 6.5M provided by the shareholders.
4. The project is in its second year of operation. Products have already been shipped to the European market and sold locally.
5. On-going contact with local communities has kept authorities informed and supportive. Employment for local population has maintained motivation and support for project activities.



Impact on People and Planet:

- 1. Perception of improvement:** The farmers gathered in the federation receive, in addition to salaries and other dues for farm work and supplies, 20% of the profit. Revenue of these farmers has thereby increased significantly, with the expected snowball effect.
- 2. Measure of impact:** Results can be measured through the number of organic bananas exported to Europe since 2015 (trial of 120 tons).
- 3. Eco footprint:** As an agricultural production project, it boasts positive effects on the environment and particular impact on biodiversity, demonstrated by the extent of irrigated surface, recycling of plant waste as feed for livestock. The plantation contributes to soil conservation as well as implementation of regional land policy.



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Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY		●		Brings revenue to small farmers and workers
2. END HUNGER		●		Food in good quantity for local consumption
3. WELL BEING – HEALTHY LIVES			●	Banana is organic and high in nutrients
4. QUALITY EDUCATION		●		Training, technological improvements
5. GENDER EQUALITY		●		Women are employed in most jobs
6. WATER AND SANITATION FOR ALL		●		Model technology
7. AFFORDABLE AND SUSTAINABLE ENERGY				
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL			●	Presently employs 1000 ; has plans to reach 10.000 jobs
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION		●		Uses innovative equipment, has sound maintenance
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES		●		Revenue redistribution
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE		●		Foster diverse economic activities
12. RESPONSIBLE CONSUMPTION BY ALL		●		Fair access to all vendors
13. COMBAT CLIMATE CHANGE		●		Soil retention, organic fertilizers
14. PROTECT THE OCEAN		●		Soil retention
15. TAKE CARE OF THE EARTH		●		Organic fertilizers
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL				
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS		●		Between Public-Private and Private Private



Escalating the (Case Study) project:

- 1) Replicating the project:** This project can be replicated in other regions of the country, such as in the North, Western Departments, particularly in the Cul-de-Sac, Arcahaie and Leogane plains which are appropriate for banana crop. Furthermore, other promoters have such projects either just beginning or under analysis for said areas.
- 2) Replicate globally :** Should be replicated in other countries, where smaller farmers can associate for a large production, with relevant crops, using similar funding mechanism.
- 3) Other sectors :** To stimulate investment and support the agricultural sector, the Government has financed many projects such as the industrial transformation of corn, beans, breadfruit, tomatoes and the production of chicken.



- **Key success factors for escalation** : Agriculture, motor of the Haitian economy, is a source of stability. The sector participates in food security and is the livelihood of 60% of the active population. This project has succeeded in:
 - ✓ Introducing new technology resulting in an increased yield per acre
 - ✓ Creating a significant number of jobs, with 1000 current and up to 10,000 projected at the end of the project cycle (approx. 10,000 acres projected)
 - ✓ Increasing the revenue of the farmers
 - ✓ Bringing in revenue in foreign currency
 - ✓ Increasing access to market
 - ✓ Partnering successfully with the government and local farmers.
- **Lessons learned**: The novelty of the project made it encounter many obstacles. Much has to be imported from the beginning (technology, equipment, know-how, specialized workers, etc...). Therefore, there was a high price for adjustments due to inappropriate choices, climate hazards. Other projects can now learn from the AGRITRANS experience and start with good choices.

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Project:	Butuan City Regional Development Program, Philippines
Project Proponent:	Sam Tabuchi and Yu Namba from TOYO UNIVERSITY, Japan

Public Organization: Butuan City and its affiliated agencies

Private Organization: Chodai Co. Ltd., Equi-Parco Construction Company

Capital Providers: JBIC, Development Bank of the Philippines, JICA, METI of Japan etc.

Why is this project a Case Study for PPPs: In Butuan City, there are several unsolicited PPP projects—mini hydro power plants, bulk water supply, fish farming and agricultural improvement) have been implemented.

Why is this project a Case Study for PPPs based on SDGs:

Butuan city's local leaders were desperate to find new ways to develop its waned economy. It had flourished with logging and prawn fish farming until illegal logging and water pollution became rampant.

TOYO UNIVERSITY conducted a Regional Development Support Program to assess possibilities of economic development through PPP. TOYO proposed that the City and local industries to utilize Butuan's rich natural resources and improve conditions of tenant farmers. Butuan City reacted with the first-in-the-nation Local PPP Code to gain investors' confidence. TOYO provided several capacity building seminars for local officials and industries on structuring and implementing PPP projects. Average rice yield have doubled, high-valued fishery products are produced and exported, and hydro power plants and bulk water supply station are soon to be fully operational. Some \$250 million investments have been committed.





Context:

Butuan City's economy has been gradually slowing down since 1980's. Logging, agriculture and prawn fish farming were major industries in the City, but they were banned/abandoned. Only agriculture was left, but distorted owner-tenant relationship and low productivity kept some 30% of its residents below the poverty line. Butuan was rich in natural resources, but could not fully utilize them to improve the economy.

Improving rice production and finding remedy against owner-tenant relationship needed to be done, while stable and sufficient power generation was essential to attract new industries. Providing sufficient electricity will attract food-processing industries which will add values to Butuan's agricultural products, and improve the farmer's lives. Even though Butuan is still growing region, going towards fossil-fuel was not an option. Biomass (wood pellets) and waste-to-energy possibilities were investigated. On the other hand, Butuan was abundant in relatively clean water. Utilizing the water resource could be another possibility.

The City did not have enough resources to provide solutions to such challenges. Therefore, there was a need of partnerships. Private sectors (both local and international) were active to seek such possibilities and make them sustainable business and strengthen the local industry/economy. The Public authority (city) was active in setting up systems and enacted the Local PPP Code. It also supported private activities by helping clearing regulations and obtaining approvals.



Strategy:

Ashiga Hydro Power project, a mini hydro power generation plant started with an unsolicited proposal from the private sector. With its PPP code in place and PPP committee established, the City was ready to receive a proposal and proceed. Button City accepted and approved the project. The City also played a roll in obtaining feed in tariff (FIT) approval from the national government.

Water resource management and the impact on the environment was carefully studied. Relationships with indigenous people and how to improve their quality of life was discussed in the feasibility study phase.

The project is structured as a PPP because it is much faster and efficient to use the existing public corporations and infrastructures to transmit and provide power to each household and collect tariffs. Separation of power generation from transmission, provision and tariff collection mitigated risks of the private sector.

One of the largest Japanese bridge and civil consulting/engineering firm, Chodai, provided expertise in project finance, design verification, construction management and overall project management to ensure required quality and avoid cost and time overrun.

No-longer-used second-hand machinery for rice planting and combines were imported from Japan to improve the productivity. The City supported to clear the custom. Toyo University and three local universities partnered, and under this partnership, one university let a plot of land for test farming by a local company who purchase the imported machinery. A Japanese Agricultural Cooperative dispatched a specialist to teach planting and water level control.

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Project KPI's:

Securing the water usage right and TIF agreement were crucial to stabilize the project's implement ability and revenue structure. The effort to obtain those as well as how to negotiate with indigenous people, who have been living along the rivers were of particular importance. International investors are powerless in such negotiations. Equi-Parco, a local construction company negotiated with tribes and agreed to provide certain amount of electricity generated to the tribes as compensation. Public hearings were held before and during construction.

The project used Japanese Government grants for a feasibility study, and used a two-step loan from JBIC through Philippine Development Bank.

Since this project is self-sufficient, the private sector's must put their effort to sustain the power generation in order to recover the Capex and Opex. One concern along the way may be the environmental impact, and it should be carefully monitored by both public and private entities.

	Capacity	Value	O&M starts	SPC	Equity investors
Asiga Hydro power	8MW	\$30 M	Spring 2016	Asiga Green Energy	Hydro Resources Management and Consultancy, Equi-Parco Construction, Twinpeak Hydro Resources, Chodai
Taguibo Hydro Power	5MW	\$17M	FY 2016	To be established	
Wawa Hydro Power	23MW	\$91M	FY 2018	Wawa Green Energy	





Impact on People & Planet:

Power generation:

Asiga Hydro Power created over 300 job opportunities during its construction. It will also create 25 permanent positions once the operation starts.

The conditions of power shortage and instability are expected to improve once Asiga and other hydro power plants become operational. Asiga plant is recognized as a part of Philippine government's efforts to improve renewable energy portfolio. Indigenous people living in hilly area will gain access to electricity.

Rice production:

A group of farmers attended training by a Japanese expert for planting, controlling water level, and using machinery. Average crop yields double in the test farm and in the farm of trained farmers. A rice mill is under construction, which will provide seed rice and milling service to contracted farmers with below average interest/cost.

For the farmers, less labor was needed and revenue improved. Once the mill starts operation and provision of seed rice, that will improve the condition of tenant farmers, who are suffering with high-interest from owners/mill owners.

For the environment, proper use of fertilizers will improve the soil condition and avoid water pollution.

Eel and prawn fish farming also revitalized abandoned fish farming ponds and created high-valued products.

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Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY		●		
2. END HUNGER	●			
3. WELL BEING – HEALTHY LIVES	●			
4. QUALITY EDUCATION	●			
5. GENDER EQUALITY	●			
6. WATER AND SANITATION FOR ALL			●	
7. AFFORDABLE AND SUSTAINABLE ENERGY			●	
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL			●	
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION		●		
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES			●	
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE			●	
12. RESPONSIBLE CONSUMPTION BY ALL	●			
13. COMBAT CLIMATE CHANGE			●	
14. PROTECT THE OCEAN	●			
15. TAKE CARE OF THE EARTH			●	
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL			●	
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS			●	



Escalating the (Case Study) project:

Project concepts and enabling mechanisms—PPP code, PPP Committee, procedures and so on—can be replicated in other cities/ regions in the Philippines, or may be in other countries as well.

However, it is difficult to “replicate/duplicate” local leaders’ will to implement projects. It is essential to have highly motivated and willed leaders in both public and private side.

The process of learning the project by doing was essential to actually replicate projects. The Local authority and PPP Committee acquired experience in processing unsolicited proposals and supporting PPP projects by giving/obtaining approvals. The City gained confidence from investors by having the local PPP Code in place.

Local industry also gained experience to structure a complicated PPP project. An international firm also gained experience in doing business in the locale.



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Project:	Hemodialysis Centre at Nikudu, Dhaka & CMCH, Bangladesh
Project Proponent:	Syed Afsor H. Uddin, CEO PPP Authority, Bangladesh

Public Organization: Directorate General of Health Services, Ministry of Health & Family Welfare, Government of Bangladesh

Private Organization: Sandor Medicaid Pvt. Ltd., India

Capital Providers: Infrastructure Development Company Ltd. (IDCOL), Bangladesh

Why is this project a Case Study for PPPs: This project has been developed on a pilot basis to test the expansion of much needed affordable health care services in Bangladesh by using private sector providers while limiting the level of public sector investment. On successful implementation of the project, the aim is to develop a program of such projects throughout the country as well as the expansion of the concept into other similar health care areas.





Why is this project a Case Study for PPPs based on SDGs:

Context	The Project will renovate an existing non-efficient and partially operated Dialysis Facility with 30 machines to offer increased level of health care services with 80 machines at improved quality within the existing pricing framework.
Strategy	Private sector partner to invest in the upgradation, operation and management of the facilities and delivery of the health care services.
Project KPI's	Delivery of 19,500 dialysis sessions per year at BDT400 (approx. USD5) per session; Delivery of 1950 dialysis session at no cost. Quality, service and availability linked KPIs.
Impact	Increases the national treatment capacity for dialysis by 12.3%, potentially saving over 1200 lives every year.
Scale up & replicate	The project has been undertaken on a pilot basis so that it can be replicated as nation wide program in other under utilized government facilities.
Management Team	The Private Partner to carry out its contractual obligations with close contract management by the Contracting Authority's Project team and with supervision from the PPP Authority on good governance & best practices. An Independent panel has been appointed to provide independent oversight and supervision.



Context:

- 1) There are around 160,000 patients with End Stage Renal Disease ('ESRD') in need of dialysis or kidney transplant in Bangladesh. However, national capacity for dialysis in Bangladesh is around 650 dialysis machines that can treat around 10,000 patients.
- 2) 40,000 people in Bangladesh die every year due to kidney diseases; around 150,000 patients lead restricted lifestyles due to lack of access to treatment.
- 3) The lack of modern dialysis machines and support infrastructure restricts ability to offer quality dialysis services to patients suffering from ESRD, restricting their ability to lead to normal life and shortening their overall lifespan.
- 4) Construction, operation and maintenance of dialysis facilities consisting of 80 new dialysis machines and related equipment for 10 years to provide 1950 free treatment session, 19500 sessions at subsidized public sector rates and the remaining sessions at below market price but subject to quality, service and availability linked KPIs.
- 5) PPP was selected as a delivery method to ensure a sustainable service delivery solution at a consistent quality standards while minimizing the need for upfront public sector capital investment.



Strategy:

- 1) The need for enhancing Dialysis Services was identified by the executing agency responsible for the services. The PPP option was considered following a field level study visit and review of case studies on facilities operating these services on a PPP basis. The project was approved by the PPP Authority and the Health Ministry.
- 2) Feasibility Study included the needs assessment, overview of market and current practice, findings from market sounding exercise, legal and regulatory environment review, infrastructure requirements, technical and quality parameters, project transaction structure, financial analysis, commercial heads of terms, key evaluation parameters. The feasibility study concluded that the project could be successfully implemented on a PPP basis.
- 3) The contract was signed on January 2015, with Financial Closure reached in March 2015, with first drawdown also scheduled for the same month. The Private partner has already started construction of the facilities with equity.
- 4) Developing the project on a PPP basis with payment linked to KPIs, enables government to ensure service delivery on mandated quality standards at an agreed price.



Strategy: Key Development Concerns

- 1) The Key development concerns that were faced in this project included:
 - Perception on shifting of Critical Health Service delivery to private player
 - Management of existing stakeholders (e.g. suppliers, labourers etc.)
 - Dilemma on potential conflict between the competing facilities
 - Concerns on the additional upfront time required for project development in the context of the urgent need for dialysis support

- 2) The following mitigation measures were used to address the concerns of the various stakeholders:
 - Extensive stakeholder consultation with public sector officials in the implementing agency, the executing agency and the ministry,
 - Showcasing case studies of similar project successfully delivered in other countries and the benefits secured,
 - Sensitive use of key existing resources (e.g. nephrologist etc),
 - Robust PPP Contract covering the key concerns of stakeholders regarding quality of service, governance issues, penalty regime, reputational risk, etc.



Project KPI's:

- 1) The project is located within existing public health facilities at NIKDU Institute (Dhaka) and CMCH Hospital (Chittagong). Total floor space allocated at NIKDU is 7,500 sq ft and at CMCH is 4,750 sq ft. License has been provided for the private provider for the delivery of their services. The permits required include import permit, environment clearance, trade license, VAT registration, incorporation certificate, etc.
- 2) Capital expenditure includes project development cost, building refurbishment, medical equipment, installation and project development costs of around USD2m (NIKDU) and USD1m (CMCH).
- 3) Debt to equity ration for the transaction is 40:60, and the debt is mainly being used for the import of equipment and machines
- 4) The revenue stream will be based on the following structure: Delivery of 19,500 dialysis sessions per year at BDT400 (approx. USD5) per session; Delivery of 1950 dialysis session at no cost. Delivery of additional sessions outside these minimum at private partners option but capped to BDT2190 (approx. USD27).
- 5) The key project milestones included: Invitation for Tender February 2014; Tender submission May 2014; Project Approved January 2015; Contract Signing January 2015; Construction commencement August 2015, Financial close March 2016. Expected date for commencement of operations is around June/July 2016.



Impact on People and Planet:

1. This project will increase the capacity of the country's dialysis services by 12.3%, providing access to treatment for over 1000 additional patients who would not have had access to treatment before. This will enable these patients to lead a better quality of life through better health service.
2. The project structuring ensures that patients will have access to increased number of dialysis sessions, at higher quality standards but at reduced charges. Additionally, patients can also access private healthcare facilities at charges below prevailing market prices.
3. Patients will be able to benefit from walk in service availability, with 24 hour service coverage, 'one-stop-shop' health services without the need to purchase consumables separately.
4. The project will also help to disseminate health service best practices within the other facilities of the health complex.

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Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY		●		
2. END HUNGER		●		
3. WELL BEING – HEALTHY LIVES			●	
4. QUALITY EDUCATION	●			
5. GENDER EQUALITY	●			
6. WATER AND SANITATION FOR ALL		●		
7. AFFORDABLE AND SUSTAINABLE ENERGY	●			
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL		●		
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION			●	
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES			●	
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE		●		
12. RESPONSIBLE CONSUMPTION BY ALL		●		
13. COMBAT CLIMATE CHANGE	●			
14. PROTECT THE OCEAN	●			
15. TAKE CARE OF THE EARTH	●			
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL			●	
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS			●	



Scalability and Reliability

1. This project has been developed as a pilot, so that on successful implementation it will enable replication of the project at a national level across other regions of the country where there is acute need for dialysis services.
2. The project also provides a first step into enabling introduction of private sector providers in delivery of health services within the public framework. Other follow up projects that are being considered include diagnostic services, imaging facilities, and ambulance services.
3. The proposed commercial model for this project is also being piloted on a housing project, whereby the private partner is using proceeds from commercial and residential property sales to develop affordable housing estates.
4. Countries at a similar stage of economic development as Bangladesh and health service requirements can consider the adoption of this project to address dialysis service needs
5. The key success factors for up-scaling the project and replicating it into a wider program include the need for adequate demand, the availability of suitable space within existing public health institutions, the availability of skilled medical practitioners, public sector official buy-in
6. Wider stakeholder consultation and discussion will be vital for the success of future similar projects.



Project:	Hrodna Regional Clinical Oncologic Dispensary, Belarus
Project Proponent:	Aleksander Zaborovsky, First Deputy Minister of Economy, Belarus

Public Organization: Hrodna Regional Executive Committee

Private Organization: TRANSPROEKT GROUP

Capital Providers: None, as prefeasibility study has only been conducted.

Why is this project a Case Study for PPPs: Current structure of the project illustrates how infrastructure healthcare PPP type can be effectively used for the creation of modern healthcare facilities in countries, where legal restrictions do not allow the provision of medical services by private operators.

Why is this project a Case Study for PPPs based on SDGs:

Currently the Hrodna region is experiencing the absence of specialized facilities aimed at provision of the whole range of diagnostics, cancer surgery, chemotherapy and X-ray therapy, which leads to the rapid growth of mortality rate of the Hrodna region residents due to cancer.

New Oncology Center will become a reliable barrier from growing cancer incidence through the creation of innovative healthcare facilities and the use of cutting-edge medical technology, including implementation of the diagnosis by means of radiological unit, which is essential for the realization of SDGs № 3,9 and 17.



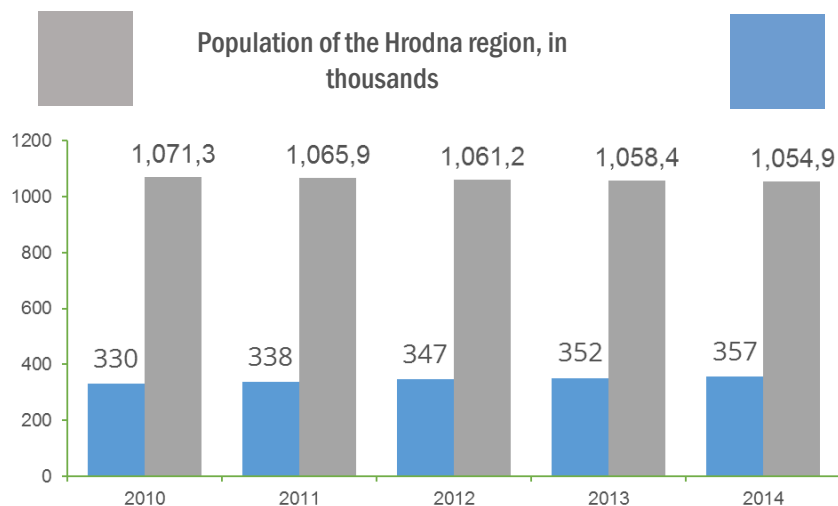
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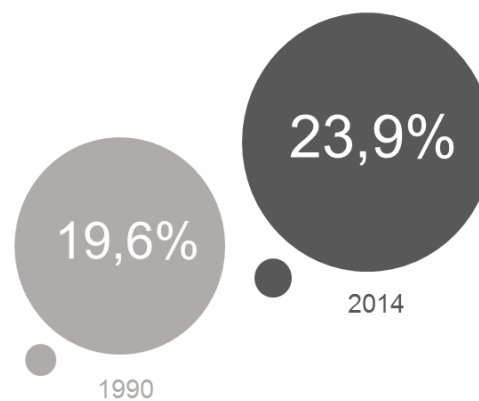


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For Sustainable Development

Context:

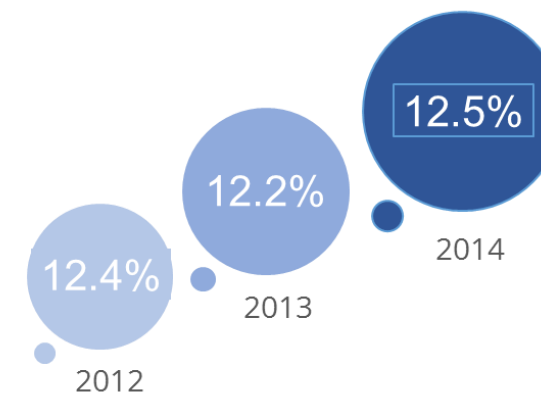


Population of the Hrodna city, in thousands



Percent of persons of retiring age

Percent of cancer deaths in the general mortality rate of the Hrodna region population



Redevelopment of The Public Health Care Institution “City Clinical Hospital No. 3” including the creation of Inpatient units with 392 beds, Surgery, Radiologic diagnosis, X-ray and Targeted therapy units.



Strategy:

- 1) The project concept was designed by the conduction of a number of appraisal studies as well as prefeasibility analysis, and approved both by Hrodna Regional Executive Committee and the Inter-ministerial Infrastructure Coordination Board of the Belarus.
- 2) Main technical, legal and financial issues were analyzed within the prefeasibility study resulting in the delivery of basic needs analysis, indicative output specification as well as capex and opex costs, Legal Viability and Stakeholders Assessment, Preliminary Financial model and Affordability Assessment, Preliminary Risk Assessment. The PPP option was chosen on the basis of qualitative analysis of the potential for realization of project on PPP principles.
- 3) The recommended model for the realization of the project is concession agreement, which is accompanied by land rental agreement, Transfers of possession and use rights on the object to the private party. In order to achieve the financial closure of the project the direct agreement with step-in rights for financial institutions should be signed
- 4) Quality of Service will be insured through service level agreements, bonus-malus system, creation of the helpdesk and strict contract management



Project KPI's:

In this slide please describe the main figures of the project:

- 1) The area of land - 2.6 hectares. hospital territory is fenced. site is flat, the area planted and landscaped
- 2) Capex – 165,5 mln. USD, Annual Opex – 1,7 mln. USD
Main source of investment return: availability payments from budgetary funds.
- 3) The finance structure: 80% - equity, 20% - debt;
- 4) Main project milestones: Feasibility study – 7 months, tendering procedures – 10 months; Construction and equipping period 36 months;
- 5) Communication plan is under development;



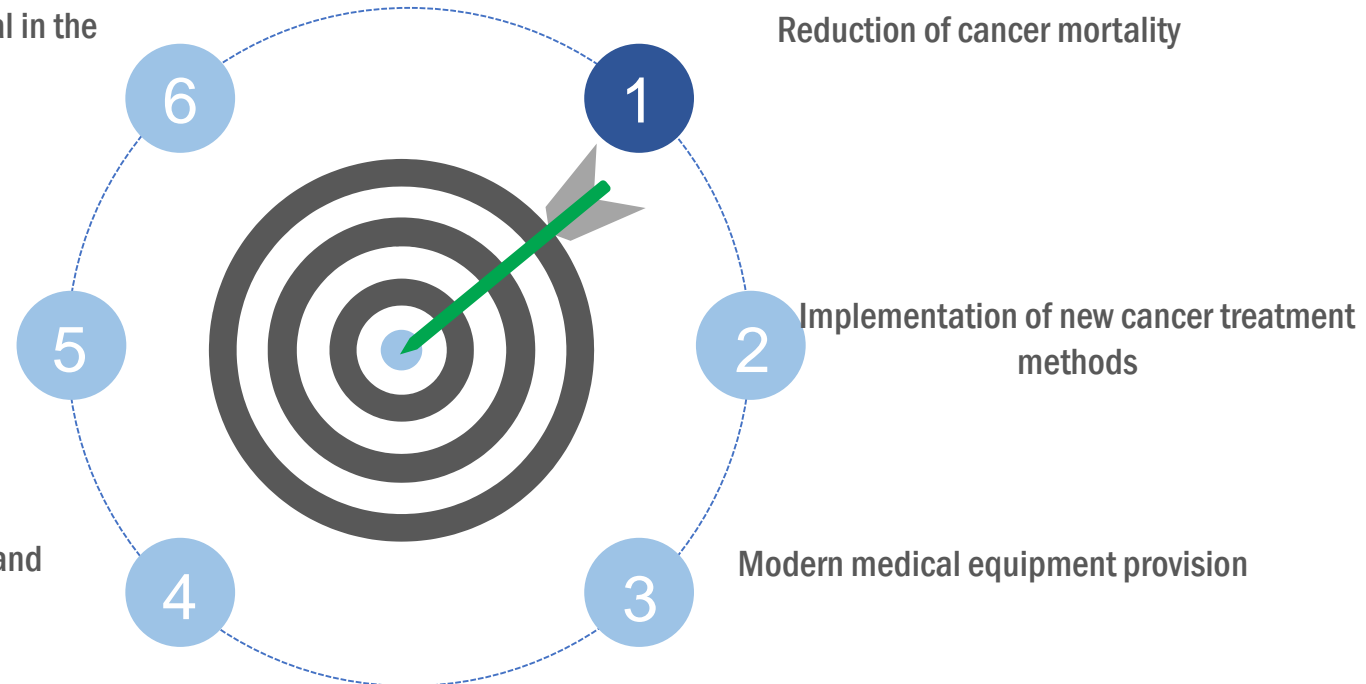
Impact on People & Planet:

Potential effects from project realization include:

Maintenance of the labor potential in the Hrodna region

Combination therapy and rehabilitation of patients with cancer pathologies

Improvement of the diagnostic and treatment processes



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Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY	●			
2. END HUNGER	●			
3. WELL BEING – HEALTHY LIVES			●	Creation of new and effective medical facilities
4. QUALITY EDUCATION		●		Possibilities for education of medical staff
5. GENDER EQUALITY	●			
6. WATER AND SANITATION FOR ALL	●			
7. AFFORDABLE AND SUSTAINABLE ENERGY	●			
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL		●		High amount of construction works, significant operational components
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION			●	Use of cutting edge technology, can drive innovation across healthcare sector
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES			●	Enabling access to high quality medical services for the community
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE		●		Raising the effectiveness of healthcare services provisions with the city
12. RESPONSIBLE CONSUMPTION BY ALL	●			
13. COMBAT CLIMATE CHANGE	●			
14. PROTECT THE OCEAN	●			
15. TAKE CARE OF THE EARTH	●			
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL	●			
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS			●	Use of PPPs as primary model for project realization



Escalating the (Case Study) project:

- 1) The project can be replicated within the country's healthcare sector;
- 2) Healthcare PPPs are widespread across many countries of the world and could be used for the effective creation of medical facilities;
- 3) Extrapolation of project to other sectors is limited;
- 4) Political will and dedication of project implementation team are among key success factors for escalation of project;



Project:	Construction of the National Cancer Institute Radiology Center , Ukraine
Project Proponent:	Iryna Zapatrina, Ukrainian PPP Center, Ukraine

The new Radiology Center of the National Cancer Institute will be used for:

- ✧ Radiosurgery operations
- ✧ Radiotherapy
- ✧ Radio diagnostics
- ✧ Clinical trials

Public Organization: the Ministry of Health of Ukraine

Private Organization: an Expert Health Organization on Development, Operation & Maintenance

Capital Providers: Multilateral and bilateral Financial Institutions, Commercial Banks, Private Equities Companies





High urgency of the Project for Ukraine:

- The number of cancer patients in Ukraine today is 1 million. Each year 165,000 new cancer cases are recorded. It is much more than the world average level – 385 comparatively with 229 per 100 thousand persons. 31% of newly diagnosed die within the first year, 65% need radiotherapy. Total demand is 106340 radiotherapy procedures per year
- According to WHO recommendations, it is necessary to have at least 4 linear accelerators per 1 million people - for Ukraine it is 170. In Ukraine today there are only 17 linear accelerators of various modifications in public and private clinics. All other equipment is 10-30 year old and represented by cobalt systems, which are expensive and non effective. The deficit of radiotherapy procedures in the National Cancer Institute is 4675 per year
- There are 4 private radiotherapy clinics in Ukraine. The cost of treatment in these clinics is USD 4000-5000. Only small part of cancer patients can benefit from this treatment when the average salary in Ukraine is about \$ 170 per month

Important

- Most of services of the new Radiotherapy Center will be provided on paid basis. Capacity of the new Center will be 1224 patients per year. It will be in 2 times more than now and will cover 2/3 of the current demands in such treatments in Ukraine. Only 30-35% of this Center patients will be served free of charge. Others - on paid basis including foreign patients
- It is possible to give rights of conducting clinical trials in the Vivarium of NIC to a private partner. The total area of the NIC Vivarium is 600 sq.m.
- Initiator of the Project is ready to transfer to private partners rights on providing diagnostic services, some radiosurgery operations, possibilities for clinic trials, maintenance of buildings

Why is this project a Case Study for PPPs:

- Lack of funds in the State Budget for finishing of construction of the new Center and for equipment. Construction of this facility has started in 2012, completion rate of construction at the moment is 80%
- High demand in corresponding medical services in Ukraine and abroad. Now 2/3 of cancer patients have no possibility to have appropriate medical treatment. 250 thousand persons from Ukraine are receiving medical treatment annually (not only cancer diseases). At the same time, Belarus provides medical services for 160 thousand foreigners per year. Even now NCI provides medical services for 200 persons per year.



Implementing Strategy

Responsible State Partner – the Ministry of Health of Ukraine

Phase	Initiator	Decision maker
Preparation of the Report – Analysis of Project Efficiency (including business plan, risks evaluation & distribution, legal and institutional model, state support etc.)	Ministry of Health (the existing hospital) or Potential Private partner (with possibility to cover its costs in case if it doesn't win the tender)	Ministry of Health – has to adopt
Adoption of a conclusion on the Report on Project Efficiency	Ministry of Health	Ministry of Economic Development and Trade & Ministry of Finance (in case of the State Support provision) – have to adopt
Decision on making PPP, preparation of all necessary documents (tender documentation, draft PPP agreement etc.)	Ministry of Health (in the case of positive conclusion)	Ministry of Health and Consultants (in the case of positive conclusion)
Winner determination as a result of a tender	Ministry of Health	Ministry of Health
Signing of PPP agreement		Ministry of Health



Important:

- All issues related to the land and construction permissions are solved
- State Guaranties are possible due to the legislation, but need developing by-law mechanisms of their adopting during preparation of PPP project (likely in the form of concession)

Necessary contracts – for start of the Project development phase

- PPP contract (likely – concession agreement)
- Land leasing agreement (due to the Ukrainian legislation – should be signed simultaneously with a PPP contract)
- Approval of a construction project of the building (in case of sufficient changes to the project of existing building)
- Possibly other agreements or licensees (depending on selection of additional medical services to be provided by a private partner)

What should be investigated on the feasibility phase

- Related services, which could be provided by a private partner in the framework of a PPP agreement including possibilities of export of medical services
- CAPEX (on the expert evaluation – approximately USD20 mln. including USD12 mln. for special equipment (2 linear accelerators Clinac 2100 C/D, 2 GammaMed Plus iX, Brilliance Big Bore 16, BV Endura etc.)
- OPEX
- Revenue
- Risk assessment and distribution



Location of the new Center on the territory of National Cancer Institute (NCI)

NCI was founded in 1920 as the first modern oncological & radiological institution in Ukraine.

It includes Surgery, Diagnostic, Radiology, Chemotherapy and Scientific Departments – totally 600 beds in all hospitals.

- ✓ 16000 patients including 950 each year
- ✓ 10000 surgical procedures for different cancers annually
- ✓ 1500 employees including 300 physicians

The territory of NCI = 8ha = 19 ac

NCI has the strong Scientific Department with Laboratories for clinical trials (anticancer vaccines, molecular-genetic trials etc.) It could be a base for international surgical clinical trials



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Current state of the new Center building





Escalating the (Case Study) project:

- 1) This Project could be replicated within Ukraine – the country's demand in linear accelerators today is satisfied only by 10%
- 2) It is possible to export the corresponding high quality medical services which are very demanded in Ukraine and in other countries (CIA & Europe)
- 3) There is an opportunity for a potential private partner to provide additional medical and related services (diagnostics, laboratorial, pharmacy, food and accommodation for relatives etc.)
- 4) Mechanisms, which will be developed for this project implementation, could be used for other health project in Ukraine (the Modern Clinical base for Reparative Neurosurgical Operations with Further Rehabilitation – Kiev, state equity; the Modern Surgery First Aid Center – Kirovograd, municipal equity)
- 5) This project also could be replicated globally: it would be interesting for CIS countries as a new model of implementation and opportunity to receive the corresponding services
- 6) Lessons learned can be extrapolated to other infrastructure sectors in Ukraine and other CIS countries



Impact on People and Planet:

- 1) Creating opportunities for treatment of cancer patients in Ukraine will significantly improve quality of life in the country, especially for poor people
- 2) In case of this Project implementation at least 1200 people per year could receive radiotherapy treatment. It will allow to provide good quality of life for 4500 – 6000 people (their families) annually.
- 3) This experience could be replicated in other spheres of medical assistance in Ukraine (methodology, institutional potential etc.)
- 4) Project will be designed using energy effective and green technology approach and could be replicated for other medical institutions in Ukraine

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Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY		●		ALL have access to medical services, persons with radiotherapy more chances to have jobs and financially support their families
2. END HUNGER	●			
3. WELL BEING – HEALTHY LIVES			●	Death cancer will decrease, new facilities will allow surgery and rehabilitation services
4. QUALITY EDUCATION		●		New platform for new doctors to improve skills and get acquainted with new technology
5. GENDER EQUALITY			●	Equal rights for men and women in medical services, also on new job opportunities
6. WATER AND SANITATION FOR ALL	●			
7. AFFORDABLE AND SUSTAINABLE ENERGY		●		New building will be equipped with modern efficiency technologies
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL		●		New jobs will be created (medical and non medical positions)
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION			●	New building will be equipped with innovative technologies, to be replicated
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES			●	Ensured equal opportunities for all to receive free of charge in emergency situations
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE		●		The new medical center will increase the health level of population in the country
12. RESPONSIBLE CONSUMPTION BY ALL	●			
13. COMBAT CLIMATE CHANGE		●		The center will be equipped with modern energy efficient technology, to be replicated
14. PROTECT THE OCEAN	●			
15. TAKE CARE OF THE EARTH	●			
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL			●	The new center will be an accountable and transparent institution
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS			●	Use of PPPs, new technologies with new institutional and financial mechanisms

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THE GLOBAL GOALS
For Sustainable Development

Project:	Modern Clinical base for Reparative Neurosurgical Operations with Further Rehabilitation, Ukraine
Project Proponent:	Iryna Zapatrina, Ukrainian PPP Center, Ukraine

The Modern Clinical base for Reparative Neurosurgical Operations with Further Rehabilitation (Center) under construction will be used for:

- ✧ surgical operations on neurotrauma and strokes caused by accidents or military actions (emergency cases) and
- ✧ rehabilitation of patients after neurotrauma and neurologic deceases of any nature

Public Organizations: the Ministry of Health of Ukraine & National Academy of Medical Sciences of Ukraine

Private Organizations: an Expert Health Organization on Development, Operation & Maintenance

Capital Providers: Multilateral and bilateral Financial Institutions, Commercial Banks, Private Equities Companies





High urgency of this Project for Ukraine:

- According to the estimates, at least 7500 injured persons will need restorative surgical interventions as a result of trauma annually over the next 10 years. As a result of the military conflict in Ukraine the need for such interventions has increased by 2,000 per year. Most of patients need further rehabilitation measures
- In peacetime in Ukraine the number of people with severe traumatic brain injury is around 20 000 persons and with complicated vertebral and cerebrospinal trauma is up to 3000 persons every year. A third of these two categories of patients (around 8000 persons), not including cerebral strokes, will need annual rehabilitation treatment at the neurorehabilitation departments
- At the same time, the existing infrastructure in Ukraine allows doing approximately 2,500 such surgical interventions per year – in 3.5 times less than necessary
- There are no rehabilitation centers in Ukraine for neuro patients (the nearest centers are in Russia and Belarus). Ukraine has only 2 small rehabilitation divisions in military hospitals and 5 very small private rehabilitation centers, which are very expensive

Important

- At the moment most of persons that require rehabilitation have been injured as a result of military actions. Many of them and their families are internal migrants and have no funds to be treated abroad. Lack of necessary infrastructure condemns most of these people to death
- A lot of people, who need neuro rehabilitation in Ukraine have possibility to pay for this service. So exploitation of rehabilitation facilities should bring additional revenue and in future could be expanded
- Most of persons, that have received neurotrauma as a result of accidents and the mass street protests on Independence Square in Kiev and during the Counter-Terrorism Operation in Lugansk and Donetsk Regions, are young people that have or could have families and children. Bringing them back to a normal life will allow ensuring favorable economic and psychological opportunities for their existent or future families and children.
- It will increase quality of life of all these people, decrease social pressure in Ukrainian society and likelihood of future conflicts

Why is this project a Case Study for PPPs:

- Lack of funds in the State Budget for finishing the construction of the Clinical base. Construction of this facility has started in 1990, completion rate of construction at the moment is 50% (the building is almost built)
- Availability of highly qualified surgical specialists – doctors and possibility to export medical services

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Implementing Strategy

Responsible State Partner – the Ministry of Health of Ukraine & National Academy of Medical Science of Ukraine

Phase	Initiator	Decision maker
Preparation of the Report – Analysis of Project Efficiency (including business plan, risks evaluation & distribution, legal and institutional model, state support etc.)	Ministry of Health & National Academy of Medical Sciences of Ukraine or Potential Private partner (with possibility to cover its costs in case if it doesn't win the tender)	Ministry of Health – has to adopt
Adoption of a conclusion on the Report on Project Efficiency	Ministry of Health & National Academy of Medical Sciences of Ukraine	Ministry of Economic Development and Trade and in case of the State Support provision - Ministry of Finance – have to adopt
Decision on making PPP, preparation of all necessary documents (tender documentation, draft PPP agreement etc.)	Ministry of Health & National Academy of Medical Sciences of Ukraine (in case of positive conclusion)	Ministry of Health & National Academy of Medical Sciences of Ukraine (in case of positive conclusion)
Winner selection as a result of a tender	Ministry of Health & National Academy of Medical Sciences of Ukraine	Ministry of Health
Signing of PPP agreement		Ministry of Health (National Academy of Medical Sciences of Ukraine could be one of the sides of agreement – from public partner)



Important:

- All issues related to the land and construction permissions are solved
- Expert examination of the existing (non finished) building condition is under preparation now
- State Guaranties are possible due to the legislation, but it is necessary to develop by-law mechanisms of their adopting during preparation of PPP project (likely in the form of concession)

Necessary contracts – for start of the Project development phase

- PPP contract (likely – concession agreement)
- Land leasing agreement (due to the Ukrainian legislation – should be signed simultaneously with a PPP contract)
- Approval of a construction project of the building (in case of sufficient changes to the project of existing building)
- Possibly other agreements or licensees (depending on selection of additional medical services to be provided by a private partner)

What should be investigated on the feasibility phase

- Guaranteed scope of the free of charge medical services (surgical interventions and rehabilitation) to be provided by the Center
- Guaranteed payment from the State budget (something like “availability payment”) and appropriate budget mechanisms to be implemented
- Related services, which could be provided by a private partner in the framework of a PPP agreement including possibilities to expand rehabilitation facilities & export of medical services
- CAPEX (on the expert evaluation – approximately USD 50 mln)
- OPEX
- Revenue
- Risk assessment and distribution

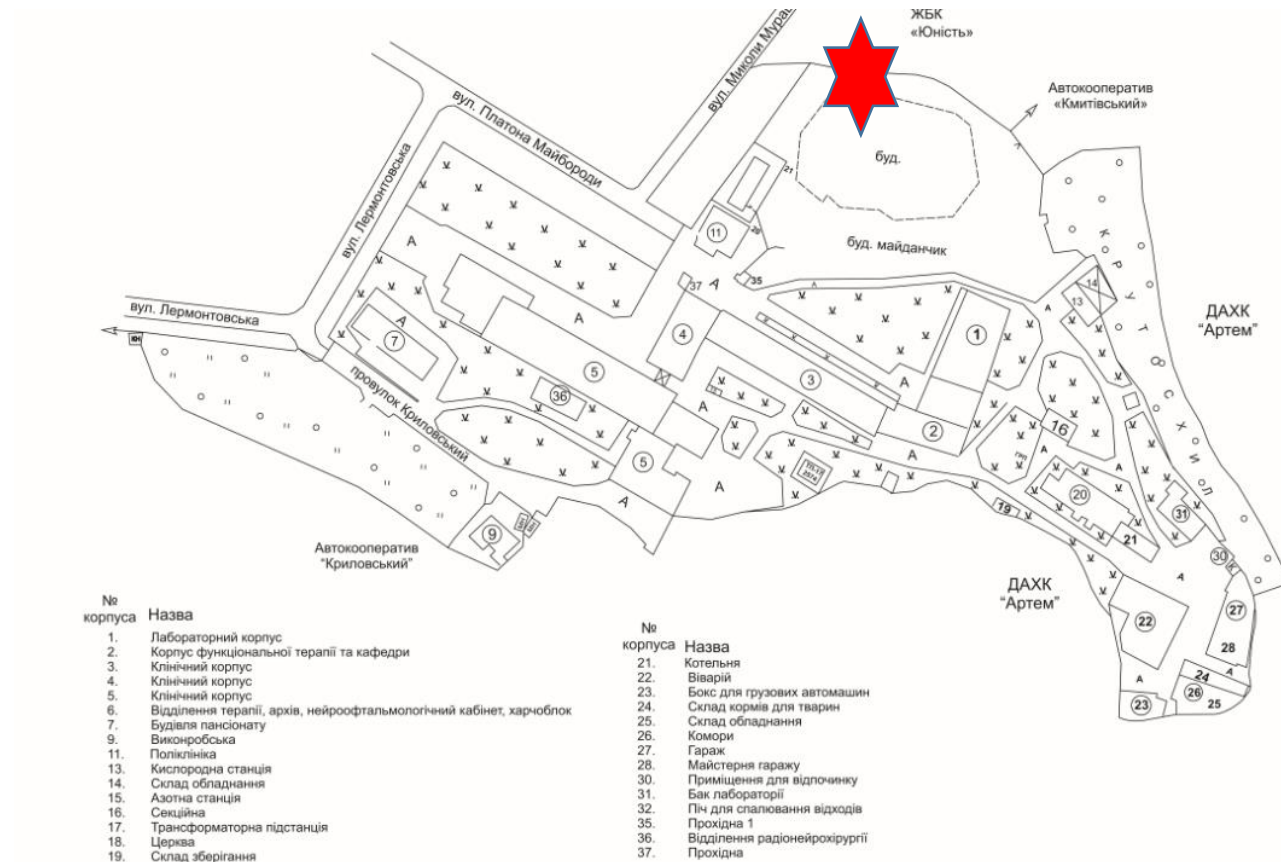
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Location of the future Center





Current state of the new Center building

Due to the Construction Project the total space of the building is 13 864 square meters (one aisle of the building is consists of 7 floors with additional technical floor, other aisle consists of 8 floors with additional technical floor. The building is designed for neuro surgical & rehabilitation facilities (each for 60 beds) with a modern equipment. Completion rate of construction at the moment is 50% .

The new Center for neurotrauma and neuro rehabilitation could be a unique scientific and practical institution and Center of Excellence and a clinical base of the University Clinic of the National Medical University named after O. O. Bohomolets and department of neurosurgery of the P.L. Shupyk National Medical Academy of Postgraduate Education training neurosurgeons and doctors of related specialties (neurologists, rehabilitation therapists) both for Ukraine and for foreign countries.

There are highly qualified local surgical specialists in the Institute of neurosurgery named after acad. A. P. Romodanov. which is one of the best in Europe, very famous in European and CIS countries. At the same time there are no enough high qualified rehabilitation specialists in Ukraine, they need to be trained.





Escalating the (Case Study) project:

- This Project could be replicated within Ukraine – the country needs at least 2 surgical neurotrauma centers in other regions of Ukraine and a lot of rehabilitation centers (neuro and with other specialization, including psychological). Medical rehabilitation industry is poorly developed in Ukraine . It is necessity to have at least one such center for every 10 mln people
- It is also possible to export the corresponding high quality medical services
- There is an opportunity for a potential private partner to provide additional medical and related services (psychological, laboratorial, pharmacy, food and accommodation for relatives, training of rehabilitation specialists etc.)
- It will be the first step to developing neuro rehabilitation service in all Ukraine. Rehabilitation facilities practically don't exist in Ukraine now, but are highly demanded in Ukraine (both free and paid)
- This project also could be replicated globally: it would be interesting for CIS countries as a new model of implementation and opportunity to receive appropriate services
- Lessons learned can be extrapolated to other infrastructure sectors in Ukraine and other CIS countries



Impact on People and Planet:

- Access to modern neurotrauma, stroke and neuro rehabilitation service will significantly improve the quality of life, especially for poor people and those who have suffered as a result of serious conflicts in the country and their families
- In case of this Project implementation at least 1500 persons with neuro trauma will be operated each year, it will allow to provide good quality of life for 4500 – 6000 persons (their families) annually. Additionally it will allow to restore health and provide better quality of life for about 1000 persons per year as a result of rehabilitation and, in case of expanding these facilities, much more
- This experience could be replicated in other spheres of medical assistance in Ukraine (methodology, institutional potential etc.)
- Project will be designed using energy effective and green technology approach and could be replicated for other medical institutions in Ukraine
- This Project will contribute to the implementation of the following SDGs - 1, 3-5, 7-11, 13, 16-17

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Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY		●		ALL have access to medical services, persons with radiotherapy more chances to have jobs and financially support their families
2. END HUNGER	●			
3. WELL BEING – HEALTHY LIVES			●	Death cancer will decrease, new facilities will allow surgery and rehabilitation services
4. QUALITY EDUCATION		●		New platform for new doctors to improve skills and get acquainted with new technology
5. GENDER EQUALITY			●	Equal rights for men and women in medical services, also on new job opportunities
6. WATER AND SANITATION FOR ALL	●			
7. AFFORDABLE AND SUSTAINABLE ENERGY		●		New building will be equipped with modern efficiency technologies
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL		●		New jobs will be created (medical and non medical positions)
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION			●	New building will be equipped with innovative technologies, to be replicated
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES			●	Ensured equal opportunities for all to receive free of charge in emergency situations
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE		●		The new medical center will increase the health level of population in the country
12. RESPONSIBLE CONSUMPTION BY ALL	●			
13. COMBAT CLIMATE CHANGE		●		The center will be equipped with modern energy efficient technology, to be replicated
14. PROTECT THE OCEAN	●			
15. TAKE CARE OF THE EARTH	●			
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL			●	The new center will be an accountable and transparent institution
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS			●	Use of PPPs, new technologies with new institutional and financial mechanisms

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THE GLOBAL GOALS
For Sustainable Development

Project:	Forth Valley Royal Hospital
Project Proponent:	Peter Ward, John Laing plc

Public Organization: NHS Forth Valley

Private Organization: John Laing

Capital Providers: Bank of Scotland and EIB

The project improved health outcomes and access to healthcare for the population of central Scotland

Why is this project a Case Study for PPPs based on SDGs:

Context	<i>Significant improvement in access to good quality care, and efficient services</i>
Strategy	<i>Consolidation of hospitals in Stirling and Falkirk to a single, modern facility</i>
Project KPI's	<i>Improved inpatient and ambulatory care and better links with other providers</i>
Impact	<i>Ensuring healthier lives and wellbeing for patients</i>
Escalate	<i>Efficient links between acute and community services</i>
"We the people"	<i>Better health outcomes and access to good quality care</i>





Context

Profound pressures within the central Scottish healthcare system, including:

- New clinical standards and changes needed to implement them
- Increasing public and professional expectations
- An increasing proportion of older people and demand for services for the frail elderly
- National shortages of health professionals
- Working time directives reducing hours that staff can work
- Duplication of acute services across two district hospitals, particularly emergency on call rotas
- National policies aimed at reducing waiting times and improving access to healthcare

SDG3: Ensure healthy lives and promote well-being for all at all ages

SDG12: Ensure sustainable consumption and production patterns

SDG17: Strengthen the means of implementation and revitalise sustainable development partnerships



Strategy

Developed by NHS Forth Valley with support from NHS Scotland, a strategy was developed to provide:

- A £270m, 96,000m², 860 bed single district general hospital
- Full range of hard and soft FM services
- A 30 year concession + 4 year construction
- A comprehensive bank/bond funding competition
- Extensive use of technology to:
 - Improve infection control
 - Enhance efficiency
 - Improve patient experience:
 - Separation of service flows
 - 50% single rooms

Feasibility

- Full appraisal of alternative delivery options and technical solutions
- Shadow “Conventional Procurement Assessment Model”
- In-house tender for FM services





Project KPI's

- Location: Larbert, Scotland
- Floor area: 96,000m²
- Land secured by the Authority & licenced to PPP partner
- PPP partner secured planning approval
- PPP partner took design, construction and FM service delivery risk
- Capital cost: £270m
- FM service cost: approx. £14m per annum
- Annual service charge: approx. £33m per annum
- Finance Structure: Equity, Subdebt & Senior Debt, total £300m

Project milestones

- OJEU notice: Dec 2004
- Preferred Bidder: Mar 2006
- Financial Close: May 2007
- Construction Completion: May 2011
- Concession ends: May 2041





Impact on People and Planet:

- Patients and public involved from the very beginning
- Formal and informal consultation sessions:
 - Focus groups, including staff workshops
 - Face-to-face briefings and public meetings
 - Consultation documents and questionnaires
- Related to whole healthcare system reconfiguration:
 - Complementary network of community hospitals
 - Primary care facilities
 - Future needs and demands
- Engaged with councils, patient groups, unions, MPs and MSPs.

Key issues:

- Quality of life improvements: more integrated access to care pathways
- Access to hospital
- Calmness of environment
- Convenience





Links to SDGs:

- More consistent standards of Inpatient and Ambulatory care [SDG3.1-3.4]
- Better coordination of care and access to specialist expertise [SDG1.1, 3.8]
- Protection of elective workload from interruption by emergencies [SDG3]
- Better communication, reducing patient moves between departments [SDG3]
- Computerised booking of appointments reducing peaks in activity [SDG3]
- ICU and HDU working more effectively to reduce length of stay [SDG9.1]
- Specialist facilities for physiologically stable patients [SDG3]
- Improved access to intermediate care and rehabilitation through networks [SDG3]
- Provision of services closer to home [SDG3]
- Fairer, more equal access to primary and secondary care [SDG1.1]
- More person-centred psychiatric care [SDG3.4]
- Enhanced community based mental healthcare model [SDG3.4]
- Staff feel more valued [SDG4.3, 4.4]





Environmental and social impact

People

- Extensive community engagement and support
- 90% of labour sourced from within 30 miles Planet
- Carbon efficient design
- Renewable energy sources & annual efficiency improvement Prosperity
- 20% improvement in efficiency of health service Partnership
- Successful, collaborative partnership Peace
- Improved pathways for frail elderly patients
- Platform for improving services for chronic diseases

Escalating the (Case Study) project:

Lessons for future projects

- Establish a robust policy context
- Consult extensively with patients, public and staff
- Learn lessons from other schemes
- Objective comparison of alternative technical solutions
- Transparent procurement, evaluation and monitoring
- Robust assessment of the value of innovation



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People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
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Project:	Alder Hey Children's Health Park
Project Proponent:	Peter Ward, John Laing plc

Public Organization: *Alder Hey Children's NHS Foundation Trust*

Private Organization: *John Laing/Laing O'Rourke/Interserve as 'Acorn'*

Capital Providers: *Acorn, SMBC (Pru), M&G and EIB.*

Alder Hey Children's Health Park features exemplary innovation in design, sustainability and project finance and has resulted in measurable improvements in clinical outcomes, efficiency and patient/staff experience.

Why is this project a Case Study for PPPs based on SDGs:

Context	<i>Transformation of the existing outmoded patient environment</i>
Strategy	<i>The NHS Trust procured a private partner to deliver and maintain the hospital</i>
Project KPI's	<i>Award winning child centered design, technological innovation, sustainability</i>
Impact	<i>Overwhelming response from patients and families, and reduced carbon footprint</i>
Escalate	<i>Public and private teams worked effectively to deliver innovation</i>
"We the people"	<i>Optimal stress free patient environment, promoting faster healing</i>





Alder Hey Children's Health Park



Alder Hey in the Park:

- 60,000 m² area
- 270 beds
- Including 48 critical care beds
- 75% single bed rooms with ensuite
- Access and views to outdoor from all bedrooms and wards
- 16 digitally interactive theatres
- 25 yr concession



Context:

- Alder Hey Children's Hospital is England's first pediatric hospital and the first to be accredited by WHO. The Trust treat 270,000 patients each year who come from across the north west of the UK.
- To improve the patient experience, focusing on privacy and dignity. Studies have shown that nature and natural light can promote faster recovery times in children and reduce stress.
- The 'infra gap' was the clear need for a new hospital, the old one being mostly over 75 years old and it was difficult for staff to deliver modern healthcare there
- The Trust's vision was for a hospital in a park, an environment that would promote faster healing and a calmer experience for the patients.
- Alder Hey was funded through the Private Finance Initiative, a refined version of PPP in the UK using equity, two tranches of subordinated debt, and senior debt from a pension fund and EIB.

SDG3: Ensure healthy lives and promote well-being for all at all ages

SDG12: Ensure sustainable consumption and production patterns

SDG17: Strengthen the means of implementation and revitalise sustainable development partnerships





Strategy:

- The design was inspired by a drawing by a fifteen year old former patient, Eleanor Brogran, based around a flower. Aim to bring the outdoors into the hospital and give access to park views from every ward and single room.
- New site for an existing hospital so the Trust knew what they needed. Trust considered alternative sites during the feasibility phase. PPP solution gave the Trust access to sufficient funds to achieve such a major project and took advantage of private sector expertise to deliver innovative design and funding solutions.
- At Financial Close the Trust entered into the Project Agreement with the consortium of equity partners, outlining the delivery of terms of the project; also a Design and Construction Agreement; separate loan agreements with the partners; FM services agreement; an Management Services Agreement. Finance agreements with the banks: a Common Terms Agreement; an Intercreditor Agreement and Shareholder Agreements with the equity partners.
- The hospital was delivered by a project company consortium, Acorn, of investor John Laing, contractor Laing O'Rourke and FM provider Interserve. The extensive experience and expertise of these three companies in their respective fields working together in partnership delivered the project on time and to budget. The structure of the project incentivises the partners to ensure quality is prioritised as they will not receive loan re-payments from the Trust if they fail to deliver.
- Exploitation is about providing a public service and improving the quality of life; describe how do you manage operation & maintenance, revenue stream and guaranty quality of public service
- Alder Hey Children's Trust is one of the major pediatric centres in the UK, treating 270,000 patients a year. The new hospital provides an welcoming and sustainable environment that enables the clinicians to treat the patients using state of the art technologies.



Project KPI's:

- The new hospital was built on the park adjacent to the old hospital. When the build is completed the old hospital will be demolished and made into parkland. The land was procured through a land swap arrangement with the council who own the park.
- The project capex was £237m, opex for the Trust is £12m per annum unitary charge indexed at circa 30%, to cover debt repayment and interest and ancillary fees, provision of all FM costs and life-cycle, SPV management costs
- John Laing used experience and expertise to put together an innovative funding structure to achieve best value for the Trust, running a funding competition at preferred bidder stage. First UK hospital to be financed using a institutional private placement debt, bringing pension funds back into the PPP/PFI. The use of a subordinated debt tranche enhanced the internal credit rating assigned to the project by senior lenders.
- Pre-development the Trust ran a competitive tender for a private partner to design, construct, fund and operate a new hospital. Acorn appointed preferred bidder in 2012, one of the shortest periods between PB and FC of any PFI. LOR delivered 27 month construction programme; the Trust transferred patients and staff to new hospital during October 2015.
- There was extensive engagement with the local community throughout the process.
- Children's panel consulted on the design throughout its development.



Impact on People and Planet:

- Alder Hey is Europe's biggest and busiest pediatric hospital, it is uniquely placed to have a positive impact on the lives of many families, fulfilling the Trust's vision of a world class environment for world class care. The distinctive design allows for maximum natural light and access to outdoor space from all wards with more garden space per m2 than any other hospital, creating a environment proven to promote healing.
- The old hospital had long corridors, confusing way finding, 18 bed nightingale wards and no park views. The new hospital has 75% single bed rooms with space for parents to stay, improving the privacy and dignity of the patient and family experience. The four bed bay wards are designed to give maximum visibility from the nurses station to improve patient safety. Way-finding is clear to make visits easy.
- Ground breaking innovation in technology allows patients to check in before they arrive and interact and learn about the hospital and their condition through play. Electronic patient records enable the clinicians to deliver care more quickly and safely, improving access for all.
- Alder Hey is the most sustainable hospital ever built, with green roofs, water capture and 60% of energy generated on site of which a minimum 10% will renewable. A BREEAM Excellent rating making more cost efficient to run, and creating a warmer more secure environment for patients and staff.



Links to SDGs:

Reduced adverse medication errors through use of technology [SDG3.1-3.4]

Fewer patient transfers as a result of integrated design [SDG1.1, 3.8]

Shorter length of stay resulting from reduced stress and medication [SDG3]

Reduction in healthcare acquired infections [SDG3]

Computerised booking of appointments reducing peaks in activity [SDG3]

World class healing environment accessible to all [SDG3, SDG10.2, SDG 9.1]

Better links between healthcare, and research and education [SDG9.1]

Improved staff morale, and reduction in staff injuries [SDG4]

Improved access to specialist care from network of district hospitals [SDG3]

Shorter length of stay in ITU and high dependency unit [SDG3]

Reduced energy and water use [SDG12]

Staff feel more valued [SDG4.3, 4.4]

Iconic building for the area and community, parkland replaced on old site and 90% of it recycled [SDG11.7, SDG12]

The most sustainable hospital ever built, insulating green roofs, 60% of energy generated on site

[SDG 12]





Environmental and social impact

People

- Extensive community and family engagement and support - 80 apprenticeships and 1,800 hours of work experience with 900 students visiting the project during construction
- Designed by children to reduce stress and anxieties

Planet

- Carbon efficient design
- Renewable energy sources & annual efficiency improvement

Prosperity

- Reductions in adverse outcomes leading to reduced costs Partnership
- Successful, collaborative partnership

Peace

- Reduced anxiety for families visiting hospital
- Recognised centre for international paediatric collaborations and international advocate for child health



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Alder Hey in the Park - Innovation



“The new Alder Hey in the Park provides the perfect facility for delivering the very best treatments to children and young people.

Having 48 bed critical care area and having state-of-the art theaters will help surgeons like me to develop novel, effective and surgical techniques to improve outcomes and speed the recovery of patients. I’m incredibly proud to be working here at Alder Hey in this incredible hospital that I believe is truly at the forefront of children’s healthcare.”

Cardiac Surgeon Rafael Guerrero



Escalating the (Case Study) project:

- Alder Hey is an exemplar project in which skills of the private sector was harnessed by the public sector to push innovation in all areas and create an affordable funding structure to enable delivery of much needed infrastructure that will vastly improve the access to and research in children's healthcare.
- PFI no longer a PPP delivery model for UK Healthcare but the project adopted early aspects of PF2 such as the Trust taking the upside on life-cycle.
- Replicable success factors: **strong vision, leadership** and **partnership working** can be learned from the project for any global PPP project:
 - Trust and John Laing worked closely together on the funding competition during PB stage
 - Effective risk transfer and management was achieved through partnership - use of joint risk matrices between Trust and Acorn during PB Stage
 - Strong vision and leadership from the Trust encouraged innovation from private sector
 - Assessing services requirements is primary and provision of assets is secondary to that
 - Benefits of partnership within consortium – early involvement of FM provider with construction
- Funding competitions at PB stage may become adopted by PPP projects in other sectors
- Lessons learned from funding competition include flushing out intercreditor principles early and giving all parties a seat at the table



Project:	Sunshine Coast PPP, QLD, Australia / Cartagena and Mar Menor PPP Murcia, Spain / Green + Hospitals Check
Project Proponent:	Maria Waleska Guerrero Lemus, Siemens

Public Organization: Ministries of Health → Various countries

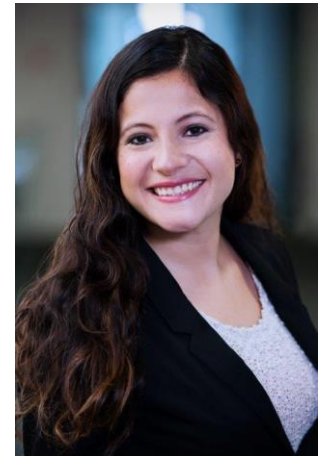
Private Organization: Siemens Healthcare (**Enterprise Services and Solutions**)

Capital Providers: **Siemens Financial Services (SFS)**

How Siemens Healthcare and Siemens Financial Services (SFS) contribute to the SDGs in PPP projects?

Abstract: Using 2 example projects and a description of a consultative approach, Siemens' ability to help realize SDGs is illustrated.

- 1. Example 1: Sunshine Coast PPP, QLD, Australia**
 - ✓ SFS equity – how it relates to SDGs?
- 2. Example 2: Cartagena and Mar Menor PPP Murcia, Spain**
 - ✓ Managed Equipment Services (MES) – how it relates to SDGs?
- 3. Example 3: Green+ Check Example**
 - Methodology – how it relates to SDGs?





Example 1: Sunshine Coast University Hospital PPP QLD Australia

Siemens Financial Services (SFS) equity – how it relates to SDGs

Negotiation process between SFS and the Government



- PPP project issued by the government (value for money outcome)
- Market evaluation by Siemens for potential partners
- Questions and information exchange between government and interested companies

- Pre-qualification phase conducted among participating companies
- Pre-qualification included presentation outlines and general basis of the sustainable hospital concept

- Selection of bidders:
 - ✓ *2 consortia companies* (one including Siemens and partners)
- Beginning of the bid signature: Process and probity bid (including Non-Disclosure Agreement)
- Submission of proposals at different bid stages including revisions with the government
- Submission of final and binding offer by bidders

- Selection of partner:
 - ✓ *Exemplar Health* (Siemens with the consortia partners) which demonstrated best value for money and project concept





Example 1: Sunshine Coast University Hospital PPP QLD Australia Siemens Financial Services (SFS) equity – how it relates to SDGs



Contract, Financing Solution and Service Scope

Contractual arrangement

- Public private partnership (PPP) contract with Exemplar Health
- Exemplar Health is a *Consortium* comprising Lendlease and Siemens
- Capella Capital work as the equity arm of Lendlease

Financing solution

- *Fund*: Government contribution (construction) & a quarterly service payment, linked to Exemplar's performance over 25 years
- *Financing*: Equity (Equal shares by Lendlease & Siemens) & Senior debt (domestic & international banks)

Delivery Structure

- Exemplar Health will design, construct, part-finance, commission and maintain the hospital buildings and grounds for 25 years from late 2016
- The hospital is built under a securitized license structure
- Siemens Healthcare provided hospital workflow design & major medical equipment



Example 1: Sunshine Coast University Hospital PPP QLD Australia Siemens Financial Services (SFS) equity – how it relates to SDGs?

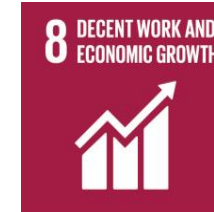
Impact on SDGs



- **Free health services** to meet the growing demand (estimated 10,000 patients each year), capacity 738 beds



- **Teaching and research projects** in first-class facilities for doctors and clinical staff at the Sunshine Coast Health Campus



- **Creation of thousands jobs** during construction & each project milestone Catalyst for local and commercial residential development



- **Sustainable Hospital features:** Renewable infrastructure, energy efficiency, sustainable products, sustainable management systems
- **Community engagement:** Project decision making groups



- **4-star Green Star Rating Building** („Design & As Built“) *Green Building Council Australia:* Measures to protect the ecological value of the wetlands during construction & operation



- **PPP framework** with a sustainable approach, enhancing value for money over 25 years



Example 2: Cartagena and Mar Menor PPP Hospitals Murcia, Spain Managed Equipment Services (MES) – how it relates to SDGs

Impact on SDGs

Initial Situation



- **Increasing population with more healthcare demands** in the coastal areas of Cartagena and Mar Menor of the Murcia region
- The Ministry of Health of Murcia was also **facing budgetary constraints** for the investment required to fill the infrastructure gap
- Quality of infrastructure and technology, along with operational efficiency represented key aspects required to improve the **quality of care** of the regional communities

The infra –Solution -MES

- The Ministry of Healthcare of Murcia required a solution that could **provide financial security and high quality of care** with the best possible cost-benefit ratios over the long term
- **A PPP project framework** was introduced, in order to cover the infrastructure gap for 25 years, investing in 1000 beds
- **A Managed Equipment Service (MES) model** was developed by Siemens Healthcare to **provide technology, advanced management services** over 15 years under the PPP structure
- Siemens Financial Services also provided financing to the project

Benefits after 5 years



3 GOOD HEALTH AND WELL-BEING

Serving to the good health and well-being of **382 million residents**



4 QUALITY EDUCATION

Comprehensive training to clinical staff with on-site technical consultancy expertise



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

More than **20,000 of state-of-art medical devices** with guaranteed technological innovations over the long term



12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Sustainable management of medical assets, leading to **less administrative costs, more patient throughput and improved workflow times**



17 PARTNERSHIPS FOR THE GOALS

Transformative and innovative **performance-based partnership model**, enabling long-term financial certainty



Example 3: Green + Hospitals Check- Methodology- How it relates to SDGs

Green + Hospitals Check is a comprehensive 360-degree overview of all relevant areas of the hospital concerning environment, quality and resource efficiency with a significant added value in cases of new construction or remodeling:

- Strategy
- Energy management
- Building layout
- Information and communication
- Processes & organization (functional areas)

Methodology approach and contents

- Comprehensive analysis of the hospital based on a standardized and certified method
- Data collection to determine the economic, qualitative and ecological parameters
- Inspection of all relevant premises
- Interviews with all the relative stakeholders
- Development of specific improvement measures



- **Hospital St. Georg Leipzig:**
- General Hospital and academic teaching hospital of the university under municipal sponsorship
- 1,030 beds at location Eutritzsch
- Interest to develop Sustainability action plan as basis for further improvements



Example

Outcomes and Impact on SDGs



- Initial situation assessed with **Green+ Check**
- **Green+ Score of 56** proves good performance with respect to Sustainability (Benchmark 60)
- Good quality of medical services, efficient processes, communication with employees and local public, sustainable financial situation
- Potential for further improvement especially with respect to energy efficiency and IT
- Potential for energy savings of more than **600,000 EUR p.a.** identified



The Drivers and key stakeholders:

Management Drivers	
Public organisations	International organizations and Development Agencies; Ministries of Health; Ministries of Finance; Sector representatives at federal, municipal and local levels
Private organisations	Construction companies; private financial institutions
Non for Profit Organisations	Hospital Associations, Business Associations, Non Governmental Organisations (NGOs)
Management team	Siemens Project Teams at a global, regional and local levels: Bid Management, Operational Manager, Training Manager, Financial Manager, Research and Collaboration Manager, among others
Organization growth strategy in Healthcare	Healthcare of Tomorrow: <u>The enabler</u> of healthcare providers worldwide by providing clinical excellence, operational efficiency, and a financial win-win for our customers
SDGs as part of Siemens Healthcare and SFS strategies	<ul style="list-style-type: none"> ✓ Siemens Healthcare drives sustainable healthcare with focus on efficiency and quality of patient care, giving access to health services for the global population. ✓ SFS with focus on financing and long-term risk participation contributes to the development of sustainable projects worldwide.



Summary and Key Messages

Replicability of Projects

- Siemens Healthcare and Siemens Financial Services (SFS) are working together to support the SDGs in long-term partnership agreements (PPP) We have a **global approach and interest in**, replicating and adapting our solutions to project and customer specific requirements
- In developing countries Siemens Healthcare has developed the following examples:
 - ✓ **South Africa** (Long-term PPP project (technology and services))
 - ✓ **Malaysia** (Consulting workflow-optimised room utilisation and building concept)
 - ✓ **Colombia** (Hospital Master Planning)
- SFS has a total global assets (PPP and other global projects for different Siemens sectors) of:
- **EUR 11.3 bn. in North and South America, EUR 10 bn. in Europe, Africa, Middle East & CIS and EUR 3.2 bn. in Asia & Australia**

Experience to other Sectors

- These projects can also be replicated to other sectors, in particular the strategic and long-term project management methodologies
- The market dynamics and country/ region specific particularities of the sector in question require further analysis and adjustments
- Markets in the global South need innovative business models as well as financing instruments
- Green procurement can play a big incentive

Key success factors

- Early engagement of public and private stakeholders in the strategy development and deployment phases of sustainable projects is recommended
- For long-term partnerships and feasibility of projects legal, financial, and market sector conditions play a very important role
- Governance and continuous stakeholder cooperation are crucial for the smooth operation of long-term agreements

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Project:	Schools and kindergartens retrofitting, Ulaanbaatar Mongolia
Project Proponent:	Bekhbat Sodnom

Public Organization: Ulaanbaatar City, Mongolia
Private Organization: Ulaanbaatar Development corporation JSC (UBDC)
Capital Providers: Private sector/ City budget

Why is this project a Case Study for PPPs:

Why is this project a Case Study for PPPs based on SDGs:

Context	→	from “AS IS” to “TO BE” or “how it was” to “how it is”
Strategy	→	how did we get there
Project KPI’s	→	how was the asset and public service created or improved
Impact	→	why “People & Planet” improved
Escalate	→	replicating within and among countries and sectors
“We the people”	→	the main drivers of the project

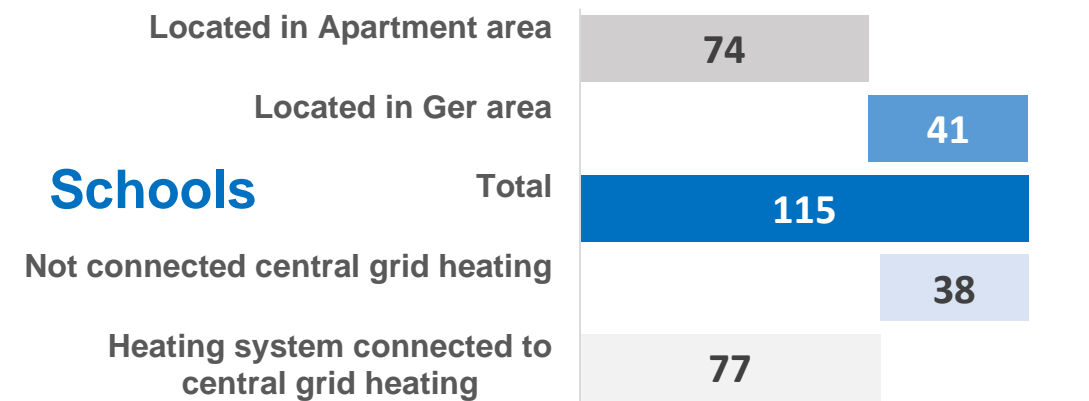
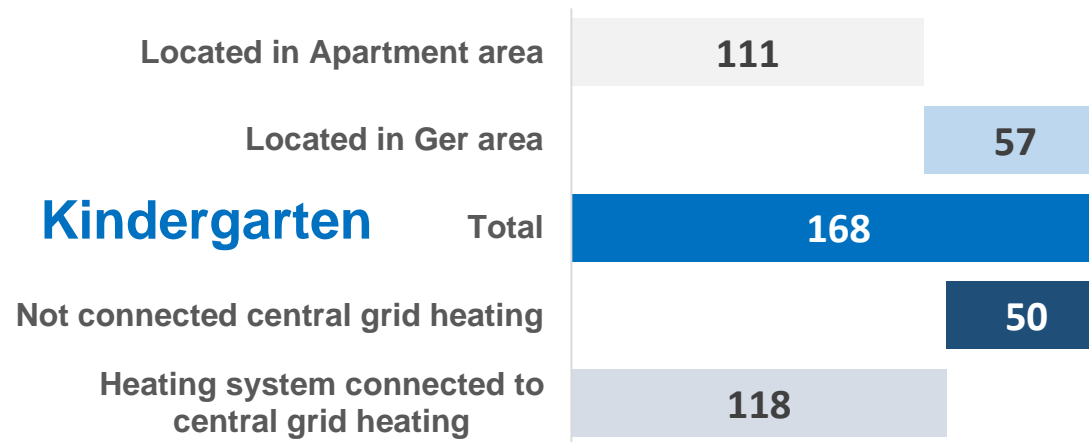




PROJECT RATIONALE

IN ULAANBAATAR THERE ARE 203 SCHOOLS, 115 OF THEM BEING STATE-OWNED AND 431 KINDERGARTENS, 181 OF THEM BEING STATE-OWNED.

MOST OF THE EXISTING 115 SCHOOL AND 168 KINDERGARTEN BUILDINGS FACE EXCESSIVE HEAT LOSS,



IN WINTER THE TEMPERATURE REACHES **AS LOW AS 10-17°C.**

THIS CLEARLY DEMONSTRATES THE URGENT NEED FOR COMPREHENSIVE THERMO-TECHNICAL RENOVATION



PILOT PROJECT IMPLEMENTATOR

**ULAANBAATAR CITY DEVELOPMENT
CORPORATION JSC**

- UB city owned JCS established for implement PPP projects in UB city

PROJECT MAIN INITIATOR

Asian Development Bank
Japan Office Development Agency

CONSULTING,

**TECHNICAL
ASSISTANCE
PROVIDER TO UBDC**



UBDC'S ROLE ON PROJECT

To renegotiate
existing heat supply
contracts

To monitor the private
partner's performance

To pay for heat over
the term of the PPP

To secure all planning
approvals and site access

To make regular payments to the
private partner under a performance-
based arrangement



PROJECT LOCATION



The public schools and kindergartens in UB are spending 75-77.6% of the budget for utilities on heating energy supply

- SHD kindergarten no 91 (connected central heating)
- SHD school no 107 (stand-alone heat-only boilers)
- BZD kindergarten no 82 (connected central heating)
- BZD school no 85 and its dormitory (stand-alone heat-only boilers)
- HUD kindergarten no 121 (stand-alone heat-only boilers)

10-17°C.

UBDC selected 5 school as pilot project for retrofitting



PROBLEMS



CLASSROOM, SHD KINDERGARTEN NO 91



CLASSROOM, SHD KINDERGARTEN NO 91

Schools and kindergartens are cold and damp and mouldy

- Temperatures are often 18-19 C or colder in winter, the standard is 22-25 C
- Some activities are ruled out by the cold
- Children can't concentrate, and get sick and miss school
- Teachers get sick and can't work

Too much heat is used, adding to air pollution and high heating bills

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**PILOT
PROJECT
EXPECTED
RESULT**



EXPECTED ENERGY SAVING 40%



EXPECTED PPP ARRANGEMENT TYPE

BUILD

Private partner renovate kindergarten .

- eg wall and roof insulation, improved door windows, improvements to heating supply equipment

TRANSFER

Renovated kindergarten building will be transferred to UB city

- Ownership right maintained by UB city

LEASE

5-10 year leasing payment a performance-based indicator

- Monitor private partner performance

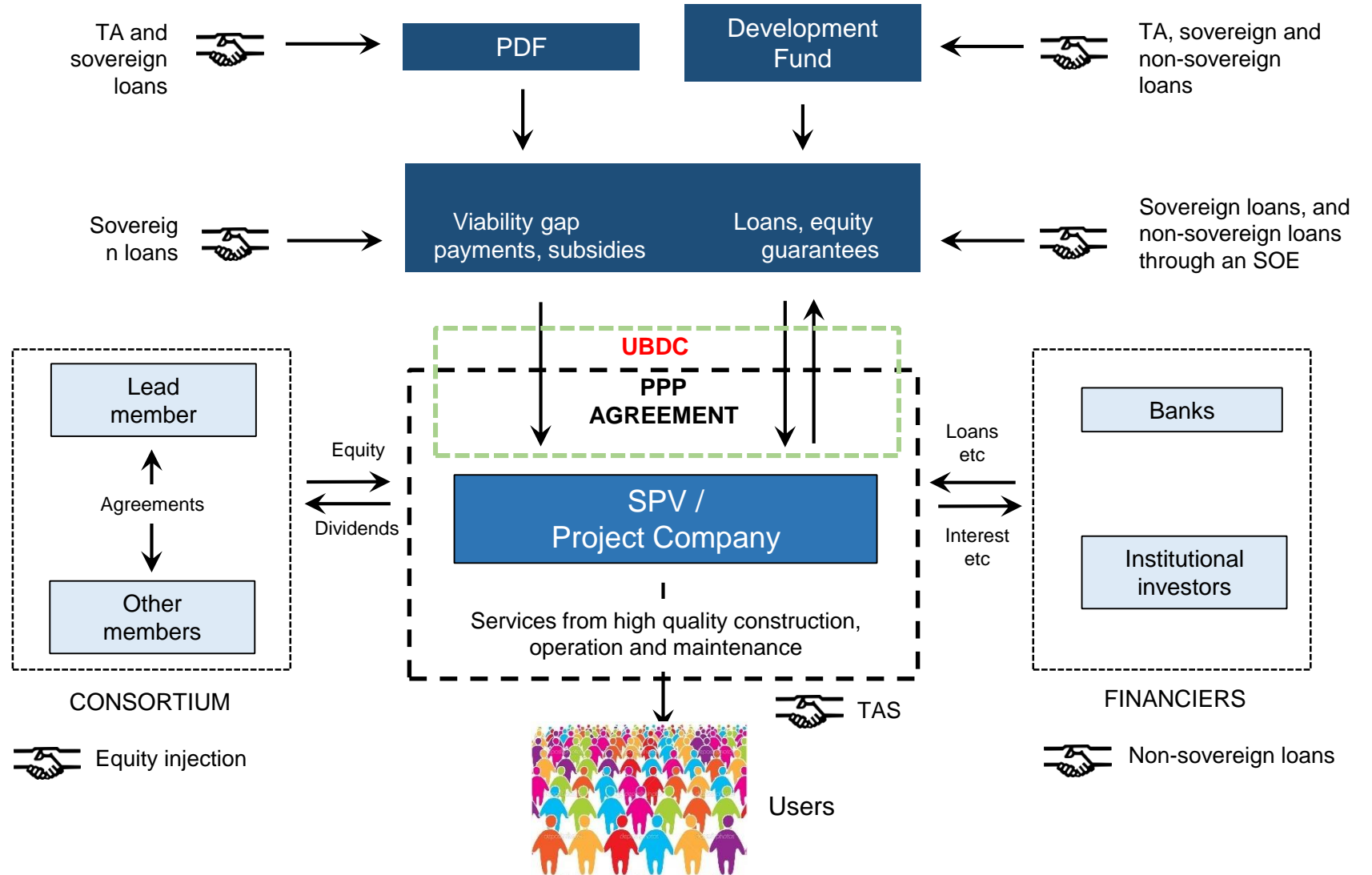
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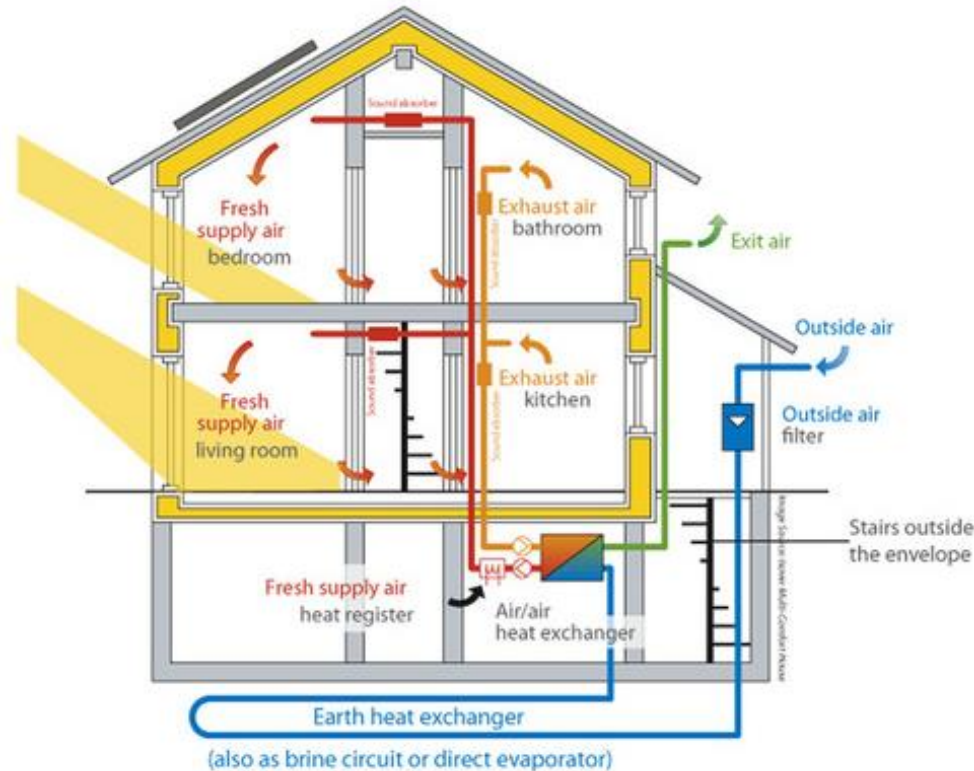


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PROJECT OVERVIEW



CONSIDERING TECHNOLOGY



Passive house standard is a sensible alternative for school, kindergarden buildings.

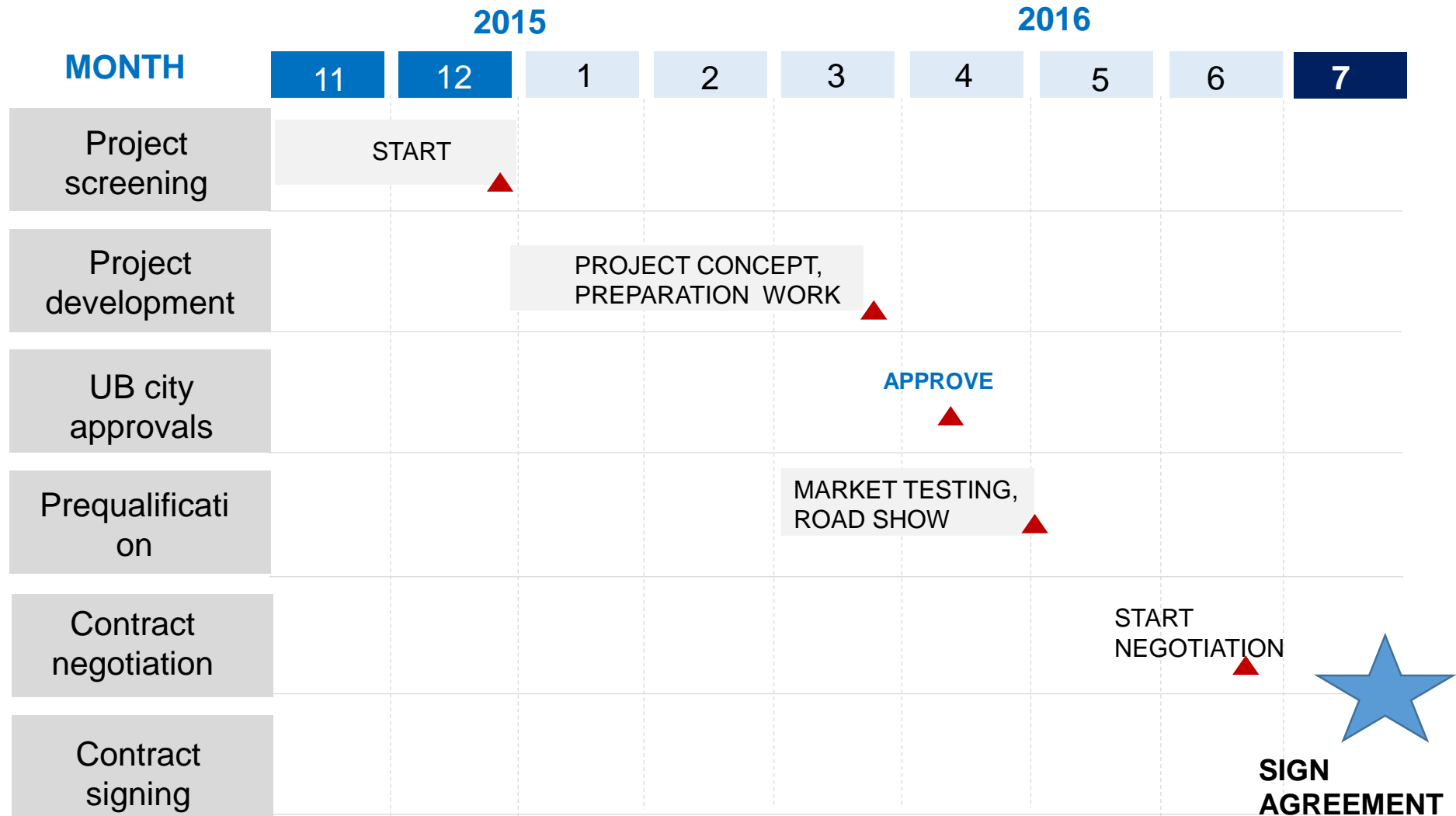
- Up to 90% energy saving
- Fresh air
- Healthy
- Affordable price

Passive house standard - energy efficient, comfortable, affordable, ecological

- Energy sources inside the building
- Appropriate window, door
- Insulated exterior wall, roof
- fresh air ventilation system



PLAN



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Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY				
2. END HUNGER				
3. WELL BEING – HEALTHY LIVES			●	
4. QUALITY EDUCATION			●	
5. GENDER EQUALITY	●			
6. WATER AND SANITATION FOR ALL	●			
7. AFFORDABLE AND SUSTAINABLE ENERGY			●	
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL				
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION				
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES				
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE				
12. RESPONSIBLE CONSUMPTION BY ALL				
13. COMBAT CLIMATE CHANGE		●		
14. PROTECT THE OCEAN				
15. TAKE CARE OF THE EARTH			●	
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL				
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS			●	



Project:	Public Private Partnership in the Water Sector of Armenia 15 years of PPP experience
Project Proponent:	Gagik Khachatryan, Advisor to the Prime Minister of Armenia

Content

- Background and rationale for the reforms
- The main objectives of the reforms
- Main Directions of Reforms
- PPP at Water Supply Companies of Armenia
- Second Generation of Reforms
- Lessons Learned
- Impact of the Armenian Reforms in the framework of the SDGs





Background and Rationale for PPP in Armenia

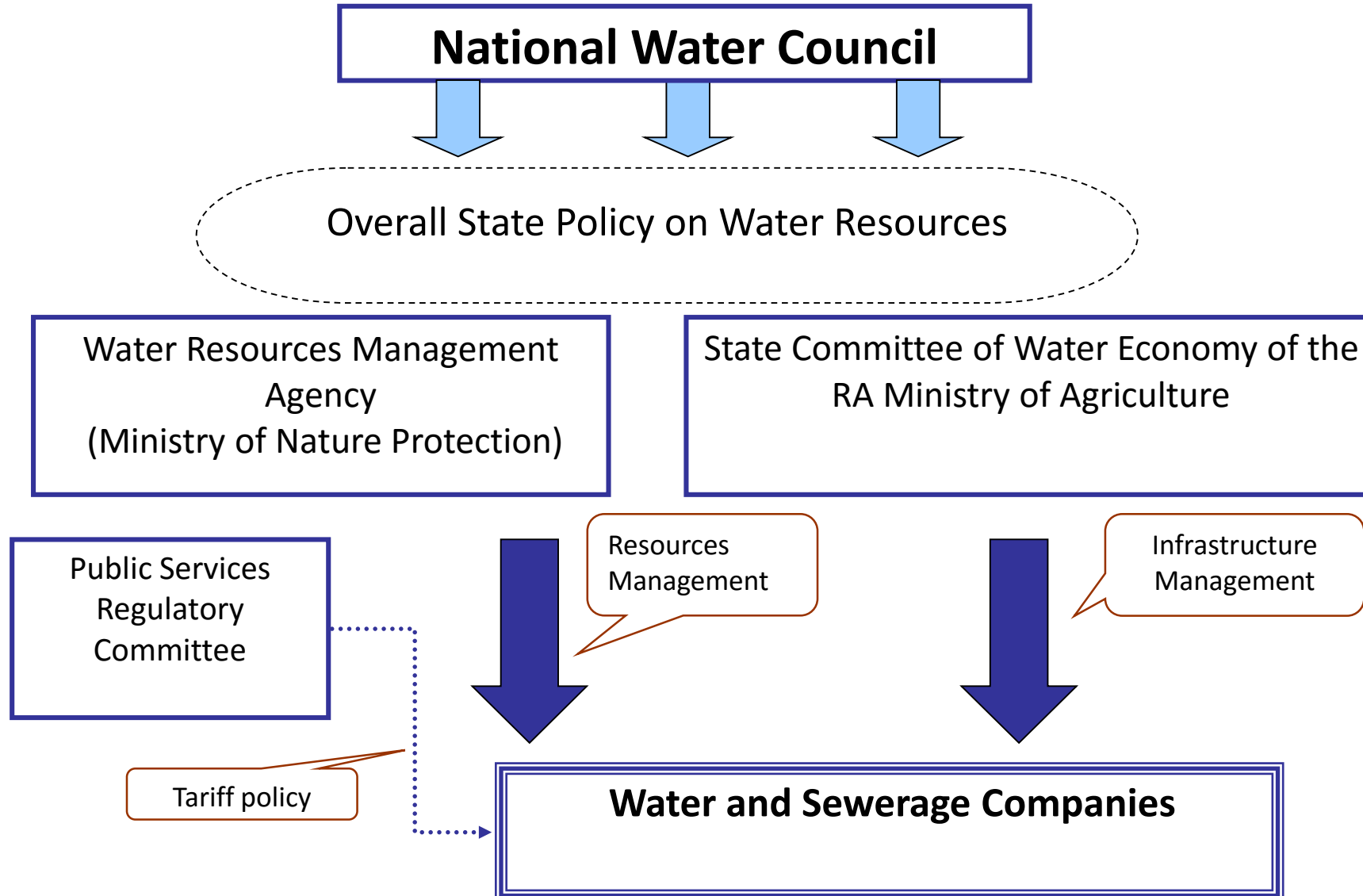
- The water sector of Armenia faced serious problems following the collapse of the Former Soviet Union.
- Insufficient funding, poor management led to the deterioration of network and increased losses.
- Water supply duration was insufficient and the quality of the supplied water was at hazardous level.
- The financial situation of the water utilities was precarious

The main objectives of the reforms

- Improving WSS sector governance and regulation;
- Clarification and separation of Governmental bodies' functions;
- Ensuring proper financial flows in the sector;
- Identification of centralized and decentralized forms of management in the sector;
- Strengthening the sustainability of WSS companies.

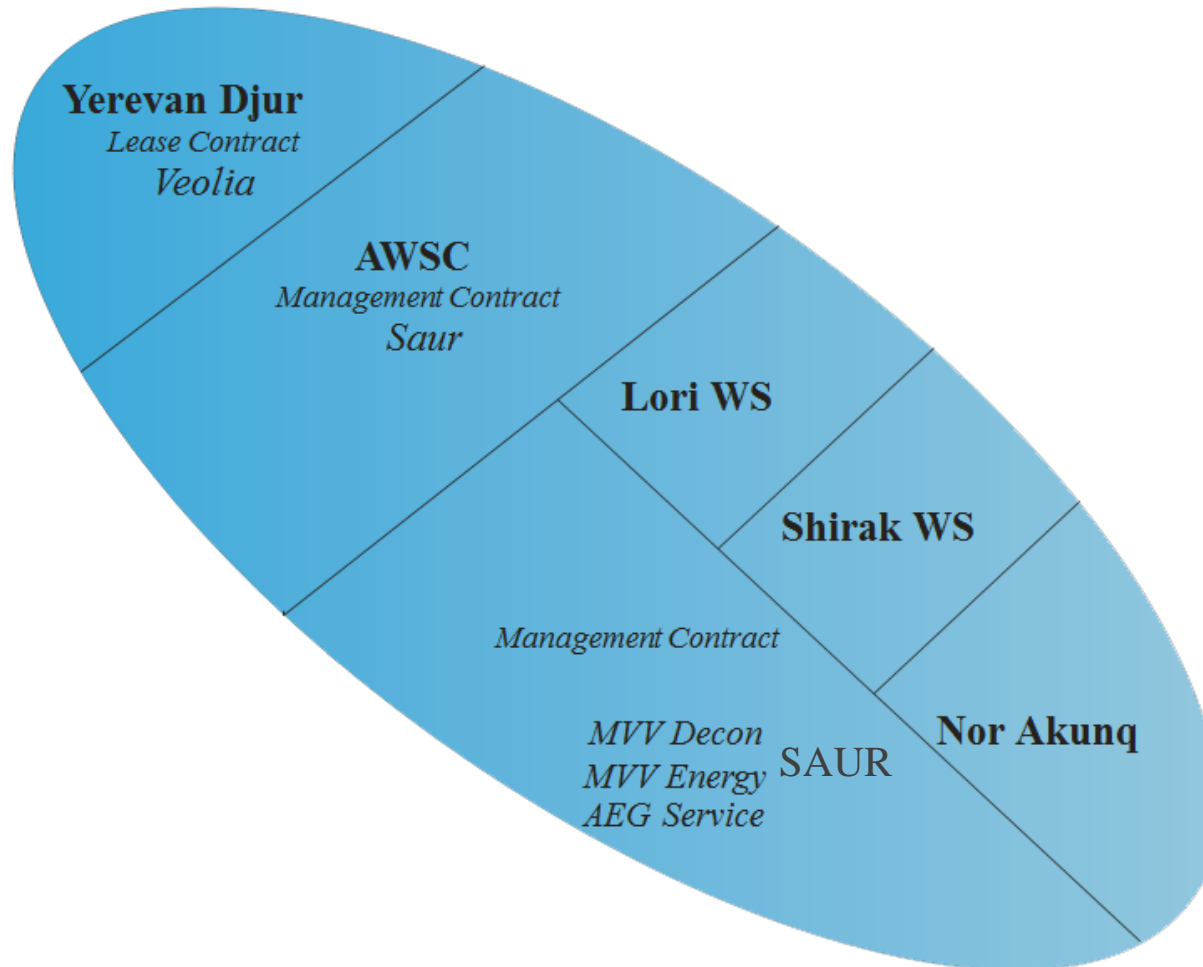
Main Directions of Reforms

- Legal Reforms
- Institutional Reforms
- Investment Priorities
- Tariff Policy
- Water Metering





Water Supply Companies of Armenia





Yerevan Djur CJSC

Comparative Data of Yerevan Water Utility

- Form: Lease contract
- Operator: Véolia, France
- Term of leasing: 2006-2016
- Service area: Yerevan city and nearby 32 rural settlements
- Population served: 1123 thousand people

Main Performance Indicators	One year before Private Sector Involvement, /2000/	At the end of the Management Contract with A-Utility, /2005/	Lease Contract with Véolia Water, /2015/
Water Supply Duration (hours)	4-6	18.4	23.5
Water Quality (%)	96.5	97.2	100
Energy Consumption (Million Kw/H)	240.3	124.2	24.5
Collection Efficiency (%)	21	86	98



Armenian Water and Sewerage CJSC

Progress of Key Performance Indicators of Armenian Water and Sewerage Company

- . Form: Management Contract
- . Operator: Saur, France
- . Term of contract: 2004-2016
- . Service area: 37 urban and 271 rural settlements
- . Population served: 612 thousand people

Main Performance Indicators	2004 Base Year	2015
Water Supply Duration (hours)	4-6	18.7
Water Quality (%)	94	98.7
Energy Consumption (Million Kw/H)	64.4	32.5
Collection Efficiency (%)	48	91.0



Shirak, Lori and Nor Akunq Water Sewerage Companies

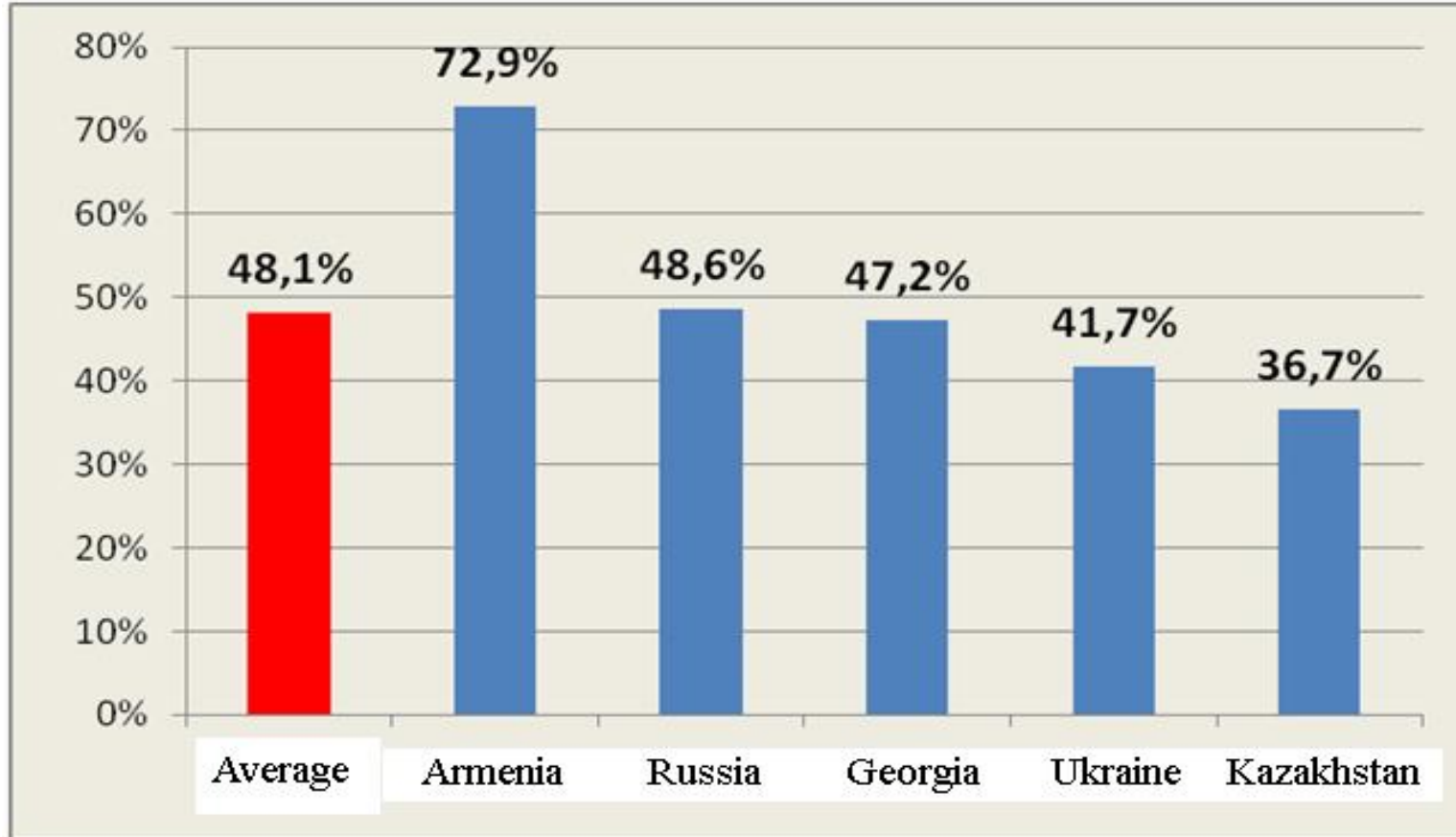
Progress of Key Performance Indicators 3 utilities

- Form: Management Contract
- Operator: Consortium consisting of SAUR, MVV decon GmbH, MVV Energie AG and AEG Service LLC
- Term of Contract: 2004-2016
- Service area: 5 urban and 61 rural settlements
- Population served: 375 000 people

Performance Indicators of 3 RC	Company	2009 Base Year	2015
Water Supply Duration (hours)	Lori WS	6.5	22
	Shirak WS	7.7	22
	Nor Akunq	21.1	24
Water Quality (Number of in-compliant tests)	Lori WS	211	0
	Shirak WS	71	0
	Nor Akunq	0	0
Water Losses (%)	Lori WS	70.3	68
	Shirak WS	82.3	79
	Nor Akunq	74.4	67.4
Collection Ratio (%)	Lori WS	77	99
	Shirak WS	76	98
	Nor Akunq	100	98



Compliance with OECD PPP Principles



The results of the review of «Regional Meeting on Private Sector Participation in Water Supply and Sanitation Systems in EUCCA countries», Moscow, January 28-29, 2010 (EUWI, OECD)



The most important features of Second Generation of Reforms

- Initiating necessary arrangements and actions related with main strategic directions and policy issues;
- Applying a lease contract for 15 years;
- Transferring the duties of the 5 water utilities to a single operator;
- Applying unified tariff for 15 years (2016-2030).

Lessons Learned

- PPPs should be part of a broader sector reform process rather than an isolated undertaking,
- Implementation of PPP contracts requires strong political consensus and continuous support from the Government,
- The public sector should obtain serious capacity ,
- There is no such definition of the different kinds of PPP models which would be appropriate for all the cases.



Impact of the Armenian Reforms in the framework of the SDGs (1)

1. Water duration in the country is currently 19-23 hours

Access to universal and equitable water mainly has been provided

2. Responsible consumption by all

Against the water consumption norm 400 lcd before, currently it has become 100-120 lcd

3. Water complies with quality standards

Access to safe water has been provided

4. Solved health issues

Coming from improper water quality present before

5. Created relatively resilient infrastructures

So they became attractive for private sector for applying even advanced forms of PPP

6. Positive impact has been made in decreasing poverty level

Access to affordable water has been provided, currently average tariff is \$0,35 against affordable 4% level \$0,85

7. Mechanisms of partnerships and the role of respective national authorities have been set

In the framework for managing water sector under first and second generation of reforms the role of respective national authorities was set

8. Process for implementation of IWRM has started

It has introduced major institutional and policy reforms for ensuring good management and development of water resources for further implementation of IWRM

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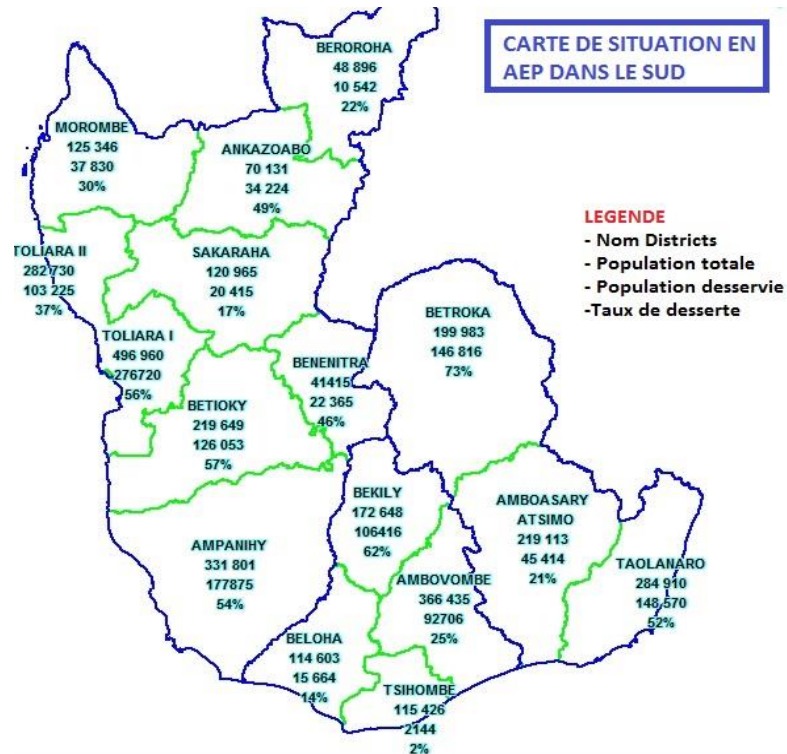
THE GLOBAL GOALS
For Sustainable Development

Project:

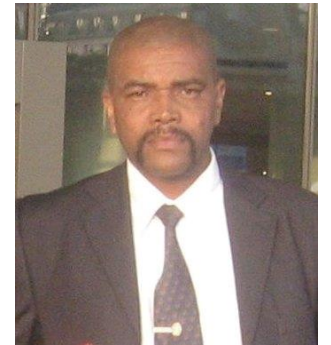
WATER DISTRIBUTION NETWORK FOR THE SOUTH EAST OF MADAGASCAR (ANDROY REGION)

Project Proponent:

Jean Baptiste Razafimamonjy
Regional Director, Ministry of Economy and Planning, Madagascar



Rate of access to water in the south of Madagascar



6 CLEAN WATER AND SANITATION





Context

- Madagascar: 23.2 Million inhabitants (July 2014 est.);
- Area: 590 000 km²;
- Madagascar is prone to natural disasters such as cyclones, flooding and drought;
- Madagascar : among countries having the lowest access rate in the drinking water (sixth last in drinking water, fourth last in sanitation)
- Androy is one of the 22 Regions of Madagascar. It has 753,832 inhabitants (2014 est.);
- Androy is severely affected by the "Kere" with no resources, no food and no water available;
- Androy has become a region of chronic food insecurity and is one of the poorest regions in Madagascar;
- People are living in a critical situation;
- Four Districts as Ambovombe Androy, Tsihombe, Amboasary-Atsimo and Beloha Androy are at present touched by the famine or kere.



Facts

- Numerous projects are already operational (Impluvium/JICA and GRET), if others are still at studies stages but no long-term SOLUTION to calm this plague (famine and drought).
- It is more than urgent the rehabilitation of WATER RESOURCES in the most affected villages
- Construction and sustainability of the existing impluvium (JICA)
- This fact has impact of the credibility of the government
- Each year, Government warns extreme food shortages in the south and several international organization come and bring help to the south (World Food Program; UNICEF, USAID, JICA, ...)
- The Government collects help and distributes this /Telethon)

Effects of the project for the development of other sectors

- Provide adequate water to augment the current water needs in the Districts of the project;
- Deliver tangible impacts on the agricultural long term management;
- Decrease environmental destruction and people are going to improve the planet;
- Improve health care services;
- Large dams become tourist attractions and create jobs ;
- Once a dam is constructed, electricity can be produced at a constant rate;
- The impluvium gives clean and safe water for sanitation;
- Decrease migration of Tandroy tribute;
- It can generate prosperity and economic growth in macro level.



SDGs related to the project

- The project has high impacts on the 17 goals of SDGs.
- In particular, Goal 6 "Ensure availability and sustainable management of water and sanitation for all"

Why PPP and what to do ?

- Because of the lack of fund, Government could not find true solutions for more than 50 years;
- The expertise and capital of private entities are essential;
- The Ministry of Economy and Planning which has transversal responsibility brings the project and make the bridge between the Ministry of Water and Sanitation and the Ministry in charge of Finances and Budget;
- Government has to learn from the success story of the other countries using PPP;
- We take and share the lessons learned from the forum of UNECE PPP.
- We contact and negotiate the project to the experimented and international Private Sectors.



Conclusion

- To solve food shortage from drought, water distribution is an emergency;
- Solving this problem has high impacts on the fight against poverty;
- It generates prosperity and insure economic growth;
- Because Government does not have enough funds, PPP is the only why to solve the problem;
- Private expertise and Capital is needed.





Project:	Clean Don (Rostov on Don, Russia)
Project Proponent:	Dmitry V. PUZANOV

Public Organization: City Administration of Rostov on Don
Private Organization: ABVK eco
Capital Providers: ABVK eco (equity), local banks (capital)

Why is this project a Case Study for PPPs: Poor condition of the wastewater infrastructure became stop-factor for development of new residential zones



The strategy included the following distribution of roles of public & private sides :

PUBLIC - construction and rehabilitation of the municipal infrastructure;
PRIVATE - new technologies of sludge treatment combined with energy generation and elimination of smell;
BOTH - sewers, collectors and pumping stations.

“People & Planet”: through improvement of the wastewater infrastructure we have reduced impact on environment!

The approach can be used within the water sector: not only in Russia, but also worldwide.

After 5 years of implementation a strong impact on the waterbody has been reduced and living conditions of citizens have been improved:

- Chlorine-free disinfection of wastewater discharged in the Don river
- Full treatment of sludge dedicated for recultivation of soils and usage in agriculture
- Connection of 25.000 new customers to the centralised sewage system
- Liquidation of septic tanks and cesspools in the living areas of low-income residents
- High energy efficiency through own power and heat generation

Key success factors are:

- Combined financing (public + private) to lower capital cost
- High energy efficiency and connection fees as drivers for repayment of investments
- Technical concept with a strong environmental commitment
- Access to best available technologies, involvement of local manufacturers

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For Sustainable Development

Before Project:

Implementation area includes the city of Rostov on Don and two suburbs: Aksay and Bataysk; in total – 1,3 M inhabitants. The agglomeration has a quite well developed infrastructure (98% of population is connected to the centralised water system). Some zones of the city are **not equipped with centralised sanitation** services and use septic tanks.

The wastewater treatment includes full mechanical and biological processes, but has a **very high environmental impact on the Don river** – mostly through chlorine-organic compounds after wastewater disinfection.

Lack of the wastewater infrastructure has stopped some “green-field” development projects.

Commitment to Improve Quality of Life:

Commercial motivation of the private operator to expand the service area and to increase the number of customers **matches with intention** of the local community and their authorities **to improve quality of life**.

After construction of wastewater networks in residential areas the cost of property and land plots has raised; retail and other businesses have increased their presence in such areas.

This **win-win concept of the PPP** project resulted in:

- Reduction of water related diseases;
- Improvement of the recreation facilities located at the Don river;
- Improvement of access of low-income population to modern sanitation infrastructure;
- Elimination of the infra gap

Elimination of the **infra gap** through connection to centralised wastewater network:

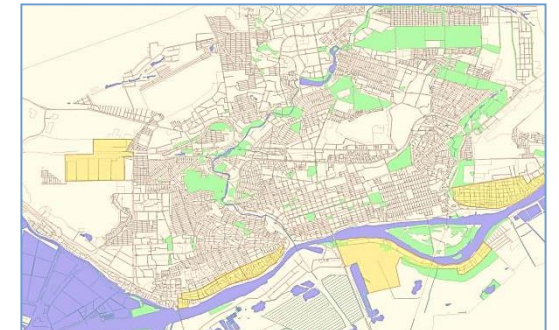
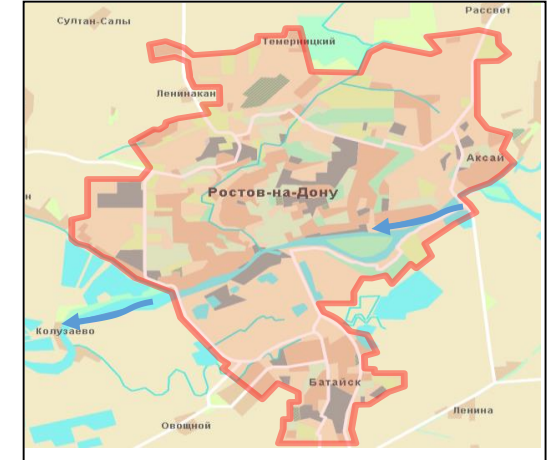
- Football Stadium (World Cup 2018, 45.000 places)
- Restaurants, Cafes and business centers
- New residential houses

After Project:

Construction and reconstruction of 50 km of wastewater network and sewers has allowed to connect **over 25.000 people** to the centralised sewage system.

Zero Chlorine after implementation of the UV-disinfection.

Construction of new sewers has led to connection of new residential districts and commercial property (**700.000 m²**).





Initiation and Approval:

The project has been **initiated by the private** company. Before the final approval, the project has been selected by the regional authorities based on multifunctional assessment of several proposals made by private investors (operators) from different industries.

At the level of the national Investment Fund the proposal has been evaluated by an **independent consultant** (Societe Generale & Raiffeisenbank) and finally approved by the State Commission.

During the project preparation, including the feasibility study and the environmental assessment the private and public parties worked as **one team of experts** in order to select those components, which fully met environmental, economical and technical criteria.

Public Property:	Private Property:
------------------	-------------------

- | | |
|---|--|
| <ul style="list-style-type: none"> • Reconstruction of the WWTP • Construction of the new sewer • Supply of the WWTP by natural gas • Reconstruction of Power infra of the WWTP | <ul style="list-style-type: none"> • Construction of the UV unit for wastewater disinfection • Construction of Power Generation Plant for WWTP • Construction of the Sludge Treatment unit • Construction of wastewater networks |
|---|--|

Closure and Implementation:

Each party had own financing; all tendering and contracting procedures have been organised with respect of public and private procurement rules.

The municipality didn't have any problems with payment to contractors; but contractors had problems to perform in time → **significant delay of all components.**

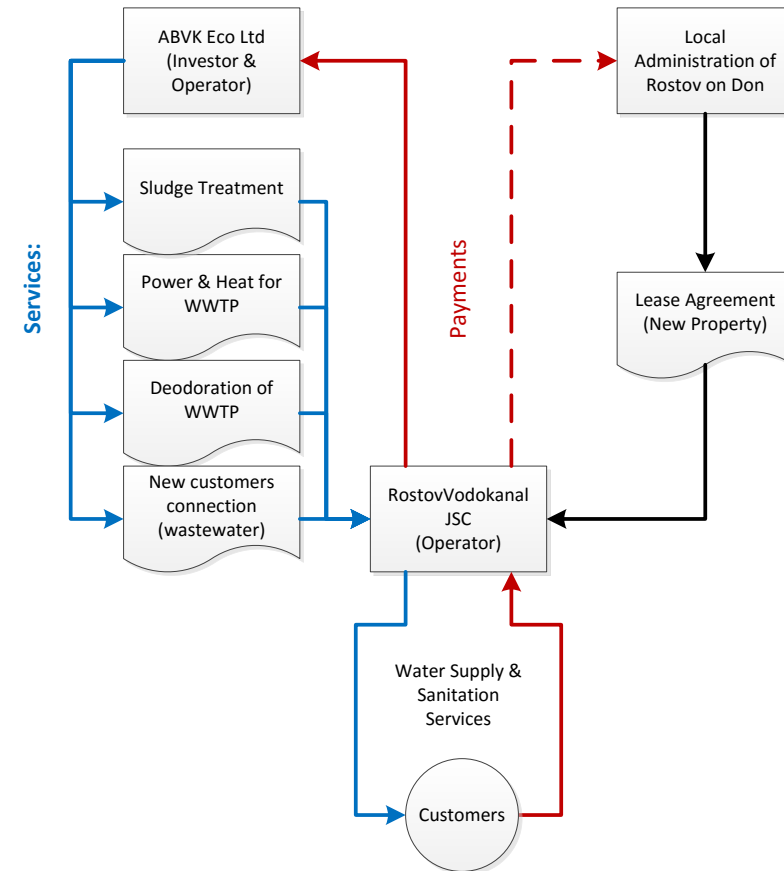
The private company had problems with both, money (no project finance available) and performance (insolvency of the German contractor) → **only one component built in time.**

The only **solution**: to renegotiate time and components in order to **keep the budget** unchanged.

The key success factor: ability to change initial content and time in order to save the project and to reach (almost) the same results by implementing other (similar) works.

From Assets to Public Services:

No direct payments from customers because new assets and new technology are only a part of the main process of wastewater collection and treatment.



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Land Plots:

The majority of objects constructed by the private investor are located at the wastewater treatment plant (WWTP).

The city administration has provided the private investor with over 3.000 m² of land needed to built new facilities.

Private investor obtained a servitude for construction of wastewater networks inside of residential zones.

Public facilities are built on municipal land.



Project Efficiency*:

Local Administration of Rostov on Don				
Investment Fund of Russia	Regional Administration of Rostov on Don		ABVK Eco	Local Banks
24%	23%	3%	23%	27%
PROJECT BUDGET				
55.834.000 USD (4.466.720.000 RUR)				

NPV	1.128.300 USD
IRR	14,91%
Pay back	20,75 years
Budget Efficiency	12.529.000 USD

The project has a very **low financial efficiency** due to strict tariffs regulation for wastewater services.

* to be reviewed



Public Involvement:

During **Environmental Assessment** the private investor has conducted procedures of Public Hearings.

The project has been promoted through local Press and TV.

Some issues related to the technology of sludge combustion have been raised by **GREEN PEACE**; that concern contributed to argumentation to change components of the project.

РОСТОВ ОФИЦИАЛЬНЫЙ
№ 33 (976) 14.08.2013

ООО «АБВК-Эко», 344019, Ростов-на-Дону, ул. Ченцова, 1А, информирует, что общественные обсуждения по объекту государственной экологической экспертизы — проектной документации «Строительство под ключ завода по сжиганию илового осадка очистных сооружений канализации в г. Ростове-на-Дону» состоятся 16 сентября 2013 г. в 14:00 по адресу: 344019, г. Ростов-на-Дону, ул. М. Горького, 295, конференц-зал, 4 эт.

Общественные обсуждения организуются администрацией МО г. Ростова-на-Дону. (Постановление администрации города Ростова-на-Дону № 834 от 05.08.2013 г.)

С материалами ОВОС можно ознакомиться по адресу: 344019, г. Ростов-на-Дону, ул. М. Горького, 295, конференц-зал, 4 эт., с 8:00 до 17:00 в рабочие дни.

Замечания и предложения принимаются в письменном виде по адресу: 344019, г. Ростов-на-Дону, ул. М. Горького, 295, конференц-зал, 4 эт., с 8:00 до 17:00 в рабочие дни по факсу (863) 286-98-66, по e-mail: office4@rvdk.ru.

Контактное лицо: Худоян Жанна Эдуардовна, тел. (863) 286-98-65.



Impact on People and Planet:

Improvement or construction of the infrastructure have a significant **impact on the life quality**.

PEOPLE

Water and Sanitation belong to the services which access to is essential for the modern living facilities. Empirical observations show that connection of a land plot to centralized water/ wastewater services raises its market price **up to 40%**.

After project completion we expect over 25.000 of people connected to existing infrastructure and over 30.000 of new customers (**in total +5%**).

PLANET

New technologies applied for wastewater disinfection (**no chlorine**) and for sludge treatment (**thermophilic digestion**) prevent parasitological and chlorine-organic pollution of soil and the water body (Don river, Azov and Black Seas). Own power and heat generation (**natural gas + reused methane**) reduces specific energy consumption at the WWTP by 10%.

PROSPERITY

Construction of centralized sewer system allows **low-income residents** to get connected to services at reduced price.

Own power & heat generation (at lower cost) **slow tariffs growth**.

PARTNERSHIP

Project implementation requires very close **cooperation** between the public and the private parties.

Synergetic effectiveness: $1 + 1 > 2$

PEACE

Pollution reduction of the Don River, Azov and Black Seas **prevent** local and inter-regional **conflicts**.

OTHER IMPACT:



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Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY		●		Access to centralized sanitation for low-income customers
2. END HUNGER	●			
3. WELL BEING – HEALTHY LIVES			●	Pollution reduction of the river; Enhancement of recreational facilities
4. QUALITY EDUCATION	●			
5. GENDER EQUALITY	●			
6. WATER AND SANITATION FOR ALL			●	Connections for existing & new customers; sanitation for developers
7. AFFORDABLE AND SUSTAINABLE ENERGY		●		Reduction of energy cost for wastewater treatment
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL		●		Indirect impact on local economy through better infrastructure for business
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION		●		Best technologies for wastewater treatment & power/ heat generation; methane produced during sludge treatment will be re-used
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES	●			
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE		●		Lower impact on drinking water quality through reduction of wastewater infiltration
12. RESPONSIBLE CONSUMPTION BY ALL		●		Sludge is a part of communal waste; after treatment it becomes safe for re-use
13. COMBAT CLIMATE CHANGE	●			
14. PROTECT THE OCEAN		●		Prevention of pollution of Don river shall mitigate impact on Azov and Black Seas
15. TAKE CARE OF THE EARTH		●		Significant environmental impact (i. a. reduction of pollution, energy efficiency)
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL	●			
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS			●	Public-Private Partnership in action



Scalability and Replicability of the (Case Study) project:

The project can be replicated within **the water sector: not only in Russia, but also worldwide:**

PARAMETER	POSITIVE IMPACT	NEGATIVE IMPACT
Economical	<ul style="list-style-type: none"> Gas prices in Russia have risen – more incentives for energy savings 	<ul style="list-style-type: none"> Currency risks and economical sanctions have led to changes of the project concept
Environmental		
Content and Effects	<ul style="list-style-type: none"> Some components are profitable to recover CAPEX for all 	<ul style="list-style-type: none"> During implementation of long-term projects some effects can change faster than projects' sponsor is able to change components combination
Property Rights and Cost	<ul style="list-style-type: none"> Property created at the cost of public sources is operated by private on the basis of lease agreements Private property rights help to raise money using project finance 	<ul style="list-style-type: none"> When financing objects from mixed funds (private & public) joint ownership over assets can be an issue for joint operation
Structure of the Project	<ul style="list-style-type: none"> The private operator ≠ private investor; different functions lead to risks and responsibilities allocation 	<ul style="list-style-type: none"> Heavy structure of the project doesn't allow to take decisions in time Involvement of additional player create additional risks
Cost Repayment	<ul style="list-style-type: none"> No direct tariff for customers; repayment of CAPEX through the private operator (third party involved) 	<ul style="list-style-type: none"> Putting the third party (an operator) in the middle of financial flows can generate further threats
Project Terms	<ul style="list-style-type: none"> Flexibility in time and content in order to reach the goals of the project 	<ul style="list-style-type: none"> Flexibility at late stages of the project is (almost) not possible
Footprint	<ul style="list-style-type: none"> High social and environmental importance 	<ul style="list-style-type: none"> High social and environmental importance

Other **related infrastructure** sectors can use the experience (with some limitations). **Global replication** is rather difficult due to economical-environmental variations worldwide.

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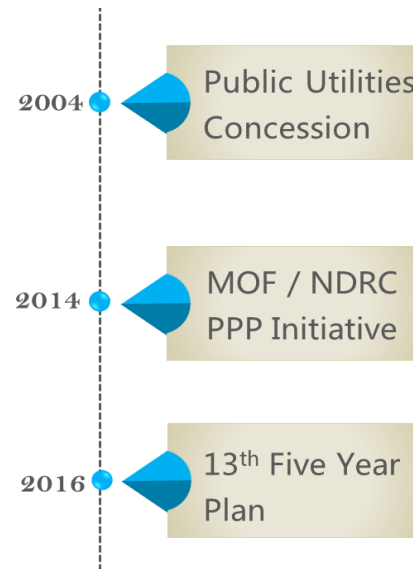


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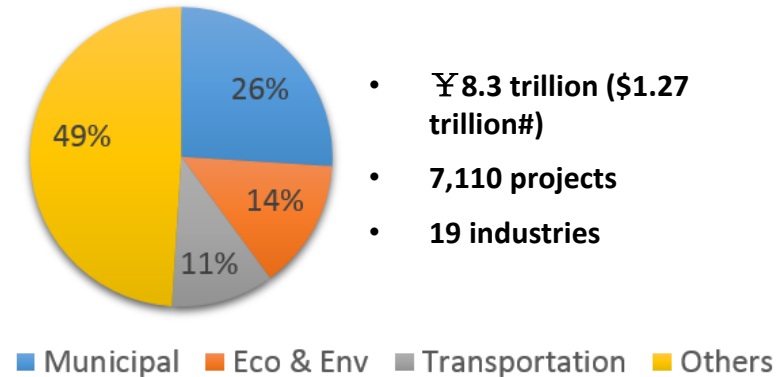
Project:	Environmental Water Projects in China
Project Proponent:	Wang Tianyi , Executive Director and Chairman of China Everbright Water Limited



- 4 municipalities, 22 provinces, 5 autonomous regions, 2 special administrative regions
- 1.3 billion population
- 9.6 million KM²



China PPP Projects (2013-2016)



* As at 29 Feb 2016, PPP Center, Ministry of Finance of PRC

Foreign currency translation is based on United States Dollar (\$) 1.00 : Renminbi (¥) 6.50 throughout these slides.



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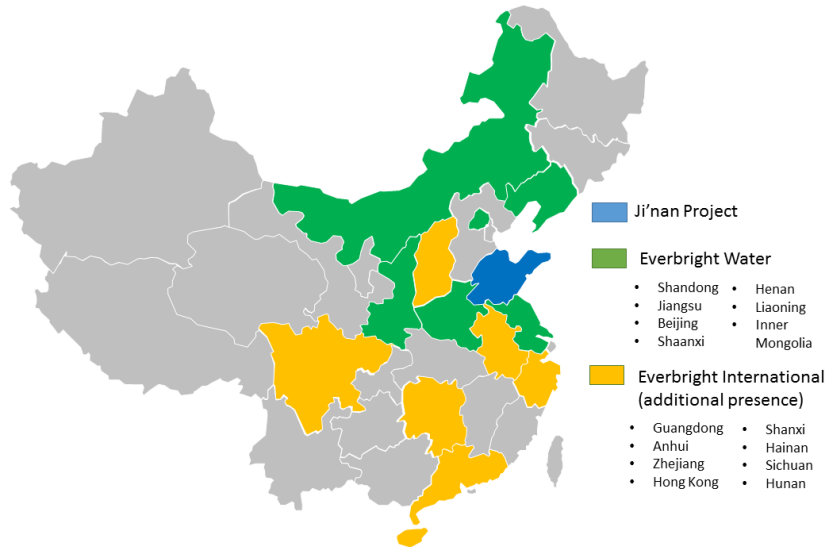
Shanxi Ningwu Wind Power Project



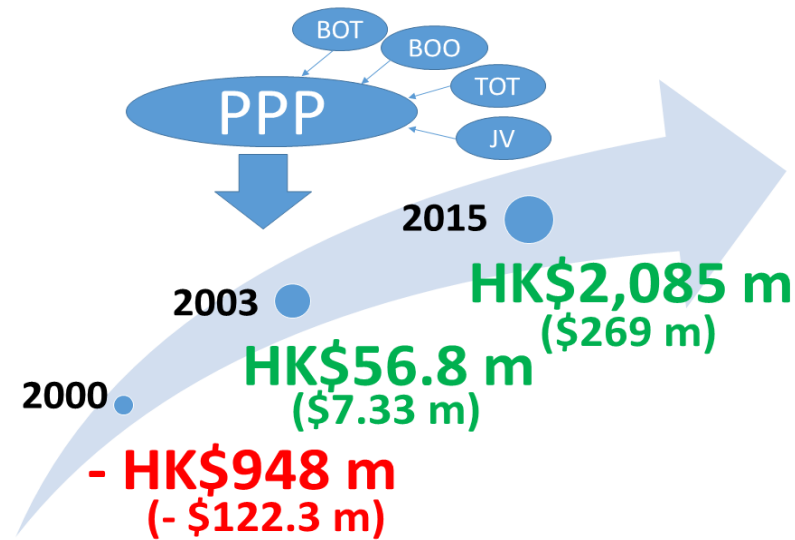
Shandong Ji'nan Waste Water Treatment Project



Hainan Sanya Waste-to-energy Project



❖ Everbright International also in Germany.



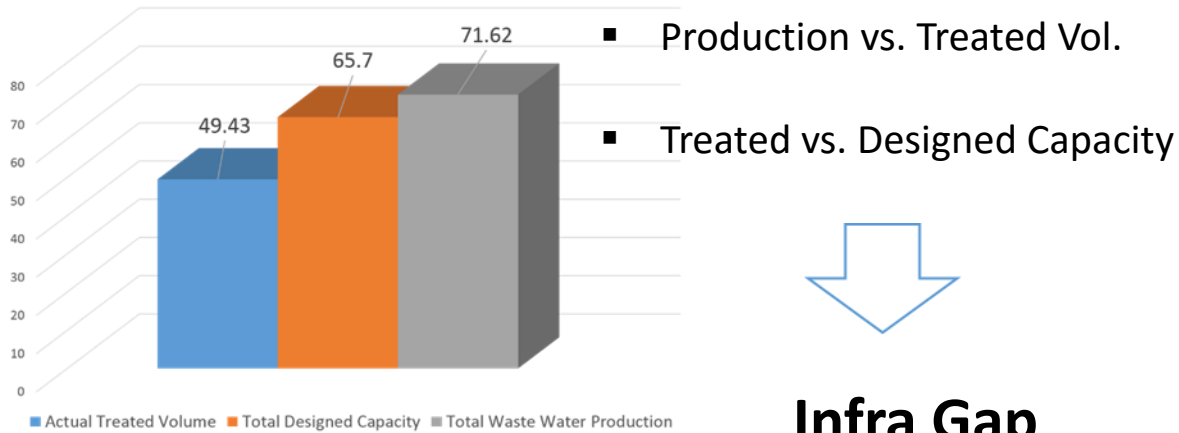
Everbright International's Profit Growth*

* Translation based on \$1.00: HK\$7.75.





2014 Waste Water Treatment Plant Statistics (billion tons) *



* National Environmental Statistical Bulletin 2014, Ministry of Environmental Protection



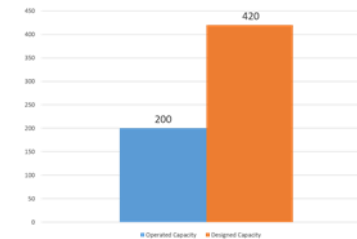
Infra Gap



Ji'nan No. 1 & No. 2 Waste Water Treatment Plants in 2005

- Operation since 1994 & 2001
- Public institutions managed by municipal government

- **Low Utilization**
- **High Cost**
- **Compliance failure**



“In order to maintain operation, we have to come out with all sorts of solutions to pay the electricity bills...”

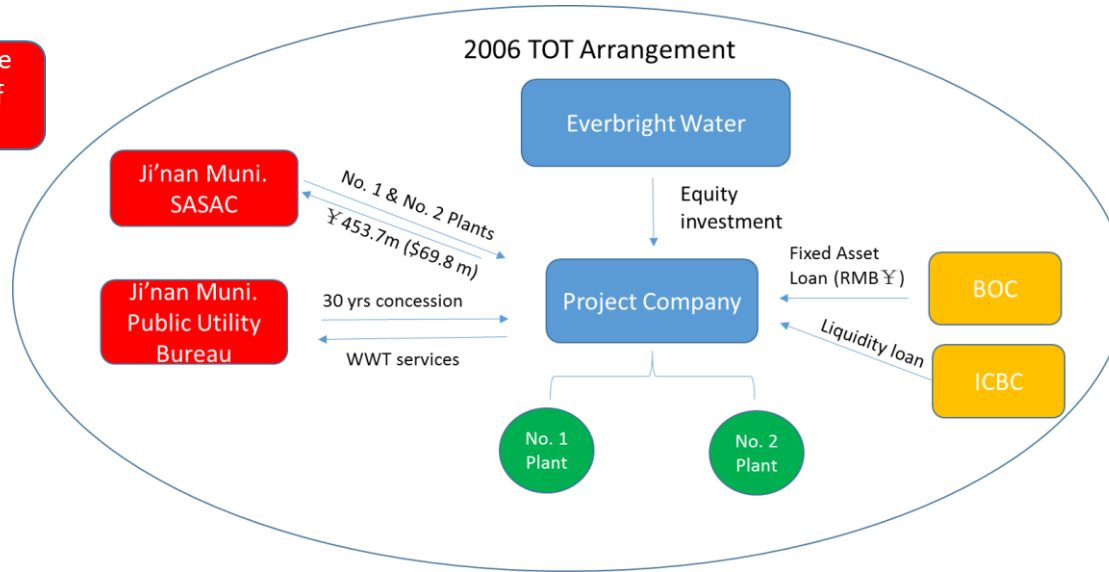
“Failing to comply with the discharge standard, some waste water treatment plants became the pollution source...”

-- Survey on Some Urban Waste Water Treatment Plants, Mar 2014, Xinhua News Agency



Department of Foreign Trade
& Economic Cooperation of
Shandong Province

approval



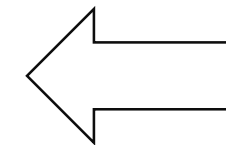
Ji'nan Project in 2006

- Initial investment: ¥ 453.7 m (\$69.8m)
- Designed capacity: 420k tons/day
- Operated capacity: 200k tons / day

Main Contracts in 2006

- Asset Transfer Agreement
- Concession Agreement
- Services Agreement
- Agreement on Employee Arrangement
- Loan Agreement

	Arrangement	Gov.	EB Water
Budget	➤ EB Water to pay purchase price to Gov.	✓	
	➤ EB Water to assume operational cost	✓	
	➤ Gov. to guarantee minimum waste water volume (minimum revenue)		✓
	➤ Gov. to compensate under special circumstances		✓
Operation & Maintenance	➤ Gov. to provide land use right		✓
	➤ Gov. to coordinate with other authorities		✓
	➤ minimum discharge standard; otherwise penalties	✓	
	➤ Gov. to take over if public interest prejudiced	✓	



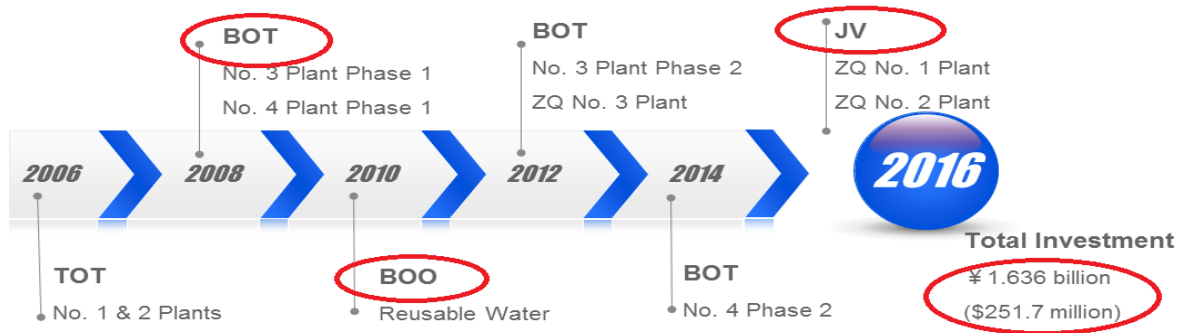
Risk Allocation

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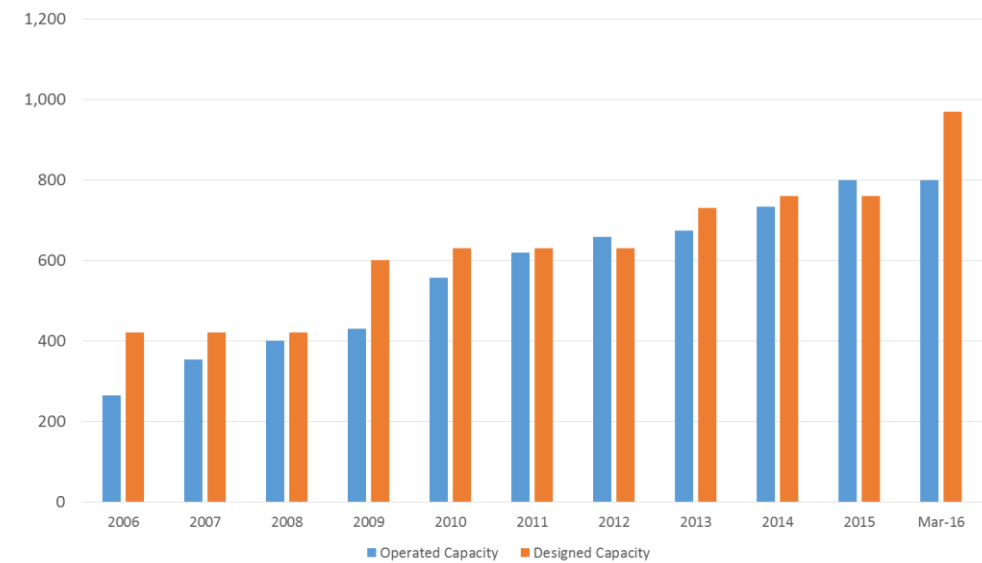
People First PPPs for the United Nations Sustainable Development Goals



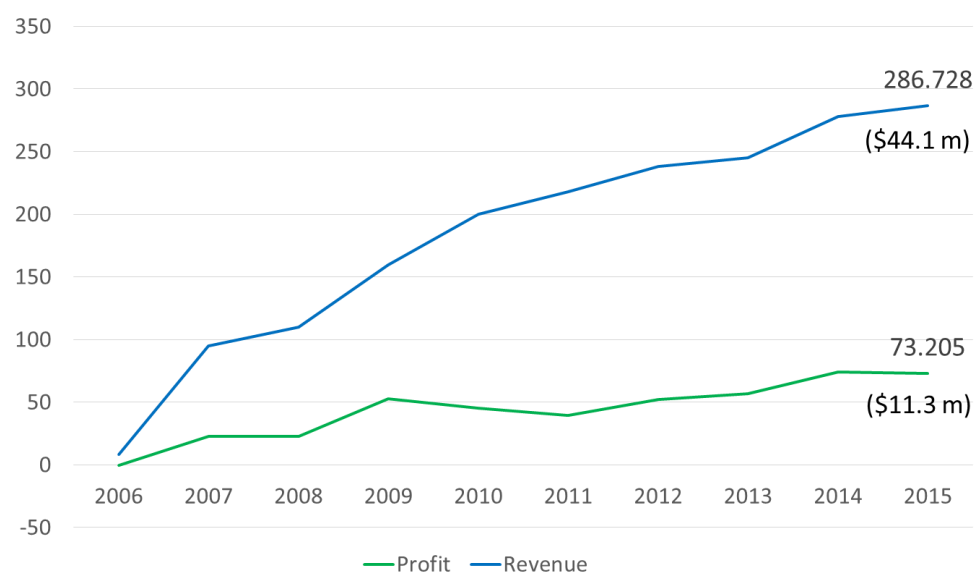
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Ji'nan Project Capacity Growth (2006 - 2016)



Ji'nan Project Revenue & Profit (2006 - 2016)



Financing:

- ✓ Project financing
- ✓ Equity
- ✓ Loans to Listco
- ✓ Bond program
- ✓ Institutional Investors

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Ji'nan No. 3 Waste Water Treatment Plant

Ji'nan Project

- ✓ 2.96 mil ppl & 360 km² service area
- ✓ Treated 2 billion tons waste water
- ✓ Reusable water & sludge treatment
- ✓ Covers > 90% waste water treatment market in Ji'nan
- ✓ No. 1 in National Appraisal for 2010, 2011, 2014
- ✓ National Education Base



Everbright Water

- ✓ Treated 4.66 billion tons waste water
- ✓ Reduced 1.55 million tons COD
- ✓ Reusable water supply of 361,600 tons/day
- ✓ Created > 1,600 jobs
- ✓ Converted sewage sludge to organic fertilizer



Ji'nan No. 2 Waste Water Treatment Plant

- ✓ Created > 4,200 jobs
- ✓ Processed 30.2 million tons waste
- ✓ Generated 9.9 billion kWh green electricity
- ✓ Fulfilled annual electricity consumption of 8.25 million households
- ✓ Saved 3.96 million tons standard coal
- ✓ Reduced CO₂ emission by 11.6 million tons
- ✓ Prevented 1.29 billion trees from being cut down



Impact on 17 SDGs

High Impact:

- ✓ Well being – healthy lives
- ✓ Water and sanitation for all
- ✓ Affordable and sustainable energy
- ✓ Economic growth & decent jobs for all
- ✓ Resilient infrastructure, sustainable industrialization, foster innovation
- ✓ Combat climate change
- ✓ Take care of the earth
- ✓ Protect the ocean

Some Impact:

- ✓ Quality education
- ✓ Gender equality
- ✓ Reduce inequalities within and among countries
- ✓ Cities inclusive, safe, resilient and sustainable
- ✓ Mechanisms and partnership to reach the goals



Qingdao Waste Water Treatment Project



Everbright International True Love School



Earth Hour 2014 in Hong Kong

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For Sustainable Development

Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY				
2. END HUNGER				
3. WELL BEING – HEALTHY LIVES			●	
4. QUALITY EDUCATION		●		
5. GENDER EQUALITY		●		
6. WATER AND SANITATION FOR ALL			●	
7. AFFORDABLE AND SUSTAINABLE ENERGY			●	
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL			●	
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION			●	
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES		●		
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE		●		
12. RESPONSIBLE CONSUMPTION BY ALL		●		
13. COMBAT CLIMATE CHANGE			●	
14. PROTECT THE OCEAN			●	
15. TAKE CARE OF THE EARTH			●	
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL				
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS		●		



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China unveils proposal for formulating nation's five-year plan

Updated: Nov 3, 2015 4:54 PM Xinhua

The Communist Party of China (CPC) has issued the full text of a proposal for China's development over the next five years.

The eight-chapter, 22,000-character-plus document, the CPC Central Committee's Proposal on Formulating the Thirteenth Five-year Plan (2016-2020) on National Economic and Social Development, was adopted at the Fifth Plenary Session of the 18th CPC Central Committee which ended on Oct 29.

The next five-year period was described as decisive for building a moderately prosperous society by 2020 in the proposal.

China aims to double its 2010 GDP and the 2010 per capita income of both urban and rural residents by 2020.

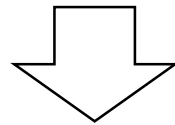
The document analyzes the decisive stage and sets guidelines and targets for the next five years. It highlights innovation, coordination, green development, opening up and sharing.

Ensuring a "moderately prosperous society" by 2020 requires medium-to-high economic growth, higher living standards and a better quality environment, the proposal says.

China will continue to encourage mass entrepreneurship through major scientific and technological projects, and by building a number of national laboratories, in the hope that it will lead to new technology. The government plans better allocation of resources including labor, capital, land, technology and management.

13th Five Year Plan

- Innovation
- Coordination
- Green Development
- Opening up
- Sharing



- ✓ **People's Well-Being:** to lift 50 million population out of poverty
- ✓ **Growth:** to double GDP & per capita income by 2020 from 2010 level
- ✓ **Energy Revolution & Environment Protection**
- ✓ **Belt and Road Initiative**

New Era for PPP



A "Sponge city" refers to a city where its urban underground water system operates like a sponge to absorb, store, leak and purify rainwater, and release it for reuse when necessary.

Sponge City



Project:	Mafra Water and Waste Water Concession, Portugal
Project Proponent:	Fernando Ferreira

Mafra Municipality

Be Water, S. A., a company of the group BEWG

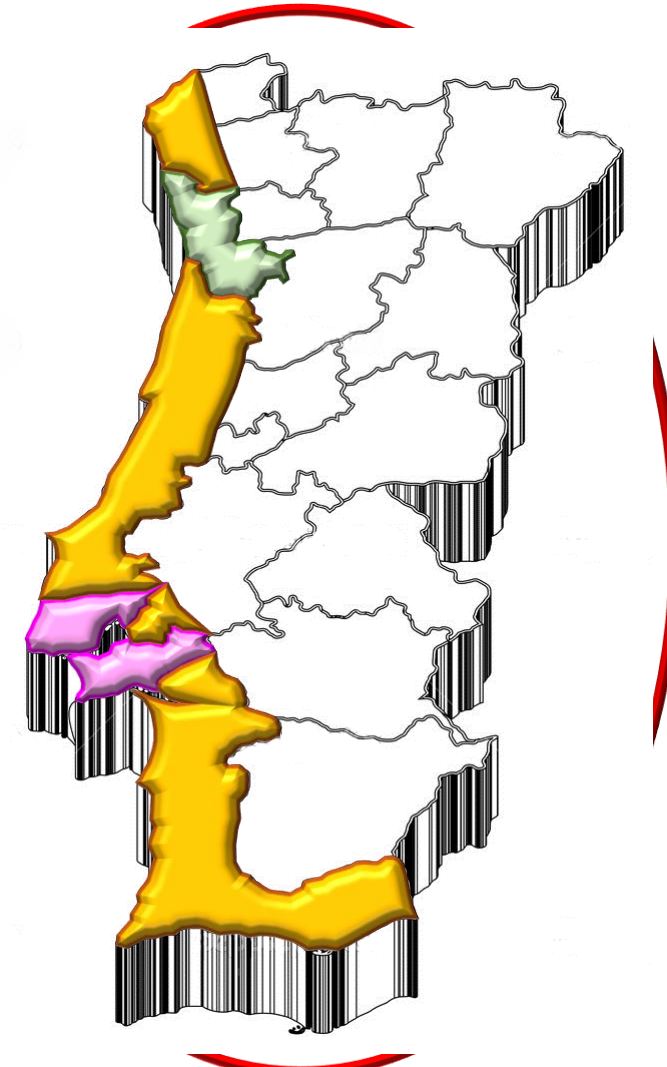
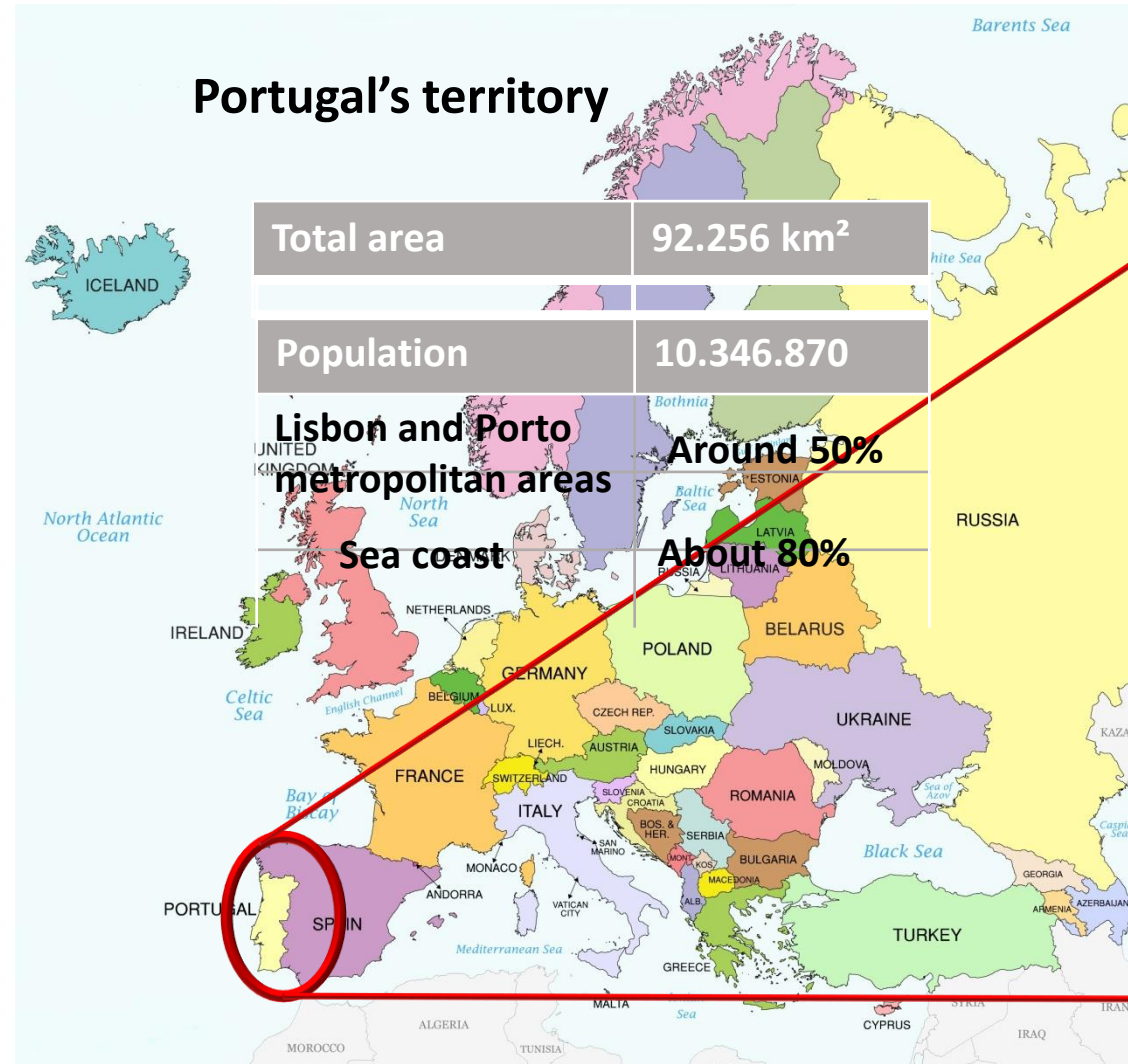
It's the first concession contract in Portugal and it's a success case

Promotes the goal 6 - "water and sanitation for all"





Portugal in Europe





Legal context:

Before 1993

- Management of water and wastewater systems is, historically, a municipality responsibility (with rare exceptions, like EPAL for Lisbon water supply).

1993

- National legislation changed with the following main guidelines:
 - Municipalities may choose an indirect management of water and wastewater systems through concession contracts with private and specialized management entities.
 - Creation of multi-municipality bulk systems managed by public companies.

After 1993

- 1994 – Portugal's first concession contract in Mafra municipality.
- Actually the company has 4 concession contracts in the country.
- Actually there are 33 concession contracts in Portugal and covering about 20% of the population of Portugal.



Municipality goals:

- Find a private partner with investment capacity
- Increase coverage ratios, construction of the wastewater treatment plants and provide treatment capacity for the wastewater collected
- Improve the service quality to the population
- Have fair and socially acceptable tariffs

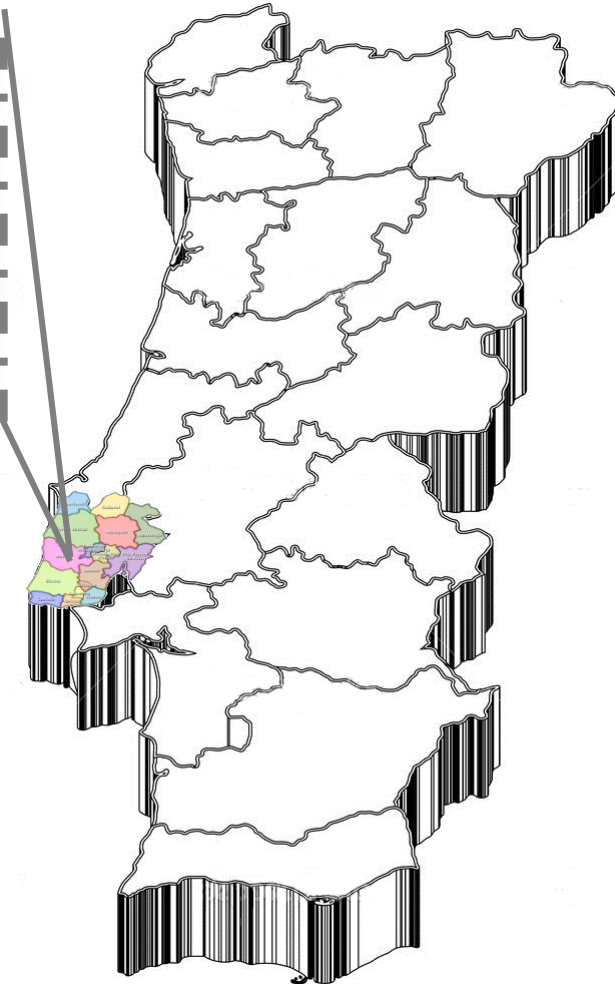
Be Water strategy:

- Apply the company know-how, specially in new technologies and new methodologies:
 - GIS (Geographical Information Systems)
 - Network remote management
 - Control of water loss
 - Undue inflows
 - Asset management infrastructure
- Improve relationship with population and proximity with the costumers
- Efficient management
- Based on a long term contract

Mafra concession contract Context

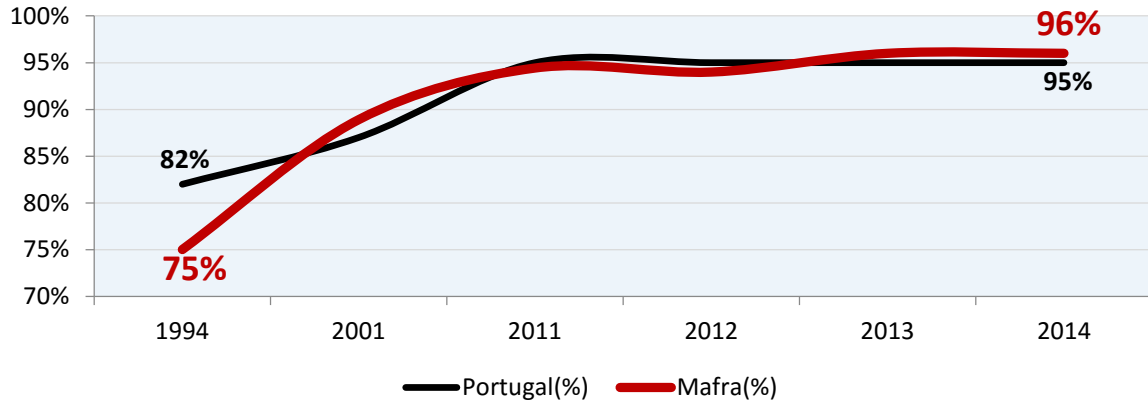
General data (1994)

Total area	298 km²
Population	43.731
Water system coverage	75%
Wastewater system coverage	40%
Water loss	30%
Water quality compliance	90%
Wastewater treated	5%

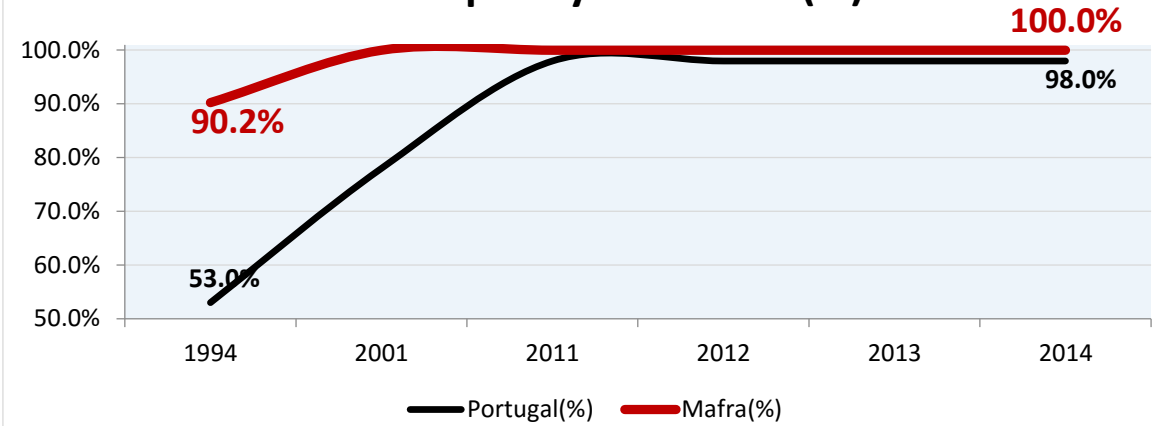




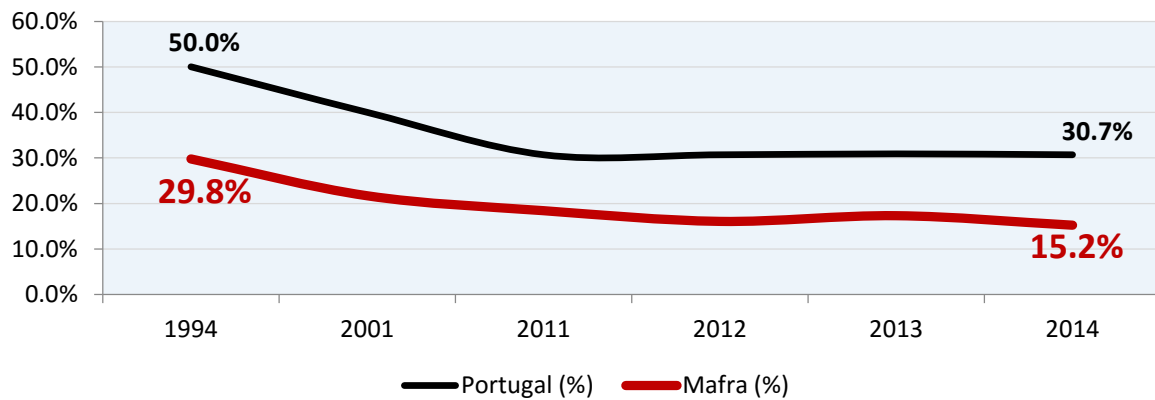
Water system coverage ratio evolution (%)



Water quality evolution (%)



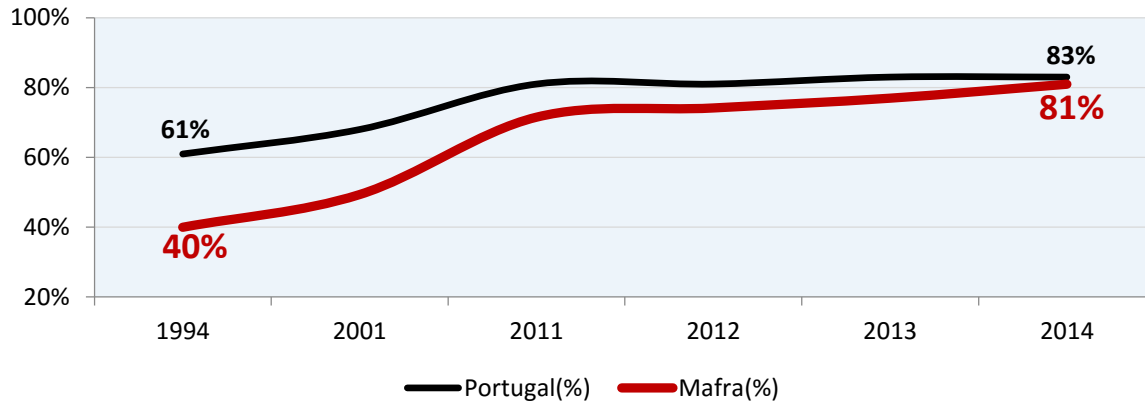
Water losses evolution (%)



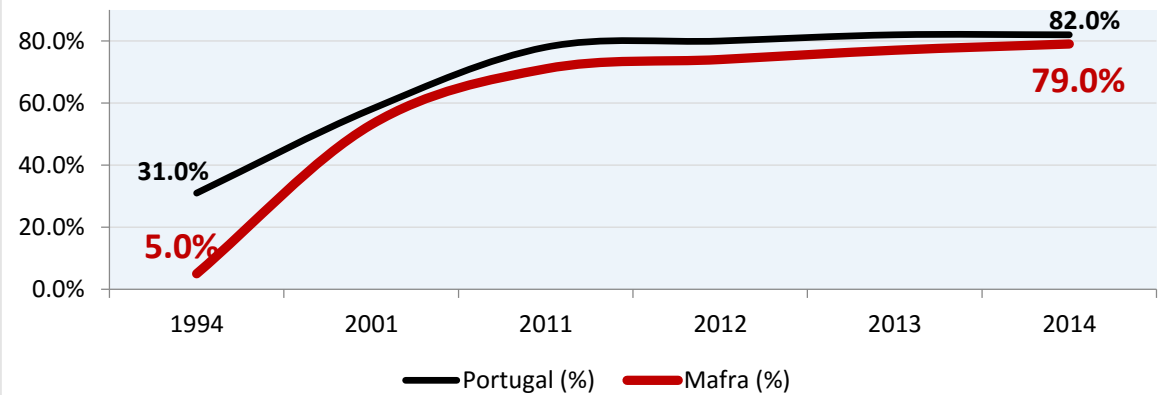
Sources: INE, ERSAR, INSAAR and Be Water



Wastewater system coverage ratio evolution (%)



Population covered by treated wastewater (%)



Sources: INE, ERSAR, INSAAR and Be Water



Contract milestones



Key figures	2015
Revenues	15,4M€
OPEX	13,7M€
Accumulated CAPEX	47M€
Water	27M€
Wastewater	20M€



Financing assured by shareholder

New building – improvement of working and customer conditions



Relationship with local community and environment

- Activity with direct impact in the community life quality
- Increase of coverage rates, water quality and wastewater treatment ratios
- Public health improvement
- Excellent quality of sea and river water (“Blue Flag”)
- Environmental sustainability
- Active participation in social events
- Environmental awareness campaigns



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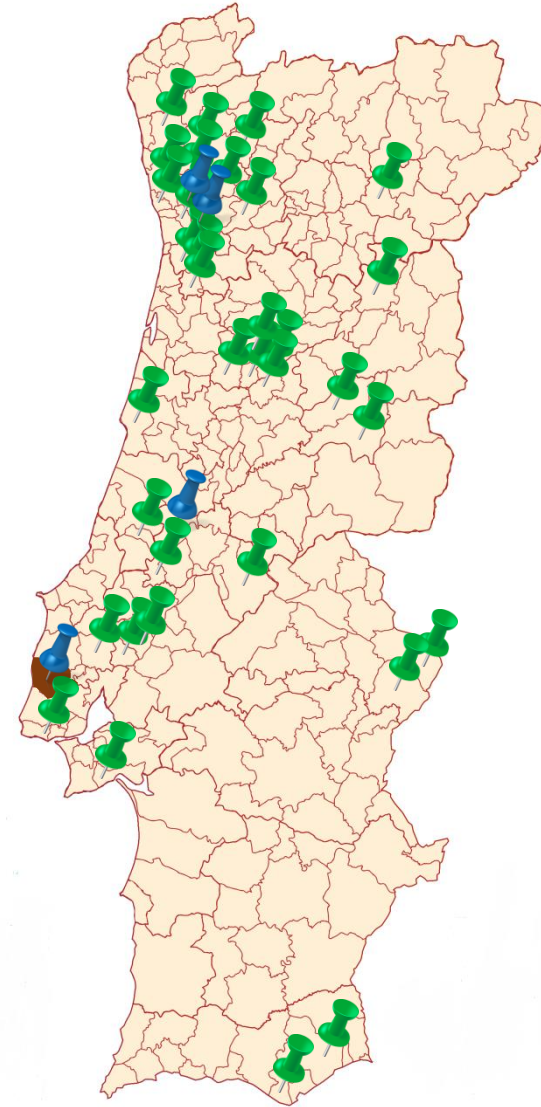
THE GLOBAL GOALS
For Sustainable Development

Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY	●			
2. END HUNGER	●			
3. WELL BEING – HEALTHY LIVES			●	
4. QUALITY EDUCATION	●			
5. GENDER EQUALITY	●			
6. WATER AND SANITATION FOR ALL			●	
7. AFFORDABLE AND SUSTAINABLE ENERGY		●		
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL			●	
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION			●	
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES		●		
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE		●		
12. RESPONSIBLE CONSUMPTION BY ALL			●	
13. COMBAT CLIMATE CHANGE		●		
14. PROTECT THE OCEAN		●		
15. TAKE CARE OF THE EARTH		●		
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL	●			
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS		●		



Replicability of the project

- Mafra: first concession contract in Portugal
- Be Water has 3 more concession contracts
- This project has being replicated in other municipalities and in 2015 there are 33 concession contracts
- This solution can be replicated in the entire world





Project:	Central Java Power Plant, Indonesia
Project Proponent:	Sinthya Roesly, CEO of Indonesia Infrastructure Guarantee Fund

Public Organization: PT PLN (State Electricity Company) as the Contracting Agency
Private Organization: PT BPI (J-Power, Itochu & Adaro consortium) as the Project Company
Capital Providers: JBIC & several commercial banks

Why is this project a Case Study for PPPs: The CJPP is the national strategic project to be well-prepared as a benchmark PPP transaction

Why is this project a Case Study for PPPs based on SDGs:

- Context → Realizing CJPP as the first PPP Project under Indonesia PPP regulation Year 2005
- Strategy → Supporting the Project through MoF fiscal support, including the IIGF Guarantee
- Project KPI's → Support to economic growth, improve public service provision
- Impact → Without the Project, Gol can not meet the needs of power to cover the electricity demand in the Java-Bali which grew >7 percent annually
- Scale up & replicate → As the PPP model project, the PPP process, documentation has been replicated to other sectors. Other countries may also benefit from the government guarantee model provided to PPP project (i.e. IIGF guarantee) with more accountable risk management
- Management Team → Strong & integer CA team; Forced to get the attention from multi Government stakeholders up until the President





Context:

- Indonesia, is one of the investment targets for international investors and banks in infrastructure sector.
- There is an urgent need for infrastructure development to sustain stable economic growth, serve strong domestic demand and for Indonesia to remain competitive.
- A number of positive development in infrastructure sector by the Government
Creation of land fund, infrastructure fund, guarantee fund & viability gap fund, as well as new Land Law issuance
- Improvement in regulatory framework for PPP implementation in accordance with international best practices has been undergoing for the last 10 years
E.g. electricity sector reform, e.g. first Gen of IPP to FTP 1, standard PPA, PSO & direct MoF guarantee;
- Its workability has been seen in first deals done under the new PPP regulation with international competitive bidding and IIGF+MOF guarantee
E.g. CJPP (Central Java Power Plant), Palapa Ring IT backbone network;
- In addition to power sector, telco, water sector and toll roads, ports and social infrastructure such as hospital and sports facility are currently being prepared by the GoI to be procured under PPP regime

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THE GLOBAL GOALS
For Sustainable Development

Strategy:

The CJPP was critical to avoid electricity crisis

Electricity supply in Java to sustain national economic growth



The Project needs government guarantee

For emerging market (sub-investment grade credit rating), governments typically provide *sovereign guarantee* for cross-border IPP project



Guarantees create liabilities to Government

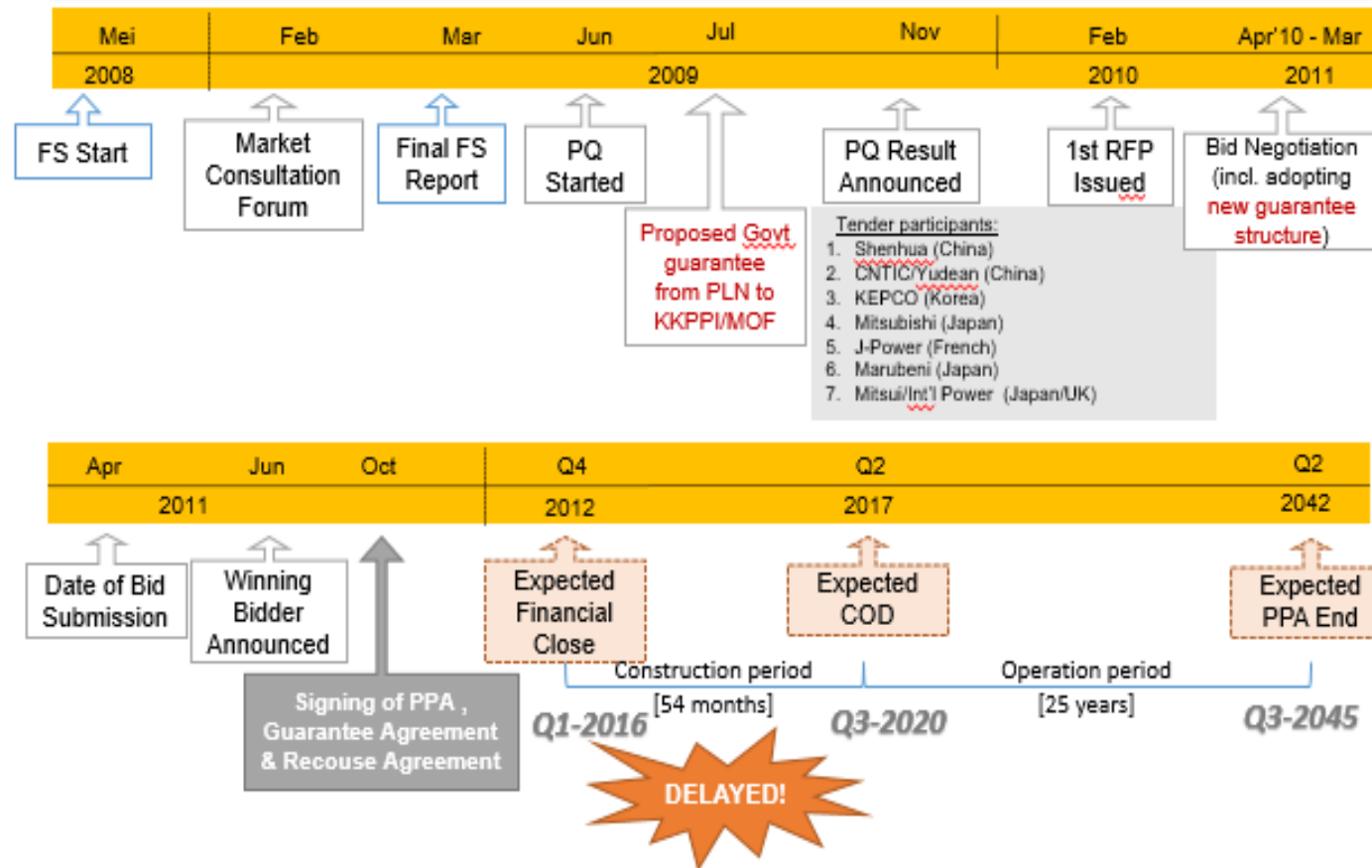
Provision *sovereign guarantee* must be part of fiscal risk management framework - creation of a guarantee fund (IIGF)



GoI PPP program needs a template to follow

As national priority, the CJPP project was selected as a model project for the 2005 PPP regulation

On Nov 2006, GoI had announced CJPP as one of PPP Model Project.





Project KPI's

The Project



Scope of IIGF & MOF Guarantee

- Guarantee Agreement : IPP with IIGF and Gol
- Coverage: political risks, *force majeure* affecting PLN and PLN EOD (Event of Default)
- Guarantee Tenor: Construction period + After COD:
 - Equity : 16 years
 - Debt : 21 years

Not covered:

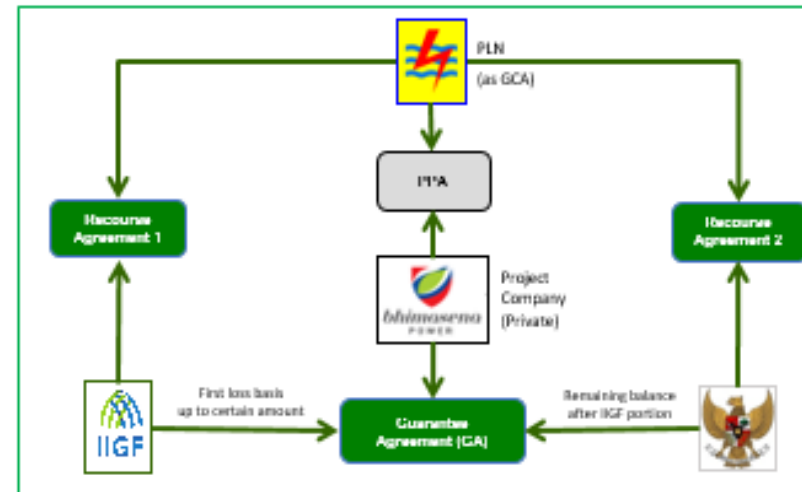
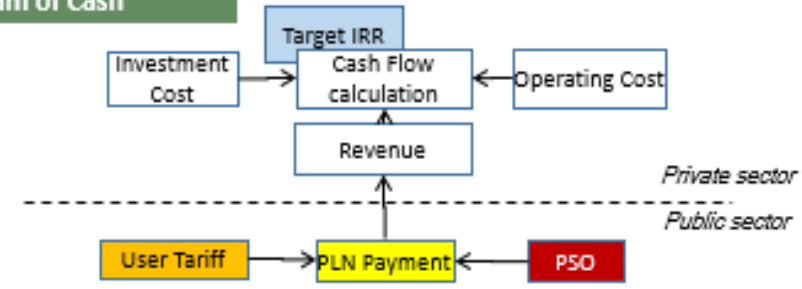
1. Sellers EOD
2. Tax for Special Facilities
3. Indemnity

Covered:

1. Obligation to purchase electricity
 - Monthly payment (Capacity and Energy payment)
2. Deemed Dispatch
 - Due to PLN not being able to receive Sellers output
3. Buyout obligation due to PPA Termination triggered by Political Force Majeure and Natural Force Majeure
4. Obligation to pay due to PLN Event of Default (EOD):
 - Non payment
 - Material Breach
 - Merger, Consolidation
 - GOI EOD under GA

PLN's Payment Obligations, as in PPA

The Stream of Cash





Impact on People and Planet

CJPP Main Issues to have Impact to the 'Conventional' approach

Before Signing

- No PPP benchmark: Project Preparation, Transaction, Guarantee – process & docs
 - *Regulatory adjustments, e.g. enabling State offtaker PLN as the CA*
 - *Years of PLN experience for Indonesia IPP transaction*
 - *IFC facility as transaction advisor; RfP revised >15 times (coping with the 'dynamic' process)*
- Gol introduced new guarantee scheme for PPP in CJPP
 - *IIGF as the new entity to the transaction; Guarantee regulation ready after RfP issued;*
 - *One on one meetings with the bidders (& its lenders)*
 - *Detail discussion on Risk Allocation*

After Signing

- Risk Allocation: Land acquisition was assigned to the Project Company → issue !!
 - *Exist in standard PLN PPA (after 2012 Land Law enactment became Govt responsibility)*
- Stakeholders coordination: Central government, provincial and municipality levels
 - *Land acquisition issues: Dispute and legal suit on land use approval;*
 - *Also impact the PC and Project Sponsors, e.g. change in BoD; discussions with JBIC*
- Guarantor's consent to PPA amendments: extended role of IIGF as guarantor
 - *PPP FC delay → PPA amendment prior to FC (as the guarantee has not been effective);*
 - *Expectation for IIGF to drive debottlenecking efforts: Joint Monitoring Committee meetings, Guarantee Monitoring System development, etc*

CJPP brings benefits on reducing poverty as increasing employment, economic development and addressing the gap of affordable energy provision in Indonesia.

PPP process requires extra efforts in balancing the risks and strong commitment to address social issues, environment and people management, to be able to succeed

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People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY		●		Higher economic activities
2. END HUNGER		●		Higher economic activities
3. WELL BEING – HEALTHY LIVES		●		Better living facilities
4. QUALITY EDUCATION		●		Better living facilities
5. GENDER EQUALITY	●			Better access to information
6. WATER AND SANITATION FOR ALL		●		Better utility to water treatment
7. AFFORDABLE AND SUSTAINABLE ENERGY			●	Reduce off-grid electricity cost
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL		●		Higher economic activities
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION		●		Provide utility to other services
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES		●		Higher economic activities
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE		●		Higher economic activities
12. RESPONSIBLE CONSUMPTION BY ALL		●		Given the difficult process of socialization
13. COMBAT CLIMATE CHANGE	●			Coal fired emission minimization
14. PROTECT THE OCEAN	●			Coastal jetty for coal transport
15. TAKE CARE OF THE EARTH	●			Coal fired emission minimization
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL		●		Better socio-living facilities
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS		●		Efficiency and effective through PPP

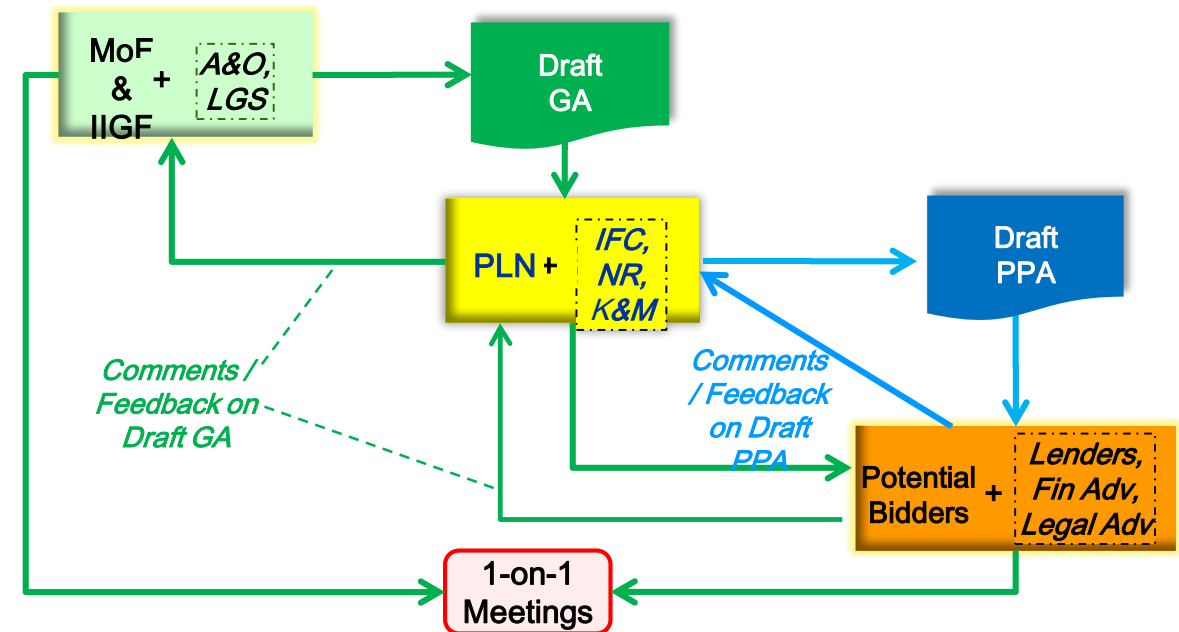


Escalating the (Case Study) project:

- First PPP Project under Indonesia PPP regulation Year 2005
- National priority infrastructure project since 2006
- PPP Project Finance Deal of the Year 2012
- First PPP Project receiving IIGF guarantee
- First big Project utilizing the new Land Law with Government responsible for land acquisition
- Forced to get the attention from multi Government stakeholders up until the President

Approach to be replicated:

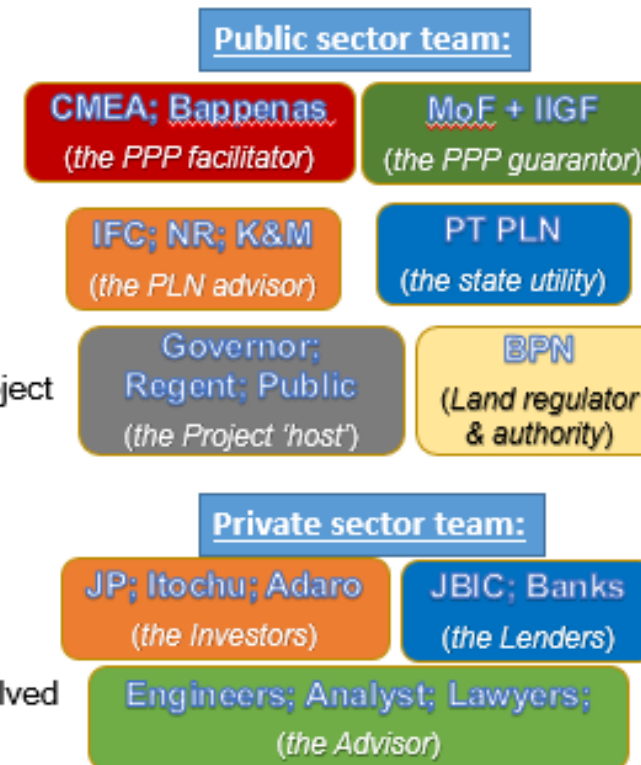
Guarantee and Financing documentation process





People First is also about the Management Team that made it happen:

- | | |
|--|--|
| <div style="background-color: #4CAF50; color: white; padding: 5px; writing-mode: vertical-rl; transform: rotate(180deg);">National Program Level</div> | <ul style="list-style-type: none"> • No Perfect PPP - start with 'quick wins', high impact • Get the 'Right' Risk Allocation - land acquisition • Fiscal support provision - and its integration to PPP process • Constructive regulatory and legal support - may assist on dispute cases • Affected people early involvement - public consultation and communication • SDG impacts assessment - to be communicated & monitored • Multi stakeholders engagement - commitment to the higher purpose of the Project |
| <div style="background-color: #FF9800; color: white; padding: 5px; writing-mode: vertical-rl; transform: rotate(180deg);">Sectoral / Project Level</div> | <ul style="list-style-type: none"> • Commitment of PLN as the CA - may require strategic approval/decision • Negotiation prior to bid submission - including the guarantee coverage • Strong project documentation • Competitive, transparent process and integer, capable procurement team • Credible project preparation and transaction support - multilateral may be involved for pilot project • Positive cooperation of private participants - sponsors, (potential) financiers early involvement during transaction process |



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People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	“Luz para todos” (Light for all), Brazil
Project Proponent:	Carlos Sallé Alonso, Director of Energy Policies & Climate Change, IBERDROLA

- Project **coordinated** by **Ministério de Minas e Energia**, corresponding the **operation and the assignment of contracts Eletrobras**. Another important agent in the organization of "Luz para todos" program is the National Electric Energy Agency (**ANEEL**), **responsible for the regulation and supervision of the program's goals**.
- **Iberdrola**, through its affiliates, is, among others participants, **one of the main implementers**.
- **This project has been financed together by Federal Government, State Administration and distribution companies**.
- During the 12 years of activity of this program, the total investment amounts to 22,7 billion reais (\$5,7 billion), of which 16,8 billion reais (\$4,22 billion) has been contributed by the Federal Government being the remainder resources provided by distribution companies and State Administration.



The largest and most successful Universal Access to Electricity Supply Program in recent years



In addition to the ordinary activity of the group providing energy service to more than 100 millions of people, IBERDROLA publicly announced the objective of **“bringing by the year 2020 electricity to 4,000,000 people without access to this source of energy in emerging and developing countries”** during the second edition of United Nations Sustainable Energy for All (SE4ALL) Forum



“Electricity for All” Programme

IBERDROLA has developed a **specialized line of action**, called “*Electricidad para Todos*” (“Electricity for all”), that brings together all the actions related to universal access to electricity:

1. To participate in innovative business initiatives, aimed at the base of the pyramid, that demonstrate scalability and sustainability over time. For instance, IBERDROLA has invested some US\$750,000 in the company SunFunder with a view to funding off-grid solar projects in emerging countries via its IBERDROLA Ventures-Perseo corporate venture capital scheme. It is the Group's first investment in this field, as part of the activities carried out under the Electricity for All scheme.
2. To **participate in projects launched by governments** in the countries **where IBERDROLA is present**. Among others, it includes its participation in the ambitious Brazilian program “*Luz para Todos*”, main universal access program in the world, through which IBERDROLA has given electricity access in its distribution area to more than 2 million people.
3. Development of **social action and philanthropic activities** through specific projects. IBERDROLA has implemented initiatives such as the construction and commissioning of a solar farm in the village of Nyumbani in Kenya with the Energy Without Borders NGO, studies for the electrification of the refugee camps in Ethiopia with ACNUR, Philips, AECID, Acciona... or an initiative to provide electricity to school in Rwanda in collaboration with MIT. Another relevant project was located in Benin, where the company designed, delivered and installed infrastructure to provide electricity to an educational and healthcare complex built by the Foundation for the Development of Benin (Fundebe). Projects with GSEP are also carried out.

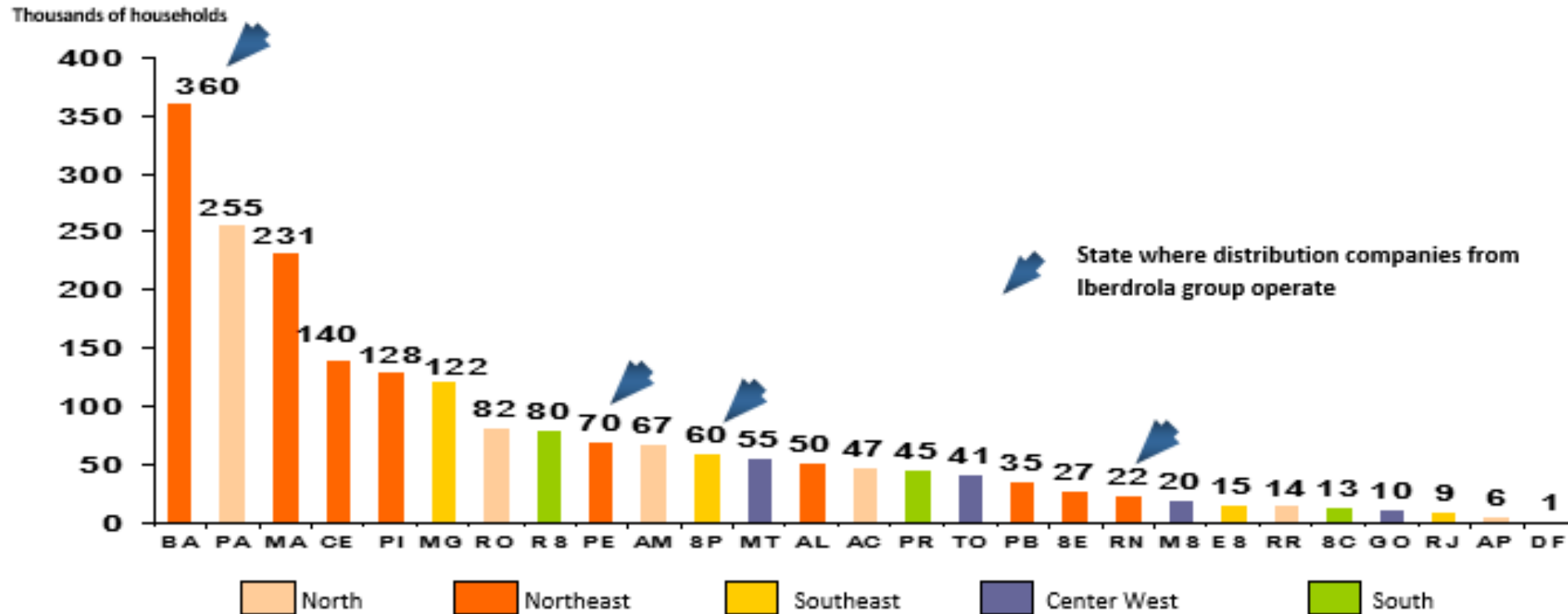


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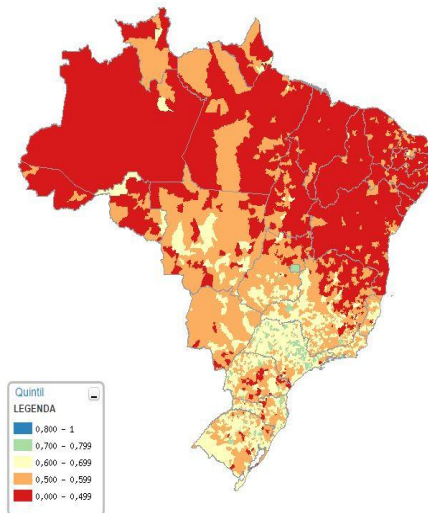
THE GLOBAL GOALS
For Sustainable Development



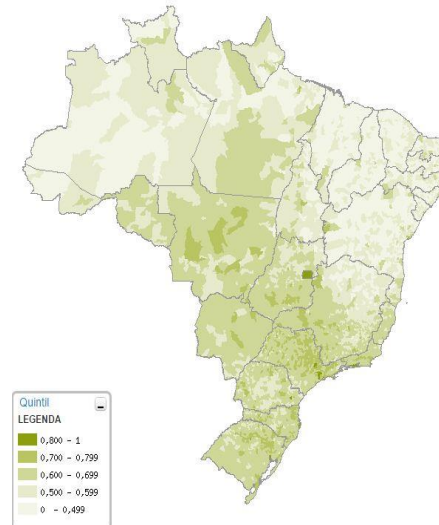
Source: Censo IBGE, con actualización, ampliación y elaboración de ABRADÉE

At the start of the project, approximately 2 million households did not have access to electricity, which was equivalent to over 12 million people suffering from electricity exclusion.

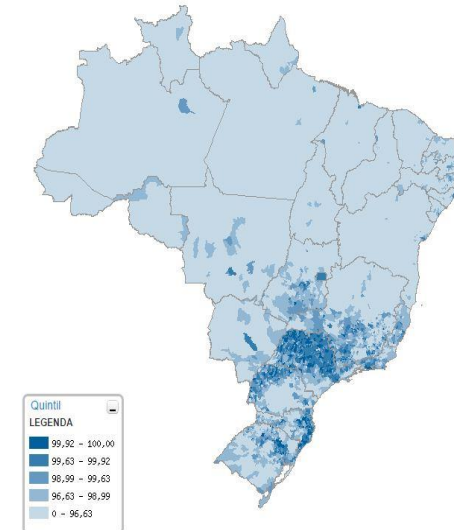
2000 - Municipal level HDI



2000 - Municipal level HDI - Income



2000 - Percentage of population that live in households with electricity



- The «Light for All» initiative arose as a **response from the Brazilian Government** to the serious **social exclusion caused by a lack of electricity supply** in many zones in the country.
- **Approximately 90% of the families in this social exclusion situation had an income lower than twice the minimum salary, and 80% of them were living in rural zones.**

Families without access to electricity were mainly concentrated in the areas that combined a lower level on the Human Development Index (HDI), a lower family income and poor route and community infrastructures



«Luz para todos» Governing Model

Coordination	Ministério de Minas e Energia
Operation	Eletrobas and state governments
Execution	Distributors
Monitoring necessities and providing information about education on the program to communities	Community agents
Applicants	Rural zone inhabitants

- **Creation:** Decreto Nº 4.873, November 11th 2003
- **Objectives:**
 - **Guarantee access to energy in all rural zones** in 2008, with an intermediate objective of 90% in 2006
 - Priority for those zones with a low HDI and habited by families with low purchasing power
 - To mitigate the impact on the rates, subsidies can be implemented with own and distributor's financial resources

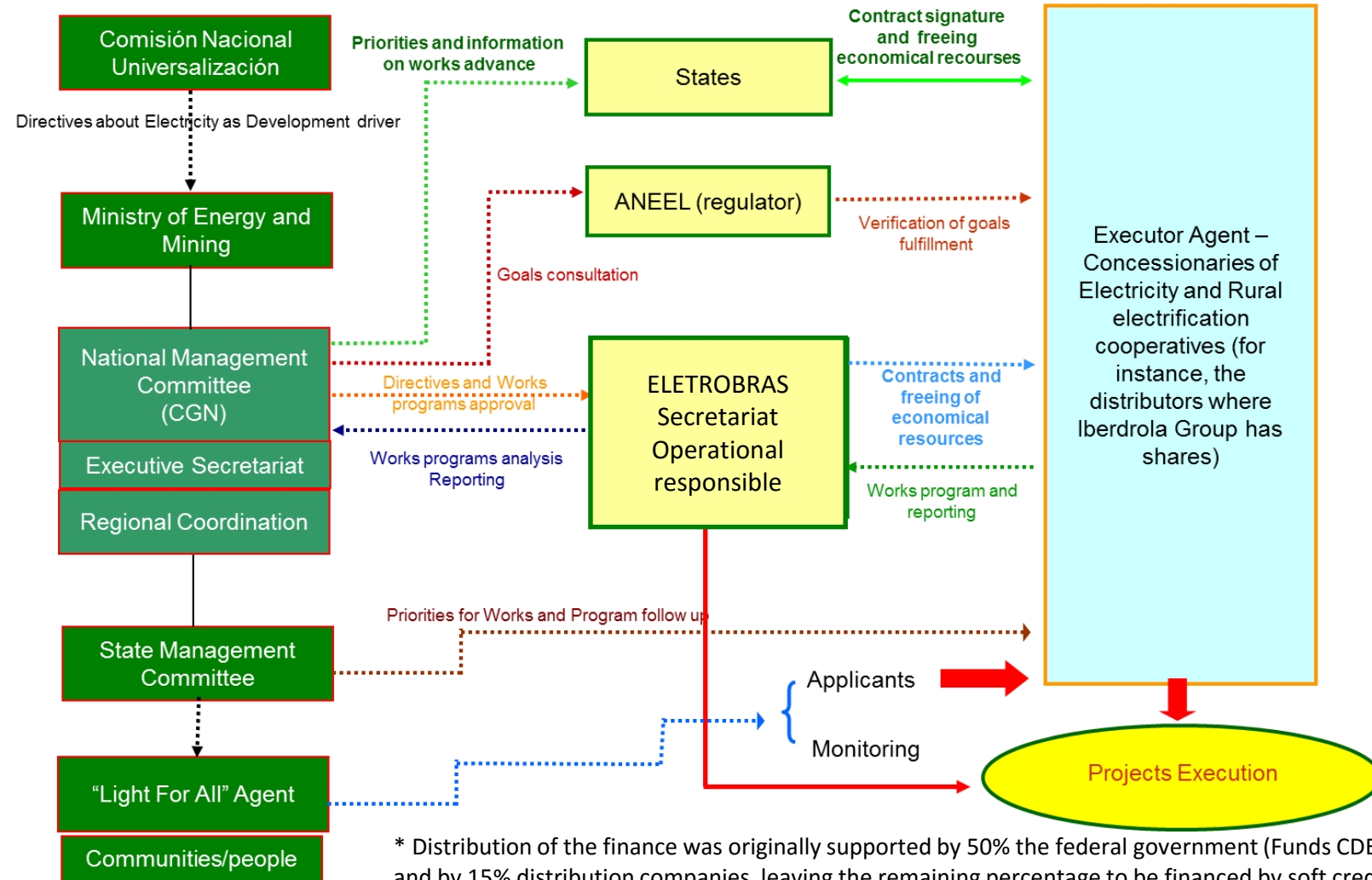
- The **last expansion** of the program took place in December 2014, through the Decreto Nº 8.387, **will give access to 206.200 households**, one million people in December 2018. About 100,000 of those people are in the Amazon and their needs will be met with systems photovoltaic solar energy.



"Luz para todos" was created to be the central axis of universal access public policy, acting as a vector of economic and social development, contributing to the reduction of poverty and hunger in the communities served and preventing rural-urban migration process

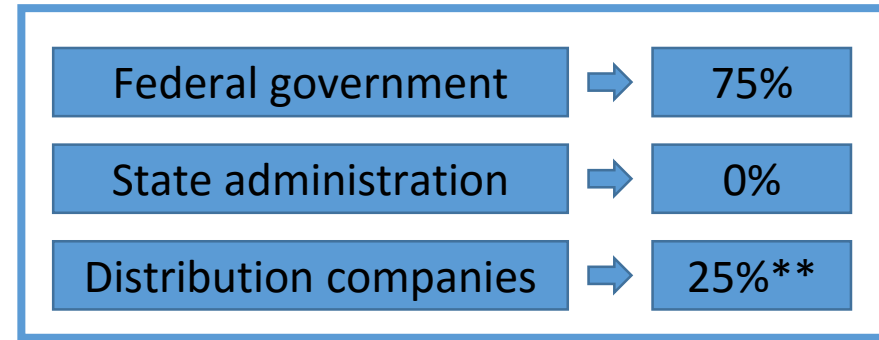


«Luz para todos» Governance Structure



«Luz para todos» financing System*

Economic sustainability is guaranteed by financing by public budget and contracts with Eletrobras and state governments



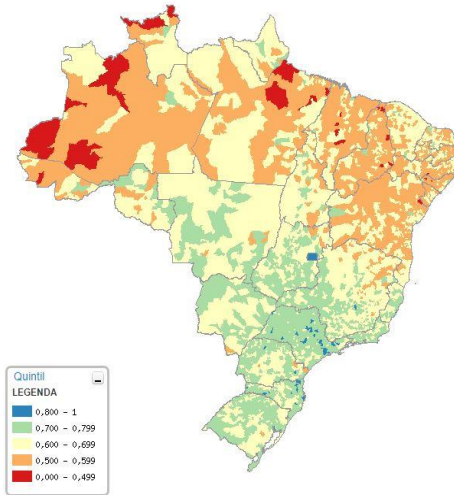
Normative, contractual, operative and technical joint project that establishes duties/rights of all groups involved

* Distribution of the finance was originally supported by 50% the federal government (Funds CDE Eletrobras), by 10% the state administration and by 15% distribution companies, leaving the remaining percentage to be financed by soft credit lines (Funds RGR))

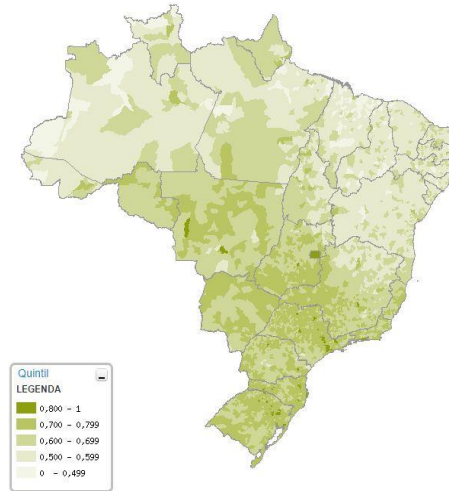
** 25% in Regulatory Assets Base (RAB), to be recovered in futures years



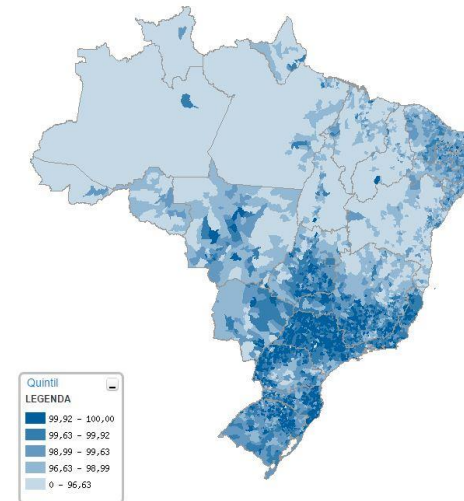
2010 - Municipal level HDI



2010 - Municipal level HDI - Income



2010 - Percentage of population that live in households with electricity



- This project created **460.000 new jobs** and **finished with the double discrimination** for not having access to electricity and neither to subsidies.
- **92,9% of the beneficiaries improved their standards of living**, and 81,8% of them plan to invest in improving their homes. In addition, 40,5% have now **better prospect of finding a job**.
- Access to electricity enabled the population to **purchase electrical appliances**, both for domestic convenience and to develop new businesses. This fact had direct **impact in industry development**.

According to the latest data published , the program has catered for the needs of 3,24 million families in rural Brazil, thereby enabling more than 15,6 million people to feel the benefits of having electricity in their households.



Environment and Energy

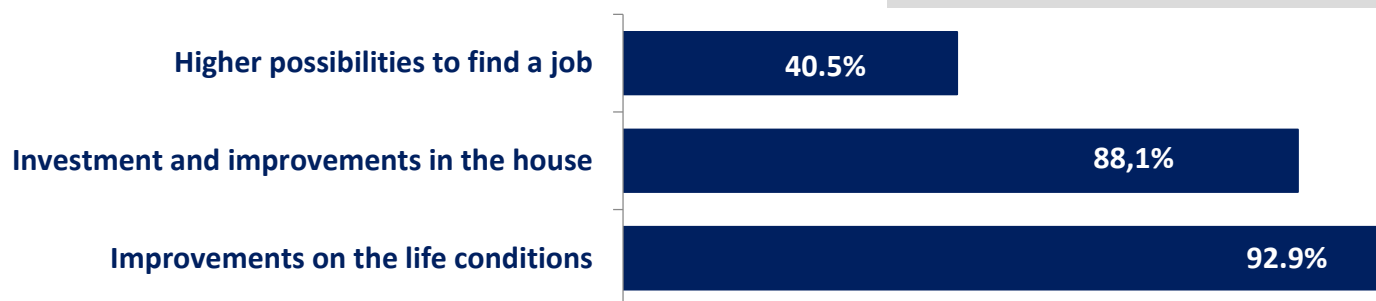
- Fuel switching that implies GHG emission reduction.
- Renewable energy sources deployment
- Allowing to avoid deforestation.
- Less dependence on fossil fuels for the replacement of old technology by renewable generation.

Economy and industry

- New economic opportunities.
- Growth in industrial production.
- Job creation and improvements on the quality of these jobs.
- Improvement of public-private relations and collaboration.
- This program has been complemented with further actions to universalize the access to telephony and internet.

Society and life quality

- Electric appliances suppose better life conditions, for example through a longer food conservation.
- Women and children count with more opportunities in terms of security, education, employment...
- Access to water by water supply systems with pumps.
- Better installations in hospitals and education centers that give better assistance and services to users.
- Education on good use of resources and energy .
- Avoiding migration phenomenon.



Source: http://luzparatodos.mme.gov.br/luzparatodos/downloads/Informativo_LpT_nr.41.pdf

"Luz para todos" program has important socio-economic and environmental impacts bringing clear benefits for all the communities where this program has been developed

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People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY			●	New economic possibilities
2. END HUNGER			●	Better and longer food conservation due to fridge and freezer use
3. WELL BEING – HEALTHY LIVES			●	Improvements on health facilities, better air quality for the replacement of light bulbs
4. QUALITY EDUCATION			●	Improvement on education facilities, possibility to studying during the night
5. GENDER EQUALITY			●	More opportunities in terms of security, education, employment...
6. WATER AND SANITATION FOR ALL			●	Possibility of using pumps for water supply
7. AFFORDABLE AND SUSTAINABLE ENERGY			●	Installation of renewable energies, new beneficiaries of public aids
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL			●	New economic opportunities and improvements on the working conditions
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION			●	Growth in industrial production for the increase of the society consumption
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES			●	Becoming a more developed country by better life to its inhabitants
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE			●	Communities feel much safer after the arrival of the electricity
12. RESPONSIBLE CONSUMPTION BY ALL			●	Education for a good use of resources and energy according to the program plan
13. COMBAT CLIMATE CHANGE			●	GHG emission reduction due to the replacement of diesel engines and RES use
14. PROTECT THE OCEAN	●			
15. TAKE CARE OF THE EARTH			●	Cleaner energy production than previous generation system. Avoiding deforestation
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL			●	Improvement of the perception civil society has with collaborating companies
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS			●	Improvement of public-private collaboration



Some examples of his incidence on SDGs... ... Focus on gender equality

More than 250.000 women have initiated some economic activity after “Luz para todos” programme was implemented

More than 310.000 women have initiated or returned to their studies after the arrival of electricity

81.8% of women surveyed believe that security has increased significantly. This is possible because they feel much safer staying at home alone (79.2%), walking in the community (47.7%) or making nighttime activities (40,3%)



“After electricity came, I just push the button pump to irrigate”

Ieda Maria Rocha
Assentamento Pastorinha –
Brumadinho - MG

“After the electricity came, I can make cheese and my dream now is to create my own factory, and register it, to buy more equipment, sell to supermarket and employ more people”

Cláudia Penteadó
Assentamento Itamarati, Ponta Porã-
MS



“The time of roasting flour in the wood stove has passed, now our equipment is all electrical. The work has become much easier and productive”

Maria Francisca
Santo Antônio do Leverger - MT

“With a blender and a fridge I do umbú ice cream to sell”

Carolina da Silva Neto
Travessão de Ouro – Pipipan etnic



“Now we work with electrical sewing machines allowing us to sell our products even in Italy”

Teresinha Silva
Assentamento Caritá - Jenemoabo -
BA



Project:	Cenpower Generation Company Limited , Ghana
Project Proponent:	Sanjeev Gupta

Public Organization: Government of Ghana
Private Organization: Africa Finance Corporation, Sumitomo Corporation
Capital Providers: AFC, AIIM, FMO, Rand Merchant Bank, ECIC, and others

Why is this project a Case Study for PPPs: **First successful, private sector-led, large-scale Independent Power Project (IPP) in the Republic of Ghana, setting a template for future ongoing transactions**

Why is this project a Case Study for PPPs based on SDGs: **More than 70% of the total financing was secured from African financial institutions, utilizing world-class sustainability standards, indicating that African institutions are well capable of developing and financing infrastructure for Africa, to world-class standards**

Context	→	From an electricity supply deficit to nearly US\$1.0BN in financing for power
Strategy	→	AFC led a project development effort to catalyze capital for Ghana
Project KPI's	→	Greenfield 340 MW plant under construction, to be operational by Q12018
Impact	→	Significant boost to power supply, will increase Ghana grid capacity by 13%
Escalate	→	Second project based on same PPA already nearing financial close in Ghana
"We the people"	→	InfraCo, AFC, Sumitomo, local sponsors, FMO, ECIC, RMB, Sumitomo, AIIM





Context:

- 1) Republic of Ghana is suffering from severe national power shortages, across major industries and homes
- 2) AFC was set-up as a development financier focused on economic infrastructure for Africa
- 3) Electricity availability is a major constraint with direct impact on Quality of Life and economic growth
- 4) AFC led the development and financing of a 340 MW multi-fuel, Combined-Cycle Gas Turbine Plant
- 5) Financing constraints prevent the Government of Ghana from being able to solely finance infrastructure



Strategy:

- 1) Initial project development was conceived by local sponsors in 1984, entering into partnership with international developer, InfraCo in 2005. Their aim was to build a gas-fired plant using local fuel sources.
- 2) AFC purchased a significant minority stake in 2010 and led the development to financial close and construction commencement in 2014. AFC significantly altered and enhanced the project structure, and catalyzed the needed funding from various sources.
- 3) Key contracts required included a Power Purchase Agreement, Fuel Supply Agreement, Government Consent and Supply Agreement, EPC Contract, O&M contract and Long Term parts Supply Agreement, Shareholders Agreement.
- 4) AFC negotiated best-in-class long-term contracts with leading global construction and operations service providers like Group Five (South Africa) and Sumitomo (Japan), securing value-for-money solutions for Ghana
- 5) The project is structured to international project finance standards, ensuring risks are allocated to parties with the capacity and best incentive to bear them. Revenue is secured by way of a fair end-user tariff, backed by a Government of Ghana guarantee of the obligations of the power buyer, Electricity Corporation of Ghana



Project KPI's:

- 1) The Project is located in Kpone, within the industrial zone of Tema, near Accra Ghana. Various permits were required covering construction, operations, grid connection, water use, environmental and safety, emissions control, and impact on sustainability of local communities.
- 2) The Project will result in over US\$400m of average annual revenue earned from electricity sales for each of the 20 years of operation. Fuel Costs will constitute the single largest operational expense (65% per annum on average). Average annual net income to the Company will be less than US\$50m for the same period.
- 3) About US\$900m was raised in total to develop and construct the project, and associated infrastructure for its operations (grid connection, fuel storage, etc). Debt and Equity were utilized, in an approximately 70% to 30% ratio.
- 4) Planning commenced in 2003. Feasibility in 2006, bankable PPA in 2010, major agreements negotiated between 2011 and 2014, executed in late 2014, financing raised and close also in 2014. Construction commenced 2015
- 5) Significant levels of community engagement and interaction happened both at local (site) level, and national level, including Parliamentary approvals for all the major project agreements which created obligations for the Republic



Impact on People and Planet:

- 1) The project operations commencement date is eagerly awaited given that it will boost grid supply by 13% in a country currently suffering from rolling blackouts and significant economic disruption as a result.
- 2) Project construction is fully on schedule as per the delivery date committed to at financial close. A large full-time team of engineering, financial and sustainability professionals and currently working hard in Accra and at the project site to deliver all aspects of the infrastructure on time and to budget.
- 3) As a Combined Cycle Gas Turbine (CCGT) plant, Cenpower will utilize the best currently available technology for generating power, ensuring minimized impact on the environment in terms of emissions.
- 4) Africans (within AFC and under institutions) have come together to form an enduring global Partnership to deliver a project that will contribute to improving the Peace and economic Prosperity of the Ghanaian People, with minimal negative externalities to the Planet.



Escalating the (Case Study) project:

- 1) Can we replicate the project within the country?** Yes, a new project utilizing exactly the same template agreements as Cenpower is under development in Ghana with the aim to reach financial close, secure nearly US\$500m in financing from international sources, and build nearly 200 MW of additional capacity.
- 2) Can we replicate the project globally?** Yes, African countries require PPP Projects like Cenpower to catalyze financing from non-public sources into large-scale infrastructure for the development of their economies and people.
- 3) Can we extrapolate the experience to other sectors?** Absolutely! A similar partnership approach has been utilized by AFC to jointly finance a 26 MW wind-farm in Cape Verde, a 1.5 KM toll-bridge in Cote d'Ivoire, and a trans-Atlantic submarine cable ferrying telecommunications traffic from Europe to the west coast of Africa.
- 4) Describe the main key success factors for escalation?** Commitment to excellence and best practice, Institutional partnerships, Experienced and well-capitalized developer-sponsors, Flexibility from all parties (Public and Private).
- 5) Describe what should be avoided in future project?** Weakly capitalized or technically inept sponsors.

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Project:	PPP in the Energy Sector, Tajikistan
Project Proponent:	Daler Jumaev, General Director, Pamir Energy Company



Partners:

Summary: Following a humanitarian crisis, years of traditional development revealed a growth choke point – energy. Working with the Tajik Government, World Bank Group and SECO, AKFED developed a PPP solution to turn around a dilapidated, loss making utility and create a sustainable, viable, replicable energy system in the most remote, harsh and poverty stricken region in Tajikistan.

Ministry of Energy and Water Resources, Republic of Tajikistan	Sponsor, Contributor of Assets
Aga Khan Fund for Economic Development	\$8.1m Equity
International Development Agency (World Bank)	\$12.5m Debt
International Finance Corporation	\$3.5m Equity, \$4.5m Debt
Swiss Economic Cooperation Office (SECO)	\$9.68m Grant, Customers Support Scheme



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Region (Viloyati Mukhtori Kuhistoni Badakhshon (VMKB), East Tajikistan):

- The largest (47% of the country), poorest (40% below the poverty line) and most remote (220k people, 4% of the total pop.) region;
- Economic and human development crippled by energy shortages.

History:

- Soviet: A subsidized region. 70% of electricity produced by diesel generators - 100% fuel from Russia;
- Post Soviet: A 5 year civil war, no diesel power plants working, only mini - hydels and 11 small HPPs producing very limited electricity;
- 70% of the region's forests decimated within a decade and increased respiratory disorders.

Development Context/Challenges:

- Following development initiatives in land reform, food self sustainability, health and education, the energy shortage was the major choke point for further development:
 - No energy in all districts in winter;
 - Schools, hospitals & businesses forced to close;
- Region was cut off from the national energy grid, which itself suffered from chronic shortages;
- New generation options were reviewed and found to be too expensive.

Response: A Public Private Partnership

- Utilize existing Government assets, but under private sector management;
- Invest \$26.8m from IDA (on –lent debt), IFC (debt and equity) and AKFED (equity);
- To bring 14 MW new capacity and upgrade some existing generation capacity;
- \$9.8m in customers support (SECO) to a) gradually increase tariffs and b) provide lifeline support
- Under a 25 year Concession Agreement

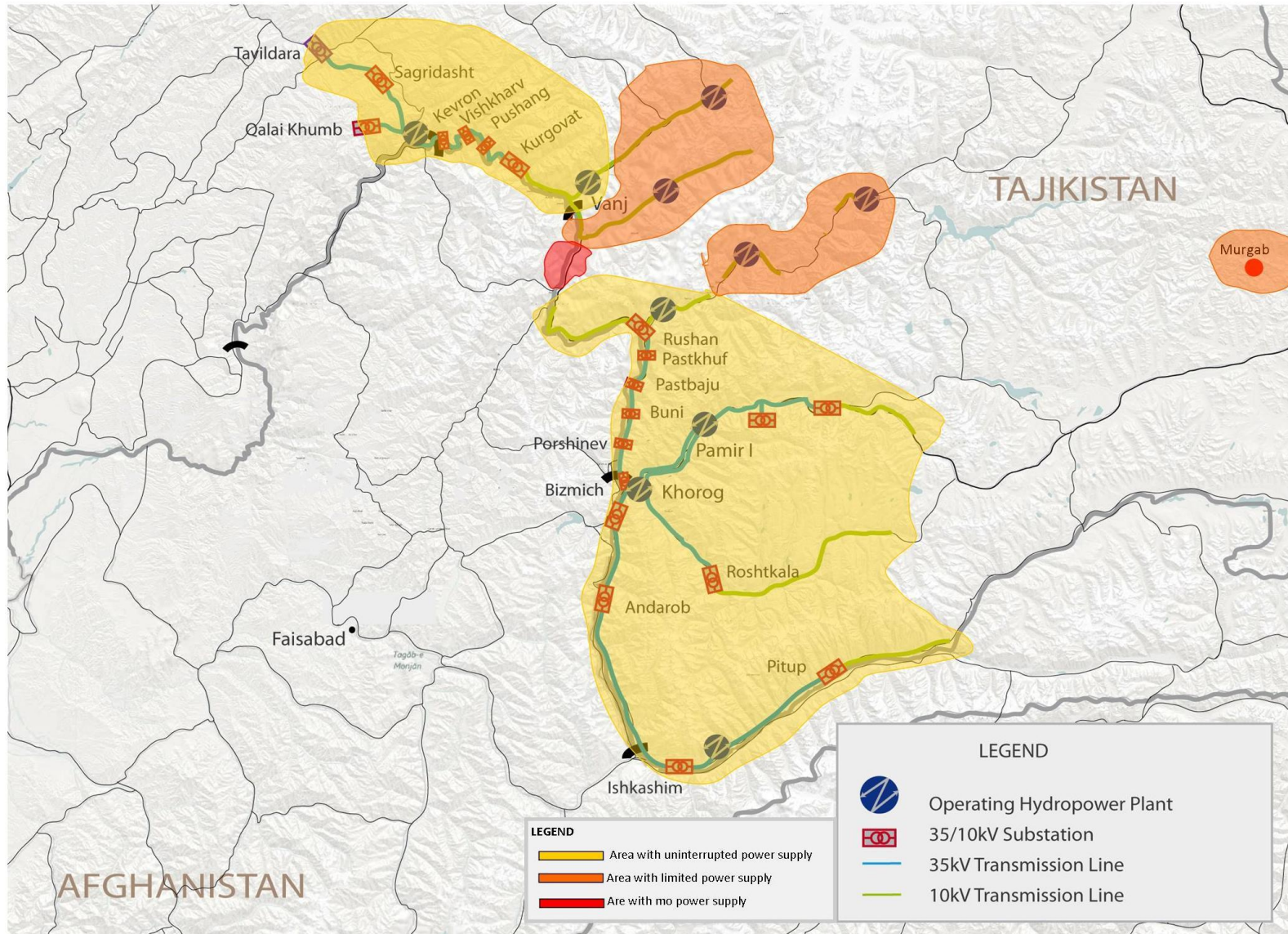


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Available (42 MW) and planned (135 MW) capacities

HPPs	MW
1. Pamir 1	28.00
2. Khorog	8.60
3. Namangut	1.80
A. Sub-total Main Grid	38.40
4. Shujand	0.55
5. Siponj	0.80
6. Savnob	0.40
7. Andarbak	0.28
8. Vanj	1.00
9. Tekharv	0.28
10. Qala-i Khumb	0.10
11. Murgab	0.15
B. Sub - Total Off-Grid	3.56
Total Existing	41.96
Sebzor	10
Sanobod	125



Project Design – Key Issues

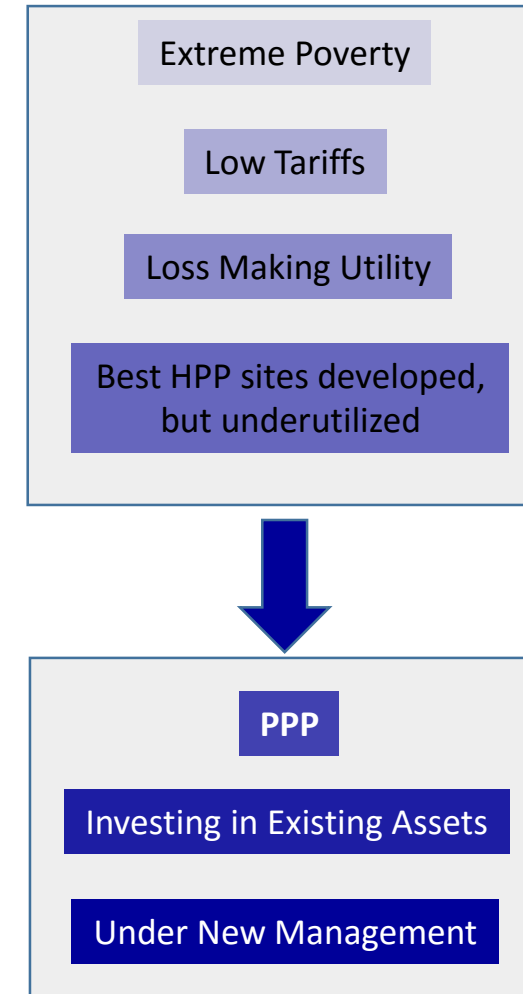
- Extremely low tariffs nationwide – Different tariffs in one region politically unacceptable
- Extreme poverty – Lowest cost model required, some form of customer support for defined period
- A loss making utility, strained Government finances – IPP model excluded
- Lowest cost hydropower site already taken, but under-developed

Key Parties

- Government of Tajikistan – Sponsor and Contributor (Owner) of Assets, Regulator
- Aga Khan Fund for Economic Development – Sponsor and Shareholder
- International Finance Corporation – Shareholder and Lender
- International Development Agency – Lender
- Swiss Economic Cooperation Office – Catalytic Early Stage Financing, Social support

Feasibility Study

- Financial: How to reconcile low tariffs (<2 US cents/KWh) with private sector financing and the need for massive investment in generation, transmission & distribution (>\$50m) and deliver results to international benchmarks.
- Operational: How to manage implementation in this remote region, utility re-structuring, and on-going management
- Technical: Pamir 1 HPP expansion, Lake Yashilkul retention structure, headrace tunnel, penstocks, etc.
- Environmental & Social: How to manage social aspects of tariff increases, collections (disconnections!) and Yashilkul water impact



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Documentation

- The Concession Agreement between the Government of Tajikistan and Pamir Energy (2002) enshrined key terms by Law
- Loan Agreements included the Development Credit Agreement between the Government of Tajikistan and World Bank (IDA) and a Subsidiary Loan Agreement between the Government of Tajikistan and Pamir Energy
- Social Protection Agreements were signed between the Government of the Swiss Federation, Government of Tajikistan and the World Bank (Adminstrating the Swiss Funding)
- Shareholder Agreements were fairly standard, and included an Investment Agreement between IFC and Pamir Energy and a Shareholders Agreement between AKFED and IFC

Project Finance was structured to achieve 4 key objectives:

- Sufficient funding to deliver additional capacity
- Manageable weighted average cost of capital
- Affordable tariffs
- Returns to investors

Key Components Included:

- WB IDA Loan: \$11.3m to GoT at 0.75%, 40 years
- GoT On Lend: \$11.3m to PE at 6%, 20 years
- Interest differential deposited into a special account for social protection costs
- IFC debt at 10%
- Equity (10% ex ante returns)
- Due to catastrophic accident **in 2007**, IDA gave a grant of \$1.2m to the GoT, which was on-lent to PE at 0.75% for 15 years



Хисо борақи № 01-23/1-2011

РАМИРЭНЕРЖИ

Қўчаи Гулмамад 75, Хору, Тоҷикистон, 736000, www.pamirenergy.com

Мундари № 71

Номи маъб ВОДУҶОҶОНОВ СЕРЕК

Панони 01-Хору, кўчаи Дониш Гулмамад, Бинои 4-оғуша

Барк асоси беҳбудии ҳаёти Шумост!

Номи муҳим шарҳнома АҚИП

Номи муҳим	Ҳисоби	Ҳисоби барқ	Ҳисоби барқ	Ҳисоби барқ
Нарзиҳо	12.100	Хури ҳисоби барқ	Хисоби барқ	Ҳисоби барқ
Субсидия	11.000	11000	4.400	2007

Ҳаққи истифодаи барқ боқадар дараҷаси 5 рууба аз дастраси шуъбаи ҳисоббарқ ширкати шаванд.

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Декabr-2010	01-23-12-2010	434	36.28	101.00	Убсуки аз Қўчаи Гулмамад	(22.00)		
Май-2009	01-23-11-2010	215	3.77	0.00	Қўчаи Ҳуҷуми ТБ	0.00		
Октябр-2009	01-23-10-2010	115	13.75	0.00	Қўчаи Ҳуҷуми ТБ	0.00		
Сентябр-2009	01-23-9-2010	160	14.17	100.00	Қўчаи Ҳуҷуми ТБ	0.00		
Август-2009	01-23-8-2010	200	13.74	0.00	Қўчаи Ҳуҷуми ТБ	0.00		
Июль-2009	01-23-7-2010	160	13.74	0.00	Қўчаи Ҳуҷуми ТБ	0.00		
Июнь-2009	01-23-6-2010	438	60.98	22.50	Қўчаи Ҳуҷуми ТБ	0.00		

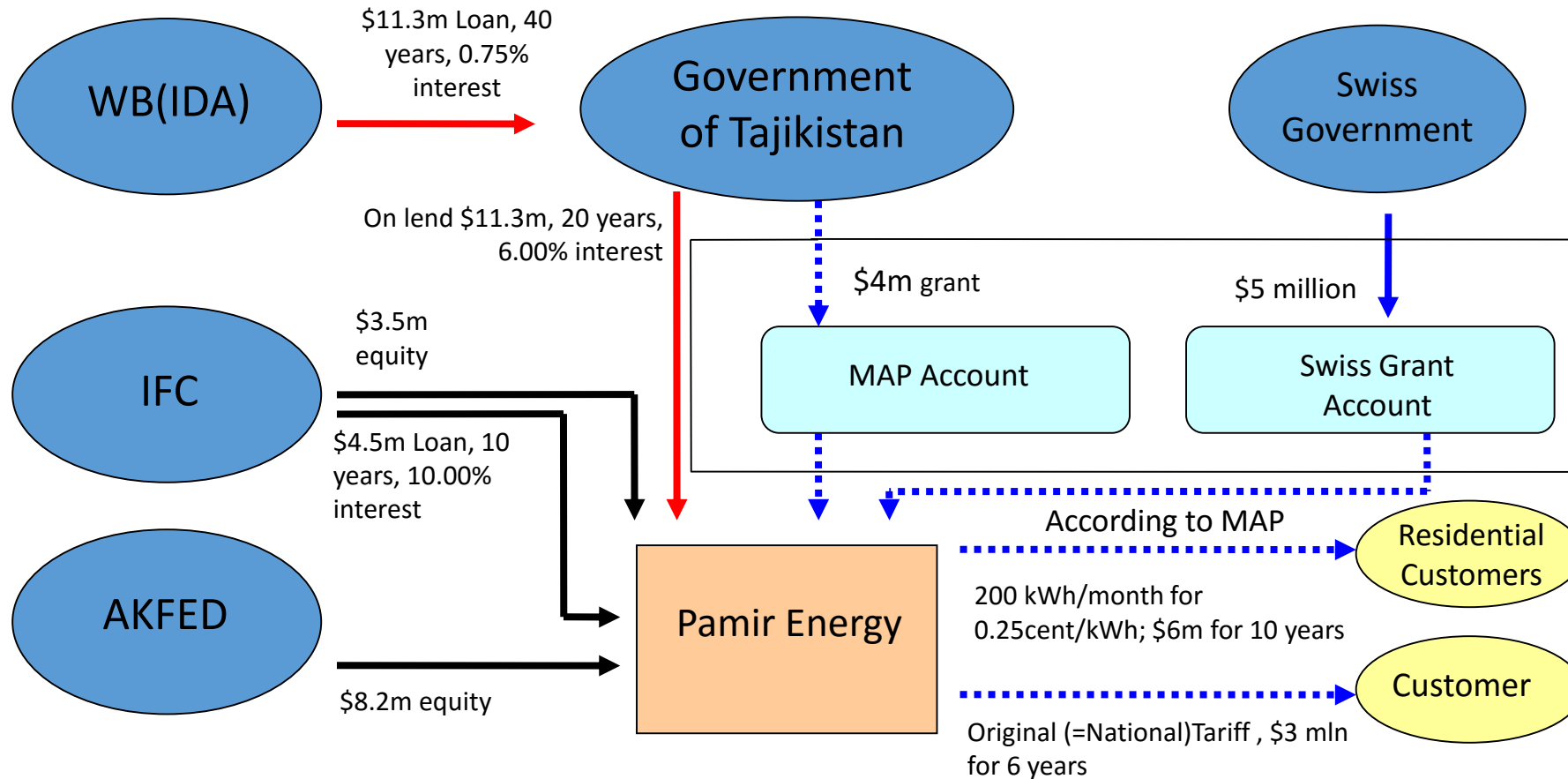


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Social Protection Expenses

PE's Structure includes:

Project Finance in 2003

1. \$11.3m IDA debt @0.75% (40 years) lent to the GoT
2. GoT on-lend @6% to PamirEnergy for 20 years
3. \$3.5m IFC equity
4. \$4.5m IFC debt (10 years, 10%)
5. \$8.2m AKFED Equity
6. **In 2008** \$1.2m IDA grant to the GoT
7. GoT on-lend @0.75% to PamirEnergy for 15 years

Social Protection Mechanism

1. Government of Switzerland \$5m grant initially to special account
2. PamirEnergy pays interest differential (6% - 0.75%) into special account

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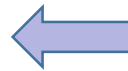
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The main milestones of this PPP

Project Preparation (1999-2002): With funding from SECO, a consultant completed the study, and recommended a full utility model.

Project Implementation Stage (2002-2006): Implementation of four key components was challenging.

1. Lake Yashikul regulating structure
2. Headrace Tunnel & Penstocks
3. Turbines & Generators
4. Transmission & Distribution improvements



Contractors, equipment, materials & management were all challenges

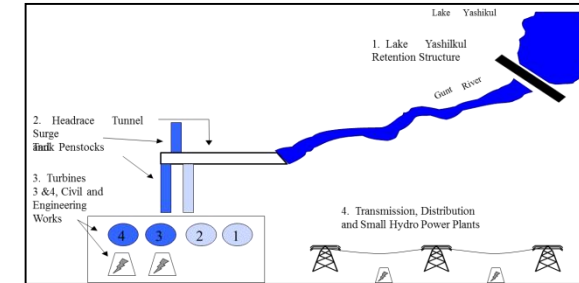
But the project was completed on time and on budget. The local community, however, had not adjusted to higher tariffs and the culture of non-payment was rife.

Accident & Turn (2007). In 2007, the main power plant was flooded and one turbine destroyed in a natural disaster.

Growth & Expansion (2008 – 2027).

- New (local) management were brought in, the community rallied around the project following the accident, and a clear strategic direction was established.
- Lines loss reduction, energy availability, and community focus were prioritized
- VKMB became the only region in Tajikistan with excess energy in winter, and in 2008, the first cross border line into Afghanistan was inaugurated.

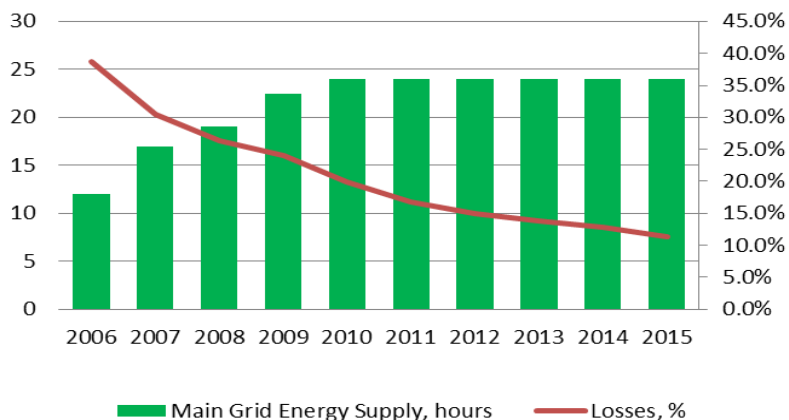
Leveraging the initial project cost of \$26.5m, a total of \$47.3m has been invested in the region's energy sector so far, as donors recognize the commitment, implementation capacity and development impact.





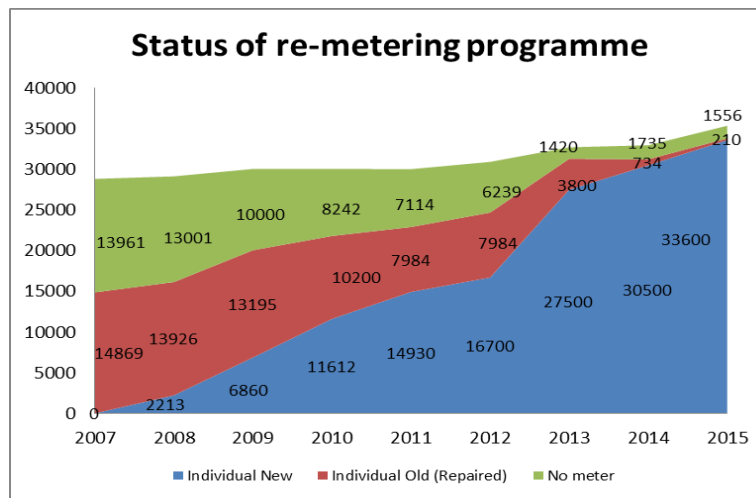
Measuring Project Output. The company measures **technical performance** based on 4 key metrics:

Loss Reduction and Energy Availability



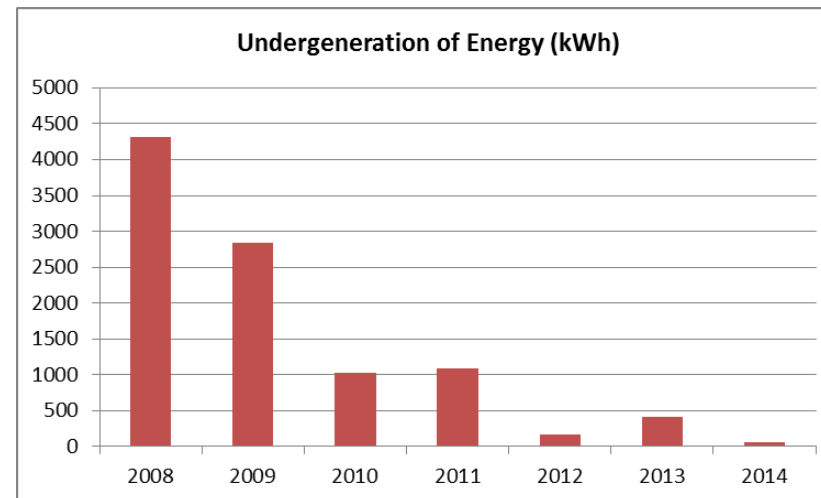
Energy Availability has increased to 24 hours on the Main grid. Technical and commercial losses have been reduced to 12% and should be further reduced down to 9% in pursuance with best engineering practice

Status of re-metering programme



New meters have been installed for 96% of PE's customers, the remaining 4% of customers should be provided with meters by 2017

Undergeneration of Energy (kWh)



Rapid reaction to natural disasters and outages has reduced under-generation significantly

Customer Support: In 2013, Thanks to SECO technical and financial support, PE shifted to a winter based, increasing block tariff support system based on consumption levels.

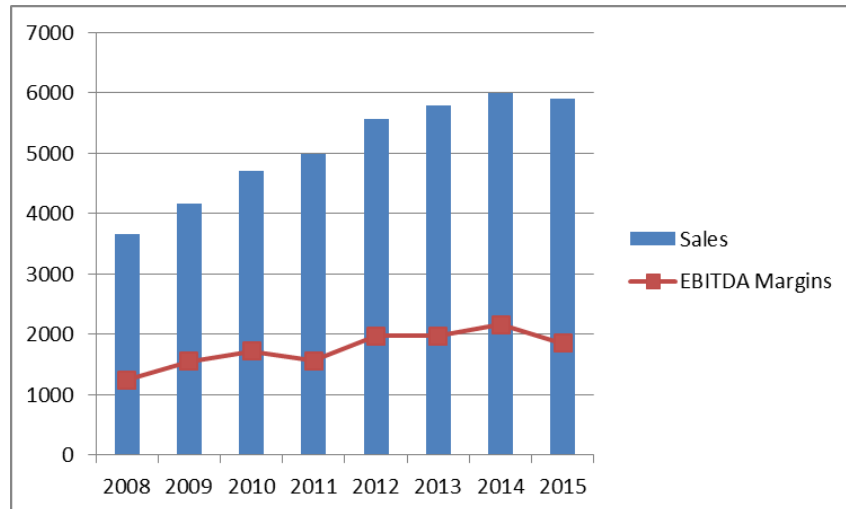
- 53% of PE's customers receive 85% of their bill paid in winter, and 47% have to pay 100% of their bills
- Current total social protection cost per year: \$350k.

Customer Service: PamirEnergy has opened 6 customer service centers - previously unimagined for the utility, and a call center has been established. Customer complaints have reduced 17 times (1700%) since 2009.

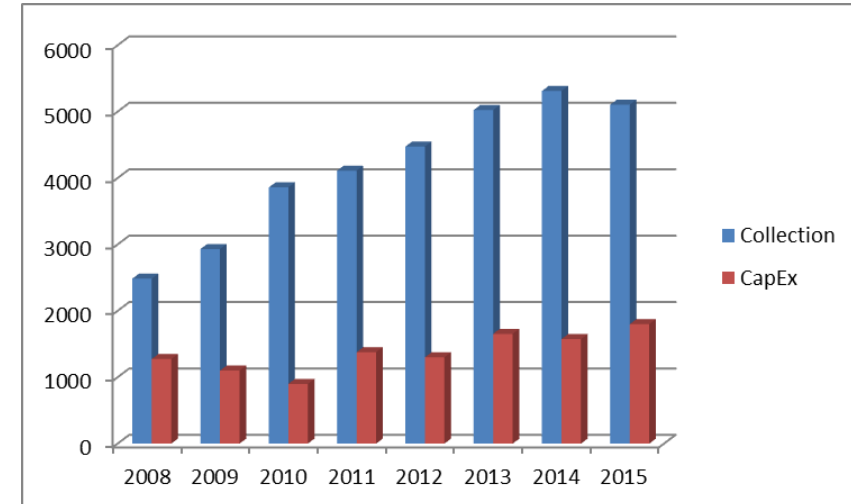


Measuring Project Output

Financial Results. Sales, EBITDA and PBT are tracked, as well as collections rates and CapEx, to ensure sufficient reinvestment to return a world class utility to the Government of Tajikistan



Sales have been steadily increasing, despite no tariff increase since 2010, due to increased sales made possible by loss reductions.



Collections rates remain strong, at around 100%, due to clear billing, strong communication, low tariffs and strict disconnections

Is the project financially viable? PamirEnergy currently generates a modest PBT of \$ 450K per year and pays no dividends. IFC debt was converted to equity following a devastating accident in 2007. However, the company is current on all obligations, and a more commercial approach (not taken by the project sponsors and shareholders) could re-consider CapEx for dividends.



Project Outcomes

- **People:** 226,000 people in East Tajikistan and 28,500 in North Afghanistan receive clean, affordable and reliable electricity
- **Planet:** PamirEnergy is 100% renewable energy
- **Prosperity:** Affordable energy drives economic growth
- **Partnership:** PamirEnergy has created a partnership between the community, local government, national government, international investors and donors, reaching across the border into Afghanistan.
- **Peace:** PamirEnergy supports cross border bridges, markets, training, technical assistance and other projects of the Aga Khan Development Network, to promote regional integration, contributing to trust and positive relations across borders.

Significant improvements to quality of life as a result of 24/7 supply of electricity to 91% of the VMKB population:

- **Income - Savings in household energy costs** (from \$98/month to \$15/month – an 653% decrease)
- **New economic activities:** small enterprises increased by 53% (consumption increased by 80% in VMKB & 25% in Northern Afghanistan)
- **Improved health:** medical facilities offer advanced services (such as eHealth) and perform operations otherwise not possible
- **Better built environment:** reduced in-home smoke, fewer respiratory problems
- **Enhanced education possibilities:** now possible to study when it is dark, test scores improved from 50% to 80%; computers at schools and in some homes
- **Improvement in government effectiveness:** use of computers and cellular phones improving efficiencies
- **Enhanced community life:** evening gatherings enabled in Afghanistan; access to news and media



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Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY			●	Savings in household energy cost (from \$98/month to \$15/month – an 653% decrease)
2. END HUNGER		●		Contribution to food storage in home and stores, and food processing
3. WELL BEING – HEALTHY LIVES			●	Significantly lower in-home smoke & improved storage of medicines & energy at clinics
4. QUALITY EDUCATION		●		Improved classrooms lighting & heat, internet access & light in the evening study longer
5. GENDER EQUALITY			●	Women spend four hours less per day preparing family meals, less time gathering wood
6. WATER AND SANITATION FOR ALL			●	Supply electricity for Khorog Water Co. (32,000 people) & pumps throughout region
7. AFFORDABLE AND SUSTAINABLE ENERGY			●	Supply 24/7 electricity to 91% population in VMKB & 3% Northern Afghanistan 3.25 US cents/KWh
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL			●	PE provides 651 permanent & some 200 seasonal jobs and enables economic growth
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION		●		Regional enterprises based on sustainable tariffs & renewable energy generated by assets designed to withstand disasters
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES			●	Supply of low cost electricity in remote areas reduces income inequality
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE		●		Energy supply improves city resilience and sustainability
12. RESPONSIBLE CONSUMPTION BY ALL			●	Re-metering, support schemes and education foster responsible energy use
13. COMBAT CLIMATE CHANGE			●	Energy supply improves city resilience and sustainability
14. PROTECT THE OCEAN	●			Tajikistan is a landlocked country
15. TAKE CARE OF THE EARTH			●	Reduced consumption of fossil fuel (Lower-carbon emission & deforestation prevention)
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL		●		As AKDNetwork institution, PE holds most stringent transparency and equity standards
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS			●	Partnerships w/ Government, private sector, neighboring country utility & donor community



Escalation

- **In Tajikistan:** Aspects of PamirEnergy’s success are applicable in the energy sector across Tajikistan: private sector capacity & capital, loss reduction, metering, billing and collections, human resource management, project management. Technical and management strategies are particularly applicable.
- **Globally:** The PamirEnergy model is fortunate to have an anchor investor with a deep appreciation for the triple bottom line, allowing a long term approach and flexibility with respect to returns. However, the project’s key success factors (technical and management strategies) are highly applicable in many circumstances, and PE’s sponsors have sought out new opportunities in other geographies.
- **Across Sectors:** The PamirEnergy model is highly applicable to the water sector, which is frequently joined electric utilities, and potentially for transportation infrastructure as well.

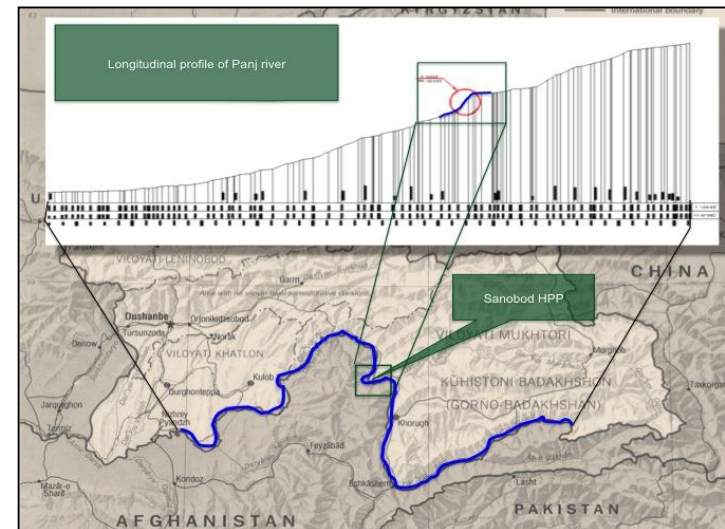
Key Success Factors for Escalation

Do	Don't
Strong stakeholder support and ownership	Increase tariffs before service improvement
Strong management, preferably local	Build customer support into revenue models. Support should be separate
Listen to communities	Alienate local government
Clearly explain bills structure, changes and support	Underestimate local culture & traditions and communication
Focus on loss reduction, rather than production increase for lower cost gains	
Use technology for mobile payments, pre-paid, etc. for all helps	



PamirEnergy's Future

- **Expansion:** In the next 5 years, PE aims to add some 20'000 customers (pop. 170'000) to its network in the North Afghanistan, possibly reaching up to Faizabad a major city in the North Afghanistan (pop. 220'000).
- **Generation Increase:** To serve these new customers, PamirEnergy is developing a new, 11 MW HPP in the East Tajikistan
- **Game change - Sanobood HPP:** A new HPP (IPP) is being developed at 125 - 250 MW for regional energy

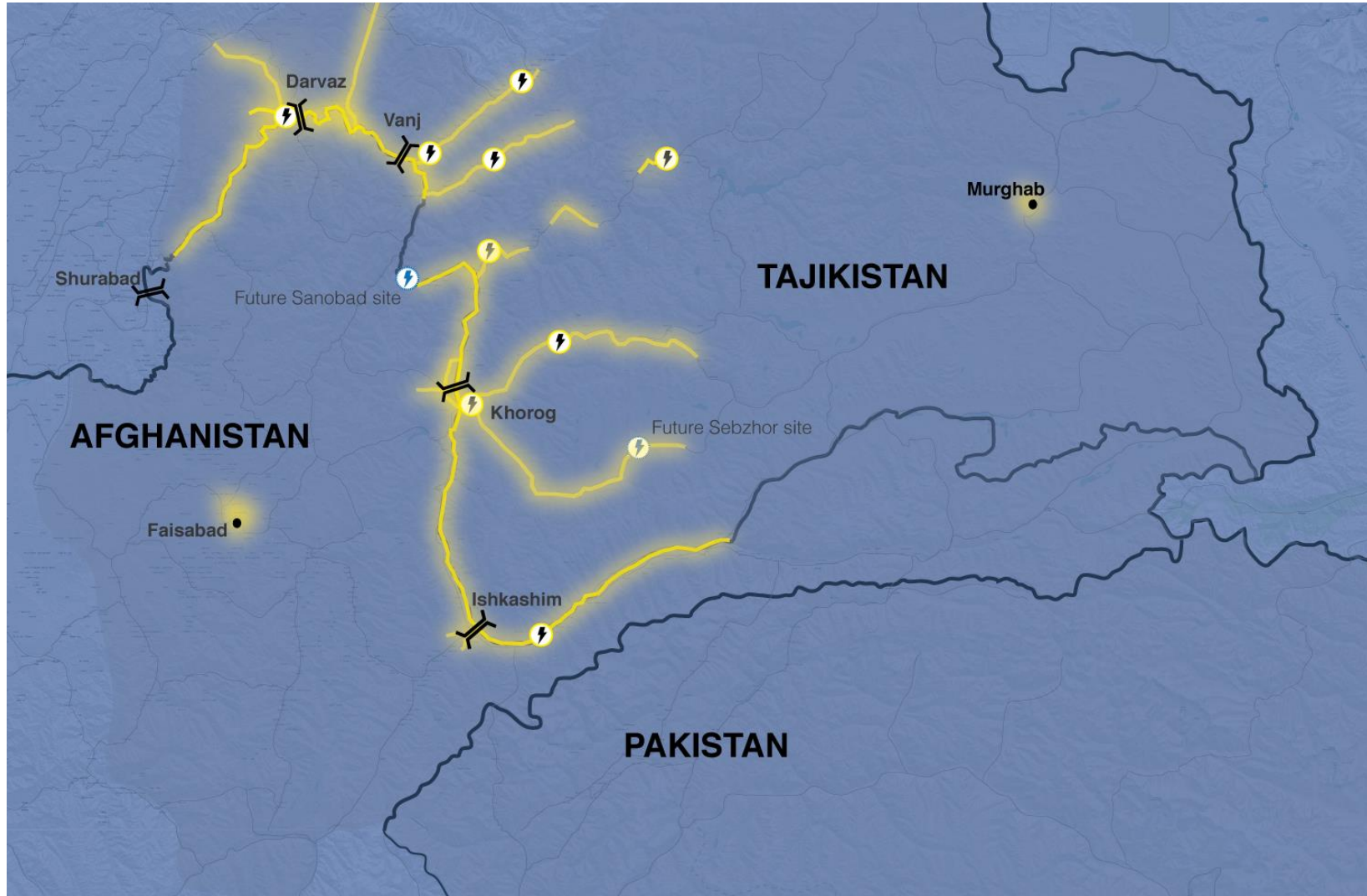


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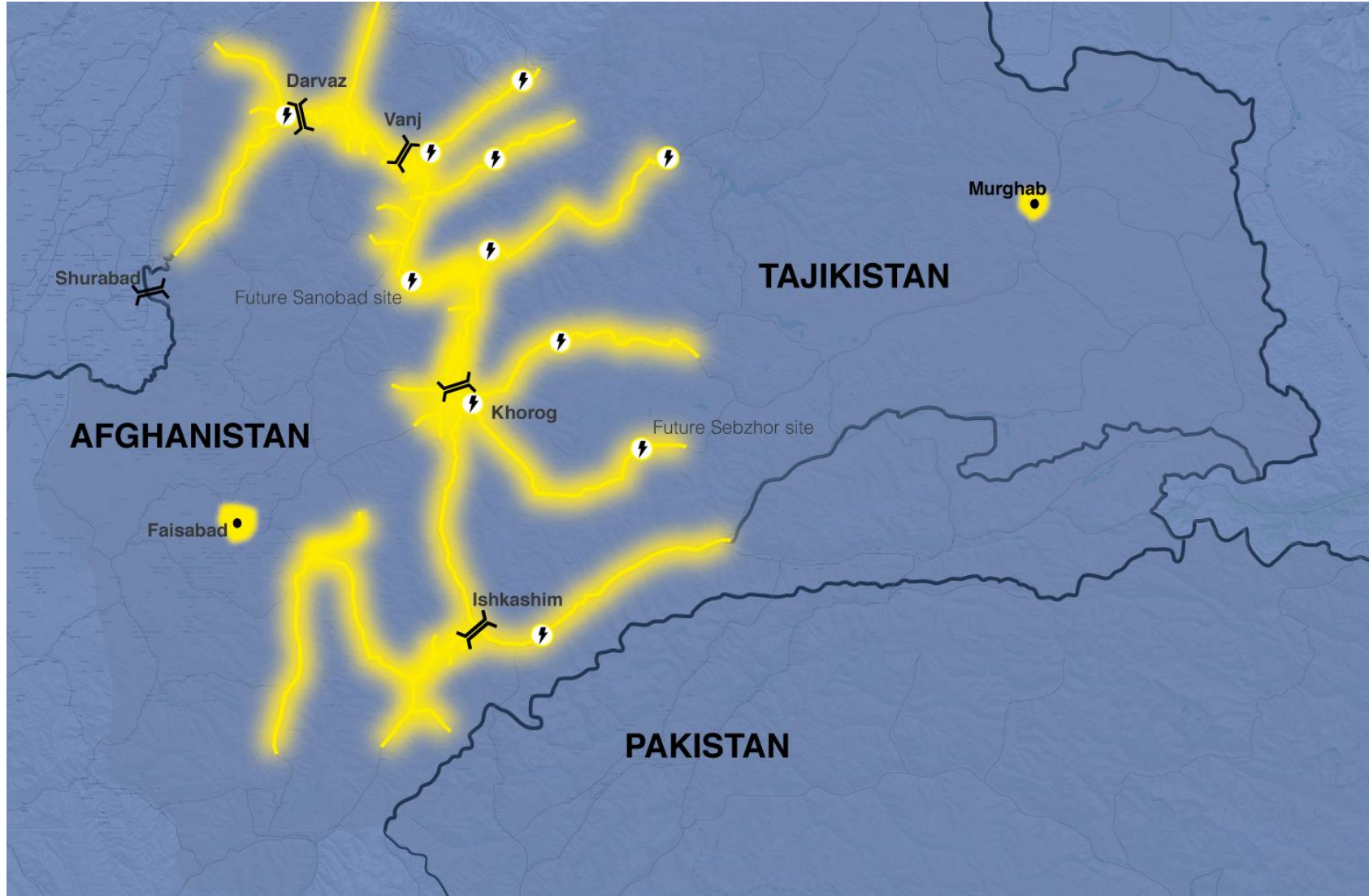
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This will be Tomorrow!

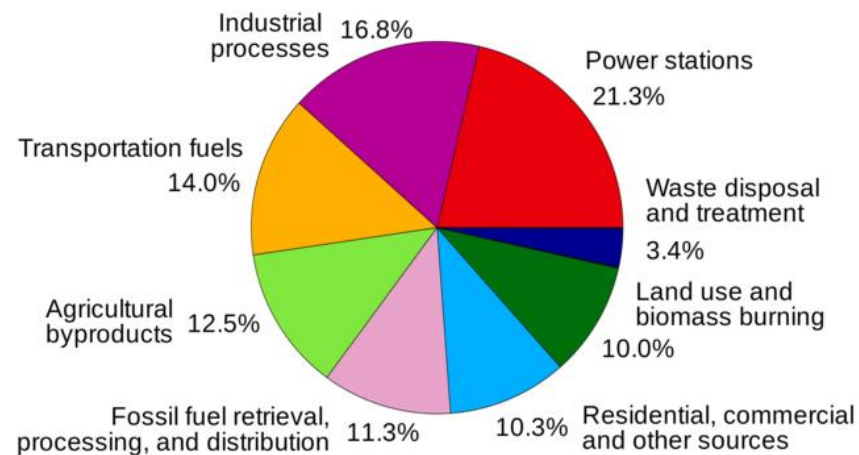


Project:	Energy Efficiency Appliance Rebate Program, California USA
Project Proponent:	James M. Donovan, ADEC Innovations



Annual Greenhouse gas emission by sector

With household activities accounting for 10 percent of total greenhouse gas emission (GHG) emissions worldwide, initiatives to reduce energy in homes has increased. In the US, more than 70 percent of energy usage is from electronic, refrigeration, heating and cooling appliances. To encourage residents to replace inefficient models with the energy efficient ones, the government launched the State Energy Efficiency Appliance Rebate Program (SEEARP).



Given the population of more than 37 million, implementing the rebate program in California was not an easy undertaking. FirstCarbon Solutions, an ADEC Innovation played a key role in managing the entire process of rebate administration. From screening those who are qualified for rebate, to prevent fraud and abuse. The effective and seamless rebate processing system of FirstCarbon Solutions contributed to the significant energy savings of California government and showed strong demand for sustainable, energy efficient appliances among its resident.



Public Organization:

California Energy Commission,
California USA

Private Organization:

First Carbon Solutions-
an ADEC Innovation



In implementing the rebate program, the California Energy Commission (CEC) needed an efficient and cost-effective system that can decrease the operating cost of awarding the \$35.2 million worth of rebates allocated by the American Recovery and Reinvestment Act (ARRA). This is one of the largest allocations, with rebates given to all residents who bought the eligible home appliances during the two-year rebate period.

CEC required that the rebate administration provider process all mail-in rebate applications received, which include verifying and validating submitted materials, preventing and detecting fraud, and transmitting electronic claim files for each eligible rebate claim to the State Control Office.





FirstCarbon Solutions oversaw consumer relations and processed nearly 300,000 rebate applications, of which totalled to 178,190 were declared qualified rebates. Of these, 90% were for HVAC, and 0.02% were for water heaters.

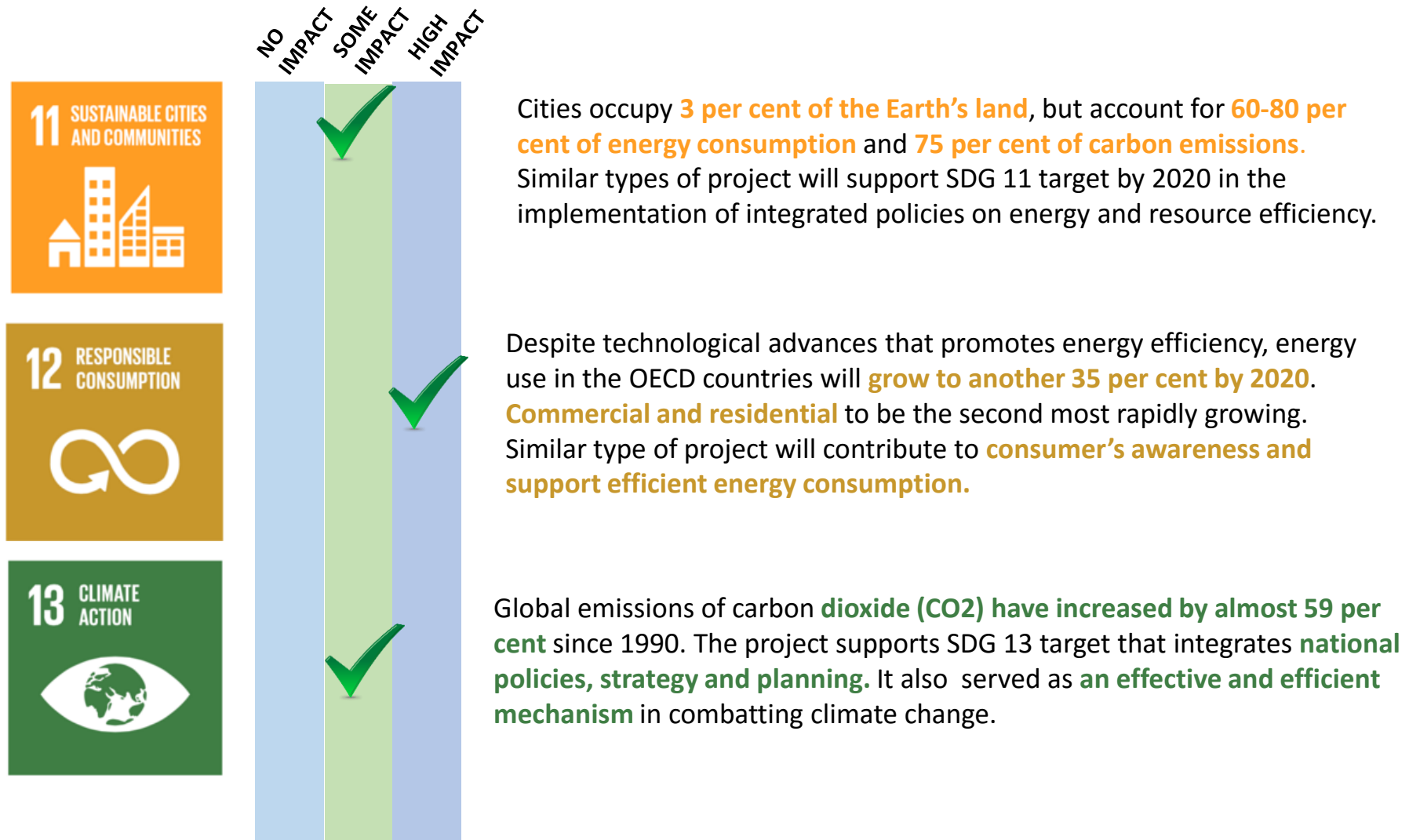
These rebates represent savings of **around 6 million kilowatt-hours per year** – power which could be used in approximately **1,000 homes**.

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The project of the California Energy Commission on Cash for Appliance Rebate program in partnership with FirstCarbon Solutions processed rebates representing 6 million kilowatt hours per year enough to supply approximately 1,000 homes.

In the United States, fifty states and six territories implemented the program. With varying results per state. Such program may be implemented regionally or globally subject to availability of policy support and funds for the program. In the US, project funding came from the American Recovery and Reinvestment Act of 2009, in California alone \$35.2 million of federal ARRA funds were allocated for the State Energy Efficient Appliance Rebate Program. (SEEARP)

Replicating and further sustaining the project will require PPP composed of governments, multi-laterals, manufacturers, retailers and utility providers.



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Project:	Invest in Africa, Ghana & Kenya
Project Proponent:	William Pollen

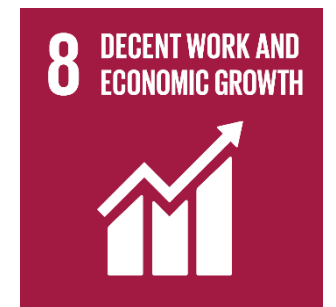


Public Organization: IIA Partner Private organisations listed below and Public Sector bodies including The African Dev Development Bank (AfDB), The Ghana Investment Promotion Agency (GIPC) and The Association of Ghanaian Industries (AGI)

Private Organization: Ecobank, Tullow Oil, EY, Lonrho, Diageo, GE, Equity Bank, Clyde & Co, Canon and others....

Capital Providers: financing the project: Same as private organisations listed above & The AfDB

Why is this project a Case Study for PPPs: IIA is the first not for profit body to unite private & public sector bodies across all sectors to jointly create new solutions to long standing business challenges holding back investment, growth and job creation in local African economies.



Why is this project a Case Study for PPPs based on SDGs:

Context	→ Before our work there was no cross sector collaboration, today we have a new way to drive growth with the key players involved
Strategy	→ To pool know-how and resources for more timely, impactful and cost efficient solutions
Project KPI's	→ We created a steering group that oversaw the launch of West Africa's first business portal connecting larger investors to local SME's, & providing the SMEs registered on it with access to traing, markets and finance
Impact	→ In Ghana our work has the capacity to support over 11,320 local jobs and retain \$80m in the local economy, We are training 120 Ghanaian SME's over a \$4m, three year training programme .
Escalate	→ In Oct 2015 we opened an offices in Kenya & in Q1 2016 will officially launch IIA's PPP model in Kenya.
"We the people"	→ IIA's cross sector public and private sector Partners



Context:

1) Describe the communities and the environment before the project started

Previously there was no credible way for investors to find quality local SMEs and likewise no way for those local SMEs to be 'found' by investors, likewise there was no one central hub where new tenders could be seen by all and where various training & development programmes all running could be accessed in one place.

2) The context that led you to wish to improve quality of life for those communities

If we could make the market place function more effectively we could make Ghana an easier place to do business, attract more investment, up skill local people raise standards and create jobs & opportunities

3) How did you relate "quality of life improvement" with "infra gap"

On the supply side of sustainable development our work creates jobs, raises standards and retains more value in host African economies, helping create opportunities for all and reduce inequality. On the demand side IIA's work supports corporates efforts to invest in local content and promote strong social, environmental and governance practices.

4) A short description of the infra solution imagined

we created two initiatives. Firstly [The African Partner Pool \(APP\)](#), West Africa's first cross sector online business portal connecting local SMEs with international companies, their tenders and training programmes. Launched in Nov 2014 the APP has 1,000 local SMEs registered on it & 16 organisations using it to source locally. Secondly a 3 year business skills and governance training and mentorship programme ([the BLP](#)) in partnership with the African Development Bank (AfDB) for 120 of the most promising African SMEs registered on the APP. The BLP launched in Nov 2015.

5) What made you think about a PPP solution

There was no other way to tackle this cross sector, shared and long standing challenge. The traditional siloed approach of trying to solve bits of this puzzle in isolation of each other was not working. A new innovative approach was needed that united all the major players and allowed others to contribute too. We felt that success would need both the private and public sector on board, not either, or but both together.



Strategy:

1) How was the concept designed, which parties approved the project start up?

Designed through research in Ghana with over 200 SMEs and many large corporates, trade bodies, gov departments and Chambers to ID the main barriers they faced doing business with one another. Then we created our cross sector leadership and steering group to help us analyse the findings and design our new sustainable solutions.

2) What were the main topics studied on the feasibility phase and what made you decide for PPP solution?

Main topics were to identify the main shared challenges that were holding back the local business community, we focused on operational, transactional and policy issues. The issue of Local Content was a clear leader and being so big and so cross sector and 'political' by nature we were convinced PPP was the answer.

3) "Closure" involves all contracts needed to start the development phase, mention the most important contracts signed / to be signed, namely the financial closure and steps to first disbursement?

The agreement to work with Ghana's leading public sector business bodies the GIPC & AGI were key, as well as the contract for a \$1m grant from the African Development Bank, and securing agreement

4) Development concerns the phase of transforming or creating a new asset; describe how you managed to combine: respect for quality, delay and budget We created an advisory board with representation on it from all key stakeholders, so they all had a bond to our work and sense of ownership and responsibility towards it. This meant commitment was high and we only delayed launch by 5 months due to technical challenges, which for a project this innovative and cross sector-with so many stakeholders, was a huge achievement

5) Exploitation is about providing a public service and improving the quality of life; describe how do you manage operation & maintenance, revenue stream and guaranty quality of public service: We don't provide a public service but as not for profit all revenues are reinvested into the SEM training and our capacity building programmes. We constantly survey our SME & corporate members and public body partners to measure the relevance & value of our work and improve it accordingly.



Project KPI's: In this slide please describe the main figures of the project:

1)Where is located, the area covered by the project, how was the access to the “land”, and what were the main permits obtained / needed to develop the project: Our work covers all of Ghana and we have just opened offices in Kenya to replicate our work in E.Africa

2)Describe the main lines of the budget: Capex, Opex and Revenue Stream

70% of our total budget is people costs, we employ 9 Ghanaians (in Gh), 3 Kenyans (in ky) & 3 British (in UK). Another significant cost is promoting our work to SMEs and helping them sign up, through forums, workshops/seminars across local markets in Africa. 70% of our revenue comes from our corporate private sector partners and the rest comes from the revenue our programmes generate. We are making good progress towards getting this balance to be 50/50.

3)Describe the finance structure: equity, mezzanine, debt and guarantees used

We are a not for profit limited by guarantee (of £1) so there's no equity or debt. We ensure our revenue matches off against our expenditure.

4)Describe the main milestones of the project namely: pre development, development and exploitation

Nov 2013: Creating formal Partnerships with major corporates, public sector bodies and NGO's in Ghana

Oct 2013: Incorporating as a local business in Ghana Oct 2013

July 2014: Successfully being selected for \$1m grant from the African Development

Oct 2014: Launch of Africa's First Ever Cross Sector Business Capacity Building and Trading platform, 'The African Partner Pool'

Sept 2015: Millennium Development Authority & Gov of Ghana Power Initiative 'MIDA' joined as member of IIA

Nov 2015: AfDB funded core business skills training programme for 120 Ghanaian SMEs goes live- the first of its kind in West Africa

Dec 2015: A year since launch and the PAP records over 1,000 African SME members

5)How did you communicate the project with the community to obtain their support

Through continual forums, workshops, research (quant & qual) with the local business community and creating advisory boards who met and still meet every month or quarter with representatives and spokespeople on them from key sectors and bodies.

We followed up all of these with e-newsletters and physical letters, sending over 12,000 in 2014 alone.



Impact on People and Planet:

In this slide please describe the impact of the project:

1) Does the community perceive the quality of life improved?

Yes, we have numerous feedback forms and quotes from small local SMEs who have expressed how much they value having one platform on which they can, for the first time, have a presence on the internet and be found by larger companies, as well as see tenders and training that previously they were unaware of and missing out on. Perceived quality is also demonstrated by achieving over 1,100 users of our APP programme within 12 months from launch.

2) How do you measure it today ?

We measure our work through, the following metrics: Number of jobs we are supporting, \$ value retained in host economy that may otherwise have been spent abroad, increase in turnover of SME's we work with, increase in local sourcing by corporate members, time saved and number of companies we train.

3) How do you measure the eco foot print of the project?

N/A

4) Please describe impact, using the 5 Ps (people, planet, prosperity, partnership and peace)

People: Our APP platform has supported 11,300 jobs to date in Ghana & directly benefits over 35,000 of staff of member SMEs

Planet: To register on the APP we ask for evidence of / or a policy supporting sustainable business best practices

Prosperity: All we do is designed to increase opportunities, skill levels and income of local African SME's, to date we have retained more than \$85m of value in Ghana's local economy thanks to the \$145m in value of tenders that have been shared on our APP.

Partnerships: Our model is evidence that cross sector models can work for private sector and the public sector must play a key role too.

Peace: By making opportunities more transparent & open to all we have started to 'level the playing field' for how business is done in Ghana

5) Please use the attached board to describe the impact considering the 17 SDGs

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Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY		●		Created a scalable framework for shared prosperity
2. END HUNGER		●		Created a scalable framework for shared prosperity
3. WELL BEING – HEALTHY LIVES	●			N A
4. QUALITY EDUCATION		●		Demonstrated the importance of qualifications
5. GENDER EQUALITY		●		Promoted women founded / led business
6. WATER AND SANITATION FOR ALL	●			N A
7. AFFORDABLE AND SUSTAINABLE ENERGY	●			N A
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL			●	Given over 1000 SMEs better access to new skills, markets and finance
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION		●		We have infrastructure power bodies using our platform
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES			●	We retain more dollars in home countries through local sourcing, salaries & profit
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE	●			N A
12. RESPONSIBLE CONSUMPTION BY ALL		●		Our training programs teach this as our free on line guides
13. COMBAT CLIMATE CHANGE	●			N A
14. PROTECT THE OCEAN	●			N A
15. TAKE CARE OF THE EARTH	●			N A
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL		●		Bring greater transparency & accountability to local businesses institutions and public bodies
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS			●	Our entire model and ability to exist is proof that PPPs are the future



Escalating the (Case Study) project:

In this slide please describe how to escalate the experience:

1)Can we replicate the project within the country?

Yes it can be taken to counties / or regions but to date our approach, coverage & impact has been national and is working.

2)Can we replicate the project globally?

Yes as the problem of more equal prosperity and job creation, that we work to solve, is global.

And we own the IP and software all of which can be adapted for other markets

Within Africa we have already opened an office in a second market, Kenya and have been asked to look at Mozambique

3)Can we extrapolate the experience to other sectors?

Yes

4)Describe the main key success factors for escalation?

Cross sector support and buy in from leading corporates and public bodies: From CEO's etc, with firm written commitment.

Gov engagement & support especially from key Ministries (i.e Trade & Industry, Finance, Energy etc)- but not necessarily endorsement

A clear need

5)Describe what should be avoided in future projects?

Trying to go to market with the 'perfect' product no day one, focus on a simple benefit that can be well answered and deliver that on day one. Then improve and gown the product / service out from there.

Do not try to be all things to all people.

Avoid becoming politicized- listen to the gov and politically effected companies like extractives, but then decide what is best for all

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Project:	Cascais Entrepreneurial Schools, Portugal
Project Proponent:	Luís Matos Martins

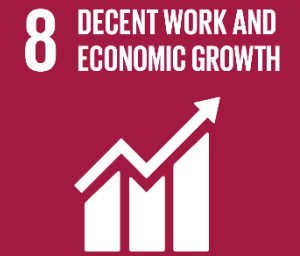
Public Organization: Municipality of Cascais . DNA Cascais

Private Organization: Microsoft . Universidade Europeia

Capital Providers: Municipality of Cascais, Microsoft, Universidade Europeia – Laureate International Universities.

Why is this project a Case Study for PPPs: Because Entrepreneurship education benefits students from all socioeconomic backgrounds. It teaches kids to think outside the box and nurtures unconventional talents and skills. Furthermore, it creates opportunities, ensures social justice, instills confidence and stimulates the economy.

DNA Cascais has one of the largest school entrepreneurship programs of Portugal and we believe that our strategy could be an example of good practices for other players.





Context:

In this slide please describe:

- 1) The context that lead you to wish to improve quality of life for those communities.** Support the Development of New Attitudes (DNA) and entrepreneurship in Cascais. In economic terms, the aim is to support the creation of new companies and to transmit innovative ideas to the market. In social terms, the function is to support the creation of jobs and the development of social and inclusive entrepreneurship, as well as an enterprising spirit in schools of Cascais. DNA Cascais programmes are developed to answer social and economic issues like unemployment, poverty, social exclusion, education, creation of sustainable and innovative companies.
- 2) What made you think about a PPP solution.** The knowledge and experience acquired by DNA Cascais during its nine years of existence and the results achieved by their school entrepreneurship programme can be replicated and developed in other contexts and sectors , with the support of partners that can further enhance our goals.



Strategy:

In this slide please describe the main phases of the project:

- 1) How was the concept designed, which parties approved the project start up.** The Entrepreneurial Schools Program was born from a Municipality of Cascais decision, which identified the need to promote entrepreneurship among the county's young people as a way to develop personal and professional students skills. At this point, this was a non-existent issue in the Schools programmatic contents. DNA Cascais, County entrepreneurship agency, was responsible for implementing this project in Cascais.
- 2) What were the main topics studied on the feasibility phase and what made you decide for PPP solution.** The project's dimension and specificity requires a specialized team capable of responding to the different challenges and different educational levels. DNA Cascais had the profile to lead the project and joined strategic partners able to add some valences, which enrich the project and make it distinctive.
- 3) "Closure" involves all contracts needed to start the development phase, mention the most important contracts signed / to be signed, namely the financial closure and steps to first disbursement.** This project is essentially based on the experience, training and know-how of DNA Cascais team, supported by the financial support of some partners, responsible for awarding prizes in the final competition/contest, such as Microsoft and Laureate International Universities, who see this project as an asset to reach this target audience, enhancing their brands.
- 4) Exploitation is about providing a public service and improving the quality of life; describe how do you manage operation & maintenance, revenue stream and guaranty quality of public service.** Today's youth are the future of tomorrow and that's with this vision that we work this audience. In its nine years of existence, DNA Cascais supported more than 265 companies in the Municipality of Cascais, which results on 1420 new jobs . On this perspective, we believe that, today sensitize young people to entrepreneurship, will be an asset for future business ecosystem.



Project KPI's:

In this slide please describe the main figures of the project:

- 1) Where is located, the area covered by the project, how was the access to the “land”, and what were the main permits obtained / needed to develop the project.** DNA Cascais Entrepreneurial Schools programme aims to achieve all the schools from Municipality of Cascais. On 2016, we are already working with more than 8000 students from Cascais.
- 2) Describe the main milestones of the project namely: pre development, development and exploitation.** DNA Cascais has as one of its key working axes youth and school entrepreneurship, working with students and schools in the county's entrepreneurs projects aimed at developing new attitudes among young citizens, from first cycle to 12th grade. Schools need not teach these skills on their own. They can reach out to organizations that help professors in teaching entrepreneurship, or take advantage of initiatives that pair kids of all ages so they can engage in hands-on projects.
- 3) How did you communicate the project with the community to obtain their support.** In the last nine years DNA Cascais strengthened its network of contacts with schools and county teachers. This communication is held annually in direct contact with agents involved in the process, particularly professors. The training given to professors is considered into education credits, that allows them meet the annual goals of mandatory training . DNA Cascais Young Entrepreneurs Contest is the final event that gathers the best ideas and is also the motivating factor for students embrace this challenge to learn more about entrepreneurship. To attract extra school community and thus increase the number of people involved in the project , it was decided to include students family and friends in the voting system . Outdoors campaigns.



Impact on People and Planet:

In this slide please describe the impact of the project:

The undesirable results that are emerging in the twenty-first century require other postures from institutions, whether in the public sphere, private sector or third sector, because the current responses are insufficient or nonexistent. According to this, entrepreneurial schools programme, developed by DNA Cascais, was sponsored through private companies, like Microsoft.

This programme was considered good practices by the European Commission in 2011 and Portuguese Winner – European Enterprise Awards 2011; Entrepreneurs Schools Program (European Commission and IAPMEI).

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Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY		●		
2. END HUNGER	●			
3. WELL BEING – HEALTHY LIVES		●		
4. QUALITY EDUCATION			●	
5. GENDER EQUALITY		●		
6. WATER AND SANITATION FOR ALL	●			
7. AFFORDABLE AND SUSTAINABLE ENERGY	●			
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL			●	
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION		●		
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES		●		
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE	●			
12. RESPONSIBLE CONSUMPTION BY ALL		●		
13. COMBAT CLIMATE CHANGE	●			
14. PROTECT THE OCEAN		●		
15. TAKE CARE OF THE EARTH		●		
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL			●	
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS			●	



Scalability and Replicability of the (Case Study) project:

In this slide please describe how to scale and replicate the project:

- 1) Can we scale up and replicate the project within the country?** Yes. This is a project that can be replicated by other players, such as municipalities, local companies, schools and local community.
- 2) Can we scale up and replicate the project globally?** Yes. As we describe, the idea can be replicated for another countries and in this case we could organize an international contest with the best projects from all the countries involved.
- 3) Can we extrapolate the experience to other sectors?** Yes. We can replicate for another sectors like culture and creative industries, for example.
- 4) Describe the main key success factors for scaling up and replicating?** Have good partners, straight relations with community, such as local schools, professors, families and local associations.
- 5) Describe what should be avoided in future projects?** Work on other sectors, join new partners from cultural and creative industries. Aware of new trends in youth development and school entrepreneurship.



Project:	E18 Program, Finland
Project Proponent:	Pekka Leviakangas

- Public Organization:** Finnish Transport Agency
- Private Organization:** Several project companies, e.g. Tieyhtio Vaalimaa Oy
- Capital Providers:** Private equity investors, European Investment Bank



Why is this project a Case Study for PPPs: **an example of series of PPP projects fulfilling a strategic program**

Why is this project a Case Study for PPPs based on SDGs: **the E18 program demonstrates long-term planning of transport system, where PPPs can play a socially and financially sustainable role**

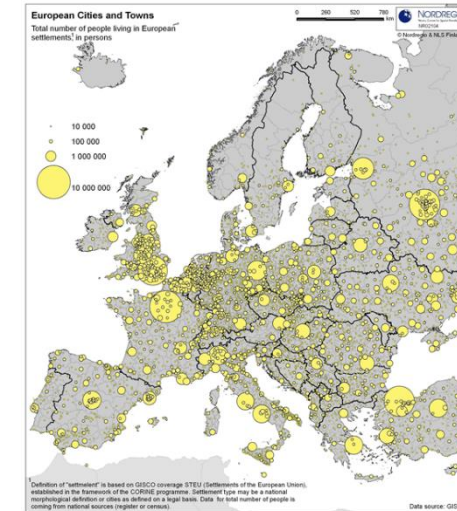
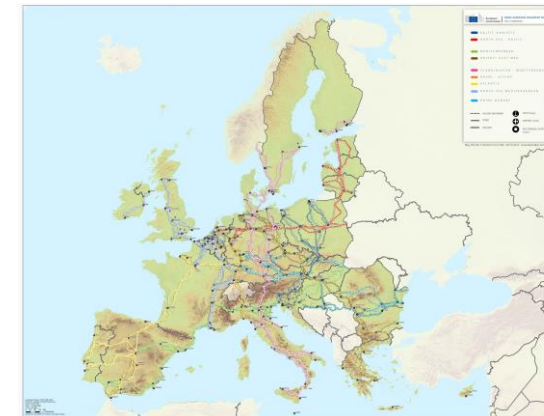
- Context → To connect the capitals of Helsinki and Russia by high-capacity transport links
- Strategy → Speeding the implementation by utilizing PPPs
- Project KPI's → New, high-quality links without compromising routine project appraisal
- Impact → Long-term impacts on the economy, traffic safety, international connectivity
- Scale up & replicate → Scalable when institutional capacities and political stability is present
- Management Team → Finnish Ministry of Transport and Communications, Finnish Transport Agency





Context:

- The opening of Russia after fall of Soviet Union created new economic and political context
- It was realized that new opportunities for trade and cultural exchange existed
- A vision was built where Helsinki and St. Petersburg (>5 mill.) were more closely connected with fast, high capacity transport links, creating prospects for new growth and innovation
- It was realized that existing Finnish Government investment budgets were inadequate to serve the vision
- A capital investment program was adopted with strong political support to realize a series of infrastructure projects via PPP
- At the same time, Finland joined the European Union that had long-term vision for Trans-European Networks





Strategy:

- 1) A strong political and societal consensus was built, and a strategic development program to operationalize the shared vision was initiated. Also the logic favored the vision: after Soviet Union's collapse the Finnish-Russian trade was plunging and new concrete initiatives were needed.
- 2) The program was designed to include a series of projects, the first of which were necessary anyway and would be a 'no regret' strategy for Finland. Projects nearest to Helsinki were carried out first and answered not only to the strategic program but to the needs of population concentration to the Helsinki capital region.
- 3) All projects, even when developed as PPPs, were subject to routine feasibility analysis, design processes and social and environmental impact assessments. This way, the public interests were not compromised at any stage. The first project contracts were signed in 2005 and the most recent project contract has been just signed.
- 4) All projects so far have been considered moderate successes. Minor technical difficulties, that are not associated with the procurement model, have been faced e.g. regarding tunnel systems. No serious budget, time or quality issues have been experienced. However, projects are still in the or construction operating phase.
- 5) All projects are based on availability and quality of service payments. The very first PPP project was based on shadow tolls (this project not being part of the program), but this payment mechanism was considered non-sustainable. Also institutional financiers such as the EIB provide good control mechanisms for projects.



Project KPI's:

1) Projects:

- Project 1: E18 Muurla-Lohja, signed 2005, opened for traffic 2009, 700 MEUR – CAPEX 300 MEUR, OPEX 400 MEUR;
- Project 2: E18 Koskenkylä-Kotka, signed 2011, opened for traffic 2014, 623 MEUR – CAPEX 285, OPEX 338 MEUR;
<http://www.liikennevirasto.fi/e18koskenkyla-kotka#.VtPmm01f1RA>
- Project 3: E18 Hamina-Vaalimaa, signed 2015, under construction, 378 MEUR – CAPEX 265 MEUR, OPEX 113 MEUR;
<http://www.liikennevirasto.fi/e18vaalimaa#.VtPnFE1f1RA>

2) The financing is typical for basic project company arrangements, equity inputs from companies and institutional investors, debt input from major investment and commercial banks

3) For most projects there was multi-step development stages: network planning, project feasibility studies, programming, initial calls for expression of interest, pre-selection and call for tenders, possibly another round of tenders, negotiations, signing, commencement of construction, monitoring of construction, delivery and acceptance, opening for traffic. All these stages included standard public consultations and hearings.





Impact on People and Planet:

- 1) The projects will relieve congestion from the old roads and reduce travel times significantly
- 2) Especially southern coast areas are linked to the capital region, hence improving the level of service and expanding the commuting radius from Helsinki.
- 3) All projects have undergone a standard environmental impact assessment and these externalities have been internalized into the cost-benefit analyses. Even if carbon releases are reduced in the short run, new roads also generate more road transport and result in a considerable carbon footprint during their construction, so the net effect may not be positive.
- 4) For people's everyday life, the new roads provide better safety and generate better possibilities to access new labor markets, since the best supply of jobs is in Helsinki area. For international transports between Finland and Russia the new links provide great improvements. Especially the border-crossing arrangements are improved in conjunction with the road projects.

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Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY				
2. END HUNGER				
3. WELL BEING – HEALTHY LIVES				
4. QUALITY EDUCATION				
5. GENDER EQUALITY				
6. WATER AND SANITATION FOR ALL				
7. AFFORDABLE AND SUSTAINABLE ENERGY				
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL		●		The project improves connectivity and functioning of labor markets
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION		●		The project improves the quality and resilience of of the infrastructures
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES				
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE		●		The project improves traffic safety
12. RESPONSIBLE CONSUMPTION BY ALL				
13. COMBAT CLIMATE CHANGE				
14. PROTECT THE OCEAN				
15. TAKE CARE OF THE EARTH				
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL				
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS		●		The project enhances international trade and cultural exchange



Scalability and Replicability of the (Case Study) project:

- 1) Can we scale up and replicate within the country? **Yes, for example when strategic investment programs are devised and agreed upon. These programs could well be international, involving more than one countries.**
- 2) Can we scale up and replicate the project globally? **Yes, same as above. However, it takes a long time to define and commit to long-term investment programs. International institutions can play a key role.**
- 3) Can we extrapolate the experience to other sectors? **Possibly, it would be worth experimenting.**
- 4) Describe the main key success factors for scaling up and replicating? **The main issue is strategic thinking and long-term commitment. This in turn requires some institutional maturity and stability. To avoid political turnarounds programs should be internationally driven with right kind of incentives.**
- 5) Describe what should be avoided in future projects? **Strong one-sided agendas and lack of transparency.**

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For Sustainable Development

Project:	DND Flyway, India
Project Proponent:	Sreejith Narayanan

Public Organization: Delhi Administration & New Okhla Industrial Development Authority

Private Organization: Infrastructure Leasing & Financial Services (IL&FS) : SPV - The Noida Toll Bridge Company Ltd

Capital Providers: Loan from FIs/Banks, IL&FS, Deep Discount Bond Issue

Why is this project a Case Study for PPPs: In order to provide better transportation services to the people of Delhi and Noida, IL&FS, NOIDA & DA reached in principle agreement for implementation the bridge across Yamuna River on Build, Own, Operate and Transfer (BOOT) basis, i.e. joint venture between Government and IL&FS

Why is this project a Case Study for PPPs based on SDGs: This projects has build in a resilient road infrastructure and promoted inclusive and sustainable industrialization in the city of Noida and this road infrastructure has largely contributed in promoting various aspects of Sustainable Development Goals. This project also complies with Equator Principles to guarantee the environmental and social sustainability of the project.





Context:

- 1) Describe the communities and the environment before the project started :** The creation of Greater Noida is an outcome of the intensive pressure of the National Capital of Delhi on its periphery. The New Okhla Industrial Development Authority (NOIDA) in the neighboring state of Uttar Pradesh established a new integrated industrial township called 'NOIDA' in close proximity to Delhi. For a new town, regional level linkages are vital. The concept therefore envisages adequate regional linkages to the area and the road connectivity from Delhi and Noida access via DND flyway was initiated.
- 2) The context that lead you to wish to improve quality of life for those communities :** The rapid increase in the disposable income in the nineties resulted in addition of large number of automobiles, especially the two wheelers and four wheelers. As a result traffic density on Delhi Roads increased substantially. The transportation link between Delhi and Noida were inadequate. Today, the state of the art DND Fly helped Noida to become the satellite town.
- 3) How did you relate “quality of life improvement” with “infra gap” :** NOIDA has now emerged as a planned, integrated, modern Industrial City, well connect to Delhi through the ultra - modern DND flyover, offering inter - road linkages to all parts of the country.
- 4) A short description of the infra solution imagined :** DND Flyway, the bridge is 552.5 meters long and includes the approach road on the Delhi and Noida and eight lanes with a capacity of 222,000 vehicles per day.
- 5) What made you think about a PPP solution :** With government funds being limited, IL&FS was invited by the Ministry of Urban Development for discussion. The outcome of the meeting paved the way for DND flyway in the PPP format for arraigning the finance as well as managing the project.



Strategy:

- 1) How was the concept designed, which parties approved the project start up :** In order to provide better transportation networks to the people of Delhi and Noida, the concept of DND Flyway was designed, a steering committee consisting of representatives of Government of Uttar Pradesh, the Delhi Government, the Ministry of Urban Affairs and Employment, the Government of India, the Delhi Development Authority and NOIDA was involved in approving the project
- 2) What were the main topics studied on the feasibility phase and what made you decide for PPP solution:** Being one among the first PPP's project in the country, the main topics studied during the feasibility phase are Implementation Structure, Financing, Traffic Forecast and Viability, Concession Agreement, Operation & Maintenance and Development Rights. The traffic forecast done by the International Consultants validated that this project can be viable on toll revenues and the PPP solution was applied to the project
- 3) "Closure" involves all contracts needed to start the development phase, mention the most important contracts signed / to be signed, namely the financial closure and steps to first disbursement :** Concession Agreement was signed in 1997, Project financing was arranged on a project recourse basis with minimal credit enhancement. The debt was structured on a long term basis to meet project cash – flow profile, World Bank participated in the project through IL&FS
- 4) Development concerns the phase of transforming or creating a new asset; describe how you managed to combine: respect for quality, delay and budget:** IL&FS as an Institution became successful in India by developing this path breaking project which clearly validated that private capital could indeed be attracted to provide public infrastructure services in India, which clearly provided Respect for Quality for this institution. The project was completed within Budget and Ahead of Schedule which also enhances the Respect For Quality.
- 5) Exploitation is about providing a public service and improving the quality of life; describe how do you manage operation & maintenance, revenue stream and guaranty quality of public service :** The project faced significant shortfalls in projected traffic and revenues, the company was successful in raising investments from capital markets, issues of GDRs, first toll bridge listed, being the first BOOT project paved the way to understand the risks shared between Govt. and Private sector and guaranting the quality of public service.



Project KPI's:

1) Where is located, the area covered by the project, how was the access to the “land”, and what were the main permits obtained / needed to develop the project : The project is located at the National Capital Region in India, the river Yamuna that runs North- South forms a natural barrier that restrains extension. The Technical Committee – Proposed location of the bridge connecting Ring Road with NOIDA recommended for processing and incorporation of the location in MPD 2001 and River Bed Scheme. Environmental Approval was obtained from the Ministry of Environment and Forest.

2) Describe the main lines of the budget: Capex, Opex and Revenue Stream : The project was structured as US \$ 100 million (INR Rs 4,082 million) 30 year BOOT concession, financed through equity of US \$ 30 million and debt of US \$ 70 million. There was no budgetary support from the government. The revenue stream was mainly from toll collection and advertisement. The average revenue realization was lower than projected mainly due to lack of commercial vehicles coupled with promotional discount provided for the users, as this being the first PPP bridge project in the country.

3) Describe the finance structure: equity, mezzanine, debt and guarantees used : _____

4) Describe the main milestones of the project namely: pre development, development and exploitation : _____

5) How did you communicate the project with the community to obtain their support : Citizens Committee was constituted to address social and environment concerns of citizens during construction activity

Key Milestones	Date
Delhi Noida Toll Bridge SPV Formed	8 April
Signing of Concession Agreement	2 Nov 97
Support Agreement Lease / Sub Lease Agreements	14 Jan 98
EPC Contract Awarded	23 Oct 98
Land Acquisition Completed by Govt.	Jan-98
Financial Close	May-98
Commencement of Construction	Dec-98
Commercial Operation begin	30 Dec -98
New Link (11 Lanes) commissioned	7 Feb- 2001
	Jan-08

	Amount (INR Million)
Equity	
IL&FS	360
NOIDA	100
Fully Convertible Debenture Issue Foreign Investors - (AIG, Prudential)	208
Intertoll (O&M Operator)	400
Indian FI	106
Total Equity	1224
Debt	
Deep Discount Bond Issue	500
IL&FS (World Bank L/C)	600
Loan from Banks/ FI's	1758
Total Debt	2858



Impact on People and Planet:

- 1) **Does the community perceive the quality of life improved?** Yes, The New Okhla Industrial Development Area, which is analogous to the Planning Area/ Notified Area of Noida city falls entirely within the district of Gautam Buddha Nagar. It covers 81 revenue villages and a total of about 20,316 hectares of land. The DND Flyway supported the planned integrated industrial township of Noida wherein the major industrial sectors were developed in three phases; namely, Industrial Area Phase I, Industrial Area Phase II, and Industrial Area Phase III. The residential, commercial, recreational, institutional and other urban use areas have also been developed in large parts of the township in the form of sectors. The remaining area of the township is in the process of being developed. These are clear indications that quality of life has improved. Apart from that this project has shortened the commute time from ½ an hour to 10 minutes and also contributes to fuel savings.
- 2) **How do you measure it today ? Is it about arriving faster to destination? Having utilities available on a 24 hours basis? Spending less on utilities? Having better facilities and services on education, health, justice, security? Did it have an impact on other public services not directly linked to the project developed?** Yes, its about arriving faster to destination, plus providing a network which supplemented in promoting education, health justice and security. Delhi Metro Rail Corporation has already started metro Rail service from Delhi to City Centre, Noida via Mayur Vihar.
- 3) **How do you measure the eco foot print of the project?** Attempts have been made on the assessment of carbon footprint during the road construction and improvement activities. However, no concrete methodology could be evolved
- 4) **Please describe impact, using the 5 Ps (people, planet, prosperity, partnership and peace) :** The people residing in the city have experienced a drastic change, hence a Citizen's committee is formed to determine the plan of action for People, Planet and Prosperity
- 5) **Please use the attached board to describe the impact considering the 17 SDGs**

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People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY		●		Direct & Indirect Benefits: created thousands of man days of work for unskilled labor
2. END HUNGER		●		Created means for families to fight hunger
3. WELL BEING – HEALTHY LIVES		●		Improved well being to thousands of families
4. QUALITY EDUCATION		●		Access to new educational institutions
5. GENDER EQUALITY	●			
6. WATER AND SANITATION FOR ALL	●			
7. AFFORDABLE AND SUSTAINABLE ENERGY	●			
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL		●		Better infrastructure better economic growth, increased investment
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION		●		
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES	●			
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE			●	The whole purpose of the project, achieved!
12. RESPONSIBLE CONSUMPTION BY ALL		●		Able to bring about attitude changes
13. COMBAT CLIMATE CHANGE		●		
14. PROTECT THE OCEAN	●			
15. TAKE CARE OF THE EARTH			●	Increased greenery and changing footpath specification to allow water percolation
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL	●			
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS			●	



Escalating the (Case Study) project:

In this slide please describe how to escalate the experience:

- 1) Can we replicate the project within the country?** Yes, this path- breaking project paved a creating subsequent PPP policies in the country and India have become one amongst the largest PPP market in the world
- 2) Can we replicate the project globally?** Yes
- 3) Can we extrapolate the experience to other sectors?** Yes, the Success of PPP road projects in India have also helped other infrastructure sectors to experiment the PPP model by attracting private capital to providing public infrastructure services
- 4) Describe the main key success factors for escalation?** This project was successfully completed within the time frame and the budget.
- 5) Describe what should be avoided in future projects?** The PPP projects success depends on the Concession Agreement and the approach between the Public Sector and the Private Sector. Most of the PPP projects are based on long term concession periods i.e., 30 years etc. Based on our experience as a largest PPP road developer in India with 31 projects to tune of about 15,000 lane kilometers we have observed and felt the need that Concession Agreements should have a provision to renegotiate with the government during the turbulent time, especially when the economy moves toward hard landing. The Concession Agreement or the government should facilitate a dedicated regulatory mechanism to address the issues of Dispute Resolution.

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People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Thiruvananthapuram City Road Improvement, India
Project Proponent:	Sreejith Narayanan

Public Organization: Kerala Road Fund Board

Private Organization: Thiruvananthapuram Road Development Company Limited

Capital Providers: IL&FS Transportation Networks Limited

Why is this project a Case Study for PPPs: The first PPP project in the country for Urban Infrastructure Development and has been completed successfully with accolades from various National and International Organisations

Why is this project a Case Study for PPPs based on SDGs: This Project has demonstrated a very high degree of sustainable principles and assets resulting from pragmatic assessment of design and application on the ground





Context:

- 1) **Describe the communities and the environment before the project started** : Narrow roads, increasing traffic, hap hazard parking, lack of safety measures, very low level of maintenance leading to high level of public dissatisfaction.
- 2) **The context that lead you to wish to improve quality of life for those communities** : The State of Kerala had already built solid social infrastructure. Leveraging on this, there was an opportunity to elevate the public to demand better quality infrastructure, thereby also a demand for sustainable development for roads and other facilities. Increasing population & traffic density compounded the need.
- 3) **How did you relate “quality of life improvement” with “infra gap”** : Faster movement of vehicles using GPS enabled traffic Signals adequately met the threat of congestion in the roads resulting in over 13% year on year growth in vehicle population. Added to this, significantly improved pedestrian safety with segregated pedestrian friendly foot paths , arboriculture to provide necessary shade, improved greenery and professionally designed junctions were sufficient to convey to the public that planned, improved infrastructure provides a substantial elevation in quality of life.
- 4) **A short description of the infra solution imagined** : Wider and profile corrected (geometric and vertical)roads, continuous footpath for pedestrians without cutting for property entrances, signalised junctions, storm water drains, quality road furniture, bright standard signages, road markings and landscaping and arboriculture and sustained professional maintenance of all these providing a clean and bright environment for years to come.
- 5) **What made you think about a PPP solution** : Kerala being a deficit budget run state, EPC mode of construction will incur huge burden on the Government. On the other hand, better infrastructure attracts more investment which was the need of the hour for the Government. Sustained maintenance and upkeep was another concern for the Government which gets resolved through the PPP model



Strategy:

- 1) How was the concept designed, which parties approved the project start up :** The project concept was developed to include the best possible road and related infrastructure on par with internationally accepted norms. To make it easier for finding necessary funds, a PPP model was considered. Since the transition from existing facilities and existing mode of delivery would be drastic, the Government deliberated and decided to invoke the Indian Road Fund Act of the Government of India and constitute **Kerala Road Fund Board** through which the project would be delivered.
- 2) What were the main topics studied on the feasibility phase and what made you decide for PPP solution:** The prime task was to weed the trees from the forest: i.e. to decide which roads were to be included in the project. Origin and Destination studies were conducted for assessment of traffic volumes, land use was mapped and a balance was struck between need and possibility. In view of deferred payment facility and assured level of service in maintenance, PPP route was resorted to.
- 3) “Closure” involves all contracts needed to start the development phase, mention the most important contracts signed / to be signed, namely the financial closure and steps to first disbursement :** The MoU between the Concessioneing Authority and the Concessionaire was as per draft memorandum approved by the Planning Commission of India and along the FIDIC lines. This gave necessary comfort levels to the Consortium of banks in the public sector for funding the project.
- 4) Development concerns the phase of transforming or creating a new asset; describe how you managed to combine: respect for quality, delay and budget:** The overall goal was improving the infrastructure and quality of life of people. The route used to achieve this was only next in importance to the goal itself. In times of distress or difficulty, the deciding factor has been achievement of the goal rather than the cost implications. This attitude has helped maintain quality paramount and subsequently address the issues of delays and budget concerns.
- 5) Exploitation is about providing a public service and improving the quality of life; describe how do you manage operation & maintenance, revenue stream and guaranty quality of public service :** Since TCRIP is an Annuity project , revenue stream is pre-determined and definite. However, this being an urban project, unpredictability of available work fronts and complexity compounded by presence of a huge number of utility service providers demand continuous inspection, stringent planning and meticulous delivery of service



Project KPI's:

- 1) **Where is located, the area covered by the project, how was the access to the "land", and what were the main permits obtained / needed to develop the project :** 42.08 kilometers of roads in Thiruvananthapuram city were implementing the project. Since land acquisition deferred from 30 cms to 9 metres, the process of Land Acquisition had to be fool proof and meticulous to avoid challenge in the court of law and subsequent delay or redesign of specific reaches. Since this is a Government project, no special permissions were required other than a stringent control by the Labor department of the Government of Kerala on the wages paid to local and migrant workers, health and insurance facilities and facilities and amenities meted out to the laborers
- 2) **Describe the main lines of the budget: Capex, Opex and Revenue Stream :** As the project was executed through an EPC contractor initially and by developing number of locally available contractors subsequently, the budget was kept on a need base basis keeping government in confidence. Under the operations phase too, it is ensured that there is no cost over run by utilising locally available resources.
- 3) **Describe the finance structure: equity, mezzanine, debt and guarantees used :** _____
- 4) **Describe the main milestones of the project namely: pre development, development and exploitation :**
The land acquisition was the most demanding task in the development of the project. As the platform from where the land acquisition would take off was the justification acceptable to the land commissioner and a justifiable compensation to the owner of the land being acquired. The process of land acquisition proceeded flawlessly . Thus land acquisition was the main milestone. The next milestone in the project was bringing utility service providers such as water supply, power, telecommunications to the discussion table and impressing on them the need to plan and prepare for any activity.
- 5) **How did you communicate the project with the community to obtain their support :** Direct one to one contact was initially established with schools and other educational institutions and residents associations in the project areas. The project benefits were communicated, which was then taken up by the media. In view of acceptance by the public as well as the media, the political fraternity also supported the project cutting across political lines which is one of the significant success of the project.

Key Milestones	Date
TRDCL SPV formed	2004
Signing of Concession Agreement	March 16, 2004
Supplementary Agreement Lease / Sub Lease Agreements	May 1, 2009
EPC Contract Awarded	
Land Acquisition Completed by Govt.	
Financial Close	
Commencement of Construction	
Commercial Operation begin commissioned	

	Amount (INR Million)
Equity	
ITNL	684.10
Debt	
Loan from Banks/ FI's	1833.75
Total Project Cost Rs 2,367 million	



Impact on People and Planet:

- 1) Does the community perceive the quality of life improved?** Yes, the people residing in the city have experienced a drastic change from the older infrastructure and have started raising requests for similar quality of infrastructure in other areas too. Also, they have shifted their morning walk to these roads and are also using the new roads, as much as possible, for travel
- 2) How do you measure it today ? Is it about arriving faster to destination? Having utilities available on a 24 hours basis? Spending less on utilities? Having better facilities and services on education, health, justice, security? Did it have an impact on other public services not directly linked to the project developed?** Utilisation of footpath for almost carefree morning walks, improved sense of road discipline such as stopping for signals, a distinguishable improvement in lane discipline. Absence of traffic congestion in spite of phenomenal increase in the number of vehicles on the road, very few road cuttings for utility laying, reduction in accidents and an attitudinal change in cutting trees for road development where arboriculture and landscaping are included are significant manifestations of the change on account of TCRIP.
- 3) How do you measure the eco foot print of the project?** We had to cut 374 trees as per the Project Report and was supposed to plant 1234 trees and nurture it to full growth. However we have planted close to 2200 trees and 600 more are under process. Added to this, we have landscaped every extra bit of land which was available after utilising for the road and footpath which comes around 3 Acres and have created lush green traffic islands totaling to an area around 1.6 Acres. We have also planted local fruit bearing bushes bringing back many birds that have not been seen in the city for a long time. By altering the composition of footpath from tile-on –mortar to polymer coated interlocking blocks, the project has ensured harvesting of copious monsoon rains and ensuring recharging of the ground water. By utilising solar powered signaling systems TCRIP has saved on at least 15KW power consumption per month.
- 4) Please describe impact, using the 5 Ps (people, planet, prosperity, partnership and peace) :** Road Infrastructure based on 5 Ps for the users of the urban road for the first time in India

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People First PPPs for the United Nations Sustainable Development Goals



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For Sustainable Development

Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY		●		Direct & Indirect Benefits: created thousands of man days of work for unskilled labor
2. END HUNGER		●		Created means for families to fight hunger
3. WELL BEING – HEALTHY LIVES		●		Improved well being to thousands of families
4. QUALITY EDUCATION		●		Access to new educational institutions
5. GENDER EQUALITY	●			
6. WATER AND SANITATION FOR ALL	●			
7. AFFORDABLE AND SUSTAINABLE ENERGY	●			
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL		●		Better infrastructure better economic growth, increased investment
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION		●		
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES	●			
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE			●	The whole purpose of the project, achieved!
12. RESPONSIBLE CONSUMPTION BY ALL		●		Able to bring about attitude changes
13. COMBAT CLIMATE CHANGE		●		
14. PROTECT THE OCEAN	●			
15. TAKE CARE OF THE EARTH			●	Increased greenery and changing footpath specification to allow water percolation
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL	●			
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS			●	



Escalating the (Case Study) project:

- 1) **Can we replicate the project within the country?** Yes, the Ministry of Urban Affairs has already given instruction to replicate the project in other major cities in the Country. The Government of Kerala has already started work in other cities adopting the same model and approach to execution. This project was an eye opener for the government that using private capital Urban road networks can be developed when organizations like ITNL prevail!
- 2) **Can we replicate the project globally?** Yes, this is a replicable project for developing countries as the financial burden and the responsibilities are partly shared by the Private firm and the Government and people become the major beneficiaries. Also in places where there is a high level of public activism.
- 3) **Can we extrapolate the experience to other sectors?** Yes, Extrapolation to other sectors have already been taken up in the state for construction of different infrastructures from fish markets to multi crore projects like International football stadium, Bus stations and other major structures. The fundamental objective being public good, the route taken to achieve the goals can be replicated to other sectors.
- 4) **Describe the main key success factors for escalation?** Transparency, commitment(includes financial support), sincerity, pragmatism and patience
- 5) **Describe what should be avoided in future projects?** Responsibilities of the Government to see the project through should be better defined for the benefit of both the Government as well as the Concessionaire. This will avoid un necessary delays due to lack of cooperation between various Government departments.

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People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

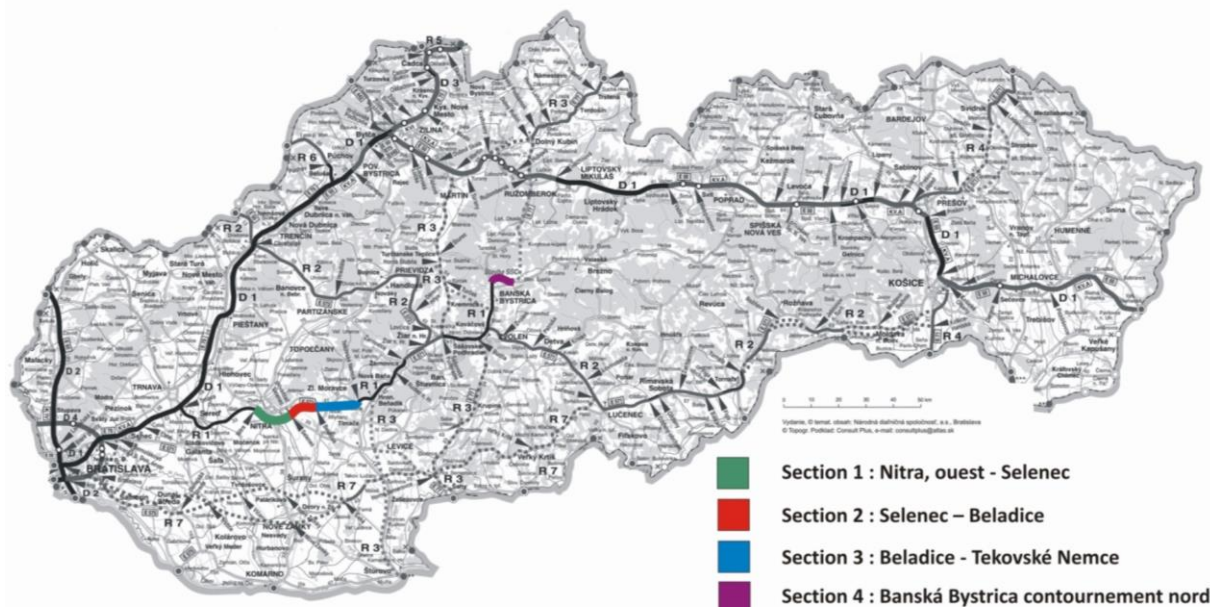
Project: R1 Expressway, Slovakia

Project Proponent: Julie de Brux, Partner at CITIZING Consultancy



A successful Partnership between the Slovak Government and a private consortium (VINCI Concessions & Meridiam) for a 51 km expressway

9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



Key messages – Why is R1 a best practice?

- easily replicable
- simple but demanding project for both parties
- in operation for nearly 5 years
- contribution to 10 SDGs



1990 – 2005 context: a transition country

FROM

Communist period and Czechoslovakia as a one country

Planned economy



TO

Slovak Republic and its integration policy to EU (2004) and international institutions



Market-driven economy

Macroeconomic indicators of success of the structural policies run during transition

- Unemployment decreased
- Inflation rate decreased
- Foreign investment increased
- Not an aid receiver from the World Bank anymore

But there were some intermediary stages

Slovakia's economic catch-up called for some efforts towards **trade, exchanges and mobility**.

Having some **new expressway sections** was seen as **“a way” to meet this need**.

Drivers for PPP option:

- Get the expressway **rapidly**, with **high technical and safety requirements**
- Get, *in fine*, a **less expensive project** (proven by public sector's value for money analysis)
- **Increase capabilities in the public sector** (demanding tender, know-how transfer, result orientation)



1 strategic objective



People first => improve mobility exchanges, mobility, safety, reliability

1 problem



Users + Public Partner + Private partner = **3 initially diverging objectives**

1 path to solve the problem



Make a priori diverging objectives **converge to design a lively win-win-win project**

The steps in the path to solve the problem

- Make sure the project meets **socio-economic needs** -> Political change but no project change
- Find some **funding sources for the project ...** -> Funding sources = private equity + bank consortium + EBRD
- **... and some refunding sources for return on investment** without excluding users -> Separation of infrastructure from tolling. Toll operator for trucks and an annual stamp for cars already existed. So refunding = availability charge
- **Securing the private partner** -> Adaptation of the legal framework + signature at worse moment of financial crisis = confidence of all stakeholders
- **Incentivizing the private partner to the benefit of users** -> Strong performance indicators. 1 penalty point = 5000 EUR deducted from the availability payment



Some key figures

About the project

- First PPP project (availability type) in Slovakia
- Financial close achieved at the highest point of the financial crisis (2009)
- Construction costs : 900 million EUR
- Works started on site 5 months after FC. Open to traffic 2 years later
- O&M during 30 years.
- First central Europe infrastructure with a refinancing through bonds: benefits shared between the Government and the private partner

About construction

- More than 2,000 drawings prepared
- More than **450 utilities relocations**
- Earth works in a volume of more than **5 million M3**
- **1,100,000 m2 of pavement**
- **78 bridges**
- **10 interchange crossings**





Hindsight / impacts

Answers form a survey

More than 500 people living in areas through which cadastral territory R1 passes, answered a survey.

- 83% said their **access** to work, school and free time activities improved
- 100% noticed a decrease in **fuel consumption** and time savings
- 52% assessed an increase in the **value of their land**
- 96% believe the PPP resulted in maintenance improvement (cleaning, snow plowing, mowing of verge) => increase in **road safety**
- 43% think **unemployment rate decreased** after the opening of R1 expressway

Other figures

- Around 20 000 vehicles per day.
- 25% of heavy traffic, among which 50% are not Slovak = improvement of regional exchanges
- Local companies involved in the construction: 30% of works
- The O&M team in charge of R1, 5 years after commissioning: 61 people = 60 Slovak people + 1 expatriate

What does that mean?

People have seen their living conditions improve

Planet was taken into account through environmental criteria

Prosperity: R1 has resulted in shared growth

Partnership: public sector capacity building & know-how transfer both to local companies and to the international one

Peace: Expressway as a freedom, free trade and safety vector. PPP as a tool promoting transparency

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Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY				
2. END HUNGER				
3. WELL BEING – HEALTHY LIVES			●	Safety improvement, time savings, access to services
4. QUALITY EDUCATION			●	Capacity building, know how transfer
5. GENDER EQUALITY				
6. WATER AND SANITATION FOR ALL				
7. AFFORDABLE AND SUSTAINABLE ENERGY				
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL			●	Job access (indirect), creation of qualified jobs (direct)
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION			●	At the heart of the project
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES		●		Improvement of regional exchanges and of local accesses to services
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE			●	No discrimination for access, resilient to climate change, safe infrastructure
12. RESPONSIBLE CONSUMPTION BY ALL				
13. COMBAT CLIMATE CHANGE		●		Led to decrease of fuel consumption (less distance, less traffic jams)
14. PROTECT THE OCEAN				
15. TAKE CARE OF THE EARTH		●		Natural species protected
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL			●	Commitment and transparency in public spaces
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS			●	Fair risk allocation. Fair balance between incentives and control



R1 as a source of inspiration for other projects in the region

- D4R7 (Bratislava bypass): preferred bidder has just been selected
- The Ministry of Transport has announced other forthcoming PPP in Slovakia
- In Czech Republic also: R4 PPP project (South of Prague) is about to be launched

Key success factors for scalability and replicability

- Success first comes from the **intrinsic interest of the project (socio-economic need)**, regardless of the delivery option
- PPPs in **road sector**: a good type of project to start with because **demonstrated success** (don't start with too unique/complex/unproven success projects)
- Project with a sufficient size: **efficiency gains** (compared to traditional procurement) > **transaction costs** associated with PPPs (learning costs, tendering costs, financial costs, etc.)
- Successful PPP project = demanding for the public sector: elaborate and monitor during the whole lifespan of contract some **credible and binding performance criteria** for the private partner
- Successful PPP project = **exchange of skills among private companies**: local companies provide context knowledge and international companies provide PPP engineering skills. Win-win situation

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People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	PPP Project of Hohhot Metro Line 1, Inner Mongolia of China
Project Proponent:	Xu Chengbin, CIECC Research Center

Public Organization: Hohhot Airport & Railway Construction PMO

Private Organization: China Railway Group Ltd.

Capital Providers: Hohhot Traffic Investment Co., Ltd. & China Railway Group Ltd.

Consulting firm: China International Engineering Consulting Corp.(CIECC)



Why is this project a case study for PPPs?

- An urban rail transit project with huge investment in the biggest PPP market of the planet;
- Supported by both NDRC and MOF, two most powerful central government sectors in China;
- No. 1 PPP project in Inner Mongolia and a heavy subsidy from the local government;
- The “Private” sector is the state-owned enterprise, a typical social investor for infrastructure;
- Located in an ethnic region with 3 million population and a quite harsh natural environment.





PPPs based on SDGs ?

Context

- from “harsh winter and spring” and “traffic congestion” to “sustainable urban development”.

Strategy

- *Rail Transport Network Program in Hohhot* and *Feasibility Study Report* were approved by government;
- special bond from central government as the capital of local government;
- *PPP Implementation Program* and selection of social investor through open tender.

Project KPI's

- 50% of the bid-winning price as capex, public-private equity share of 49% to 51%.

Impact

- providing a comfortable, safe and reliable, all-weather Rail transit; public participations;
- 1850 direct employees and strict training for special positions; health and security for labors and passengers;
- concern for vulnerable groups and people; reduction of pollutants.

Escalating

- listed as one of PPP demonstration projects by MOF in 2015;
- a general reference meaning for cold or wind-sand regions and many developing countries.

“We the people”

- the main public organizations and private organizations;
- the role of the SOE or the central enterprises; strategy of CIECC coincided with SDG.

The geographical position of Hohhot in China



Context (1/2)

- the capital of the Inner Mongolia Autonomous Region, China.
- a dry and windy spring and a long and cold winter.
- Trunk roads, secondary trunk roads and parking lots are insufficient.
- Space distribution of the resident trip shows a single center.
- Motor vehicles grow at a rate of about 20% a year.
- Water scarcity and shortage are always threatening to the communities.



Rush hour traffic jam in Hohhot



Context (2/2)



Route and stations of Hohhot Metro Line 1

Infrastructure solution

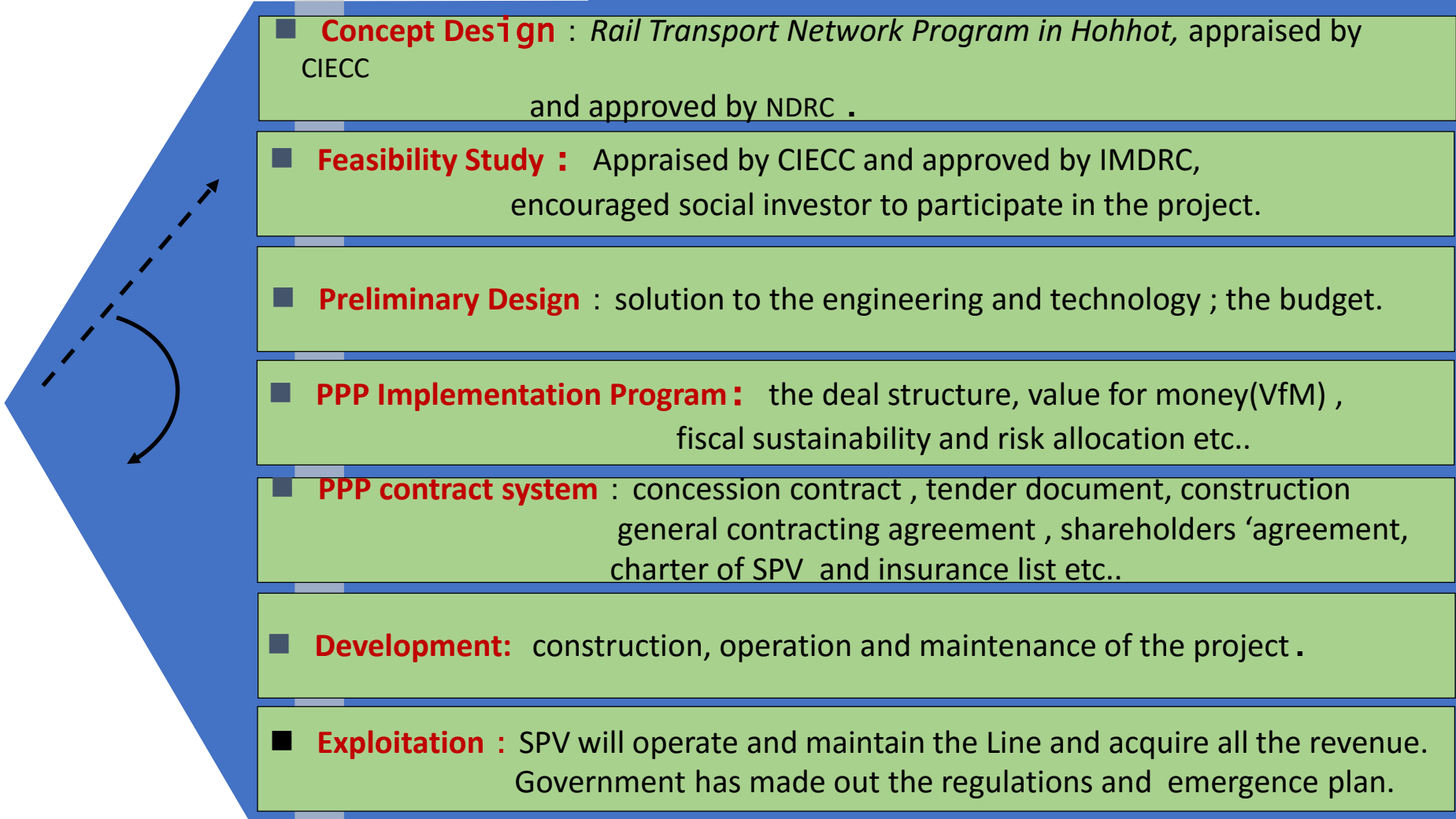
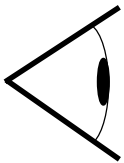
- Urban transport: moderate advance and priority development.
- Rail transit network leads to the restructuring of urban space.
- Sustainable urban traffic development.

PPP solution

- Fiscal reforms announced by MOF since Oct. 2014.
- Transportation PPP takes up the top position by the cost.
- Listed as one of the PPP demonstration projects by the MOF in 2015.



Strategy

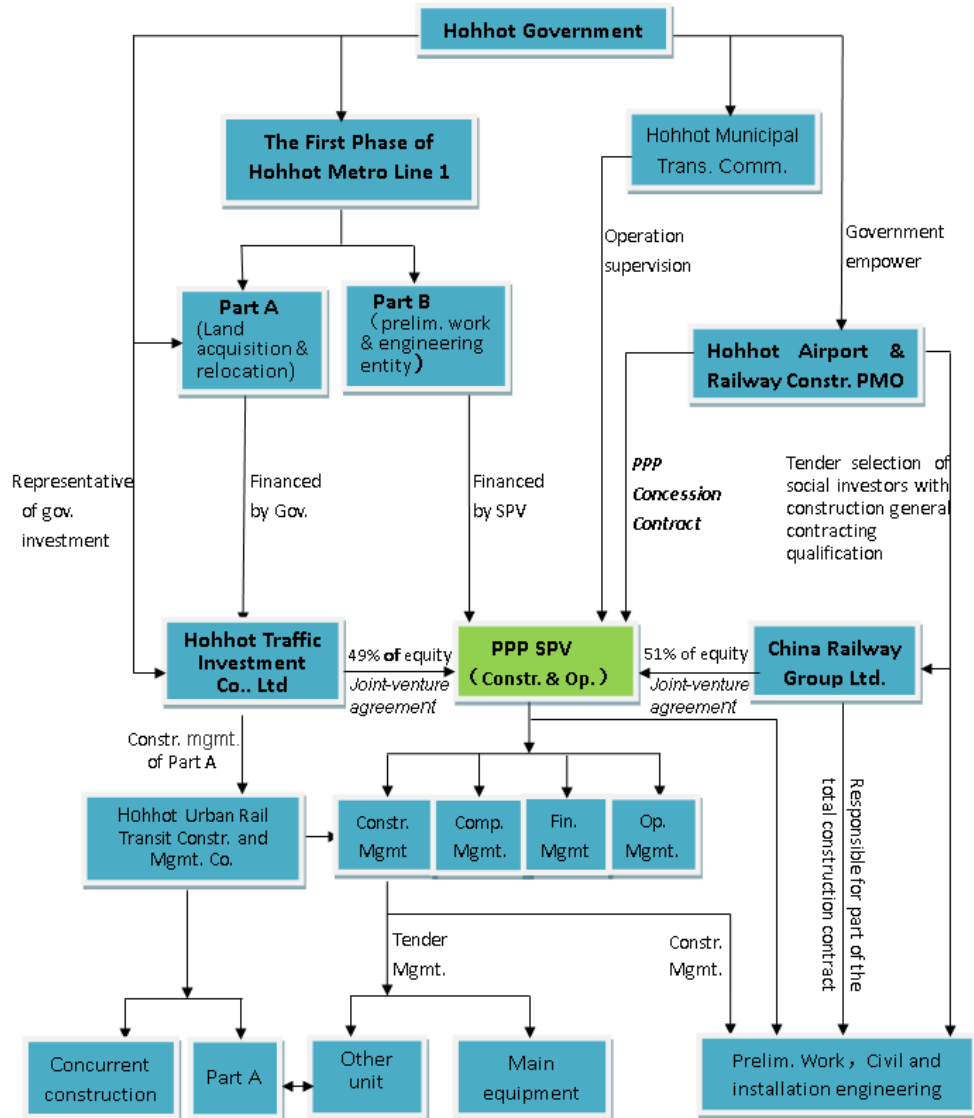


International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development



Project KPI's

- 21.97 km with 19 stations;
- **Part A** financed by government and **Part B** financed by PPP SPV.
- **bid-winning price:** 12% below than the budget.
- **capex :** 50% of the bid-winning price as ;
- **equity share:** 49% from government and 51% from social investor.
- **Guarantee:** RMB 100 million during constr.
RMB 50 million during operation.
- **Revenue Stream:** fares, business resources (ad., shops and com.) and subsidies from Hohhot Government.
- **Opex:** Staff salaries, energy consumption and maintenance etc.
- **Value for Money (VfM):** NPV of PSC Vs. PPP.
- **Concession period:** 30 yrs. incl. 5 yrs. constr. and 25 yrs. op.
- **Main milestones:** *kickoff; tunnel through; test run; trial operation.*



Impact on People & Planet

Quality of life improvement

- release of the urban traffic pressure;
- a comfortable, safe and reliable, all-weather rail transit.
- improvement of the travel quality for residents.

Measure of life Improvement

- rail transit ratio to public transportation reached 14.5%;
- proportion of road saturation decreased from 20.4% to 19.2%.
- vehicle speed increased from 20.5km/h to 21.7km/h in rush hours.

Communication, education and justice

- public participation in prelim. work;
- 1850 direct jobs and trained strictly for special positions;
- poor people, the disabled, the elderly and children.

Health, security and eco foot print

- health: the ventilation of tunnel, lighting and noise control ;
- security system, access control system, TV monitoring system etc.;
- the reduction of pollutants: 7200 tons per year.

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For Sustainable Development

Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY		●		The project promotes a moderately prosperous society
2. END HUNGER	●			
3. WELL BEING – HEALTHY LIVES			●	A comfortable, safe and reliable, all-weather traffic mode
4. QUALITY EDUCATION		●		All special workers must be trained strictly to acquire safety operations certificate
5. GENDER EQUALITY		●		More women can participate in the project
6. WATER AND SANITATION FOR ALL		●		Indirectly reduce threat to the city development of the valuable city water resources
7. AFFORDABLE AND SUSTAINABLE ENERGY		●		Clear and lower power consumption in PPP model
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL			●	The total budget is RMB 17.04 bi yuan and 1850 direct employees
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION		●		Metro will promote the process of urbanization and development of surrounding group
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES		●		Poor people, the disabled, the elderly and children enjoy half price ticket discount
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE			●	The project expands the urban development space
12. RESPONSIBLE CONSUMPTION BY ALL		●		Reducing traffic on the ground reduces fuel consumption, exhaust and noise pollution
13. COMBAT CLIMATE CHANGE			●	The reduction of pollutants amounts to 7200 tons a year
14. PROTECT THE OCEAN	●			
15. TAKE CARE OF THE EARTH		●		Green transportation can reduce carbon emission
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL			●	Average person-time 189600 per day at the initial stage
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS			●	PSC is RMB 19.8 billion yuan and PPP is 19.1 billion yuan



Escalating the project

Replicating the project

- a model of China's rail transit PPP project.
- a general reference meaning for other relatively cold or wind-sand regions.
- advisable for many developing countries 's infrastructure.
- the annual amount of the subsidy for the quasi-operational project.

key success factors

- Be financially attractive.
- Mutual trust relationship and reasonable risk allocation.
- Social investors can be entitled to their return preferentially.

Lessons from projects

- Priority of the selection criteria of social investor
- Tax policies need to be adjusted.
- Early withdrawal and compensation mechanism.

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People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
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Project:	Sarona Frontier Markets Fund 2,
Project Proponent:	Narina Mnatsakanian

Public Organization: Overseas Private Investment Corporation (OPIC – the development arm of the U.S. Government);

Global Affairs Canada (the current name of the Canadian Government development arm)

Private Organization: Sarona Asset Management

Capital Providers: **1) Public:** OPIC and The Canadian Government; **2) Private:** respected endowments, foundations, family offices and pension funds

Why is this project a Case Study for PPPs: Because SFMF2 has successfully delivered a blended finance solution with catalytic capital from two government agencies attracting \$85mm of private capital

Why is this project a Case Study for PPPs based on SDGs: Because 49 of Sarona’s investee companies in SFMF2 as at September 2015 have contributed materially to 16 out of the 17 SDGs, and 105 out of the 166 underlying targets

Context	→	US\$2.5 trillion annual investment gap between current investments related to SDGs and the identified needs ¹
Strategy	→	SFMF2 targets 12-18 fund managers, investing in 100-180 growth-stage small to mid-market companies in some 30 countries in Frontier and Emerging markets (F&EM) with a dual focus on profit and impact in order to create a virtuous circle where these two objectives positively reinforce one another
Project KPI’s	→	A combination of financial and impact metrics
Impact	→	SFMF2 is designed to target high risk-adjusted returns to investors and to enhance social and environmental outcomes by encouraging capital flow into progressive mid-market companies
Escalate	→	As part of its flagship programme, Sarona is now launching Sarona Frontier Markets Fund 3 (SFMF3) which follows in the footsteps of SFMF2. We wish to create systemic change by scaling our model over time
“We the people”	→	Sarona traces its roots to a non-profit economic development institution (MEDA) and its history is a testament to the fact that there doesn’t have to be a trade-off between generating superior financial returns and



¹UNCTAD 2014. World Investment Report 2014 - Investing in SDGs. Geneva



Context:

1) Describe the communities and the environment (before the project started – N/A) - SFMF2's current portfolio includes 49 SMEs in 14 Emerging markets across Africa, Asia, Latin America and Emerging Europe as at September 2015. The communities in these countries often share common urban, mobility, social and utilities challenges such as limited access to education and healthcare.

2) The context that lead you to wish to improve quality of life for those communities – There is a significant investment gap between investments related to SDGs and the identified needs. Worldwide access to finance is considered one of the major obstacles to improving performance. Small to mid-market companies suffer disproportionately from a lack of access to finance (compared to larger companies), but they also receive a stronger boost in growth if they acquire funding. Therefore, Saroná's mission is to promote private sector development in F&EMs by investing through local private equity funds in small to mid-market companies.

3) How did you relate “quality of life improvement” with “infra gap”

Through our SFMF2 investments, we believe we are able to improve the quality of life of the local communities in two ways:

- By investing in industries that we believe inherently serve the common good such as healthcare and education
- By investing, through private equity funds, in companies that target, and will achieve, job creation and improved ESG outcomes

This creates a virtuous circle where economic growth and impact positively reinforce one another.

Infrastructure is a complementary need that is being addressed by different players. Our companies and the communities where they operate, provide an important “demand base” to encourage developers

4) A short description of the infra solution imagined - Beyond the impact created by our SFMF2 fund programme, we recognize Saroná's role as a catalyst for change in Emerging and Frontier markets. We see this role as having two dimensions. Firstly, we see ourselves as a bridge between private capital and entrepreneurs in high-growth markets through our SFMF2 fund programme and, secondly, as a social actor able to indirectly exert positive change through our activities.

5) What made you think about a PPP solution – A PPP/blended finance solution enables the private and public sectors to share their skills and assets in order to efficiently eradicate poverty and social inequality. It offers the opportunity to scale up private financing for Emerging markets and to channel such financing towards investments with development impact. In this way, it can support progress towards the SDGs. In addition, PPP increases capital leverage, enhances impact and delivers potentially better risk-adjusted returns.



Strategy:

1) How was the concept designed, which parties approved the project start up - SFMF2 was designed by its management team to capture the opportunities in Frontier and Emerging markets by investing growth capital in private equity funds and small to mid-market companies. The goal of the fund programme is to target attractive financial returns and positive social and environmental outcomes. It achieves this by supporting local PE professionals who identify and help expand high-quality companies, employing progressive business strategies, and operating to the highest business, ethical, social and environmental standards. The progressive social and environmental focus helped Sarona secure development finance from both the US and Canadian government agencies. Consequently, the agencies have acknowledged gratefully and repeatedly the speed and effectiveness with which Sarona has deployed capital for development impact. Sarona has been showcased for its achievements in “blended finance” at the World Economic Forum in Davos, Switzerland, and the United Nations’s conference on “Financing for Development” in Addis Ababa, Ethiopia.

2) What were the main topics studied on the feasibility phase and what made you decide for PPP solution - The main topics that had been studied during the feasibility phase were: 1) Market feasibility; 2) Geographic exposure – subject to Sarona country score and other investment criteria; 3) Target sectors – where capital and operational value-add can make a significant positive difference to financial returns and the communities where the companies operate; 4) Diversification criteria. We decided for a PPP solution as it offers the opportunity to scale up private financing for growth stage mid market companies in Emerging and Frontier markets and to channel such financing towards investments with developmental impact. In this way, progress towards the SDGs can be supported while PPP increases capital leverage, enhances impact and delivers risk-adjusted returns.

3) “Closure” involves all contracts needed to start the development phase, mention the most important contracts signed, namely the financial closure and steps to first disbursement – Sarona Frontier Markets Fund 2 achieved its first close in June 2013 with a signed commitment of financing by OPIC and an equity capital injection by the Canadian Government. Final close was in December 2014 at \$150mm. Currently, in February 2016, we have committed and/or identified investments of over \$130mm across 16 underlying funds and one direct co-investment in Africa, Asia and Latin America. Capital has already been disbursed to 49 companies as at September 2015. We expect we will commit most of the remaining capital over the next 24-36 months. We are pleased with the progress the companies are achieving.

4) Development concerns the phase of transforming or creating a new asset; describe how you managed to combine: respect for quality, delay and budget - Sarona focuses its efforts on providing growth capital to existing mid-market, entrepreneurial companies. We do so by partnering with local private equity team who share our vision of combining profit with positive impact. Like all private equity firms, we expect companies to grow profitably and ultimately achieve exits that can deliver attractive returns to investors. What makes Sarona different, is our additional focus on the values that accompany the capital. We look for locally-based managers who can demonstrate that they’ve played an active strategic and operational role in previous investee companies and are able to be additive to new investees, in terms of both financial and ESG performance. The fund manager should also be able to demonstrate that at least 75% of invested capital is focused on:

- **High impact sectors**, such as agribusiness, consumer goods, education, financial services, health, light manufacturing, logistics and transportation, professional services, technology, water and other sectors primarily serving the needs of the growing lower to middle class
- **Superior ESG performance** of the companies being supported
- **High impact outcomes**, including job creation and increased access to goods and services

5) Exploitation is about providing a public service and improving the quality of life; describe how do you manage operation & maintenance, revenue stream and guaranty quality of public service – This is not applicable to Sarona



Project KPI's:

1) Where is located, the area covered by the project – Sarona's 'project', the deployment of capital to help entrepreneurial companies grow sustainably and responsibly, has obtained public finance support within its Sarona Frontier Markets Fund 2. SFMF2's portfolio currently includes 49 companies across 14 Emerging markets in Africa, Asia, Latin America and Emerging Europe as at September 2015. At the end of the investment period we expect the number of companies within SFMF2 to grow to 100–180. Sarona itself has offices in Canada, Netherlands and US.

2) Describe the main lines of the budget: Capex, Opex and Revenue Stream – Sarona's revenues consist of management fees and carry generated if its funds generate a performance above a pre-agreed hurdle. Sarona's expenses are primarily linked to investment activity, product formation and operational expenses.

3) Describe the finance structure – Sarona is owned by its partners (90%) and by the NGO from which it spun out (10%). Sarona Frontier Markets Fund 2 ('the project') includes \$85mm equity from Limited Partners, \$15mm from the Canadian Government (equity finance via our NGO affiliate), and \$50mm debt financing benefitting from OPIC's guarantee.

4) Describe the main milestones of the project namely: pre development, development and exploitation

Pre development: Preparation, launch and fund-raising for Sarona Frontier Markets Fund 2

Development phase: Investment period : Integrating financial and non financial considerations at each due diligence phase; Identifying and committing \$130mm to 16 funds and 1 co-investment

Exploitation: Support entrepreneurs of SMEs in F&EMs to develop their businesses and provide an opportunity for the local communities to improve their quality of life

5) How did you communicate the project with the community to obtain their support – Sarona works with local private equity teams and it is they who interact with local company owners and the communities in which they operate. It is important to Sarona and its partners that growth plans benefit multiple stakeholders and not just the shareholders. We believe that long term sustainable and responsible practices benefit all parties



Impact on People & Planet:

1) How do you measure “Impact on People & Planet”? - Sarona publishes annual [Values Report](#), consolidating information gathered on 33 IRIS metrics, measuring the impact of all its investments (not just SFMF2). Sarona combines two methodologies to gain a better understanding of the breadth and depth of our impact: 1) The Sarona annual impact questionnaire and 2) Case studies. The annual Values Report is integrated and complements other Sarona’s internal and external reports.

2) Does the community perceive the quality of life improved? – Based on the results of our annual impact questionnaire and case studies, we believe that Sarona has been successful in improving the quality of life of the communities where we have invested. Analysing the 2014-2015 responses of the 93 companies that reported for both current and previous periods, we noticed that 80% of reporting companies, 17% more than last year, actively pursue at least one of the environmental objectives we have identified from the available IRIS metrics. We were also pleased to notice an overall improvement in social performance. In the case of social objectives, the same 93 companies reported they pursued a higher number of social objectives than in previous periods. In terms of job creation and job quality, it was gratifying to see that we achieved our own objective to grow the number of jobs offered by portfolio companies. The 91 companies in Sarona’s portfolio that reported job data employed a total of 39,383 people at the end of 2014, 6,000 more than at the end of 2013. In addition, half of the reporting companies also provide additional employment benefits.

3) How do you measure the eco foot print of the project?

The Sarona annual impact questionnaire uses 17 qualitative metrics including 60 qualitative sub-metrics. Some of these metrics allow us to gather information about the environmental impact of SFMF2’s portfolio companies.

4) Please describe impact, using the 5 Ps (people, planet, prosperity, partnership and peace) – project related

Sarona’s vision is to be a leader in an industry where private capital is deployed to encourage entrepreneurship and growth while having a significant positive impact on social communities and the environment. We truly believe that by forming a successful [partnership](#) with the public sector in order to deliver our SFMF2 fund programme, we can seek to ensure **prosperity** and **peace** for the **people** and environment (**planet**) in the communities where we invest.

In the last six years, Sarona’s assets has grown more than tenfold. Therefore, we hope that Sarona’s vision is a strong business strategy and at the same time it helps build a better world.

5) Please use the attached board to describe the impact considering the 17 SDGs

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People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Sustainable Development Goals	N I	S I	H I	Comments to Impact (# of companies implementing the SDG)
1. END POVERTY				6 Offer solidarity and community loans and financial services to the base of the pyramid clients
2. END HUNGER				6 Import, market, distribute rice & fertilizer at affordable rates in Nigeria. Invest in backward integration by setting domestic rice mills
3. WELL BEING – HEALTHY LIVES				6 Provide affordable healthcare and access to medicines in a number of African countries
4. QUALITY EDUCATION				10 Encourage and ensure access to academic and professional training programmes
5. GENDER EQUALITY				16 Promote and ensure gender inclusion among staff
6. WATER AND SANITATION FOR ALL				7 Employ safe water management practices
7. AFFORDABLE AND SUSTAINABLE ENERGY				8 Employ environmental manufacturing practices. Ensure employee-friendly working conditions
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL				35 Implement fair recruiting and remuneration policy
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION				20 Adopt clean and environmentally sound technologies and manufacturing processes
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES				24 Provide staff with competitive salaries and benefits in order to achieve greater equality
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE				8 Assist SMEs to access motor vehicles without tying up their balance sheet by renting out vehicles
12. RESPONSIBLE CONSUMPTION BY ALL				25 Strengthen technological capacity in Emerging markets by improving access to mobile communications and internet
13. COMBAT CLIMATE CHANGE				1 Improve education and raise awareness on climate change mitigation, adaptation and impact reduction
14. PROTECT THE OCEAN				Increase domestic fish production in order to address the demand-supply deficit and reduce open sea fishing
15. TAKE CARE OF THE EARTH				
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL				Provide public access to information. Fight corruption
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS				Collaborate with GPs and/or Sarena to improve governance practices and ESG implementation



Escalating the (Case Study) project:

- 1) Can we replicate the project within the country?** – Since Sarona’s reach is across multiple developing countries and sectors, this question is not applicable to us.
- 2) Can we replicate the project globally?** – Yes. We believe that this project cannot just be replicated, but should be.
- 3) Can we extrapolate the experience to other sectors?** – Yes we believe this experience could be replicated in other sectors such as Real Estate, Infrastructure, Clean Energy, Healthcare, Food and agriculture.
- 4) Describe the main key success factors for escalation?** - Successful investment and impact strategy, Excellent implementation. Alignment of values and clear understanding of each partner objectives and expectations.
- 5) Describe what should be avoided in future projects?** – A short term/’one-off’ mentality. Given the long term importance of such partnerships, it is important that partners work together to develop long-term solutions as opposed to move from project to project. One of the key characteristics of Sarona’s project is that it is NOT a project...! It is a programme, aiming to grow and deliver against the ever increasing and changing needs of our target economies.

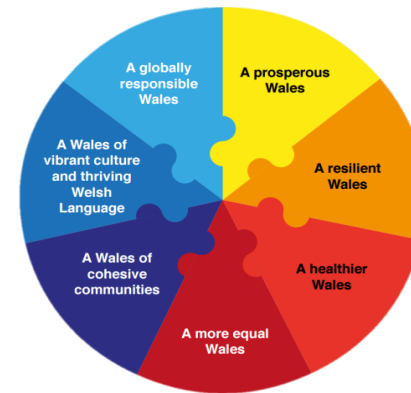
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People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Project:	Well-being of Future Generations (Wales) Act 2015, UK
Project Proponent:	Andrew Charles, Welsh Government



Organizations

Welsh Government, public authorities, business, third sector

Why a case study

New legal framework for a small country to clear legal requirement on public sector in Wales to deliver sustainable development goals and contribute to the UN SDGs by setting Welsh specific goals, duties and an independent Future Generations Commissioner

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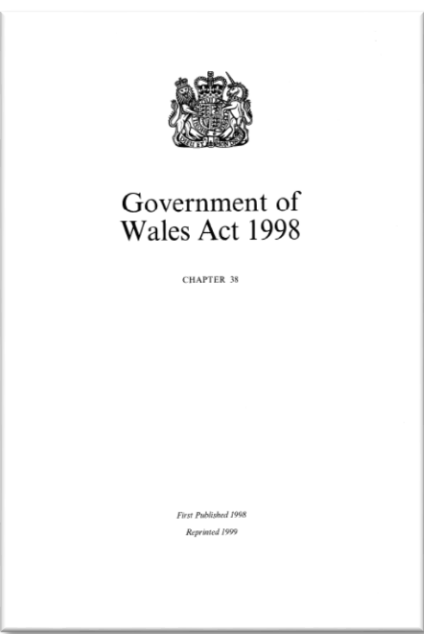
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Context

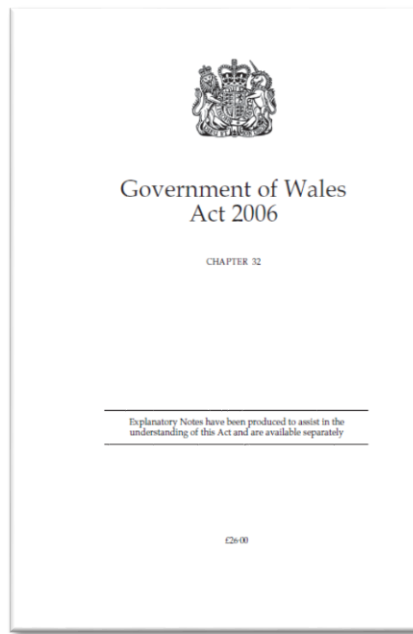
Sustainable development journey



1998

Government of Wales Act

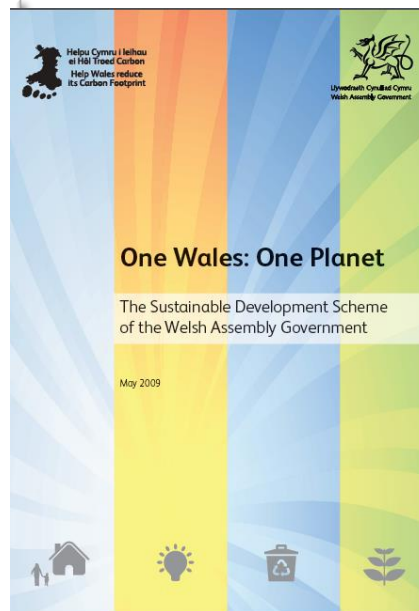
S.121 "Sustainable Development"



2006

Government of Wales Act

s.79 "Sustainable Development"
s.60 "well-being"



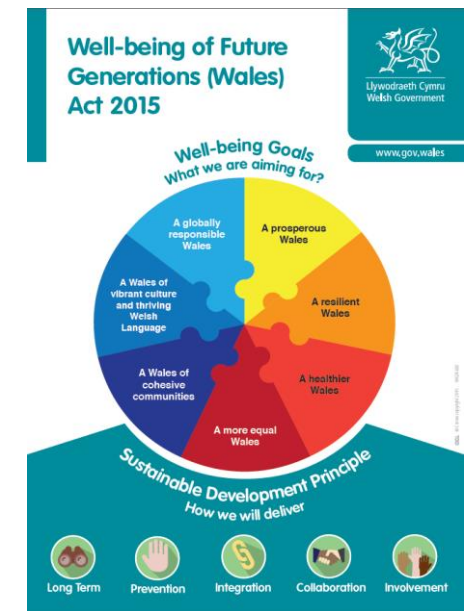
2009

One Wales : One Planet



2011

Commitment to legislate for sustainable development



2015

Well-being of Future Generations (Wales) Act

Webpage : <http://gov.wales/topics/people-and-communities/people/future-generations-act>

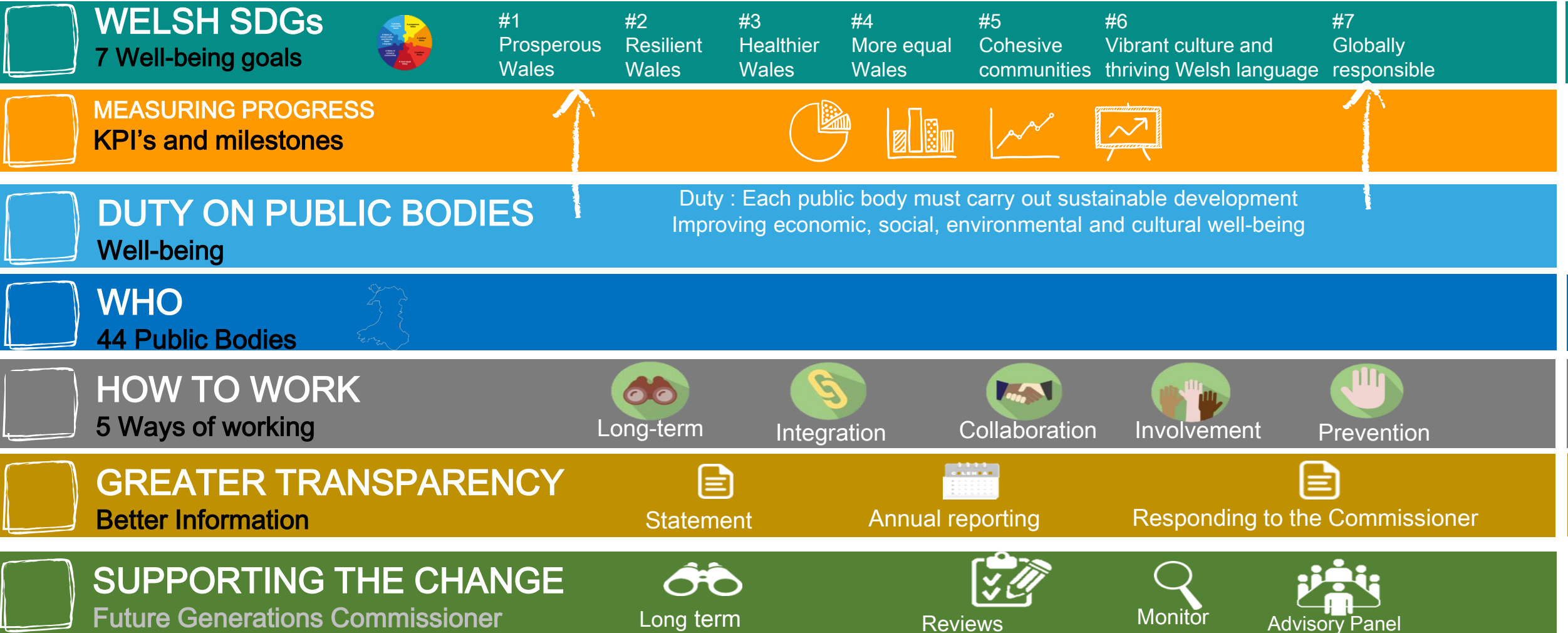
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Strategy | New legislation



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Project KPIs

Location **Wales**



Population
3,074,067
Official languages
Welsh, English
Population Density:
148.3 people per km
Capital City
Cardiff, pop 348,493
Total area
20,782 sq kms
(8,024 sq miles)
Government
Welsh Government
*Figures based on 2012
Source : www.wales.com

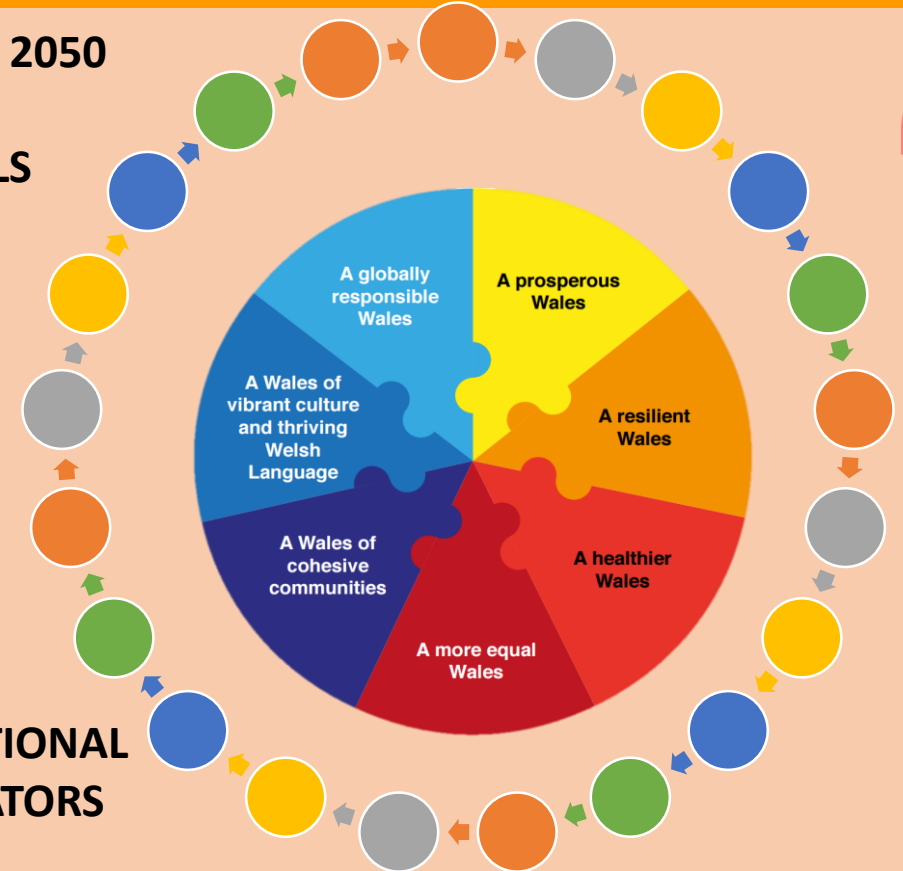
PROGRESS Indicators & Milestones



WALES 2050

7 GOALS

46 NATIONAL INDICATORS




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For Sustainable Development

Impact on People and Planet

People	Planet	Prosperity	Partnership	Peace
<p>National conversation on the “Wales We Want”. 7000 people engaged www.waleswewant.co.uk</p> <ul style="list-style-type: none"> • WIIP • Sustainable Management Scheme • Towards Zero Waste • Warm Homes 	<p>Legislation founded on principle of sustainable development.</p> <p>One Wales : One Planet scheme – ambition to become a one planet society within a generation.</p> <p>Focus on ecosystems services through new Environment Act 2016</p>	<p>Goal 1 focuses on the type of prosperity for the future – “low carbon society” “decent work” “acting on climate change” “recognise limits of the global environment”.</p> <p>A ‘Sustainable Development Charter’ promoting sustainable development with business (398 signatories)</p> <p>www.sdcharter.net</p>	<p>Shared purpose - clear national priorities, local placed approach.</p> <p>New local partnerships established in law.</p>	<p>Goal 4 is for a “More equal Wales” building on legislation to promote equality across Wales.</p> <p>Goal 7 – “A globally responsible Wales”</p> <p>Wales for Africa</p> <p>PLANT!</p>

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People First PPPs for the United Nations Sustainable Development Goals



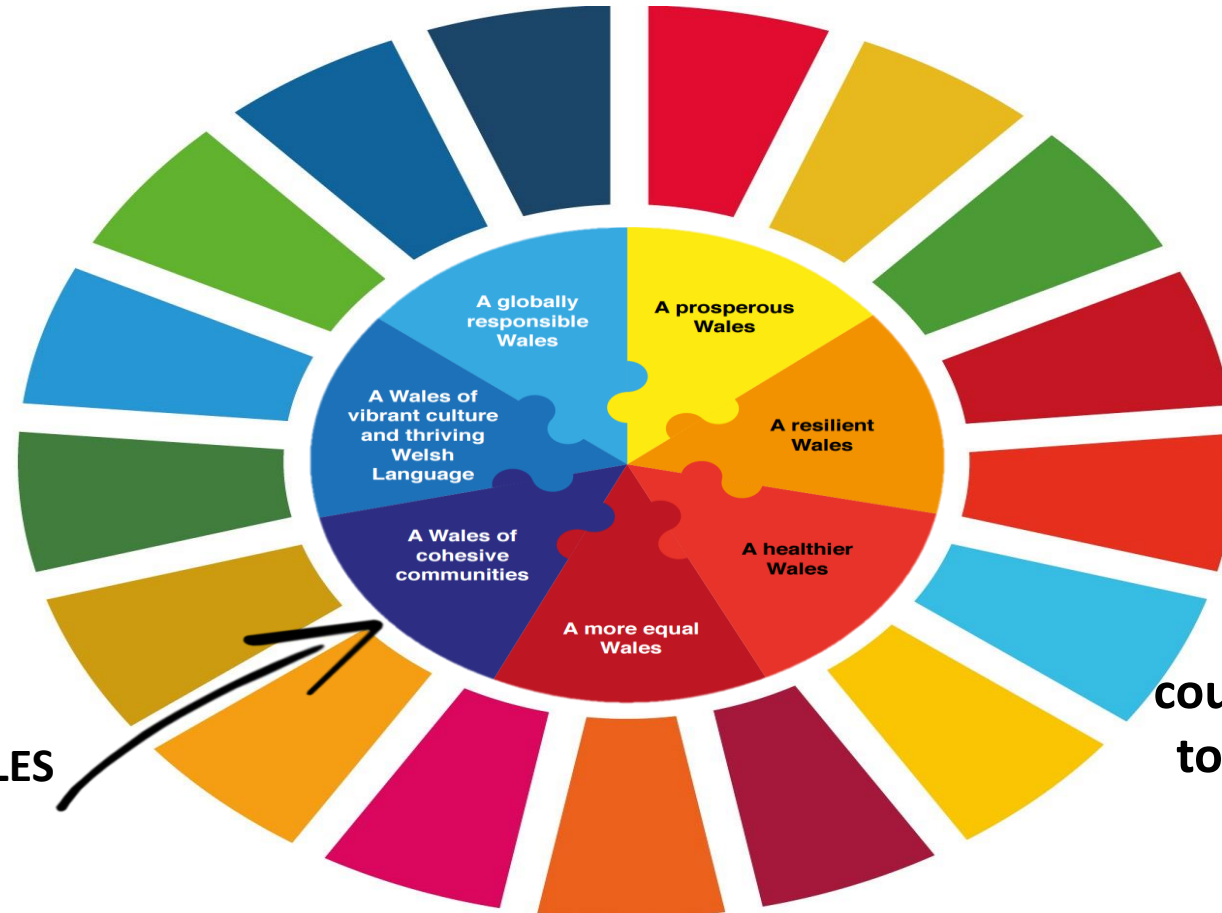
THE GLOBAL GOALS
For Sustainable Development

Link to the SDGs

Our new law The Well-being of Future Generations (Wales) Act 2015



Sets in law
7 GOALS FOR WALES
to achieve.



THE GLOBAL GOALS

**Wales is the first
country in the WORLD
to have a legal link to
the UN SDGs**

PPP:

The Act focuses on improving the economy, society, environment and culture.

We carried out a 'Wales we Want' national conversation to involve people in selecting the goals for Wales. Just like the 'World We Want' that helped decide the 17 SDGs. www.thewaleswewant.co.uk



Escalating the (Case Study) project

Legal framework and principles, contained can easily be applied to other countries. But goals need a national conversation, reflecting needs of people and culture.

Wales is part of the Network for Regional Governments for Sustainable Development. States and regions can be a test bed for new ideas.

Key success factors

- Leadership
- Engagement
- Cross party support
- Better decisions
- Improving well-being in the future , taking action now.



“The Wales future generations Act captures the spirit and essence of two decades of United Nations work in the area of sustainable development and serves as a model for other regions and countries. .We hope what Wales is doing today the world will do tomorrow. Action, more than words, is the hope for our current and future generations”

Nikil Seth, Director Sustainable Development, United Nations (30 April 2015)



Project:	Sustainability Indicators for PPPs in Colombia
Project Proponent:	Sebastian Lema

Public Organization: National Planning Department

Private Organization: Arup consulting

Capital Providers: National Planning Department

Why is this project a Case Study for PPPs: this is a set of indicators that measures environmental impacts during the design, construction, operation and dismantling of public infrastructure under PPP schemes.

Why is this project a Case Study for PPPs based on SDGs:

- | | |
|-------------------------------|--|
| Context | → The payment scheme for PPPs is usually focused on the service provided by the infrastructure but not on the environmental impacts. |
| Strategy | → This initiative was the result of a workshop to link low carbon development and PPPs. |
| Project KPI's infrastructure. | → Environmental indicators for design, construction, operation and dismantling of public |
| Impact | → Measure and improve environmental performance on energy, water, soil, noise and materials. |
| Scale up & replicate | → The indicators have been initially developed for the sectors of education, health, roads, airports, and public buildings in Colombia; but can be adapted to other sectors and countries. |
| Management Team | → PPP and Sustainable Development units in the National Planning Department, supported by USAID |





Context:

Given that PPP contracts should contain a clear description of the scope and quality of services to be provided by the infrastructure, in August 2012 the DNP developed a set of indicators to define and measure the services to be provided for PPP projects in public buildings, schools, hospitals and airports; but without include sustainability indicators.

In November 2013 the DNP and the Colombian Low Carbon Development Strategy organized a workshop to explore links between PPP and climate change mitigation projects. Among the conclusions of the workshop, it was mentioned that one of the mechanisms to promote low carbon development in PPP projects will be the development of a set of guidelines and environmental sustainability indicators for PPP projects.

For this purpose, in July 2015 DNP hired a consultancy firm to develop a set of sustainability indicators for PPP that could be incorporated within the framework to measure compliance with availability, service levels and quality standards for PPP; for the sectors of education, health, roads, airports, and public buildings.



Strategy for development of the indicators:

1. International and national benchmarking
 - Review of 20 case studies
2. Review of sustainable constructions frameworks
 - Colombian guide for sustainable construction
 - Green building label
 - LEED
 - Envision
 - Equator principles
3. Matrix of environmental impacts for infrastructure
4. Development of the set of environmental indicators
 - Design
 - Construction
 - Operation and maintenance
 - Dismantling
5. Piloting of the environmental indicators



Set of sustainability indicators:

- Materials
 - Use of certified sustainable material for construction
 - Building materials recycling
 - Waste recycling
- Air
 - Reduce CO2 emissions
 - Compliance with national and international standards on air emissions
- Water
 - Reduce water consumption
 - Compliance with national and international standards on water discharges
- Energy
 - Reduce energy consumption
 - Use of renewable energy
- Noise
 - Compliance with national and international standards on noise pollution
- Other
 - Formulate a dismantling plan
 - Evaluate the use of incorporation of sustainable construction standards



Impact on People and Planet:

- The real impacts of the sustainability indicators for PPP will be only perceived until their implementation on pilot projects. However, there are some initial findings about the technical and economical feasibility to introduce higher sustainable standards for public infrastructure in Colombia.
- The measure of the sustainability indicators will require the development of new baselines, adoption of existing methodologies and development of information collecting systems. Therefore, the challenge is to make this process as efficient as possible.
- The sustainability indicators does not cover all the indicators associated with the eco foot print, but will provide specific information about CO2 emissions, water and energy consumption during the construction and operation of public infrastructure.
- The sustainability indicators have a direct impact on the protection of natural resources and climate change. Additionally, the PPPs can contribute to improve health, education, water and sanitation, and sustainable energy, among others.

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People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS
For Sustainable Development

Sustainable Development Goals	No Impact	Some Impact	High Impact	Comments to Impact
1. END POVERTY	●			
2. END HUNGER	●			
3. WELL BEING – HEALTHY LIVES		●		The indicators cover the health sector
4. QUALITY EDUCATION		●		The indicators cover the education sector
5. GENDER EQUALITY	●			
6. WATER AND SANITATION FOR ALL			●	Water consumption and quality
7. AFFORDABLE AND SUSTAINABLE ENERGY			●	Energy efficiency and use of renewables
8. ECONOMIC GROWTH & DECENT JOBS FOR ALL	●			
9. RESILIENT INFRASTRUCTURE, INDUSTRIALIZATION, INNOVATION			●	Resilient Infrastructure
10. REDUCE INEQUALITIES WITHIN AND AMONG COUNTRIES	●			
11. CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE		●		Air quality and waste management
12. RESPONSIBLE CONSUMPTION BY ALL			●	Use of sustainable materials and recycling
13. COMBAT CLIMATE CHANGE		●		Reduce CO2 emissions
14. PROTECT THE OCEAN		●		Reduce water pollution
15. TAKE CARE OF THE EARTH			●	Protection of ecosystems
16. PEACEFUL AND INCLUSIVE SOCIETIES, JUSTICE FOR ALL	●			
17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS		●		Indicators on environmental impacts



Scalability and Replicability of the (Case Study) project:

- The sustainability indicators have been designed to be replicated within the whole country for the sectors of the sectors of education, health, roads, airports, and public buildings; however, those indicators can be applied to almost any kind of buildings.
- The indicators can be replicated globally if the baselines and parameters are adjusted to the regulation and standards on sustainable construction in each country or region.
- The sustainability indicators be developed and required for any sector under a PPP scheme.
- Key success factors for scaling up and replicating are: interest from policy makers, financial feasibility, success on the implementation of pilot sectors and development of specific baselines and parameters for each sector.



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