

United Nations Economic Commission for Europe  
International PPP Centre of Excellence

**International PPP Forum:**  
**“Implementing the United Nations 2030 Agenda for  
Sustainable Development through effective, people-  
first Public-Private Partnerships”**

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**Compendium of Case Study Material\***

\*This case study material is being circulated by the secretariat as received from the contributors.



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## Introduction

The UNECE International PPP Centre of Excellence has as its core vision the implementation of PPP solutions to promote the United Nations Sustainable Development Goals (SDGs). One of its core functions is to advise governments in their project preparation, more specifically, how these projects can contribute to achieving the SDGs by putting people first through improved access to services, and by building more resilient infrastructure that are easily replicated in other regions and countries.

Over the past three months, the UNECE has gathered a number of cases studies from different sources – public sector, NGOs, academia and the private sector. This Compendium collects 30 case studies from all over the world covering a wide variety of sectors from water to energy, and roads to agriculture. The case studies have one thing in common: they all aspire to achieve the SDGs.

The case studies in this Compendium are being circulated by the UNECE as received by their proponents. They have not yet been properly assessed against the SDGs, and one of the key outcomes of the Forum is expected to be the evaluation of these case studies against a number of SDG-related criteria.

This is a first attempt by the UNECE to generate interest in the SDGs through real projects that made a difference in their respective communities. The next step is to determine to what extent these projects have contributed to the SDGs and this is the kind of debate that the UNECE hopes that this Compendium will generate during the Forum.

## The PPP World Map



This compendium showcases best practices from the following countries around the world:

Africa: Ghana, Kenya, Madagascar

Latin America and the Caribbean: Brazil, Colombia, Haiti

North America: United States

Asia: Armenia, Bangladesh, China, Indonesia, Mongolia, Philippines, Tajikistan

Oceania: Australia

Europe: Belarus, Finland, Portugal, Russian Federation, Slovakia, Spain, United Kingdom, Ukraine

## **Case 1**

### **Haiti**

#### **Agricultural Sector/ Food Security**

#### **Production of Fruits and Vegetables**

# AGRICULTURAL PROJECT FOR PRODUCTION OF ORGANIC BANANAS AND VEGETABLES

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UCGPPP

Public Organization, managing the public interest:  
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, developing the project:      AGRITRANS S.A.

Capital Providers, financing the project:              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 the 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 addition to the 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.



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## 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 was very low.

2)Push for improvement: Depopulation of the area due to rural-urban migration, emigration to the Dominican Republic, and increased vulnerability.

3)Improvement and Infra gap: Link stemmed from the need to increase population revenue, 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 build and to maintain small agricultural roads, to share know-how for innovative irrigation systems and packing solutions.

5)PPP solution: Bring land owners together, establish partnerships with them to consolidate available land rendering possible efficient market search, and scale up economy for agricultural inputs and equipment.

The Public sector makes land available and allocates ad hoc program funding.

The Private company offers technology, jobs, and marketable products.



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## Strategy:

1. Design: Given the scarcity of investments in the agricultural sector, AGRITRANS SA designed this project for a plantation of bananas and vegetables. The project was submitted to and endorsed by the farmers and the Government of Haiti.

2. Main feasibility factor and PPP solution: The project was judged by the market appeal and advantages of the products. Key selection criteria includes: a) partnership with associations and federations of farmers; b) availability of agricultural equipment; c) public works in the area.

3. Closure and other contracts : The first disbursement occurred upon presentation of agreements with small farmers and agreements with international buyers.

4. Development : Product exportation and purchases by international companies makes quality standards an absolute obligation. Timely delivery was achieved. Execution of the project brought about an increase in production capacity, bringing Haiti back to the world market and as certified provider for organic produce.

5. Quality of life guarantee: The project promoted community efforts in association, entrepreneurship, and capacity building. It fostered a significant increase in revenue and capacity of small planters, thereby improving their quality of life. It also contributes to the greater access to equipment and new technology (water abstraction, irrigation, transportation rails for harvesting, etc.)



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## 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.It 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 2<sup>nd</sup> 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. Local employment has sustained the development and support for project activities.



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### Impact on People & Planet:

#### 1.Perception of improvement:

The farmers in the federation received 20% of the profit in addition to their current salary. 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 (total of 120 tons).

3. Eco footprint: As an agricultural production project, it boasts positive effects on the environment with particular impact on biodiversity, illustrated in the extent of irrigated surface and recycled plant waste livestock feed. 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 | Describe 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   |           | ✓           |             | Role model in technological advancement                  |
| 7                             | Affordable and sustainable energy  |           |             |             |  |
| 8                             | Economic growth & decent jobs for all  |           |             | ✓           | Presently employs 1,000 ; has plans to reach 10,000 jobs |
| 9                             | Resilient infrastructure, sustainable industrialization, foster innovation               |           |             |             | Uses innovative equipment, has sound maintenance         |
| 10                            | Reduce inequalities within and among countries   |           | ✓           |             | Revenue redistribution                                   |
| 11                            | Inclusive, safe, resilient, and sustainable cities                                       |           | ✓           |             | Fosters diverse economic activities                      |
| 12                            | Responsible consumption by all   |           |             |             | Fair access to products by local 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 accountable institutions at all levels |           |             |             |  |
| 17                            | Mechanisms and partnerships to reach the goals   |           | ✓           |             | Public-private partnerships                              |

  
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## Scaling up 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 plantation. Furthermore, other promoters have such projects either in the beginning phase 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 financing mechanism.

### 3)Other sectors :

To stimulate investment and to 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.



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1. Key success factors for escalation: Agriculture is 'motor' of the Haitian economy. It contributes to improving food security and supporting 60% of the active population. This project has succeeded in:
  - ✓ Introducing new technology resulting in 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 farmers
  - ✓ Bringing in revenue in foreign currency
  - ✓ Increasing access to market
  - ✓ Partnering successfully with the government and local farmers.
2. 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...). There was a high cost for adjustments due to inappropriate choices and climate hazards. Other projects can now learn from the AGRITRANS experience and make more appropriate business decisions.



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## **People First is also about “those” that made it happen:**

### **1) The main public organizations :**

- Ministry of Agriculture, Natural Resources and Rural Development (MARNDR)
- Ministry of Trade and Industry (MCI)
- Ministry of Economy and Finance (MEF)
- Industrial Development Fund (FDI)

### **2 ) The main private organization:**

- AGRITRANS, S.A.



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### 3 ) The management teams:

Administration of the company allows fluidity in decision-making. The members of the board are actively involved in operations and have extensive technical knowledge and experience in management, industrial farming and transformation. They are:

- Jovenel Moise, Founder and former President/ CEO, he was also President of the Regional Chamber of Commerce and Secretary of the Chamber of Commerce and Industry of Haiti.
- Pierre-Richard Joseph, President and CEO, is a CPA with over 20 years of experience.



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**Case 2:**

**Philippines**

**Agricultural Sector/ Food Security**

**Butuan Regional Development**

**Name of project:** Butuan City Regional Development Program (Butuan City, Mindanao, Philippines)  
**Name of the speaker and email contact:** Sam Tabuchi kstabuchi@toyo.jp / Yu Namba yu-namba@toyo.jp

**Public Organization, managing the public interest:** Butuan City and its affiliated agencies  
**Private Organization, developing the project:** Chodai Co. Ltd., Equi-Parco Construction Company  
**Capital Providers, financing the project:** 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** contributed to the Regional Development Support Program to assess possibilities of economic development through PPPs. TOYO proposed 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 has 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 were both critical, while stable and sufficient power generation were also essential to attracting new industries. Providing sufficient electricity will attract food-processing industries which will add value to Butuan's agricultural products and improve farmers' lives. Even though Butuan is still a 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 for partnerships. Private sectors (both local and international) were active to seek such possibilities, to make them sustainable business, and to strengthen the local industry/economy. Public authority (city) was active in setting up systems and enacted the Local PPP Code. It also supported private activities by 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. Buton City accepted and approved the project. City also played a role in obtaining feed in tariff (FIT) approval from the national government.

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

The project was structured as a PPP because it was much faster and efficient to use the existing public corporations and infrastructure to transmit, to provide power to each household, and to 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 quality and to avoid cost and time overrun.

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

**Project KPI's:**

Securing water usage right and TIF agreement were crucial to stabilize the project implementation ability and revenue structure. In addition, one of main concerns was how to negotiate with indigenous people, who have been living along the rivers. International investors were 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. The project is currently self-sufficient, thus the private sector's must put their effort to sustain the power generation in order to recover the Capex and Opex. Further, the project's environmental impact should be carefully monitored by both public and private entities.

|                     | Capacity | Value | O&M starts  | SPC                | Equity investors  |
|---------------------|----------|-------|-------------|--------------------|---|
| Asiga Hydro power   | 8MW      | \$30M | 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 employment 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:

Group of farmers attended training by a Japanese expert for planting, controlling water level, and using machinery. Average crop 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 is in operation and provides seed rice, it will improve the condition of tenant farmers who are suffering from 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.

| SDGs | Sustainable Development Goals   | no impact | some impact | high impact | describe 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, sustainable industrialization, foster 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, accountable institutions at all levels |           |             | ✓           |                 |
| 17   | mechanisms and partnerships to reach the goals  |           |             |             |                 |

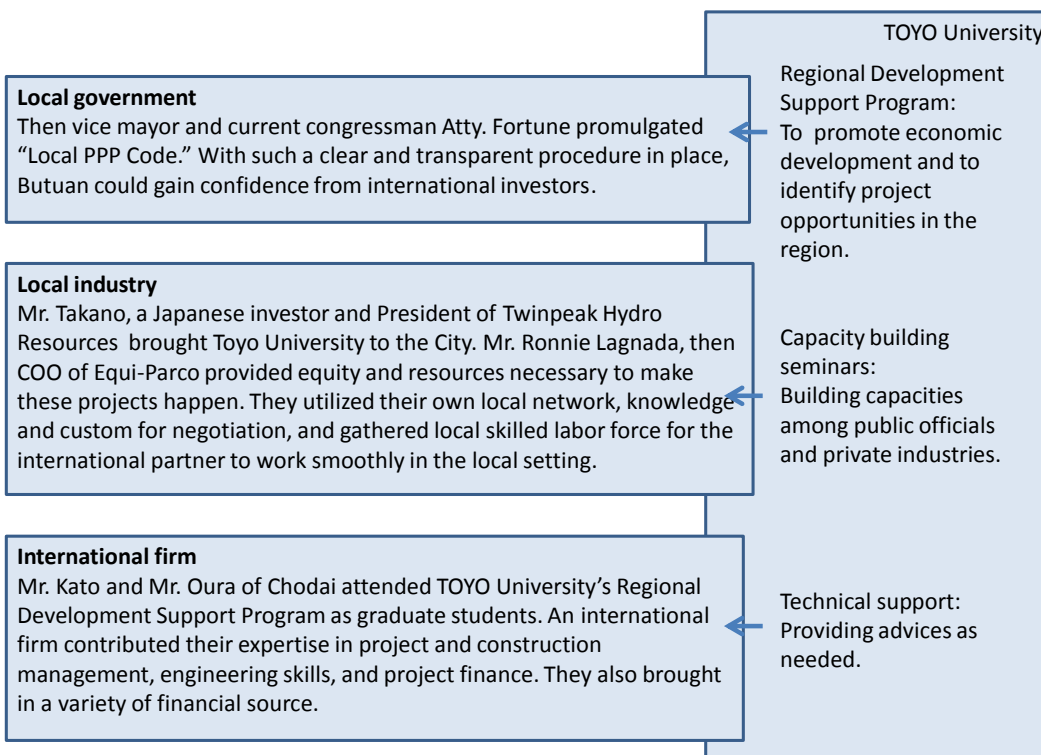


### Scaling up the (Case Study) project

Project concepts and enabling mechanisms— PPP code, PPP Committee, procedures and so on— can be replicated in other cities/ regions in the Philippines, and potentially in other countries as well. However, it is difficult to “replicate/duplicate” local leaders’ will to implement projects. It is essential to have supportive leaders from both the public and private side.

The process of learning-by-doing was essential to project replication. 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 putting 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.



## **Case 3**

**Bangladesh**

**Health Sector**

**Hemodialysis Centre at NIKDU**

**Name of project:** Hemodialysis Centre at NIKDU, Dhaka & CMCH, Chittagong

**Name of the speaker and email contact:** Syed Afsor H. Uddin, [ceo@pppo.gov.bd](mailto:ceo@pppo.gov.bd)

**Public Organization, managing the public interest:** Directorate General of Health Services, Ministry of Health & Family Welfare, Government of Bangladesh

**Private Organization, developing the project:** Sandor Medicaid Pvt. Ltd., India

**Capital Providers, financing the project:** Infrastructure Development Company Ltd. (IDCOL), Bangladesh

**Why is this project a Case Study for PPPs:** This project has been developed as a pilot project to test the expansion of much needed affordable health care services in Bangladesh. It uses private sector providers while sets limits on the level of public sector investment. On successful implementation of the project, the aim of the project is to scale up this project across the nation, and to replicate the concept to other 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, in order to offer more quality health care services with 80 machines within the existing pricing framework.

**Strategy** → Private sector partner to invest in the upgrade, 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 per year.

**Scale up & replicate** → The project has been undertaken on a pilot basis so that it can be replicated as a nation wide program in other under-utilised government facilities.

**Management Team** → The Private Partner carried out its contractual obligations with close contract management by the Contracting Authority's Project team. 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 only 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 a normal life and shortening their overall lifespan.
- 4) Construction, operation, and maintenance of dialysis facilities consisting of 80 new dialysis machines and related equipment to provide 1950 free treatment session in the span of 10 years. There are 19500 sessions to be subsidised with public sector rates, and the remaining sessions will be made available at below market price - 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 minimising 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 visit and review of case studies. The project was then approved by the PPP Authority and the Health Ministry.
- 2) Feasibility Study included 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. The Private partner 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 included:
  - Perception on shifting of Critical Health Service delivery to the private sector
  - 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 response to the urgent need for dialysis support
- 2) The following mitigation measures were used to address the concerns of various stakeholders:
  - Extensive stakeholder consultation with public sector officials in the implementing agency, the executing agency, and the ministry.
  - Showcasing case studies of similar characteristics 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 sqft and at CMCH is 4,750 sqft. License has been provided for the private provider for service delivery. 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 spent on equipment and machines imports.
- 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. Further, the expected date for commencement of operations is around June/July 2016.



### Impact on People & Planet:

1. This project will increase the capacity of the country's dialysis services by 12.3%, providing access to treatment to over 1000 additional patients who did not have access to treatment before. This will enable these patients to lead a better quality of life through better health service.
2. The project structure 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, '1-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.



| Sustainable Development Goals |   | No impact | Some impact | High impact |
|-------------------------------|---|-----------|-------------|-------------|
| 1                             | End Poverty   |           | ✓           |             |
| 2                             | End hunger  |           | ✓           |             |
| 3                             | Wellbeing –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, sustainable industrialization, foster 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, accountable institutions at all levels |           |             | ✓           |
| 17                            | Mechanisms and partnerships to reach the goals  |           |             | ✓           |



### **Scalability & Reliability**

1. This project has been developed as a pilot. Upon successful implementation, it will enable replication of the project at national level across other regions of the country where there is acute need for dialysis services.
2. The project provides a first step into enabling introduction of private sector providers in delivery of health services within the public sector 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 expanding 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, and the availability of skilled medical practitioners and public sector official buy-in.
6. Wider stakeholder consultation and discussion will be vital for the success of future similar projects.



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

- 1) Ministry of Health and Family Welfare (approval authority); Directorate General of Health Services (contracting authority); National Institute of Kidney Diseases and Urology and Chittagong Medical College Hospital (executing agency); PPP Authority (Regulator for PPPs)
- 2) Sandor Medicaids Pvt Ltd (Private Partner)
- 3) The project is being monitored by a government team consisting of the Director (NIKDU), Director (CMCH), Director Hospital (DGHS), Deputy Secretary (PPP Authority), and supported by PPP consultants.
- 4) The PPP Authority was established to support infrastructure development by implementing an enabling environment to access private sector finances through PPPs. The PPP Authority has put in place a number of reforms, including enactment of the Bangladesh PPP Act. As a result, within 4 years the PPP Authority has established a USD14 bn pipeline, with USD1.3bn of contracts signed and another USD1bn of projects in procurement.
- 5) To increase economic growth in Bangladesh from 6.5% to 8% over the next 5 years, the government has to increase investment as a portion of GDP by 5.5%. 77% of this increased investment is targeted from the private sector. This is critical to developing Bangladesh into a middle-income country.



## **Case 4**

**Belarus**

**Health Sector**

**Hrodna City Clinical Hospital no. 3**



**Name of project:** Redevelopment of The Public Health Care Institution “City Clinical Hospital No. 3” In Hrodna into the Hrodna Regional Clinical Oncologic Dispensary as a Separate Legal Entity

**Name of the speaker and email contact:** Alena Dadzerkina – alena.dadzerkina@undp.org

|   |                                     |
|---|-------------------------------------|
| <b>Public Organization, managing the public interest:</b> | Hrodna Regional Executive Committee |
| <b>Private Organization, developing the project:</b>      | TRANSPROEKT GROUP                   |
| <b>Capital Providers, financing the project:</b>          | None (prefeasibility study phase)   |

**Why is this project a Case Study for PPPs:**

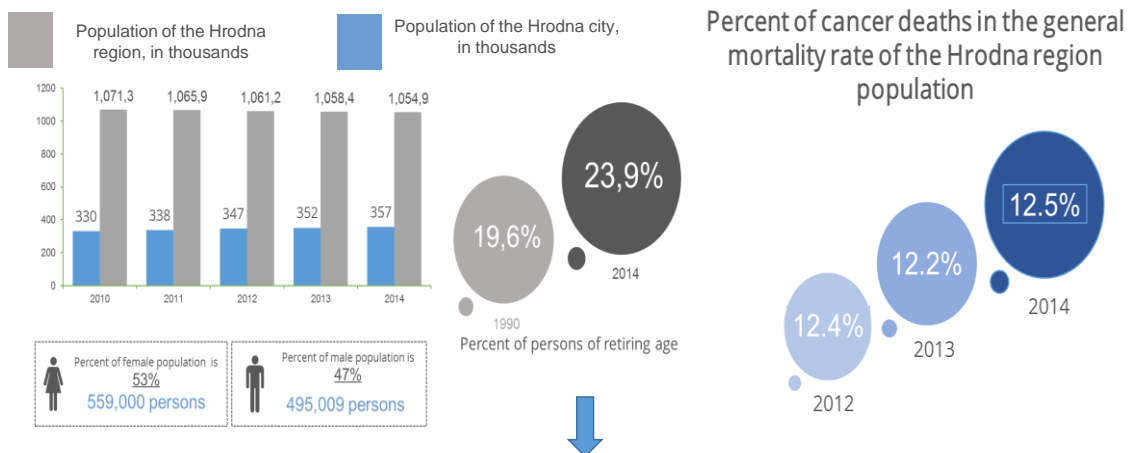
The project illustrates how infrastructure healthcare PPP type can be effectively used for the creation of modern healthcare facilities in countries, where legal restrictions do not allow the provision of medical services by private operators.

**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.

Through the creation of innovative healthcare facilities and the use of cutting-edge medical technology, the new Oncology Center will reduce cancer incidence by implementing radiological diagnosis, which is essential for the realization of SDGs № 3, 9 and 17.

## Context



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

## Strategy

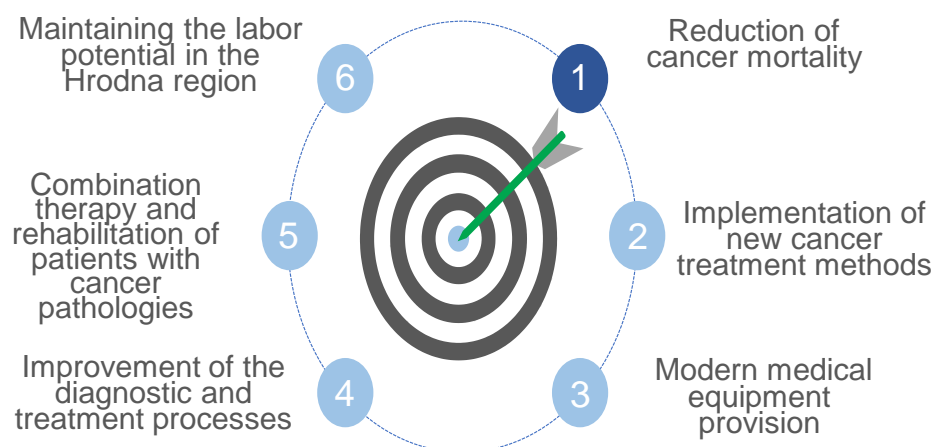
- 1) The project concept was designed by the conduction of a number of appraisal studies as well as prefeasibility analysis performed by the private consulting company, Transproekt Group, and approved both by Hrodna Regional Executive Committee and the Interministerial Infrastructure Coordination Board of the Republic of Belarus.
- 2) Main technical, legal, and financial issues were analyzed in 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, and Preliminary Risk Assessment. The PPP option was chosen on the basis of qualitative analysis of the potential for realization of project based 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

1. The area of land - 2.6 hectares. Hospital territory is fenced. Site is flat, the area is planted and landscaped
2. Capex – 165,5 mln. USD, annual ; Opex – 1,7 mln. USD, annual
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:



| SDGs | Sustainable Development Goals   | No impact | Some impact | High impact | Describe impact   |
|------|---|-----------|-------------|-------------|---|
| 1    | End poverty   | ✓         |             |             |   |
| 2    | End hunger  | ✓         |             |             |   |
| 3    | Well being-health lives   |           |             | ✓           | Creation of new and effective medical facilities  |
| 4    | Quality education   |           | ✓           |             | Possibilities for education of medical stuff  |
| 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 component                    |
| 9    | Resilient infrastructure, sustainable industrialization, foster innovation                |           |             | ✓           | Use of cutting edge technology, which can drive the innovation across healthcare sector |
| 10   | Reduce inequality within and among countries  |           |             | ✓           | Enabling access to a high quality medical services for the community                    |
| 11   | Cities inclusive, safe, resilient and sustainable   |           | ✓           |             | Raising the effectiveness of healthcare services provision within 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, accountable institutions at all levels | ✓         |             |             |   |
| 17   | Mechanisms and partnerships to reach the goals  |           |             | ✓           | Use of PPPs as a 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

## **People First is also about “those” that made it happen:**

The main drivers for project realization are:

- 1) The main public organizations involved in the project realization are – Hrodna regional executive committee; Ministry of Healthcare of the Republic of Belarus, PPP Unit of the Ministry of Economy of the Republic of Belarus, Interministerial Infrastructure Board (IIB) of the Republic of Belarus
- 2) The main private organizations involved in project preparation – privately owned consulting company Transpoekt Group
- 3) The management team of the project is under formation
- 4) Sustainable Development Goals underline all the activities of UNDP in Belarus to enable the Republic of Belarus to achieve more and help the world to successfully reach the new era.

**Case 5**

**Ukraine**

**Health Sector**

**Reparative Neurosurgical Operations**

# UKRAINE, Kiev

## Establishment of the Modern Clinical base for Reparative Neurosurgical Operations with Further Rehabilitation

**Alexandra Pavlenko**, the First Deputy Minister of Health of Ukraine, [p.pavlenko@moz.org.ua](mailto:p.pavlenko@moz.org.ua),  
**Vitaliy Tsymbaliuk**, the President of the National Academy of Medical Sciences of Ukraine [v.tsymbaliuk@i.ua](mailto:v.tsymbaliuk@i.ua)  
**Andriy Huk**, Deputy Director of the State Institution "Institute of neurosurgery named after acad.  
A. P. Romodanov of the National Academy of Medical Sciences of Ukraine", [a.huk@uscp.kiev.ua](mailto:a.huk@uscp.kiev.ua);  
**Prof. Iryna Zapatrina**, Ukrainian PPP Center, PPP Academy, [irina.zapatrina@gmail.com](mailto:irina.zapatrina@gmail.com)

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 diseases of any nature

**Public Organization, managing the public interest:** the Ministry of Health of Ukraine & National Academy of Medical Sciences of Ukraine

**Private Organization, developing the project:** an Expert Health Organization on Development, Operation & Maintenance

**Capital Providers, financing the project:** Multilateral and bilateral Financial Institutions, Commercial Banks, Private Equities Companies

### High urgency of the 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 about 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

## 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 <b>or</b> 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)

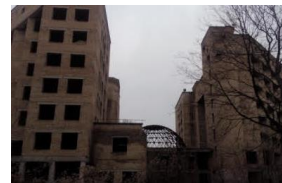
#### What should be investigated on the feasibility phase

- ☐ 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

## 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 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 not enough high qualified rehabilitation specialists in Ukraine, they need to be trained.



## Escalating the (Case Study) project:

- 1) 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 necessary to have at least one such center for every 10 mln people
- 2) It is also possible to export the corresponding high quality medical services
- 3) 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.)
- 4) 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)
- 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 appropriate services
- 6) Lessons learned can be extrapolated to other infrastructure sectors in Ukraine and other CIS countries

## Impact on People & Planet:

- 1) 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
- 2) 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
- 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
- 5) This Project will contribute to the implementation of the following SDGs - 1, 3-5, 7-11, 13, 16-17

|    | Sustainable Development Goals   | No impact | Some impact | High impact | Describe impact   |
|----|---|-----------|-------------|-------------|---|
| 1  | End poverty   |           |             |             | The population (including poor population) will get free of charge medical services and save money<br>The persons after rehabilitation have more chances to find a job and to financially support their families  |
| 2  | End hunger  |           |             |             |   |
| 3  | Well being – healthy lives  |           |             |             | Construction of the medical center will directly influence on health of the population by providing surgery and rehabilitation services. The number of deaths and severe consequences of injuries will decrease<br>The Center will be a modern and comfortable building with good conditions of staying there |
| 4  | Quality education   |           |             |             | The medical center will become a modern platform for young doctors to get new skills and to get acquainted with new modern technologies in medicine. The number of qualified specialists in sphere of neuro deceases will increase. The new specialists in rehabilitation will be educated in Ukraine         |
| 5  | Gender equity   |           |             |             | Equal rights of men and women in getting medical services, new jobs for men and women in the constructed center   |
| 6  | Water and sanitation for all  |           |             |             |   |
| 7  | Affordable and sustainable energy   |           |             |             | During the construction of the center the modern energy efficient technologies will be used   |
| 8  | Economic growth & decent jobs for all   |           |             |             | New jobs will be created (medical and administrative positions )  |
| 9  | Resilient infrastructure, sustainable industrialization, foster innovation                |           |             |             | It will be constructed the infrastructure object equipped using modern and innovative technologies that will provide medical services of high level for the population. This experience could be widely replicated in Ukraine   |
| 10 | Reduce inequalities within and among countries  |           |             |             | It will be ensured equal opportunities for all to receive free of charge services in emergency situations   |
| 11 | Cities inclusive, safe, resilient and sustainable   |           |             |             | The new medical center will increase the health level of the population of the city and the country in general, will be able to provide emergency medical assistance for the patients with neuro trauma.  |
| 12 | Responsible consumption by all  |           |             |             |   |
| 13 | Combat climate change   |           |             |             | During the construction of the center the modern energy efficient technologies will be used. This approach could be replicated for other hospitals in Ukraine, which have very low level of energy efficiency now   |
| 14 | Protect the ocean   |           |             |             |   |
| 15 | Take care of the earth  |           |             |             |   |
| 16 | Peaceful and inclusive societies, justice for all, accountable institutions at all levels |           |             |             | The death rate caused by neuro trauma received in military actions will decrease. The constructed center will be accountable and transparent institution  |
| 17 | Mechanisms and partnerships to reach the goals  |           |             |             | The center will be constructed vie public-private partnership mechanisms using modern technologies. All group of interest will involve in this process. New institutional and financial mechanism will be created and could be widely disseminated in Ukraine   |

### “Those” that made it happen:

**The main public organizations: the Ministry of Health of Ukraine**

#### The management team

- **Alexandra Pavlenko**, the First Deputy Minister of Health of Ukraine, [p\\_pavlenko@moz.org.ua](mailto:p_pavlenko@moz.org.ua),
- **Vitaliy Tsymbaliuk**, the President of the National Academy of Medical Sciences of Ukraine, [v.tsymbaliuk@i.ua](mailto:v.tsymbaliuk@i.ua)
- **Andriy Huk**, Deputy Director of the State Institution «Institute of neurosurgery named after acad. A. P. Romodanov of the NAMS of Ukraine», [a.huk@uscp.kiev.ua](mailto:a.huk@uscp.kiev.ua);
- **Prof. Iryna Zapatrina**, Ukrainian PPP Center, PPP Academy, [irina.zapatrina@gmail.com](mailto:irina.zapatrina@gmail.com)

**Case 6**

**Ukraine**

**Health Sector**

**Oncology Centre**

# UKRAINE, Kiev

## Construction of the National Cancer Institute Radiology Center

**Alexandra Pavlenko**, the First Deputy Minister of Health of Ukraine, [p\\_pavlenko@moz.org.ua](mailto:p_pavlenko@moz.org.ua)

**Prof. Olena Kolesnik, MD, PhD**, Director of the National Cancer Institute, [ekolesnik@ukr.net](mailto:ekolesnik@ukr.net)

**Prof. Iryna Zapatrina**, Ukrainian PPP Center, PPP Academy, [irina.zapatrina@gmail.com](mailto:irina.zapatrina@gmail.com)

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

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

**Public Organization, managing the public interest:** the Ministry of Health of Ukraine

**Private Organization, developing the project:** an Expert Health Organization on Development, Operation & Maintenance

**Capital Providers, financing the project:** 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.) | <b>Ministry of Health</b> (the existing hospital) or Potential Private partner (with possibility to cover its costs in case if it doesn't win the tender) | <b>Ministry of Health</b> – has to adopt  |
| Adoption of a conclusion on the Report on Project Efficiency   | <b>Ministry of Health</b>   | 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.)  | <b>Ministry of Health</b> (in the case of positive conclusion)  | <b>Ministry of Health</b> and Consultants (in the case of positive conclusion)  |
| Winner determination as a result of a tender   | <b>Ministry of Health</b>   | <b>Ministry of Health</b>   |
| Signing of PPP agreement   |   | <b>Ministry of Health</b>   |

### 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



## 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 & 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

| SDGs | Sustainable Development Goals   | No impact | Some impact | High impact | Describe impact   |
|------|---|-----------|-------------|-------------|---|
| 1    | End poverty   |           |             |             | The population (including poor population) will get medical services and save life<br>The persons after radiotherapy treatment have more chances to find a job and to financially support their families  |
| 2    | End hunger  |           |             |             |   |
| 3    | Well being – healthy lives  |           |             |             | Construction of the medical center will directly influence on health of the population by providing surgery and rehabilitation services. The number of deaths and severe consequences of Cancer will decrease<br>The Center will be a modern and comfortable building with good conditions of staying there |
| 4    | Quality education   |           |             |             | The medical center will become a modern platform for young doctors to get new skills and to get acquainted with new modern technologies in medicine. The number of qualified specialists in sphere of Cancer deceases will increase.  |
| 5    | Gender equity   |           |             |             | Equal rights of men and women in getting medical services, new jobs for men and women in the constructed center   |
| 6    | Water and sanitation for all  |           |             |             |   |
| 7    | Affordable and sustainable energy   |           |             |             | During the construction of the center the modern energy efficient technologies will be used   |
| 8    | Economic growth & decent jobs for all   |           |             |             | New jobs will be created (medical and administrative positions )  |
| 9    | Resilient infrastructure, sustainable industrialization, foster innovation                |           |             |             | It will be constructed the infrastructure object equipped using modern and innovative technologies that will provide medical services of high level for the population. This experience could be widely replicated in Ukraine   |
| 10   | Reduce inequalities within and among countries  |           |             |             | It will be ensured equal opportunities for all to receive free of charge services in emergency situations   |
| 11   | Cities inclusive, safe, resilient and sustainable   |           |             |             | The new medical center will increase the health level of the population in the country  |
| 12   | Responsible consumption by all  |           |             |             |   |
| 13   | Combat climate change   |           |             |             | During the construction of the center the modern energy efficient technologies will be used. This approach could be replicated for other hospitals in Ukraine, which have very low level of energy efficiency now   |
| 14   | Protect the ocean   |           |             |             |   |
| 15   | Take care of the earth  |           |             |             |   |
| 16   | Peaceful and inclusive societies, justice for all, accountable institutions at all levels |           |             |             | The death rate caused by Cancer diseases will decrease. The constructed center will be accountable and transparent institution  |

**“Those” that made it happen:**

**The main public organizations: the Ministry of Health of Ukraine**

#### **The management team**

**Alexandra Pavlenko**, the First Deputy Minister of Health of Ukraine,

[p\\_pavlenko@moz.org.ua](mailto:p_pavlenko@moz.org.ua),

**Prof. Olena Kolesnik, MD, PhD**, Director of the National Cancer Institute ,

[eakolesnik@ukr.net](mailto:eakolesnik@ukr.net)

**Viktor Borshevskiy**, Deputy Director of the National Cancer Institute ,

[borshchivsky@gmail.com](mailto:borshchivsky@gmail.com)

**Prof. Iryna Zapatrina**, Ukrainian PPP Center, PPP Academy,

[irina.zapatrina@gmail.com](mailto:irina.zapatrina@gmail.com)



## THE SECOND PROJECT IN HEALTH CARE PPP PIPELINE IN UKRAINE - STATE EQUITY

**Establishment of the Modern Clinical base for Reparative Neurosurgical Operations with Further Rehabilitation**

**Alexandra Pavlenko**, the First Deputy Minister of Health of Ukraine, [p.pavlenko@moz.org.ua](mailto:p.pavlenko@moz.org.ua),

**Vitaliy Tsymbaliuk**, the President of the National Academy of Medical Sciences of Ukraine  
[v.tsymbaliuk@i.ua](mailto:v.tsymbaliuk@i.ua)

**Andriy Huk**, Deputy Director of the State Institution «Institute of neurosurgery named after acad.

A. P. Romodanov of the National Academy of Medical Sciences of Ukraine», [a.huk@uscp.kiev.ua](mailto:a.huk@uscp.kiev.ua);

**Prof. Iryna Zapatrina**, Ukrainian PPP Center, PPP Academy, [irina.zapatrina@gmail.com](mailto:irina.zapatrina@gmail.com)

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 Organization, managing the public interest:** the Ministry of Health of Ukraine & National Academy of Medical Sciences of Ukraine

**Private Organization, developing the project:** an Expert Health Organization on Development, Operation & Maintenance

**Capital Providers, financing the project:** 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

## **Case 7**

**United Kingdom**

**Health Sector**

**Alder Hey Children Hospital**

# Alder Hey Children's Health Park

Peter Ward, John Laing plc, peter.ward@laing.com

Public Organization, managing the public interest: *Alder Hey Children's NHS Foundation Trust*  
Private Organization, developing the project: *John Laing/Laing O'Rourke/Interserve as 'Acorn'*  
Capital Providers, financing the project: *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** *Transformation of the existing outmoded patient environment*

**Strategy** *The NHS Trust procured a private partner to deliver health services and to maintain the hospital*

**Project KPI's sustainability** *An award winning child centered design, technological innovation,*

**Impact footprint** *Overwhelming response from patients and families, and reduced carbon footprint*

**Escalate** *Public and private teams worked effectively to deliver innovation*

**"We the people"** *Optimal stress free patient environment, promoting faster healing*

## Alder Hey Children's Health Park



### Alder Hey in the Park:

- 60,000 m<sup>2</sup> 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 years concession

## Context:

- Alder Hey Children's Hospital is England's first pediatric hospital and the first to be accredited by the WHO. The Trust treat 270,000 patients each year who come from across the north west of the UK.
- To improve patients' experience focusing on privacy and dignity. Studies have shown that nature and natural light can promote faster recovery among 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. The hospital aims to bring the outdoors into the hospital and to give every ward and rooms access to park views.
- New site for an existing hospital so the Trust knew what they need. The 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 a Project Agreement with the consortium of equity partners outlining the terms of project delivery, a Design and Construction Agreement, separate loan agreements with the partners, a FM services agreement, and a Management Services Agreement. As well as 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 partnerships delivered the project on-time and to-budget. The structure of the project incentivises the partners to ensure of highest quality as they will not receive loan re-payments from the Trust if they fail to deliver.
- Exploitation is about providing 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 a 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 building 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 by running a funding competition at preferred bidder stage. It is the first hospital in the UK to be financed using an institutional private placement debt which brings 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 in 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 & 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 an environment proven to promote healing.
- The old hospital had long corridors, 18 bed nightingale wards, and no park views. The new hospital has 75% single bed rooms with space for parents to stay. It improves 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, interact, and learn about the hospital and their condition through play. Electronic patient records enable the clinicians to deliver care more quickly and safely which improve access for all.
- Alder Hey is the most sustainable hospital ever built. It has green roofs, captures water, and generates renewable energy (60% of energy is generated on site; 10% is renewable). It is cost efficient with a BREEAM Excellent rating score, and that it provides a warm and 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, research, and education [SDG9.1]
- Improved staff morale and reduced 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



### 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. It creates 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 is no longer a PPP delivery model for UK Healthcare. Thus, the project adopted early aspects of PF2 such as the Trust taking the upside on life-cycle.
- Replicable successful factors: **strong vision, leadership and partnership working** can be learned:
  - Trust and John Laing worked closely together on the funding competition during the PB stage
  - Effective risk transfer and management was achieved through partnership - use of joint risk matrices between Trust and Acorn during the PB Stage
  - Strong vision and leadership from the Trust encouraged innovation from private sector
  - Assessing service requirements is primary and provision of assets is secondary
  - Benefits of partnership within consortium – early involvement of FM provider with construction
- Funding competitions at the PB stage may be 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

### People First is also about “those” that made it happen:

- Principle Public organisation: ***Alder Hey Children's NHS Foundation Trust acting with support from the UK Department of Health***
- Principal Private organisations: ***Acorn Consortium, which comprised -***
  - *John Laing plc*; infrastructure investor and developer, delivered 15 UK hospitals and over 40 health centres world wide. Lead developer partner, with 40% stake in Acorn
  - *Laing O'Rourke*; leading multi-national construction company with 40% equity stake in Acorn. During construction LOR provided training and employment to local unemployed
  - *Interserve plc*; multi-national services company; 20% equity stake in Acorn.
- Acorn provided 10% equity at the highest IRR taking risk on construction, delivery and operational maintenance; John Laing arranged financing from Capital market contribution and bank debt.
- John Laing's strategy is to provide long term investment in sustainable public infrastructure, working in partnership with public bodies across all sectors to deliver projects that may not be achievable through public finance alone. John Laing is independent of a supply chain and can use its expertise to work transparently and flexibly with the public sector to produce the highest quality outcomes:  
objectives which are aligned with **SDGs 3, 4,5,7,8, 11, 12, 13, 15, 16** through the active implementation of **SDG 17** through partnership working in all projects.

## **Case 8**

**United Kingdom**

**Health Sector**

**Forth Valley Royal Hospital**



## Forth Valley Royal Hospital

Peter Ward, [peter.ward@laing.com](mailto:peter.ward@laing.com)

Public Organization, managing the public interest: *NHS Forth Valley*

Private Organization, developing the project: *John Laing*

Capital Providers, financing the project: *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** *Significant improvement in access to good quality care, and efficient services*

**Strategy** *Consolidation of hospitals in Stirling and Falkirk to a single, modern facility*

**Project KPI's** *Improved inpatient and ambulatory care and better links with other providers*

**Impact** *Ensuring healthier lives and wellbeing for patients*

**Escalate** *Efficient links between acute and community services*

**"We the people"** *Better health outcomes and access to good quality care*

## 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, 96,000m<sup>2</sup>, 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: 96,000m<sup>2</sup>
- 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 & 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



## **Case 9**

### **Australia and Spain**

#### **Health Sector**

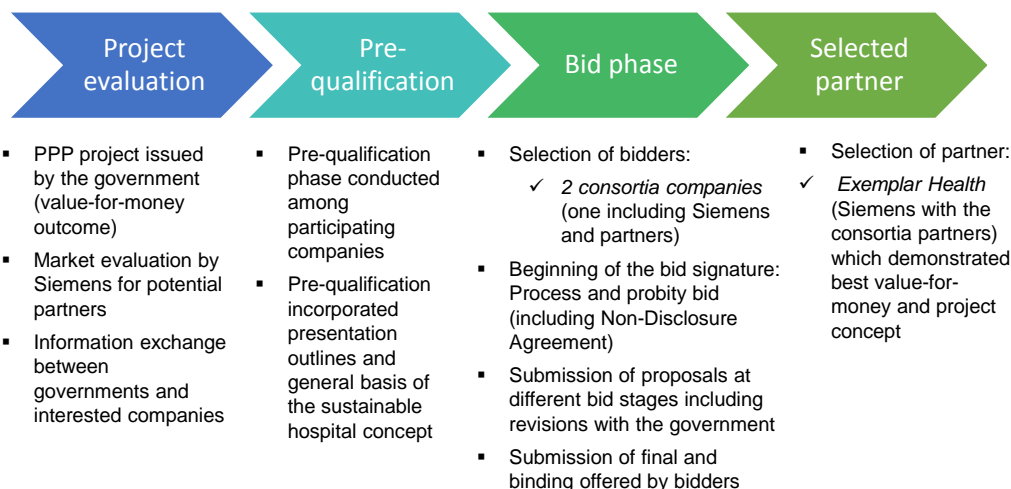
#### **Sunshine Coast and Cartagena & Mar Menor Hospitals**

## Example 1: Sunshine Coast University Hospital PPP QLD Australia

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



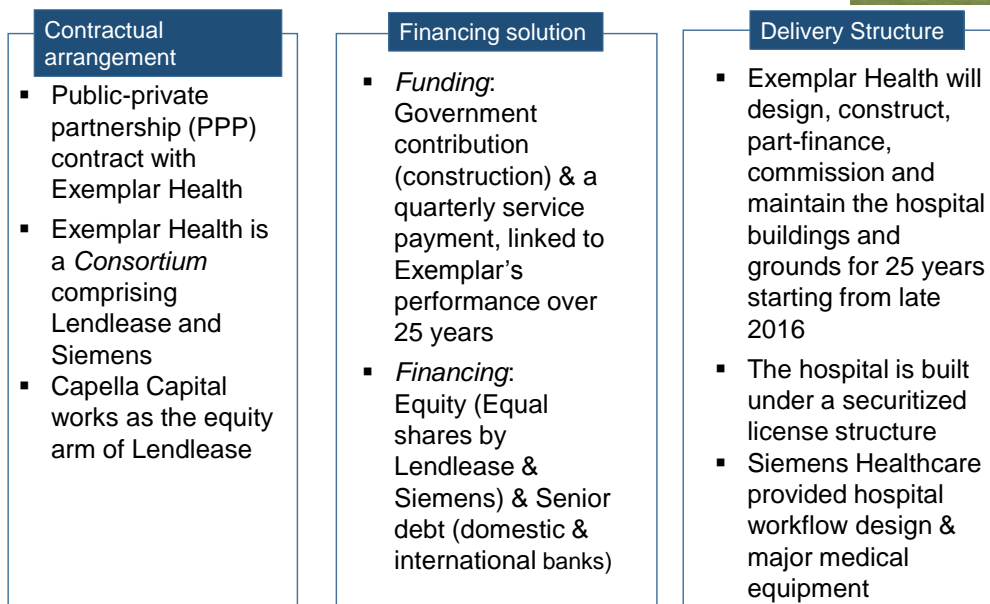
### Negotiation process between SFS and the Government



## Example 1 cont'd: Sunshine Coast University Hospital PPP QLD Australia









### Contract, Financing Solution and Service Scope









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

Impact on  
the SDGs

|   |   |  |
|---|---|--|
|  <ul style="list-style-type: none"> <li>• <b>Free health services</b> to meet the growing demand (estimated 10,000 patients each year; 738 beds)</li> </ul>  |  <ul style="list-style-type: none"> <li>• <b>Teaching and research projects</b> in first-class facilities for doctors and clinical staff at the Sunshine Coast Health Campus</li> </ul>  |  <ul style="list-style-type: none"> <li>• <b>Creation of thousands jobs</b> during construction &amp; each project milestone</li> <li>• Catalyst for local and commercial residential development</li> </ul> |
|  <ul style="list-style-type: none"> <li>• <b>Sustainable Hospital features:</b> Renewable infrastructure, energy efficient, sustainable management systems</li> <li>• <b>Community engagement:</b> Project decision-making groups</li> </ul> |  <ul style="list-style-type: none"> <li>• <b>4-star Green Star Rating Building</b> ('Design &amp; As Built') Green Building Council Australia: <ul style="list-style-type: none"> <li>• Measures to protect the ecology of wetlands during construction &amp; operation</li> </ul> </li> </ul> |  <ul style="list-style-type: none"> <li>• <b>PPP framework</b> with a sustainable approach, enhancing value for money over 25 years</li> </ul>   |

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

Impact on  
the SDGs

| Initial Situation  | The infra –Solution -MES   | Benefits after 5 years   |
|--|--|--|
|  <ul style="list-style-type: none"> <li>▪ <b>Increasing population with more healthcare demands</b> in the coastal areas of Cartagena and Mar Menor of the Murcia region</li> <li>▪ The Ministry of Health of Murcia was also <b>facing budgetary constraints</b> for the investment required to fill the infrastructure gap</li> <li>▪ Quality of infrastructure and technology, along with operational efficiency presented key aspects required to improve the <b>quality of care</b></li> </ul> | <ul style="list-style-type: none"> <li>▪ The Ministry of Healthcare of Murcia required a solution that could <b>provide financial security and high quality of care</b> with the best possible cost-benefit ratios over the long term</li> <li>▪ <b>A PPP project framework</b> was introduced to cover the infrastructure gap for 25 years, including investment in 1000 beds</li> <li>▪ <b>A Managed Equipment Service (MES) model</b> was developed by Siemens Healthcare to <b>provide technology, advanced management services</b> over 15 years under the PPP structure</li> <li>▪ Siemens Financial Services also financed the project</li> </ul> |  <p>Serving to the good health and well-being of <b>382 million residents</b></p>  <p>Comprehensive training to clinical staff with on-site technical consultancy expertise</p>  <p>More than <b>20,000 of state-of-art medical devices</b> with guaranteed technological innovations over the long term</p>  <p>Sustainable management of medical assets, leading to <b>less administrative costs, more patient throughput, and improved workflow times</b></p>  <p>Transformative and innovative <b>performance-based partnership model</b>, enabling long-term financial certainty</p> |

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

**Green + Hospitals Check** is a comprehensive 360-degree overview of all relevant areas of the hospital 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 and organization of functional areas

#### 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 the SDGs

#### 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



- 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 the public, sustainable financial situation
- Potential for further improvement 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 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 customers   |
| SDGs as part of Siemens Healthcare and SFS strategies | <ul style="list-style-type: none"> <li>✓ Siemens Healthcare drives sustainable healthcare with focus on efficiency and quality of patient care, giving access to health services to the world.</li> <li>✓ SFS with focus on financing and long-term risk participation contribute to the development of sustainable projects worldwide.</li> </ul> |



## 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 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, particularly 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

## **Case 10**

### **Mongolia**

#### **Education Sector**

#### **Kindergartens Retrofitting**

# Schools and kindergartens retrofitting

Name of the speaker and email contact: Bekhbat Sodnom, bekhbat@gmail.com

Public Organization, managing the public interest: Ulaanbaatar city

Private Organization, developing the project: Ulaanbaatar Development corporation JSC (UBDC)

Capital Providers, financing the project: Private sector/ City budget

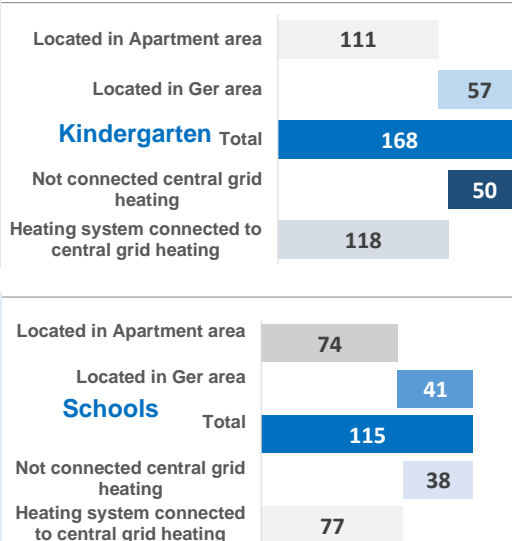
Why is this project a Case Study for PPPs based on SDGs:

|                 |   |  |
|-----------------|---|--|
| 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

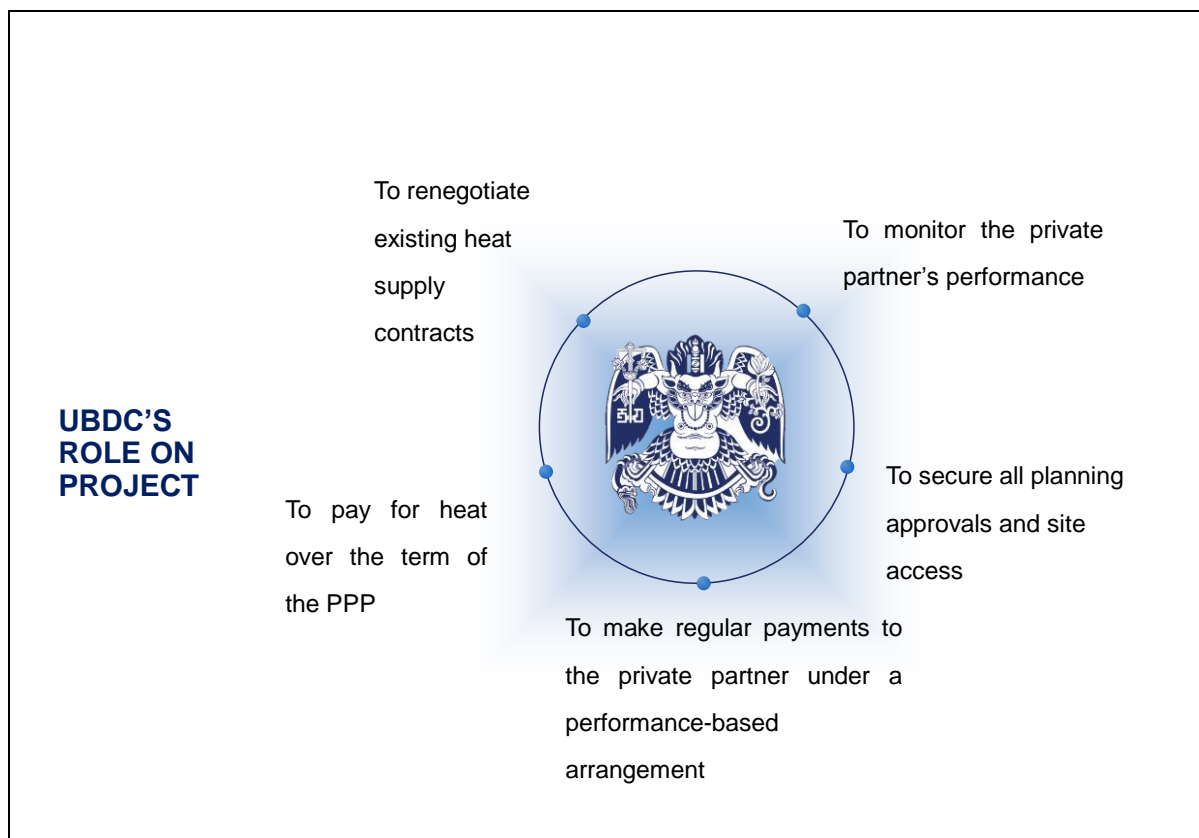
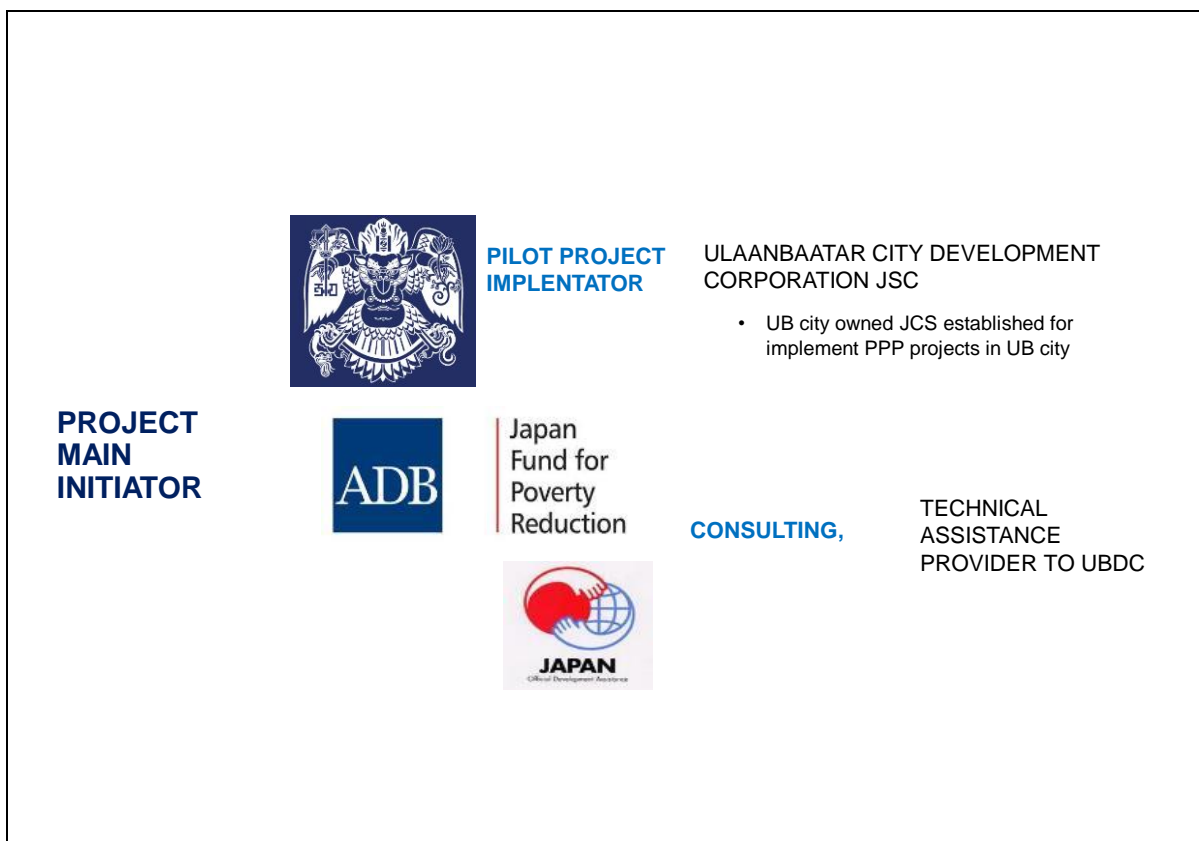
IN ULAANBAATAR THERE ARE 203 SCHOOLS, 115 OF THEM BEING STATE-OWNED AND 431 KINDERGARTENS, 181 OF THEM BEING STATE-OWNED.

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.



## ADB & UBDC PILOT

## PROJECT LOCATION

### PROJECT LOCATION



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

1. SHD kindergarten no 91 (connected central heating)
2. SHD school no 107 (stand-alone heat-only boilers)
3. BZD kindergarten no 82 (connected central heating)
4. BZD school no 85 and its dormitory (stand-alone heat-only boilers)
5. 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**

## 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**

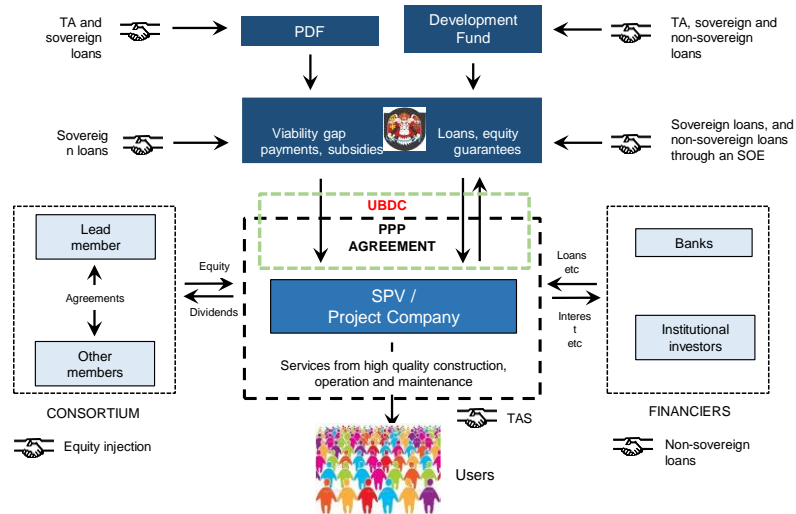
**Renovated kindergarten building will be transferred to UB city** • Ownership right maintained by UB city

**LEASE**

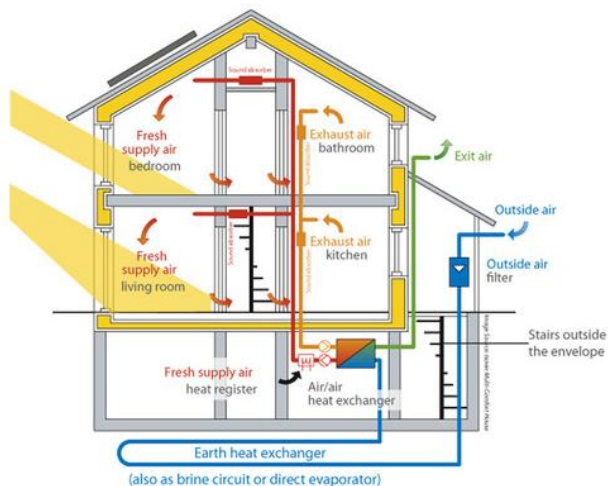
**5-10 year leasing payment a performance-based indicator**

- Monitor private partner performance

## PROJECT VIEW



## CONSIDERING TECHNOLOGY



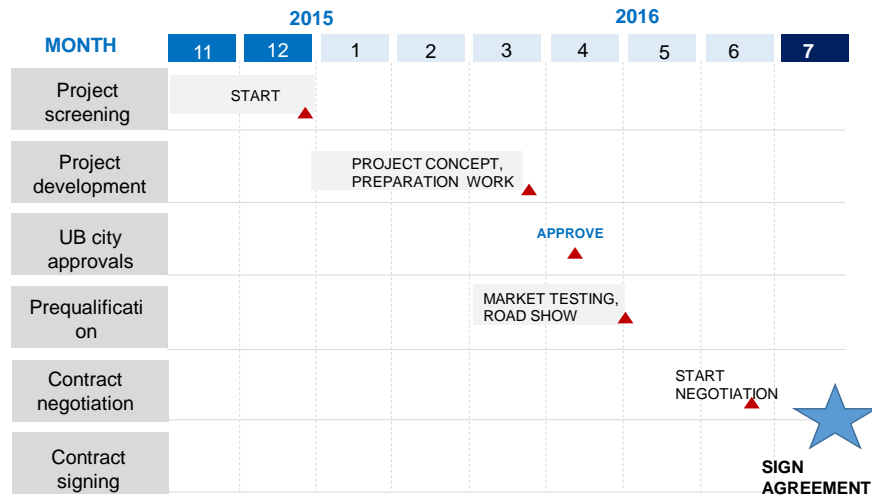
Passive house standard is a sensible alternative for school, kindergarden buildings.

- 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



## EXPECTED IMPACT OF PILOT PROJECT

|                                | HIGH IMPACT | SOME IMPACT | NO IMPACT |
|--------------------------------|-------------|-------------|-----------|
| • QUALITY OF EDUCATION         | ✓           |             |           |
| • COMBAT CLIMATE CHANGE        |             | ✓           |           |
| • WELL BEING- HEALTHY          | ✓           |             |           |
| • CO2 EMISSION                 | ✓           |             |           |
| • GENDER INEQUALITY            |             |             | ✓         |
| • WATER & SANITATION           |             |             | ✓         |
| • PROTECT OCEAN                |             |             |           |
| • AFFORDABLE SUSTAINING ENERGY | ✓           |             |           |



## **Case 11**

### **Armenia**

#### **Water Sector**

#### **Public Private Partnerships in the Water Sector in Armenia**

# Public Private Partnership in the Water Sector of Armenia

15 years of PPP experience

***Gagik Khachatryan***

Advisor of Prime Minister of Armenia  
gagik.q.khachatryan@gov.am



## Content

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



## Background and Rationale for PPPs 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 water supply was at hazardous level.
- The financial situation of the water utilities was precarious.



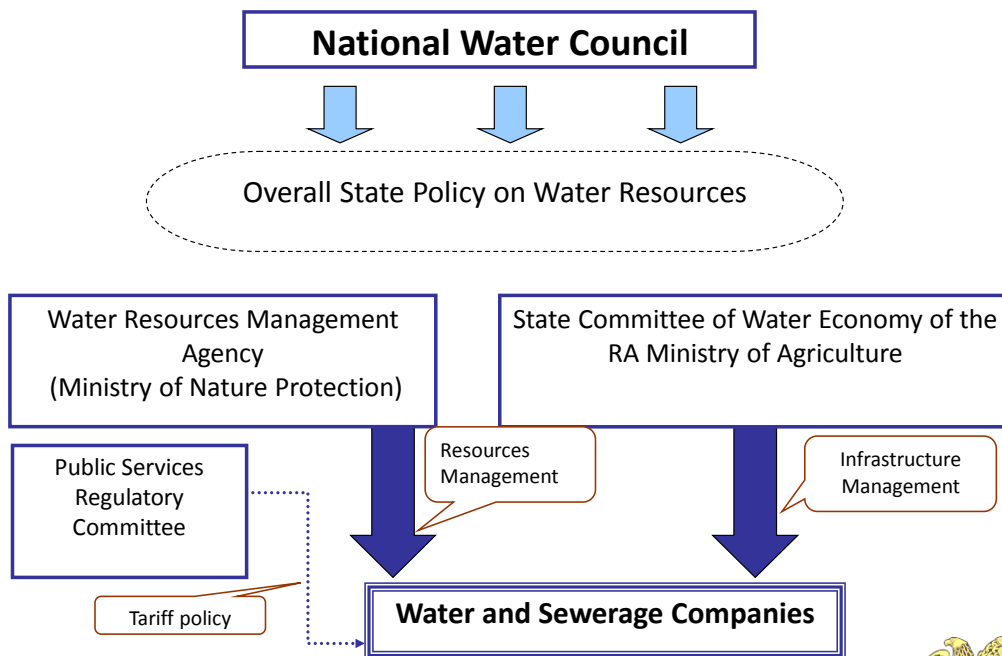
## The main objectives of the reforms

- 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

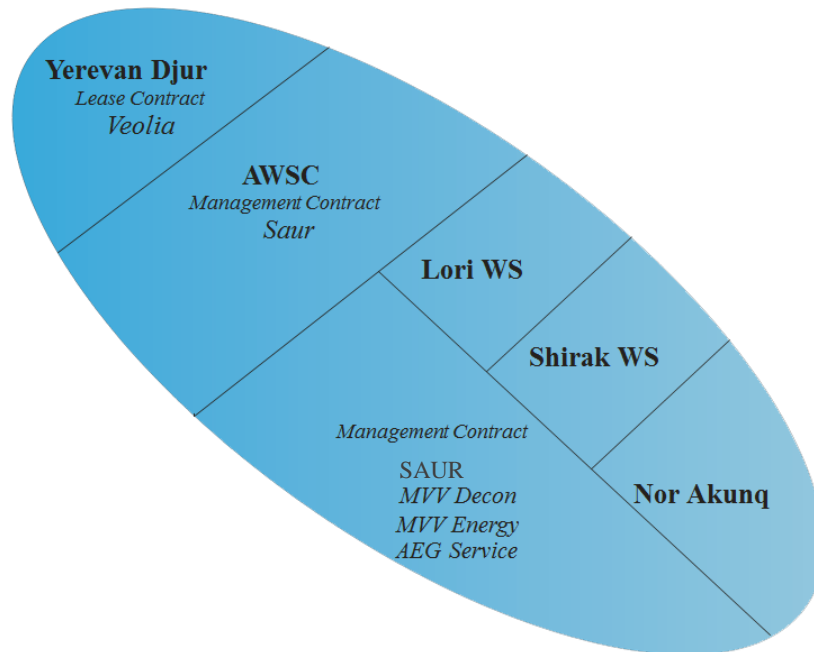


## Main Directions of the Reforms

Legal Reforms  
Institutional Reforms  
Investment Priorities  
Tariff Policy  
Water Metering



# Water Supply Companies of Armenia



## Yerevan Djur CJSC

Form of management: **Lease contract**

Operator: **Véolia, France**

Term of leasing: **2006-2016**

Service area: **Yerevan city and nearby 32 rural settlements**

Population under the service area: **1 123 thousand people**



## Comparative Data of Yerevan Water Utility

| <b>Main Performance Indicators</b> | <b>One year before Private Sector Involvement, /2000/</b> | <b>At the end of the Management Contract with A-Utility, /2005/</b> | <b>Lease Contract with Véolia Water, /2015/</b> |
|------------------------------------|---|---|---|
| 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

Form of management: **Management Contract**

Operator: **Saur, France**

Term of contract: **2004-2016**

Service area: **37 urban and 271 rural settlements**

Population under the service area: **612 thousand people**



## Progress of Key Performance Indicators of Armenian Water and Sewerage Company

| <b>Main Performance Indicators</b> | <b>2004<br/>Base Year</b> | <b>2015</b> |
|------------------------------------|---------------------------|-------------|
| 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

- *Form of management:* **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 under the service area:* **375 000 people**

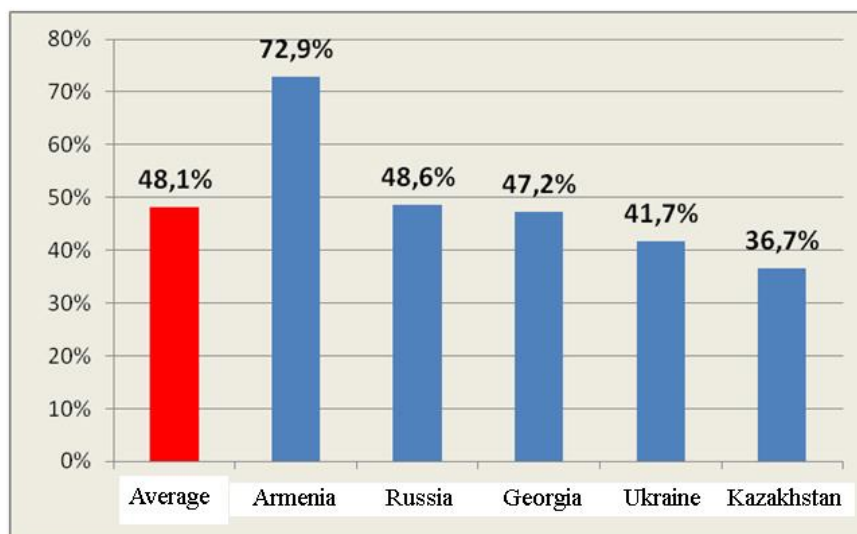


## Progress of Key Performance Indicators 3 utilities

| <b>Performance Indicators of 3 RC</b>        | <b>Company</b> | <b>2009 Base Year</b> | <b>2015</b> |
|--|----------------|-----------------------|-------------|
| Water Supply Duration (hours)                | Lori WS        | 6.5                   | 22          |
|  | Shirak WS      | 7.7                   | 22          |
|  | Nor Akunq      | 21.1                  | 24          |
| Water Quality (Number of noncompliant 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 the 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 the Second Generation of the Reforms

- ✓ Initiating necessary arrangements and actions related with main strategic directions and policy issues
- ✓ Applying for a lease contract of 15 years
- ✓ Transferring the duties of 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**
- **The different kinds of PPP models need to be adapted to case-specific contexts**



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

### **Water duration in the country is currently 19-23 hours**

Universal and equitable access to water has been provided

### **Responsible consumption by all**

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

### **Water complies with quality standards**

Access to safe water has been provided

### **Solved health issues**

Coming from improper water quality before

### **Created relatively resilient infrastructures**

Encourages the private sector to implement advanced forms of PPPs



## Impact of the Armenian Reforms in the framework of the SDGs (2)

### **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

### **Mechanisms of partnerships and the role of respective national authorities have been set**

In the framework for managing water sector under 1<sup>st</sup> and 2<sup>nd</sup> generation of reforms the role of respective national authorities was set

### **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



## **Case 12**

### **Madagascar**

### **Water Sector**

### **Androy Region Water Network**

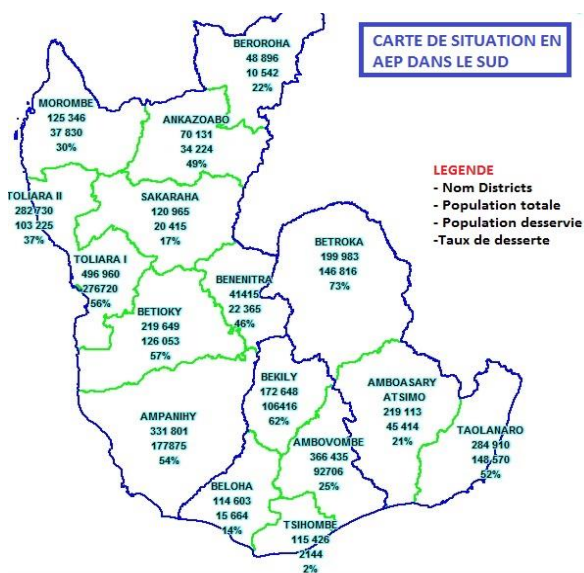
# WATER DISTRIBUTION NETWORK FOR THE SOUTH EAST OF MADAGASCAR (ANDROY REGION)

## Project:

- Construction and sustainability of impluvium
- Dams and pipeline construction  
(Transfer since the rivers of Efaho, Mandrare and Menarandra)



MINISTRY OF ECONOMY AND PLANNING  
RAZAFIMAMONJY Jean Baptiste  
Regional Director of Economy and Planning – Analamanaga  
Focal Point PPP - Madagascar



**LEGENDE**  
- Nom Districts  
- Population totale  
- Population desservie  
- Taux de desserte

Access rate to  
water in the  
South of  
Madagascar



## Context of Madagascar

- Population: 23.2 Million inhabitants (July 2014 est.)
- Area: 590 000 km<sup>2</sup>
- Madagascar is prone to natural disasters such as cyclones, flooding, and drought
- Amongst countries with the lowest access rate to drinking water (6<sup>th</sup> last in drinking water, 4<sup>th</sup> 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 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). Some are still at studies stages, but there is no long-term SOLUTION to this plague (famine and drought) yet.
- It is more than urgent to have 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, the Government warns extreme food shortages in the south. Several international organization came and brought help to the south (World Food Program; UNICEF, USAID, JICA, ...).
- The Government collects help and distributes this /Telethon)



## Effects of the project on 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 the extent of environmental destruction and that people will 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 at macro level



## SDGs related to the project

- The project has high impact on every SDGs.
- In particular, Goal 6 'Ensure availability and sustainable management of water and sanitation for all'.



## Why PPPs and what to do ?

- Because of the lack of fund, Government could not find sustainable solutions for more than 50 years
- The expertise and capital of private entities are essential
- The Ministry of Economy and Planning has transversal responsibility, who brings the project together and liaise between the Ministry of Water and Sanitation and the Ministry in charge of Finances and Budget
- The Government has to learn from the successful PPP stories of the other countries
- Take and share the lessons learned from the UNECE PPP forum
- Contact and negotiate the project with existing partners 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 the Government does not have enough funds, PPP is the only way to solve the problem.
- Private expertise and Capital is needed.



## **Case 13**

### **Russian Federation**

#### **Water Sector**

#### **Clean Don**



**Clean Don (Rostov on Don, Russia)**  
**Dmitry V. PUZANOV; puzanov@evraziyskiy.ru**

Public Organization, managing the public interest:  
Private Organization, developing the project:  
Capital Providers, financing the project:

City Administration of Rostov on Don  
ABVK eco  
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.

**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

## About this project

- **“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.
- **The 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

### 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 fairly 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. It has a **very high environmental impact on the Don river** – mostly through the 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 is 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 the construction of wastewater networks, the cost of property and land plots has raised; retail and other businesses have increased their presence in these areas.

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

- Reduction of water-related diseases;
- Improvement of the recreational facilities located at the Don river;
- Improving access to modern sanitation infrastructure of low-income population ;
- 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 m<sup>2</sup>**).



### 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 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 components meeting the environmental, economical and technical criteria.

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

### 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** were willing to pay the contractors; but the contractors had problems to deliver in time → **significant delay of all components**.

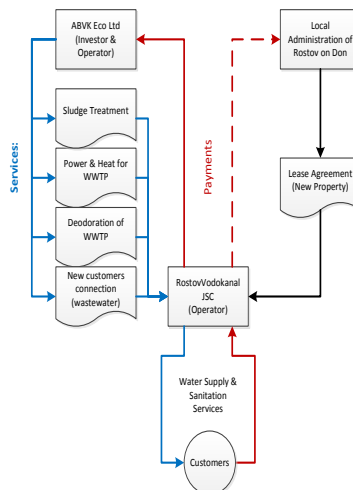
**The private company** had problems with money (no project finance available) and performance (insolvency of the German contractor) → **only one component was built in time**.

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.



## 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 m<sup>2</sup> 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.



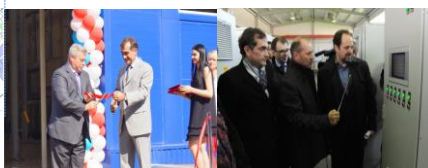
## Project Efficiency\*:

| 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 «АВК-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 иловых осадков очистных сооружений канализации в г. Ростов-на-Дону» состоятся 16 сентября 2013 г. в 14:00 по адресу: 344019, г. Ростов-на-Дону, ул. М. Горького, 29Б, конференц-зал, 4 эт.  
 Общественные обсуждения организуются администрацией МО г. Ростов-на-Дону. (Постановление администрации города Ростов-на-Дону № 834 от 05.08.2013 г.)  
 С материалами ОВОС можно ознакомиться по адресу: 344019, г. Ростов-на-Дону, ул. М. Горького, 29Б, конференц-зал, 4 эт., с 8:00 до 17:00 в рабочие дни.  
 Заявления и предложения принимаются в письменном виде по адресу: 344019, г. Ростов-на-Дону, ул. М. Горького, 29Б, конференц-зал, 4 эт., с 8:00 до 17:00 в рабочие дни по факсу (863) 296-91-60, по e-mail: obo@avk-eco.ru. Контактное лицо: Худонин Жанна Зауровна, тел. (863) 296-91-65.

## Impact on People & Planet:

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

PEOPLE

Access to Water and Sanitation is essential for the modern 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 people connected to existing infrastructure and over 30,000 new customers (**in total +5%**).

## PROSPERITY

Construction of centralized sewer system allows **low-income residents** to access 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 private parties.

**Synergetic effectiveness:**  
 1 + 1 > 2

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%.

## PEACE

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

OTHER IMPACT:



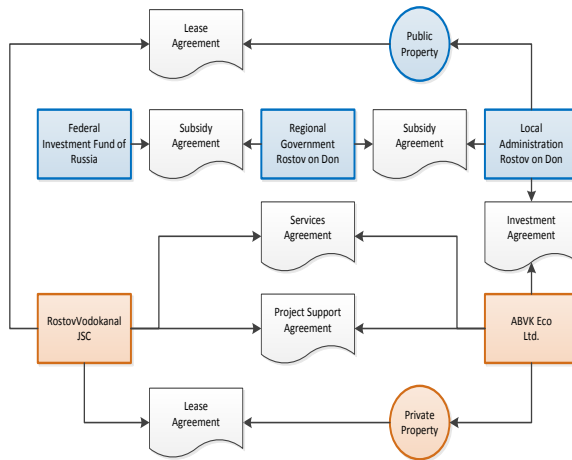
| Sustainable Development Goals   | No Impact | Some Impact | High Impact | Comments to Impact  |
|---|-----------|-------------|-------------|---|
| 1. END POVERTY  |           | ●           |             | Access to centralized sanitation for low-income customers   |
| 2. END HUNGER   | ●         |             |             |   |
| 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, SUSTAINABLE INDUSTRIALIZATION, FOSTER INNOVATION                 |           | ●           |             | Best available 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, ACCOUNTABLE INSTITUTIONS AT ALL LEVELS | ●         |             |             |   |
| 17. MECHANISMS AND PARTNERSHIPS TO REACH THE GOALS  |           |             | ●           | Public-Private Partnership in action  |

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

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



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

During the project preparation we observed **many changes in the team of the public partner** (three Federal Ministries, two Governors and two Mayors): people came and went but the **team at the private side didn't change** – the same people went through all stages from initiation to current operation.

Our company has got both: the negative and the positive experience, and all obstacles helped us to grow.

We've learned many lessons; the most important is **communication**: inside of the team, between the private and public, and with other stakeholders.

We have received support at the highest level of authorities because we solve particular problems for particular people living in the particular place.

The synergy of activities from the public and the private sides; their experience and different skills applied have helped us to achieve the number of goals: environmental, social & economical – all of them meet the SDGs.



## **Case 14**

### **China**

#### **Water Sector**

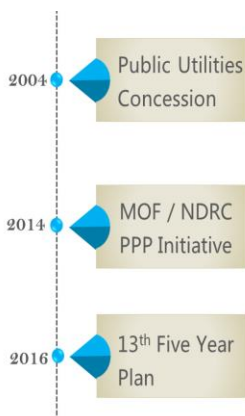
#### **Jinan and Sponge City**

# China Everbright – Environmental Water Projects in China

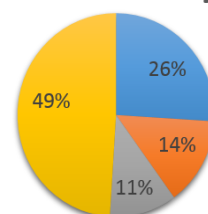
Mr. Wang Tianyi : [wangty@ebchinaintl.com](mailto:wangty@ebchinaintl.com)  
Ms. Peng Pei : [pengp@ebwater.com](mailto:pengp@ebwater.com)



- 4 municipalities, 22 provinces, 5 autonomous regions, 2 special administrative regions
- 1.3 billion population
- 9.6 million km<sup>2</sup>



## China PPP Projects (2013-2016)



- ¥8.3 trillion (\$1.27 trillion#)
- 7,110 projects
- 19 industries

■ Municipal ■ Eco & Env ■ Transportation ■ Others

\* As of 29 Feb 2016, PPP Center, Ministry of Finance of PRC. Foreign currency translation is based on United States Dollar (\$) 6.5 : Renminbi (¥)1 throughout these slides.



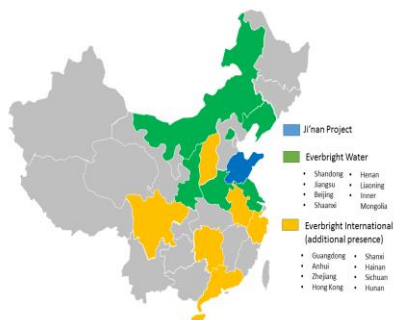
Shanxi Ningwu  
Wind Power Project



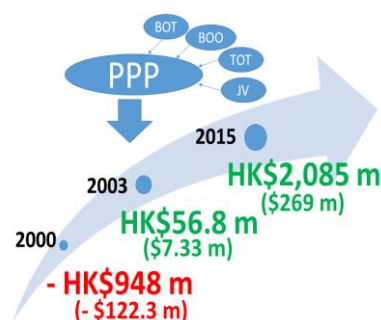
Shandong Ji'nan  
Waste Water Treatment Project



Hainan Sanya  
Waste-to-energy  
Project



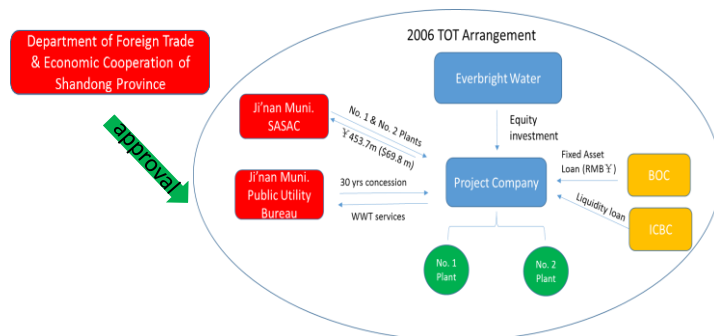
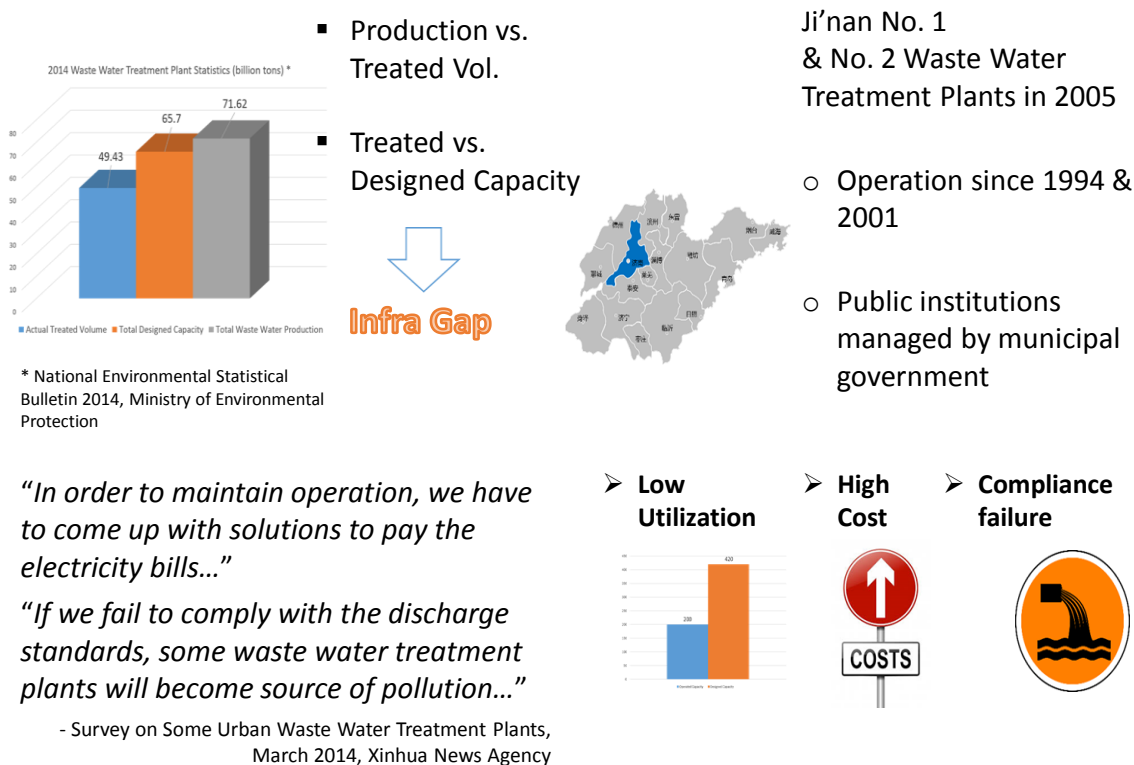
❖ Everbright International is also in Germany.



Everbright International's Profit Growth\*

\* Exchange rate: USD \$7.75 to HK\$1.00





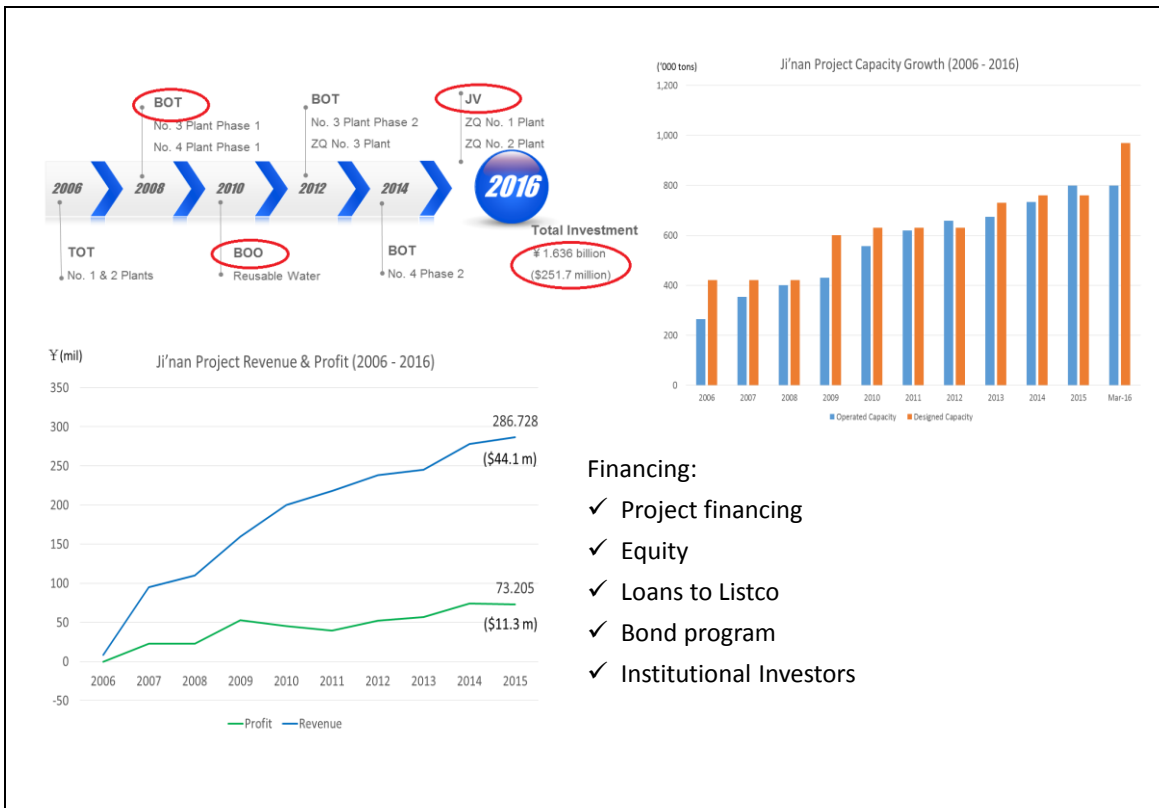
- ### Ji'nan Project in 2006
- Initial investment: ¥ 453.7 m (\$69.8m)
  - Designed capacity: 420k tons/day
  - Operated capacity: 200k tons / day

- ### 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





Ji'nan No. 3 Waste Water Treatment Plant

#### Ji'nan Project

- ✓ 2.96 mil ppl & 360 km<sup>2</sup> service area
- ✓ Treated 2 billion tons of 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



Ji'nan No. 2 Waste Water Treatment Plant

#### 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

- ✓ Created > 4,200 jobs
- ✓ Processed 30.2 million tons of waste
- ✓ Generated 9.9 billion kWh of green electricity
- ✓ Fulfilled annual electricity consumption of 8.25 million households
- ✓ Saved 3.96 million tons of standard coal
- ✓ Reduced CO<sub>2</sub> emission by 11.6 million tons
- ✓ Prevented 1.29 billion trees from being cut down

# Impact on the Sustainable Development Goal No. 17

## 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:

- ✓ Provided quality education
- ✓ Improved gender equality
- ✓ Reduced inequalities within and among countries
- ✓ Made cities safer, more inclusive, resilient, and sustainable
- ✓ Created mechanisms and partnerships to reach the Sustainable Development Goals



Qingdao Waste Water  
Treatment Project



Everbright International True Love  
School



Earth Hour 2014 in Hong  
Kong

## **Case 15**

### **Portugal**

#### **Water Sector**

#### **Mafra Water and Waste Water Concession**

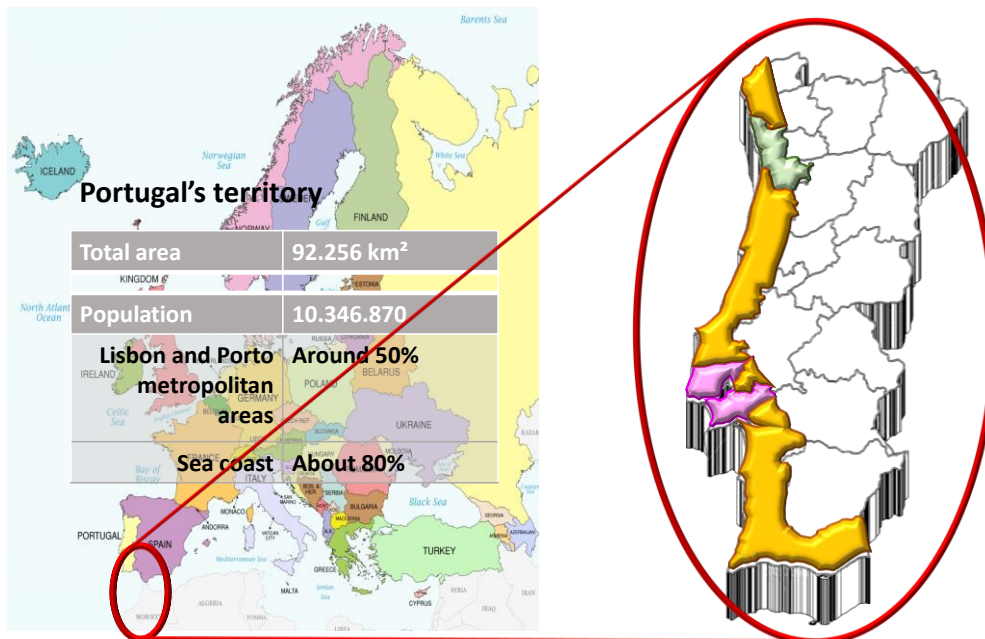
# Water and wastewater concession contract of the Mafra Municipality

Fernando Ferreira – fernando.ferreira@bewater.com.pt

**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.
- The company has 4 concession contracts in the country.
- There are 33 concession contracts in Portugal and covering about 20% of the population of Portugal.

## Municipality goals:

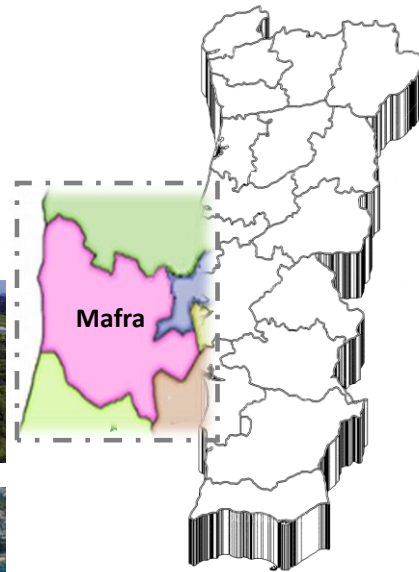
- Find a private partner with investment capacity
  - Increase coverage, construct wastewater treatment plants, and provide treatment capacity for wastewater
- Improve the quality of service to the population
- Have fair and socially acceptable tariffs

# The Mafra concession contract

## Context

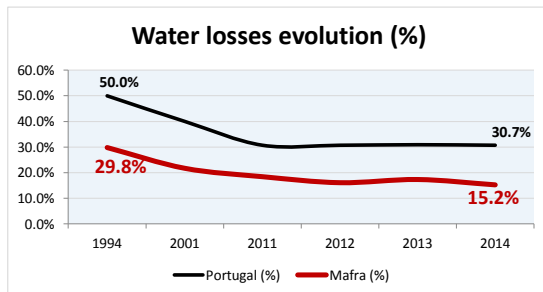
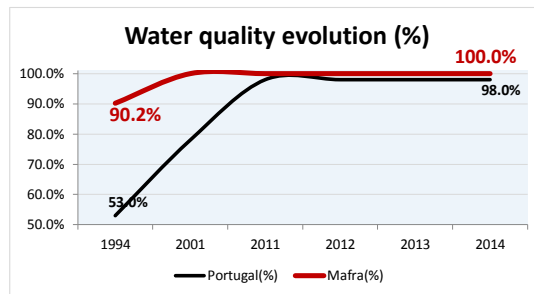
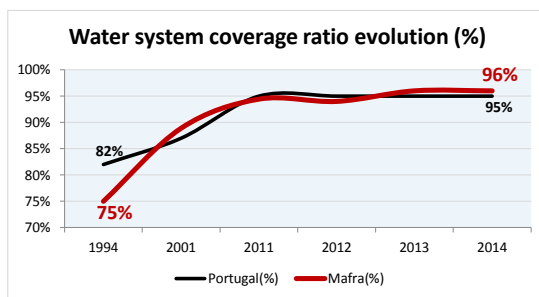
### General data (1994)

|                            |                     |
|----------------------------|---------------------|
| Total area                 | 298 km <sup>2</sup> |
| Population                 | 43.731              |
| Water system coverage      | 75%                 |
| Wastewater system coverage | 40%                 |
| Water loss                 | 30%                 |
| Water quality compliance   | 90%                 |
| Wastewater treated         | 5%                  |

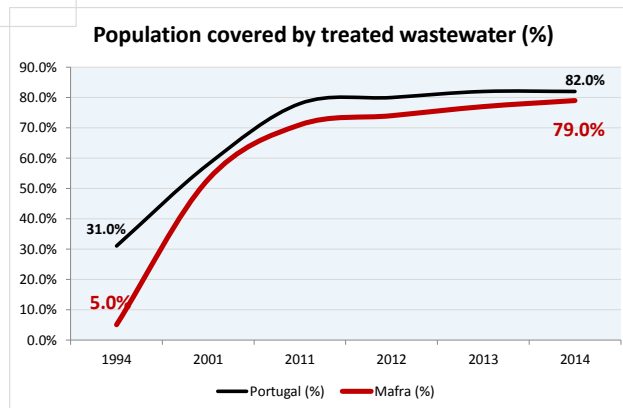
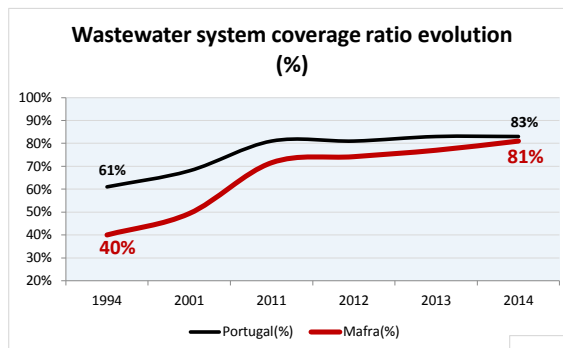


## Be Water strategy:

- 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 the relationship with the population and proximity with the costumers
- Efficient management
- Long term contract



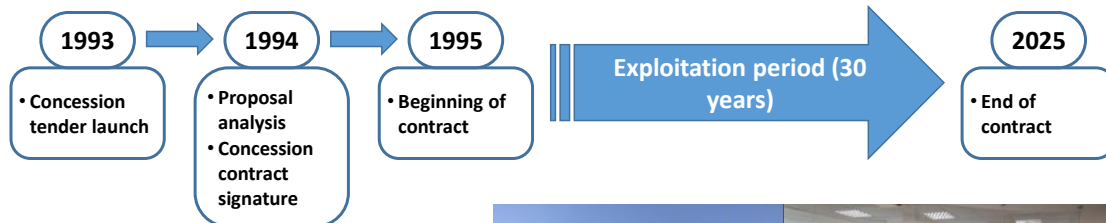
Sources: INE, ERSAR, INSAAR and Be Water



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€   |

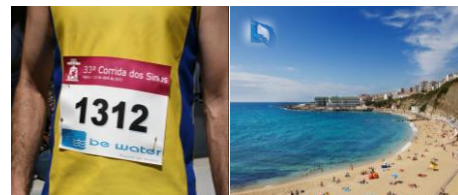


New building – improvement of working and customer conditions

Financing assured by shareholders

## Relationship with local community and the environment

- Improve quality of community life through activities
- 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

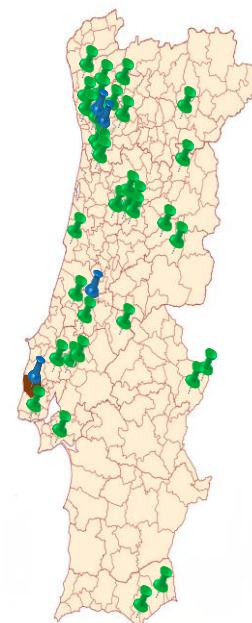




| SDGs | Sustainable Development Goals   | no impact | some impact | high impact | describe impact |
|------|---|-----------|-------------|-------------|-----------------|
| 1    | end poverty   |           |             |             |                 |
| 2    | end hunger  | X         |             |             |                 |
| 3    | well being - healthy lives  | X         |             |             |                 |
| 4    | quality education   |           |             | X           |                 |
| 5    | gender equality   | X         |             |             |                 |
| 6    | water and sanitation for all  | X         |             |             |                 |
| 7    | affordable and sustainable energy   |           |             | X           |                 |
| 8    | economic growth & decent jobs for all   |           | X           |             |                 |
| 9    | resilient infrastructure, sustainable industrialization, foster innovation                |           |             | X           |                 |
| 10   | reduce inequalities within and among countries  |           |             | X           |                 |
| 11   | cities inclusive, safe, resilient and sustainable   |           | X           |             |                 |
| 12   | responsible consumption by all  |           | X           |             |                 |
| 13   | combat climate change   |           |             | X           |                 |
| 14   | protect the ocean   |           | X           |             |                 |
| 15   | take care of the earth  |           | X           |             |                 |
| 16   | peaceful and inclusive societies, justice for all, accountable institutions at all levels | X         |             |             |                 |
| 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.  
There were 33 concession contracts by 2015
- This solution can be replicated in the entire world



## **People First is also about “those” that made it happen:**

- Main drivers
  - Municipality and company supported by their teams
- Integration of public service employees in the company team
- Professional development of all staff
- Focus in providing the community with excellent public service
- Commitment, capacity and motivation of all management teams

## **Case 16**

### **Indonesia**

### **Energy Sector**

### **Central Java Power Plant**

# Central Java Power Plant

Name of the speaker and email contact: Sinthya Roesly (CEO of IIGF); [s.roesly@iigf.co.id](mailto:s.roesly@iigf.co.id)

Public Organization, managing the public interest: PT PLN (State Electricity Company) as the Contracting Agency

Private Organization, developing the project: PT BPI (J-Power, Itochu & Adaro consortium) as the Project Company

Capital Providers, financing the project: 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 1st PPP Project under Indonesia PPP regulation Year 2005  |
| Strategy             | → | Supporting the Project through MoF fiscal support, including the IIGF Guarantee   |
| Project KPI's        | → | Support economic growth, improve public service provision   |
| Impact               | → | Without the Project, GoI 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   |

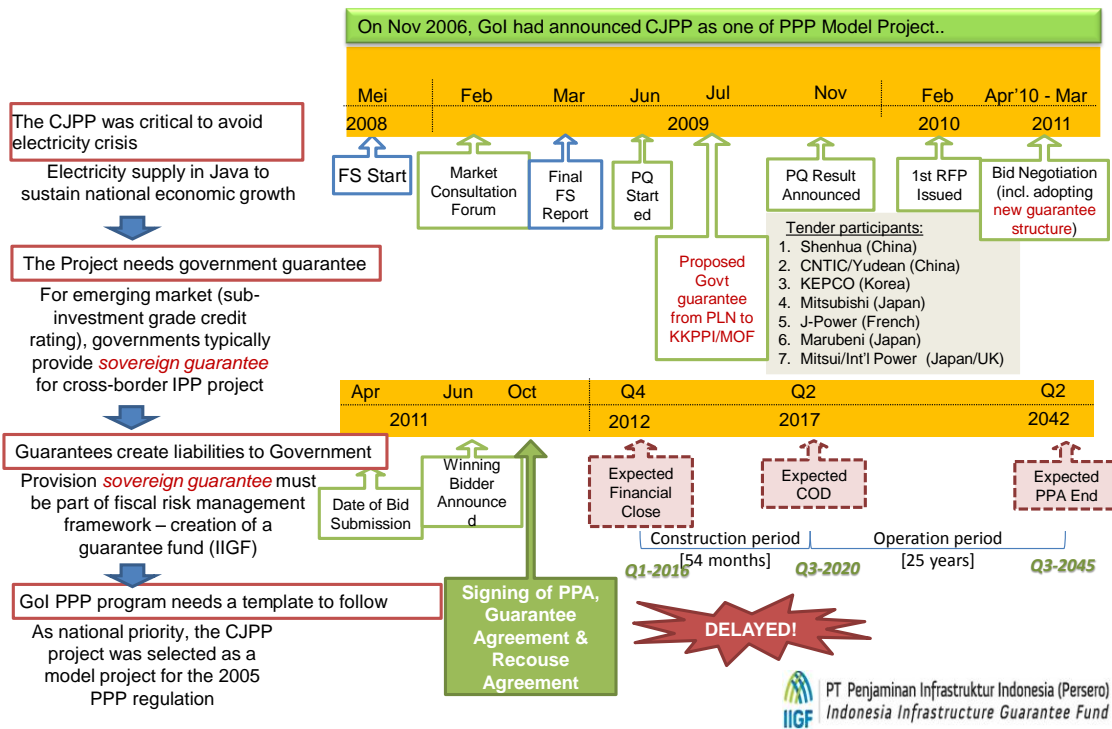


## Context:

- 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. 1st 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 Government of Indonesia (GoI) to be procured under PPP regime



## Strategy:



## 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:

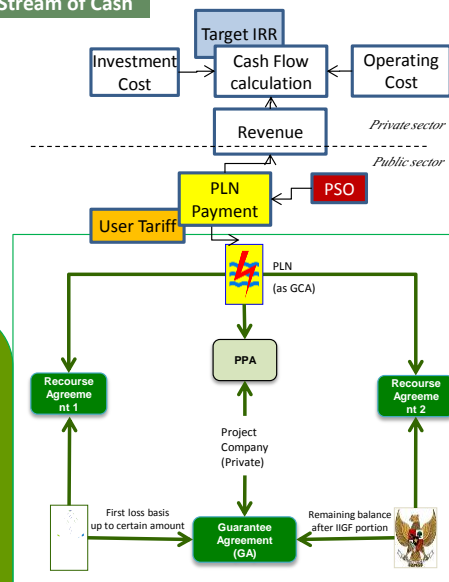
1. Sellers EOD
2. Tax for Special Facilities
3. Indemnity

#### Covered:

##### PLN's Payment Obligations, as in PPA

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

### The Stream of Cash



# Impact on People & 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, increasing employment, economic development and addressing the gap of affordable energy access 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

# Project Impact to the SDGs

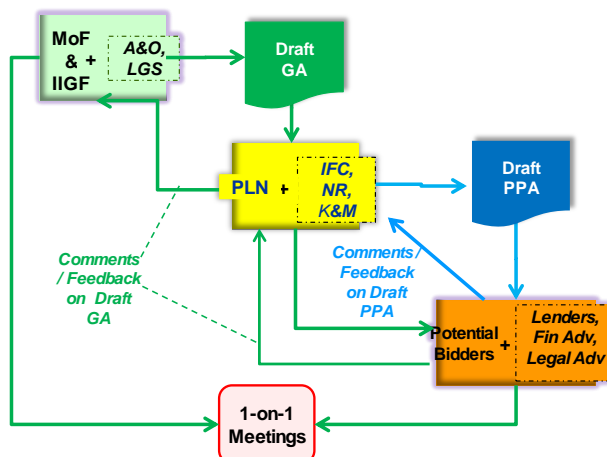
| SDGs | Sustainable Development Goals   | No Impact | Some Impact | High Impact | Describe Impact                                 |
|------|---|-----------|-------------|-------------|---|
| 1    | End poverty   |           | √           |             | Higher economic activities                      |
| 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 and decent jobs for all   |           | √           |             | Higher economic activities                      |
| 9    | Resilient infrastructure, sustainable industrialization, foster 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, with 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 society, justice for all, accountable institutions at all levels |           | √           |             | Better socio-living facilities                  |
| 17   | Mechanism and partnerships to reach the goals   |           | √           |             | Efficiency and effective through PPP            |

## Escalating the (Case Study) project:

- 1st PPP Project under Indonesia PPP regulation Year 2005
- National priority infrastructure project since 2006
- PPP Project Finance Deal of the Year 2012
- 1st PPP Project receiving IIGF guarantee
- 1st 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

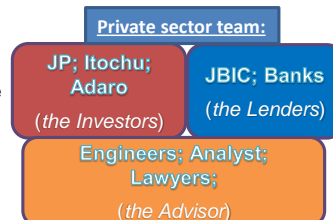
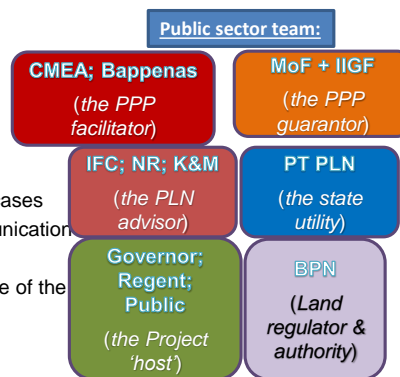


PT Penjaminan Infrastruktur Indonesia (Persero)  
Indonesia Infrastructure Guarantee Fund

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

- National Program Level**
- 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

- Sectoral / Project Level**
- 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



PT Penjaminan Infrastruktur Indonesia (Persero)  
Indonesia Infrastructure Guarantee Fund

## **Case 17**

### **Brazil**

### **Energy Sector**

### **Light for All**



## “Luz para todos”

**SPEAKER:** [Carlos Sallé Alonso](#), Director of Energy Policies & Climate Change,

- 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.



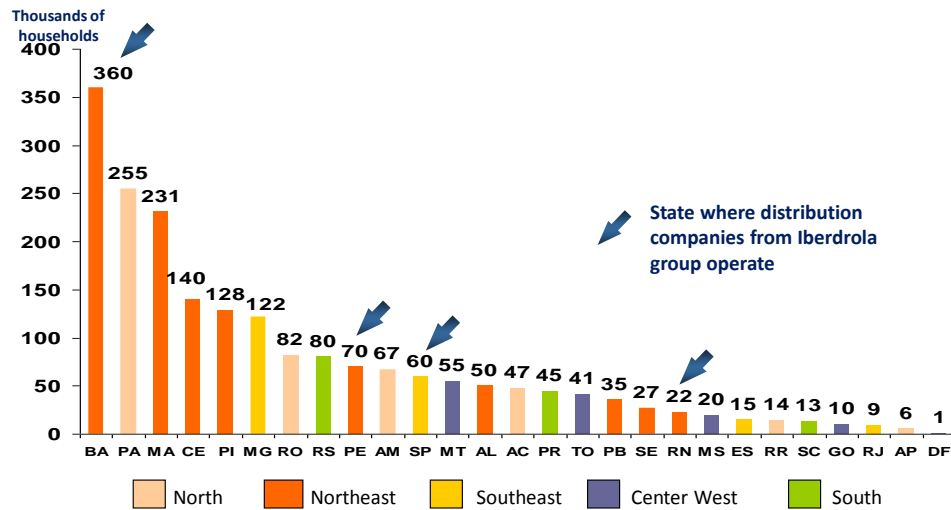
**The largest and most successful Universal Access to Electricity Supply Program in recent years**

## “Electricity for All” Program

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.

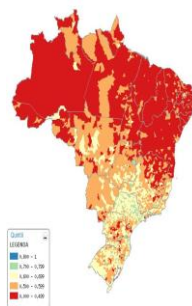




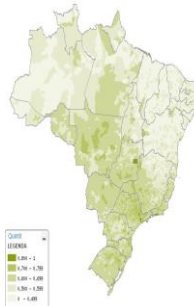
Source: Censo IBGE, con actualización, ampliación y elaboración de ABRADÉE

**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  | Eletrobras 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 11<sup>th</sup> 2003

#### Objectives:

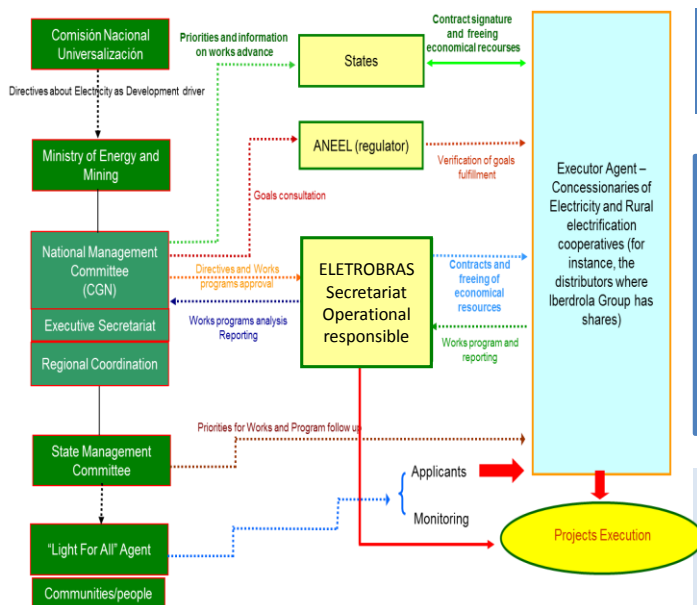
- **Guarantee access to energy in all rural zones** in 2008, with an intermediate objective of 90% in 2006
  - Priority for those zones with a low HDI and habited by families with low purchasing power
- To mitigate the impact on the rates, subsidies can be implemented with own and distributor's financial 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.



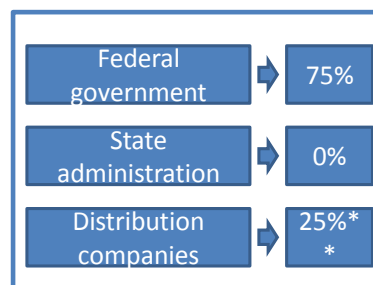
**"Luz para todos" was created to be the central axis of universal access public policy, acting as a vector of economic and social development, contributing to the reduction of poverty and hunger in the communities served and preventing rural-urban migration process**

### «Luz para todos» Governance Structure



### «Luz para todos» financing System\*

guaranteed by financing by public budget and contracts with Eletrobras and state

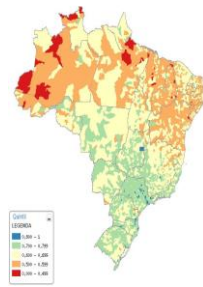


**Normative, contractual, operative and technical joint project that establishes duties/rights of all groups involved**

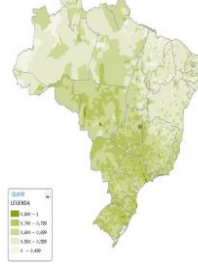
\* Distribution of the finance was originally supported by 50% the federal government (Funds CDE Eletrobras), by 10% the state administration and by 15% distribution companies, leaving the remaining percentage to be financed by soft credit lines (Funds RGR)

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

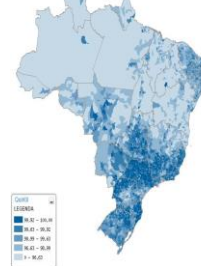
2010 - Municipal level HDI



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](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**

| SDGs | Sustainable Development Goals   | N | S | H | Describe 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 of the installations in hospitals and clinics and better air quality for the replacement of oil lamps by bulbs |
| 4    | Quality education   |   |   |   | Improvements of the installations in schools and educational centers, possibility of studying during the nights             |
| 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 policy aids   |
| 8    | Economic growth & decent jobs for all   |   |   |   | New economic opportunities and improvements on the working conditions   |
| 9    | Resilient infrastructure, sustainable industrialization, foster 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 quality for 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 with previous generation system. Avoiding deforestation                                      |
| 16   | Peaceful and inclusive societies, justice for all, accountable institutions at all levels |   |   |   | Improvement of the perception civil society has of the 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



"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 Penteado  
Assentamento Itamarati, Ponta Porã- MS



"Now we work with electrical sewing machines allowing us to sell our products even in Italy"  
Teresinha Silva  
Assentamento Caritá - Jenemoabo - BA



"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

**More than 250.000 women have initiated some economic activity after "Luz para todos" program was implemented**

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

"With a blender and a fridge I do umbú ice cream to sell"  
Carolina da Silva Neto  
Travessão de Ouro – Pipipian etnic



**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%)**

***These are some of the people that make possible this project:***

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## **Case 18**

**Ghana**

**Energy Sector**

**Cenpower Generation Company**

Name of project: **Cenpower Generation Company Limited (340 MW Power Plant in Ghana)**  
Name of the speaker and email contact: **Sanjeev Gupta, Sanjeev.Gupta@africafc.org**

Public Organization, managing the public interest: **Government of Ghana**  
Private Organization, developing the project: **Africa Finance Corporation, Sumitomo Corporation**  
Capital Providers, financing the project: **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, compliant 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 exclusively financing its public 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 mobilised 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, and 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 in 2015.
- 5) Significant levels of community engagement and interaction happened both at local (site) and national level, including Parliamentary approvals for all the major project agreements which created obligations for the Republic.

**Impact on People & Planet:**

- 1) The project operations commencement date is eagerly awaited given that it will boost grid supply by 13% - in a country that is suffering from rolling blackouts and significant economic disruption.
- 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 are 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.

Our main key success factors for escalation are commitment to excellence and best practice, Institutional partnerships, Experienced and well-capitalized developer-sponsors, Flexibility from all parties (Public and Private).

Looking forward, we should avoid weakly capitalized or technically inept sponsors.

**People First is also about “those” that made it happen:**

- 1) The main public organizations: Electricity Corporation of Ghana, Government of Ghana (at all levels across Ministries and Departments), Public Utilities Regulatory Commission (PURC), the Ghanaian Parliament, and GridCo
- 2) The main private organizations: Africa Finance Corporation (AFC), InfraCo, Cenpower Holdings Limited, Sumitomo Corporation, FMO, Rand Merchant Bank, ECIC, AIIM, Vitol S.A., Group Five.
- 3) The management teams: All the various Boards of Directors, Senior Management Teams and Key Project Teams from the various institutions, led by Oliver Tunde Andrews (Project Director and Chief Investment Officer within AFC) and Theo Sackey (Project Manager and now Chief Executive of Cenpower Generation Company Limited)

The project’s growth strategy:

AFC aims to grow by creating technical strong, well-capitalized, and internationally credible African infrastructure investment platforms that can develop large-scale economic infrastructure assets across sectors.

SDGs are core to this project ...

Sustainability is core to AFC and its platform growth strategy, as it is now manifestly impossible to build the necessary global human, political, financing and technical alliances to sustainably construct and operate such large projects for Africa’s benefit, without a razor-sharp focus on SDGs across all metrics.

## **Case 19**

### **Tajikistan**

### **Energy Sector**

### **Pamir Private Power Project (PPPP)**

# Tajikistan's First Energy Sector PPP

Daler Jumaev, General Director  
[daler.jumaev@pamirenergy.com](mailto:daler.jumaev@pamirenergy.com)



## Partners:

|  |   |
|--|---|
| 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 |

## Summary:

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



## 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.

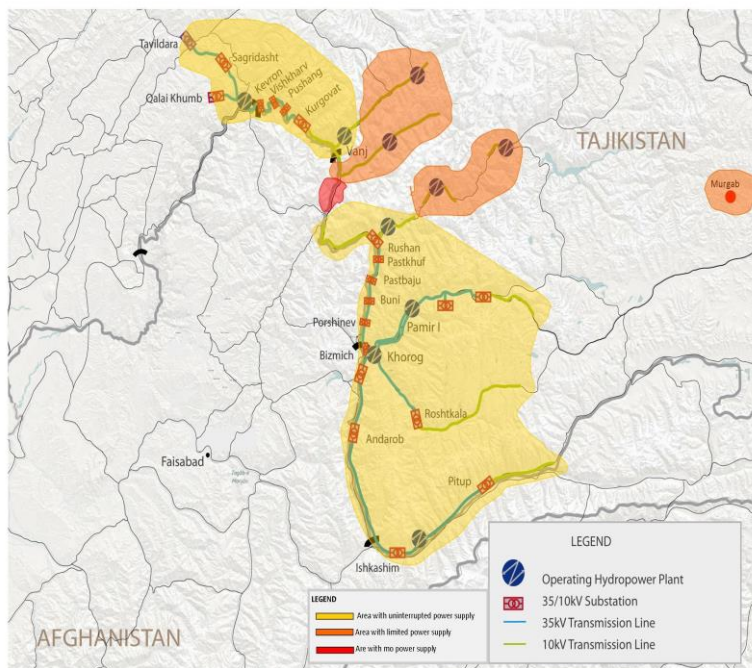
## Response

- 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.

## PPP

- 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





| 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         |
| <b>Total Existing</b>                             | <b>41.96</b> |
| <b>Sebzor</b>                                     | <b>10</b>    |
| <b>Sanobod</b>                                    | <b>125</b>   |

### Project Design – Key Issues

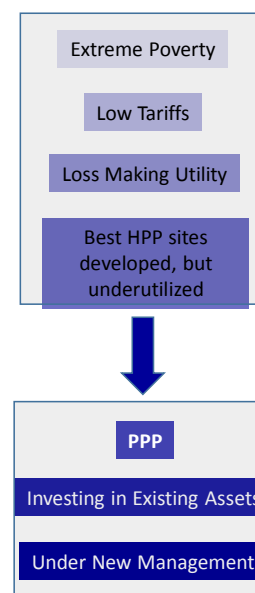
- Extremely low tariffs nationwide – Different tariffs in one region politically unacceptable
- Extreme poverty – Lowest cost model required, some form of customer support for defined period
- A loss making utility, strained Government finances – IPP model excluded
- Lowest cost hydropower site already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



- 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.





**ҚАЗАҚСТАН РЕСПУБЛИКАСЫНЫҢ ІШІ АТҚА**

ҚАЗАҚСТАН РЕСПУБЛИКАСЫНЫҢ ІШІ АТҚА

ҚАЗАҚСТАН РЕСПУБЛИКАСЫНЫҢ ІШІ АТҚА

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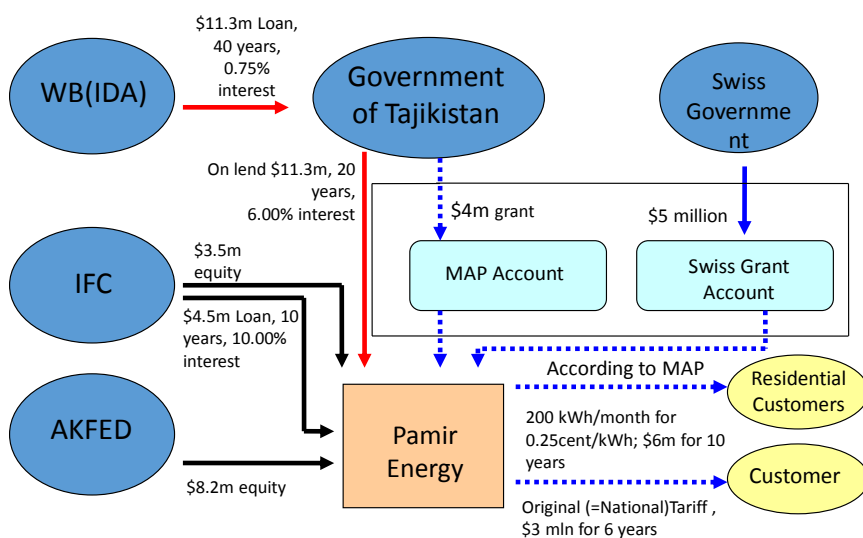


Staatsekretariat für Wirtschaft  
 Secrétariat d'Etat à l'économie  
 Segretariato di Stato dell'economia  
 State Secretariat for Economic

**eco**

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

- 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



1. \$11.3m IDA debt @0.75% (40 years) lent to the Government of Tajikistan (hereafter 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

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



## The PamirEnergy Story

**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 Yashilkul regulating structure
2. Headrace Tunnel & Penstocks
3. Turbines & Generators
4. Transmission & Distribution improvements

Contractors, equipment, materials & management were all challenges

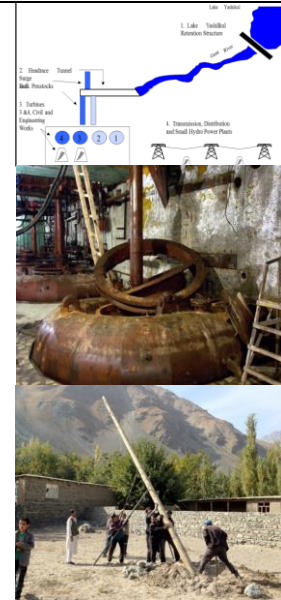
**But the project was completed on-time and to-budget. The local community, however, had not adjusted to higher tariffs and the culture of non-payment was rife.**

**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.

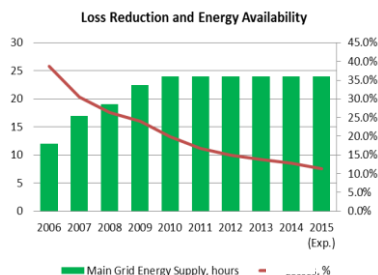
**Leveraging the initial project cost of \$26.5m, a total of \$47.3m has been invested in the region's energy sector so far, as donors recognize the commitment, implementation capacity and development impact.**



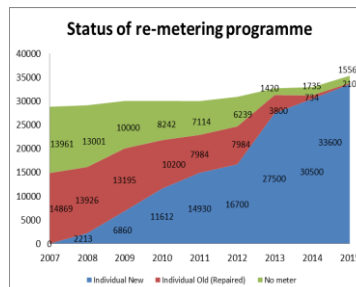
Representations des Wirtschaftsbereichen der Wirtschaft  
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## Measuring Project Output

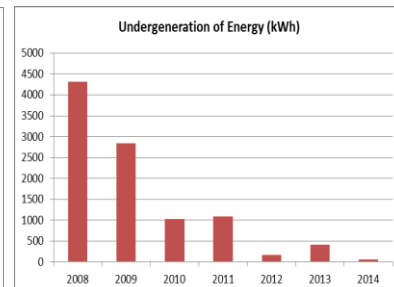
**Technical Performance.** The company measures technical performance based on 4 key metrics:



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.



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



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 the their bills
- Current total social protection cost per year: \$350k.

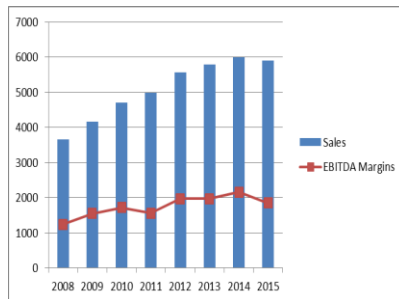
**Customer Service:** PamirEnergy has opened 6 customer service centers - previously unimagined for the utility, and a call center has been established. Customer complaints have reduced 17 times (1700%) since 2009.

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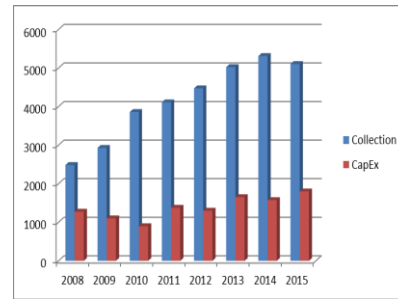


# Measuring Project Output

**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 currently 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

## PE Impact: 17 SDGs

|    | Sustainable Development Goals   | Impact | Description   |
|----|---|--------|---|
| 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 lighting and heat in classrooms, internet access & light in the evening to 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 of electricity for the Khorog Water Supply Company (32,000 people) and pumps throughout the region                 |
| 7  | Affordable and sustainable energy   |        | Supply of 24/7 electricity to 91% of the population in VMKB and 3% in Northern Afghanistan at 3.25 US cents/KWh           |
| 8  | Economic growth and decent jobs for all   |        | PE provides 651 permanent & some 200 seasonal jobs and enables economic growth  |
| 9  | Resilient infrastructure, sustainable industrialization, foster 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   |        | PamirEnergy was the first Tajik entity to use carbon credits and generates 100% renewable energy                          |
| 14 | Protect the ocean   |        | Tajikistan is a landlocked country  |
| 15 | Take care of the earth  |        | Reduced consumption of fossil fuel (Lower-carbon emission and deforestation prevention)                                   |
| 16 | Peaceful and inclusive societies, justice for all, accountable institutions at all levels |        | As an Aga Khan Development Network institution, PamirEnergy holds to the most stringent transparency and equity standards |
| 17 | Mechanisms and partnerships to reach the goals  |        | Partnerships with the Government, the private sector, neighboring country utility and donor community                     |

### Escalation

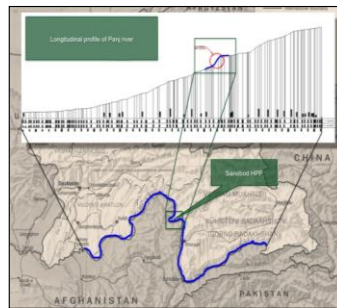
- **In Tajikistan:** Aspects of PamirEnergy's success are applicable in the energy sector across Tajikistan: private sector capacity & capital, loss reduction, metering, billing and collections, human resource management, project management. Technical and management strategies are particularly applicable.
- **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 in communication              |
| Focus on loss reduction, rather than production increase for power cost gains |  |
| Use technology: mobile payments, pre-paid, etc. that 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.



Secco International AG  
Secco International AG  
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Secco International AG

## People First is also about “those” that made it happen:

### 1) Public organizations:

- The Government of Tajikistan:
  - The Ministry of Energy and Water Resources of the Republic of Tajikistan
  - The Ministry of Finance of the Republic of Tajikistan
  - The Ministry of Economic Development and Trade of the Republic of Tajikistan
  - Anti-Monopoly Agency under the Government of Tajikistan
  - Regulating Agency in the Energy Sector in Tajikistan
  - The Customs Services under the Government of the Republic of Tajikistan
  - The Tax Committee under the Government of the Republic of Tajikistan
  - The National Bank of Tajikistan

### 2) Private organizations:

- World Bank Group (IFC, IDA)
- Swiss Government (SECO)
- Government of Norway
- Government of Germany through PATRIP Foundation and the German Development Bank (KfW)
- United States Agency for International Development (USAID)
- Aga Khan Foundation for Economic Development (AKFED)

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## People First is also about “those” that made it happen:

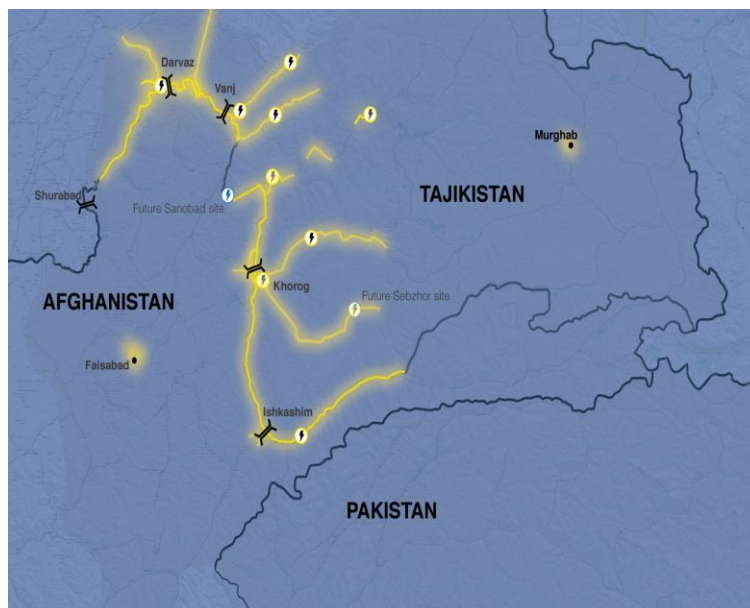
It is all about the team work... – PE Management Team

### 3) The management teams

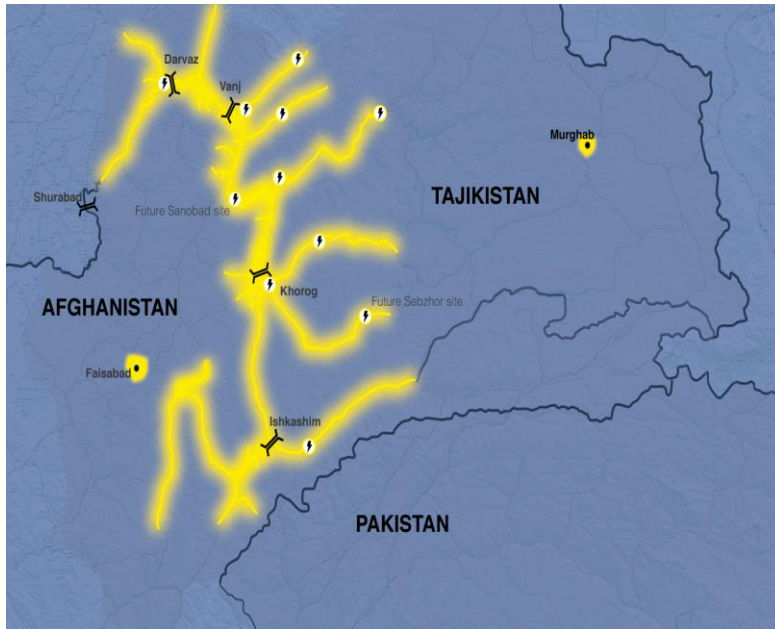
- The General Director(s)
- Department Directors: Generation; Transmission&Distribution; Human Resource, Health, Safety and Environment; Sales & Marketing, Business Development, Finance, Administration
- Seven Regional Managers
- Strategic Partnership Unit – four high flyers staff

### 4) PE growth strategy

- Further expansion within the East Tajikistan and to connect its grid to the National Grid;
- Continue to connect more areas of the North Afghanistan (20'000 customers) to commence export of electricity to the North Pakistan (10'000 customers)
- Increasing of generation capacity by construction of 10 MW hydro power project (Sebzor) in VMKB, Tajikistan



This is Today...



**This will be  
Tomorrow!**

## **Case 20**

### **United States**

### **Energy Sector**

### **Energy Efficiency Appliance Rebate Program**

**Name of Project:**

California State Energy Efficiency Appliance Rebate Program

**Name of speaker and email contact:**

Mr. James M. Donovan;

[jdonoan@adec-innovations.com](mailto:jdonoan@adec-innovations.com)

**Public Organization:**

California Energy Commission, California USA

**Private Organization:**

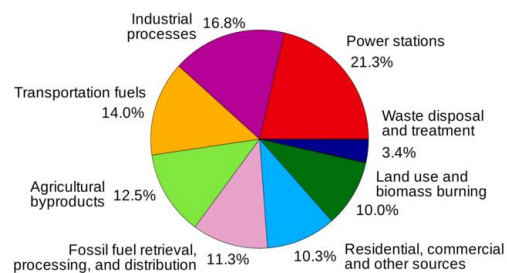
First Carbon Solutions- an ADEC Innovation

With household activities accounting for 10 percent of total greenhouse gas emissions

(GHG) 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 residents.

**Annual Greenhouse gas emission by sector**





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.

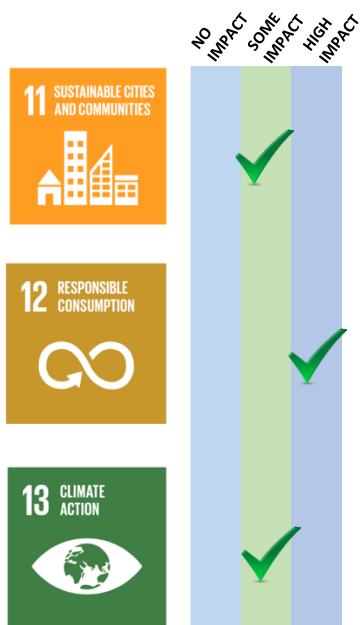
CEC required that the rebate administration provider process all mail-in rebate applications received, which include verifying and validating submitted materials, preventing and detecting fraud, and transmitting electronic claim files for each eligible rebate claim to the State Control Office.



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**.





Cities occupy **3 per cent of the Earth's land**, but account for **60-80 per cent of energy consumption** and **75 per cent of carbon emissions**.

Similar types of project will support SDG 11 target by 2020 in the implementation of integrated policies on energy and resource efficiency.

Despite technological advances that promotes energy efficiency, energy use in the OECD countries will **grow to another 35 per cent by 2020**. **Commercial and residential** to be the second most rapidly growing. Similar type of project will contribute to **consumer's awareness and support efficient energy consumption**.

Global emissions of carbon **dioxide (CO<sub>2</sub>) have increased by almost 59 per cent** since 1990. The project supports SDG 13 target that integrates **national policies, strategy and planning**. It also served as **an effective and efficient mechanism** in combatting climate change.

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.





**CALIFORNIA**  
**ENERGY COMMISSION**

Spearheaded by the California Energy Commission, the project aims to stimulate economy, reduce energy use. The agency also aims to develop long-term, self-sustaining energy programs leveraging on PPPs.

FirstCarbon Solutions adhered to strict rules on rebate processing, document management protocols, data security issues and program transparency on the implementation of California's Cash for Appliance Rebate Program.

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## **Case 21**

**Ghana and Kenya**

**Enterprise Sector**

**Invest in Africa**

Name of project: Invest in Africa (IIA)

Name of the speaker and email contact: William Pollen, [william.pollen@investinafrica.com](mailto:william.pollen@investinafrica.com)

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

Private Organization, developing the project: 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 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 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 training, 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) 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 lead us 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) Relating "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. We help 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) Our 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 & 16 organisations using it 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 us think about a PPP solution?  
There was no other way to tackle this cross sector, shared and long standing challenge. The traditional approach of trying to solve bits of this puzzle in isolation of each other was not working. A new innovative approach was needed that unite all the major players and allow others to contribute. 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. The we created our cross sector leadership and steering group to help us analyse the findings and design our new sustainable solutions.
2. Main topics studied on the feasibility phase and the decision for PPPs?  
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 that PPP was the answer.
3. The most important contracts signed  
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; we managed to combine: respect for quality, delay and budget by...  
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. We managed operation & maintenance, revenue stream and guaranty quality of public service by...  
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:

Our work covers all of Ghana and we have just opened offices in Kenya to replicate our work in East Africa.

- 1) 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.
- 2) 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 against our expenditure.
- 3) Describe the main milestones of the project namely: pre development, development and exploitation  
Nov 2013: Creating formal Partnerships with major corporations, public sector bodies and NGO's in Ghana  
Oct 2013: Incorporating as a local business in Ghana  
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
- 4) How did you communicate the project with the community to obtain their support  
Through forums, workshops, research (quant & qual) with the local business community and creating advisory boards comprising key sectors and bodies who met and still meet every month or quarter with representatives and spokespeople. We followed up all of these with e-newsletters and physical letters, sending over 12,000 in 2014 alone.

### Impact on People & Planet:

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 they were previously unaware of and missing out on. Perceived quality is also demonstrated by achieving over 1,100 users for 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.

| On 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  |

| SDGs | Sustainable Development Goals   | No impact | Some impact | High impact | Describe 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 businesses   |
| 6    | Water and sanitation for all  | ★         |             |             | N/A   |
| 7    | Affordable, sustainable energy  | ★         |             |             | N/A   |
| 8    | Economic growth & decent jobs for all   |           |             | ★           | Given over 1,000 SMEs better access to new skills, markets & finance                          |
| 9    | Resilient infrastructure, sustainable industrialization and foster innovation                     |           | ★           |             | We have infrastructure & Power bodies using our platform                                      |
| 10   | Reduce inequality within and among countries  |           |             | ★           | We retain more \$ in host countries through local sourcing taxes, salaries & profits          |
| 11   | Cities inclusive, safe, resilient and sustainable   | ★         |             |             | N/A   |
| 12   | Responsible consumption by all  |           | ★           |             | Our training programmes teach this as do our free online guides                               |
| 13   | Combat climate change   | ★         |             |             | N/A   |
| 14   | Protect the oceans  | ★         |             |             | N/A   |
| 15   | Take care of the earth  | ★         |             |             | N/A   |
| 16   | Promote peaceful and inclusive societies, justice for all, accountable institutions at all levels |           | ★           |             | We bring greater transparency & accountability to local business institutions & public bodies |
| 17   | Mechanisms and partnerships to reach goals  |           |             | ★           | Our entire model and ability to exist is proof that PPP's are the future                      |

### **Escalating the (Case Study) project:**

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.  
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 we have been asked to look at Mozambique. This can further be extrapolated to other sectors.
3. 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.  
Government engagement & support especially from key Ministries (i.e Trade & Industry, Finance, Energy etc)- but not necessarily endorsement
4. Describe what should be avoided in future projects?  
Trying to go to market with the 'perfect' product on 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 government and politically effected companies like extractives, but then decide what is best for all

### **People First is also about "those" that made it happen:**

- 1) The main public organizations
  - The Ghana Investment Promotion centre – Especially the CEO Mrs Mawuena Trebarh
  - The Office of His Excellency The President of Ghana
  - The Association of Ghana Industries
  - The African Dev Bank- esp the team at FAPA
- 2) The main private organizations
  - Tullow Oil, EY, Ecobank, Diageo, UT Bank, Clyde & Co, Vodafone & GE
- 3) The management teams
  - Invest in Africa (IIA)
  - The UK Board of IIA (inc senior representatives from the main public & privates sector drivers listed above)
  - The IIA Ghana Steering Committees and Advisory Boards (inc senior representatives from the main public & privates sector drivers listed above)
- 4) Your organization growth strategy
  - To use Ghana and Kenya as key hubs for expansion across West & East Africa respectively.
  - To focus on markets that matter to our private sector partners & donor agencies so we can leverage their funding to get established
- 5) How the SDGs are part of this strategy
  - Our own 'Commitment to responsible Investment' (on our website) written by us with the [International Labour Organisation's Declaration on Fundamental Principles and Rights at Work](#) all to drive sustainable growth and job creation that reduces inequality in key African markets.

## **Case 22**

### **Portugal**

#### **Enterprise Sector**

#### **Cascais Entrepreneurial Schools**



Name of project: DNA Cascais Entrepreneurial Schools  
Name of the speaker and email contact: Luís Matos Martins |  
luis.matos.martins@dnacascais.pt

Public Organization, managing the public interest:  
Private Organization, developing the project: DNA Cascais  
Capital Providers, financing the project: 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 programmes of Portugal and we believe that our strategy could be an example of good practices for other players.

**Context:**

- 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:**

- 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:**

- 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 1st 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.

### Impact on People & Planet:

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).

| SDGs | Sustainable Development Goals   | no impact | some impact | high impact | describe impact |
|------|---|-----------|-------------|-------------|-----------------|
| 1    | end poverty   |           | X           |             |                 |
| 2    | end hunger  | X         |             |             |                 |
| 3    | well being - healthy lives  |           | X           |             |                 |
| 4    | quality education   |           |             | X           |                 |
| 5    | gender equality   |           | X           |             |                 |
| 6    | water and sanitation for all  | X         |             |             |                 |
| 7    | affordable and sustainable energy   | X         |             |             |                 |
| 8    | economic growth & decent jobs for all   |           |             | X           |                 |
| 9    | resilient infrastructure, sustainable industrialization, foster innovation                |           | X           |             |                 |
| 10   | reduce inequalities within and among countries  |           | X           |             |                 |
| 11   | cities inclusive, safe, resilient and sustainable   |           |             | X           |                 |
| 12   | responsible consumption by all  |           | X           |             |                 |
| 13   | combat climate change   | X         |             |             |                 |
| 14   | protect the ocean   |           | X           |             |                 |
| 15   | take care of the earth  |           | X           |             |                 |
| 16   | peaceful and inclusive societies, justice for all, accountable institutions at all levels |           |             | X           |                 |
| 17   | mechanisms and partnerships to reach the goals  |           |             | X           |                 |

**Scalability & Replicability of the (Case Study) 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. 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.

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

- 1) The main public organizations. The Municipality of Cascais.
- 2) The main private organizations. DNA Cascais is the major driver of this entrepreneurship program. We have partnerships with Junior Achievement Portugal, Science4you and StartIUPI, to make this a more comprehensive project. Thus, we took advantage of the specific expertise of each of these players.
- 3) The management teams. The DNA Cascais has project managers, who have specific roles in the following areas: a general manager to coordinate, an administrative manager to support, and a communication manager to promote and help develop the programme. This project is also supported from partners teams.
- 4) Your organization growth strategy. Diversify sectors and fields to get more schools and students.
- 5) How the SDGs are part of this strategy. Young people are the future generations and therefore we enable and encourage them to community challenges, specifically in entrepreneurship scope.

**Case 23**

**Finland**

**Road Sector**

**E18 Road Program**

# E18 Program in Finland

Name of the speaker and email contact: **Prof. Pekka Leviakangas**, pekka.leviakangas@curtin.edu.au

Public Organization, managing the public interest: **Finnish Transport Agency**

Private Organization, developing the project: Several project companies, e.g. **Tieyhtio Vaalimaa Oy**

Capital Providers, financing the project: **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**

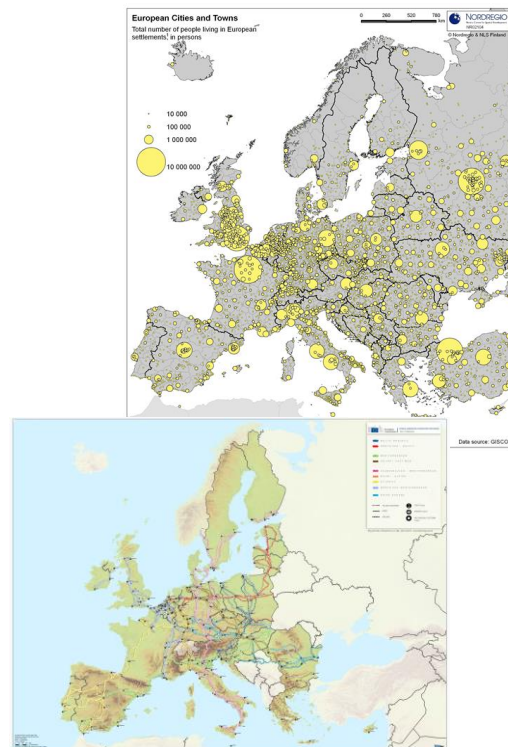
Why is this project a Case Study for PPPs based on SDGs:

**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 & 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.

| SDGs | Sustainable Development Goals   | no impact | some impact | high impact | describe impact   |
|------|---|-----------|-------------|-------------|---|
| 1    | end poverty   |           |             |             | The projects improve connectivity and functioning of labour markets.    |
| 2    | end hunger  |           |             |             |   |
| 3    | well being - healthy lives  |           |             |             |   |
| 4    | quality education   |           |             |             |   |
| 5    | gender equality   |           |             |             |   |
| 6    | water and sanitation for all  |           |             |             | The projects improve the quality and resilience of the infrastructures. |
| 7    | affordable and sustainable energy   |           |             |             |   |
| 8    | economic growth & decent jobs for all   |           | ✓           |             |   |
| 9    | resilient infrastructure, sustainable industrialization, foster innovation                |           | ✓           |             | The projects improve traffic safety.                                    |
| 10   | reduce inequalities within and among countries  |           |             |             |   |
| 11   | cities inclusive, safe, resilient and sustainable   |           | ✓           |             |   |
| 12   | responsible consumption by all  |           |             |             | The projects enhance international trade and cultural exchange.         |
| 13   | combat climate change   |           |             |             |   |
| 14   | protect the ocean   |           |             |             |   |
| 15   | take care of the earth  |           |             |             |   |
| 16   | peaceful and inclusive societies, justice for all, accountable institutions at all levels |           | ✓           |             |   |
| 17   | mechanisms and partnerships to reach the goals  |           |             |             |   |



## **Scalability & 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.**

## **Case 24**

**India**

**Road Sector,**

**DND Flyway**

**Name of project:** DND Flyway

**Name of the speaker and email contact:** Mr. Harish Mathur, [harish.mathur@ilfsindia.com](mailto:harish.mathur@ilfsindia.com)  
(Correspondence : Sreejith.Narayanan@ilfsindia.com)

**Public Organization, managing the public interest:** Delhi Administration (DA) & New Okhla Industrial Development Authority (NOIDA)

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

**Capital Providers, financing the project:** Loan from Fls/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. This road infrastructure has largely contributed in promoting various aspects of the 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 newly 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.
- 1) **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.
- 2) **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 of the first PPP's projects 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 guaranteeing 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 restraints 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      | Equity                                 | Amount (INR Million) |
|-------------------------------------|-----------|--|----------------------|
| Delhi Noida Toll Bridge SPV Formed  | 8 April   | IL&FS                                  | 360                  |
| Signing of Concession Agreement     | 2 Nov 97  | NOIDA                                  | 100                  |
| Support Agreement                   | 14 Jan 98 | Fully Convertible Debenture Issue      | 208                  |
| Lease / Sub Lease Agreements        | 23 Oct 98 | Foreign Investors - ( AIG, Prudential) | 400                  |
| EPC Contract Awarded                | Jan 98    | Intertoll ( O&M Operator)              | 106                  |
| Land Acquisition Completed by Govt. | May 98    | Indian FI                              | 50                   |
| Financial Close                     | Dec 98    | <b>Total Equity</b>                    | <b>1224</b>          |
| Commencement of Construction        | 30 Dec 98 | Debt                                   |                      |
| Commercial Operation begin          | 7 Feb 01  | Deep Discount Bond Issue               | 500                  |
| New Link ( 11 Lanes) commissioned   | Jan-08    | IL&FS ( World Bank L/C)                | 600                  |
|                                     |           | Loan from Banks/ FI's                  | 1758                 |
|                                     |           | <b>Total Debt</b>                      | <b>2858</b>          |

## Impact on People & 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.

| Sl No. | Sustainable Development Goals   | No impact | Some impact | High impact | Describe impact   |
|--------|---|-----------|-------------|-------------|---|
| 1      | end poverty   |           | ✓           |             | Increased labour productivity and stimulated economic growth  |
| 2      | end hunger  |           | ✓           |             |   |
| 3      | well being- healthy lives   |           | ✓           |             | Access to New Educational Institutions  |
| 4      | quality education   | ✓         | ✓           |             |   |
| 5      | gender equality   | ✓         |             |             |   |
| 6      | water and sanitation for all  | ✓         |             |             |   |
| 7      | affordable and sustainable energy   | ✓         |             |             |   |
| 8      | economic growth and decent jobs for all   |           | ✓           |             | Better infrastructure leads to better economic growth and increased investment, transformed NOIDA                     |
| 9      | resilient infrastructure, sustainable industrialisation, foster innovation                |           | ✓           |             |   |
| 10     | reduce inequalities within and among countries  | ✓         |             |             | Represents the complete goal of the project which has been achieved   |
| 11     | cities inclusive, safe, resilient and sustainable   |           |             | ✓           |   |
| 12     | responsible consumption by all  |           | ✓           |             | Have been able to bring about attitudinal changes   |
| 13     | combat climate change   |           | ✓           |             |   |
| 14     | take care of the earth  |           |             | ✓           | Increased greenery  |
| 15     | protect the ocean   | ✓         |             |             |   |
| 16     | peaceful and inclusive societies, justice for all, accountable institutions at all levels | ✓         |             |             | Public awareness has helped the success of this PPP project and paved the way for the largest PPP market in the World |
| 17     | mechanisms and partnerships to reach the goals  |           |             | ✓           |   |

### Escalating the (Case Study) project:

- 1) **Can we replicate the project within the country?** Yes, this path- breaking project paved was in 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.

### People First is also about “those” that made it happen:

- 1) **The main public organizations:** The Ministry of Urban Development was the main driver to get this project off the ground
- 2) **The main private organizations:** IL&FS, the first NBFC set up in India to develop Infrastructure on Public Private Partnerships model
- 3) **The management teams:** The dedicated PPP experts, Mr Ramchand Karunakaran, Mr Mukund Sapre , Mr Harish Mathur & Team NTBCL
- 4) **Your organization growth strategy:** IL&FS Transportation Networks Limited ("ITNL") is professionally managed best in class infrastructure developer, committed to achieve global excellence through innovation and continual improvement to meet aspirations of Employees, Shareholders Stakeholders and Society. At ITNL, Environmental and Social aspects of Infrastructure Projects are as important as Design and Management issues. Participative Approach has been the key factor taking the organisation forward as “Pioneers of Public Private Partnerships” in India.
- 5) **How the SDGs are part of this strategy:** First Road Development Company in India, to make Environmental and Social considerations inclusive in project development and implementation. Road to Sustainability is development of social infrastructure, all projects at ITNL catalyze substantial community development and ensure sustainability through Education, Employability and Empowerment. Strictly follow Equator Principles, various initiatives like Trees Transplantation, E Waste recycling, Waste Oil recycling, Electricity savings are part and parcel of all the road projects. We believe and join in partnerships towards building the nation along with the upliftment of the rural communities through various interventions to promote sustainable livelihoods.

## **Case 25**

**India**

**Road Sector**

**Thiruvananthapuram City Improvement**

# Thiruvananthapuram City Road Improvement Project

**Name of the speaker and email contact:** Mr. Anil Kumar Pandala, anilkumar.pandala @ilfsindia.com  
**Public Organization, managing the public interest:** Kerala Road Fund Board  
**Private Organization, developing the project:** Thiruvananthapuram Road Development Company Limited  
**Capital Providers, financing the project:** 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

1

## 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, thus there is 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 signs, 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 Concessioning 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 TCRIIP 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 cm 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 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 labors.
- 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, 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 :**

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

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**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.

**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   |                |

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**Impact on People & 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 TCRIIP.
- 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 TCRIIP 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

| No. | Sustainable Development Goals   | No impact | Some impact | High impact | Describe impact  |
|-----|---|-----------|-------------|-------------|--|
| 1   | end poverty   |           | ✓           |             | We have created at least 2.25 lakh man days of work for unskilled labour and close to 1.2 lakh man days of work for skilled labour contributing close to Rs. 3,700 Mn to the local economy |
| 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 and decent jobs for all   |           | ✓           |             | Better infrastructure leads to better economic growth and increased investment   |
| 9   | resilient infrastructure, sustainable industrialisation, foster innovation                |           | ✓           |             |  |
| 10  | reduce inequalities within and among countries  | ✓         |             |             |  |
| 11  | cities inclusive, safe, resilient and sustainable   |           |             | ✓           | Represents the complete goal of the project which has been achieved  |
| 12  | responsible consumption by all  |           | ✓           |             | Have been able to bring about attitudinal changes  |
| 13  | combat climate change   |           | ✓           |             | Increased greenery and changing footpath specification to allow water percolation  |
| 14  | take care of the earth  |           |             | ✓           |  |
| 15  | protect the ocean   | ✓         |             |             |  |
| 16  | peaceful and inclusive societies, justice for all, accountable institutions at all levels | ✓         |             |             |  |
| 17  | mechanisms and partnerships to reach the goals  |           |             | ✓           | Awareness creation in public domain has helped the success of this PPP project   |

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### 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 unnecessary delays due to lack of cooperation between various Government departments.

## **Case 26**

### **Slovakia**

### **Road Sector**

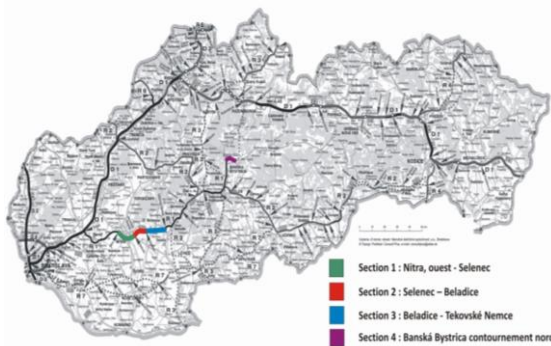
### **R1 Highway**

## R1 Expressway PPP Case Study

Julie de Brux,

Partner at CITIZING  
Julie.debrux@citizing-consulting.com

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



#### Key messages – Why is R1 a best practice?

- nothing special -> easily replicable
- simple but demanding project for both parties
- in operation for nearly 5 years
- contribution to 10 SDGs

#### CONTEXT

##### 1990 – 2005: 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  
A market-driven economy

##### Macroeconomic indicators of success of the structural policies 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 PPPs 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 = 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*

- 1<sup>st</sup> PPP project (availability type) in Slovak Republic
- Financial close achieved at the highest point of the financial crisis (2009)
- Construction costs : 900 million EUR
- Work started on site 5 months after FC. Open to traffic 2 years later
- O&M for 30 years.
- 1<sup>st</sup> Central Europe infrastructure with a refinancing through bonds: benefits shared between the Gov 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**



## Hindsights / 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
- 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

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

| SDGs | Sustainable Development Goals   | no impact | some impact | high impact | describe impact  |
|------|---|-----------|-------------|-------------|--|
| 1    | end poverty   |           |             |             |  |
| 2    | end hunger  |           |             |             |  |
| 3    | well being - healthy lives  |           |             | XX          | safety improvement, time saving, access to services                            |
| 4    | quality education   |           |             | X           | Capacity building  |
| 5    | gender equality   |           |             |             |  |
| 6    | water and sanitation for all  |           |             |             |  |
| 7    | affordable and sustainable energy   |           |             |             |  |
| 8    | economic growth & decent jobs for all   |           |             | X           | job access (indirect), creation of qualified jobs (direct)                     |
| 9    | resilient infrastructure, sustainable industrialization, foster innovation                |           |             | XXX         | At the heart of the project  |
| 10   | reduce inequalities within and among countries  |           | X           |             | improvement of regional exchanges and of local access to services              |
| 11   | cities inclusive, safe, resilient and sustainable   |           |             | X           | No discrimination for access, resilient to climate change, safe infrastructure |
| 12   | responsible consumption by all  |           |             |             |  |
| 13   | combat climate change   |           | X           |             | Led to a decrease in fuel consumption (lower distances, less traffic jam)      |
| 14   | protect the ocean   |           |             |             |  |
| 15   | take care of the earth  |           | X           |             | Natural species protected  |
| 16   | peaceful and inclusive societies, justice for all, accountable institutions at all levels |           |             | X           | Commitment and transparency in public sphere                                   |
| 17   | mechanisms and partnerships to reach the goals  |           |             | X           | fair risk sharing. Fair balance between incentives and control                 |

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

- Still waiting for Marcel's answer

### Key success factors for scalability & replicability

- Success first comes from the **intrinsic interest of the project (socio-economic need)**, regardless of the delivery option
- PPPs in the **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

### Sound governance and management teams at the heart of success

- Project led by the Ministry of Transport, Construction and Regional Development
  - A strong and qualified PPP Unit attached to the Ministry
  - Technical, legal, and financial advisors are always necessary for the public side
- ➔ Together they organized a fierce competitive tender (4 pre-qualified bidders), and they succeeded in finding the right balance between transparency and dialogue. They finally selected a private consortium who cared for its good reputation in the long run.

### As a Management Team of future PPPs in your country, you are key to projects contributing to SDGs

Because we are convinced that **P**rior **P**roject **P**reparation and **P**lanning **P**romote **P**erformance, the UNECE and its Business Advisory Board (BAB) are willing to help you engage in:

- Capacity building
- Project prioritization in infrastructure program
- Prefeasibility studies
- Implementation of Value for money methodology
- Zero tolerance to corruption programs



## **Case 27**

**14 emerging markets**

**Financial Sector**

**Sarona Frontier Markets Fund 2**

# Sarona Frontier Markets Fund 2 (SFMF2)

**Name of the speaker and email contact:** Narina Mnatsakanian, [nmnatsakanian@saronafund.com](mailto:nmnatsakanian@saronafund.com)

**Public Organization, managing the public interest:** 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, developing the project:** Sarona Asset Management

**Capital Providers, financing the project:** 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<sup>1</sup>

**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) 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 creating positive social and environmental impact

<sup>1</sup>UNCTAD2014. 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, Sarona'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 Sarona'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”?** - Saronia publishes annual [Values Report](#), consolidating information gathered on 33 IRIS metrics, measuring the impact of all its investments (not just SFMF2). Saronia combines two methodologies to gain a better understanding of the breadth and depth of our impact: 1) The Saronia annual impact questionnaire and 2) Case studies. The annual Values Report is integrated and complements other Saronia’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 Saronia 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 Saronia’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 Saronia 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**

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

|    | Sustainable Development Goals   | # of SFMF2 investee companies contributing | SFMF2 investee companies impact examples   |
|----|---|--|--|
| 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, and distribute rice and 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, sustainable industrialization, foster 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   | 1  | 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, accountable institutions at all levels | 9  | Provide public access to information. Fight corruption   |
| 17 | Mechanisms and partnerships to reach the goals  | 48   | Collaborate with GPs and/or Saronia 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.

### **People First is also about “those” that made it happen:**

- 1) The main public organizations** – The Overseas Private Equity Corporation (OPIC) and Global Affairs Canada (current name of Sarona’s supporters within the Canadian Government)
- 2) The main private organization** – Sarona Asset Management
- 3) Sarona’s management team** – Gerhard Pries (CEO & Managing Partner) , Vivina Berla (co-Managing Partner), Serge LeVert-Chiasson (Senior Partner, MD Operations), Menno Derks (Partner & MD Fund Investments), Ash Shinh (CFO)
- 4) Your organization growth strategy** – Sarona is an independent, privately owned investment firm bridging the distance between large asset owners and entrepreneurs in Frontier and Emerging markets. These entrepreneurial companies play an important role as these economies try to meet the SDGs and related targets. In particular, we wish to attract the attention of those asset owners who seek to combine profits with a greater sense of purpose. During the last three years, we have grown tenfold (from \$20 to \$200mm) by launching an institutional quality, closed-end programme investing in smaller and specialized PE firms located and operating across Africa, Asia, Emerging Europe and Latin America. Asset owners are usually either too small or too large to access these teams and their strategies in a thoughtful and diversified manner. Our organization aims to grow to \$1bn by 2020 by launching additional fund products and by hiring additional talent into our existing offices in Canada, Netherlands and USA. New locations will be considered as required. We are currently launching Sarona Frontier Markets Fund 3 and have applied to both public organizations above inviting them to continue to join our efforts
- 5) How are the SDGs part of this strategy?** – As a recognised leader in the emerging field of blended finance for development, Sarona invests in SMEs across Frontier and Emerging markets, targeting attractive financial returns along with positive ethical, social and environmental outcomes. Sarona invests with care and intent, and in doing so, generates substantial private sector development results.

And while the SDGs are new, Sarona’s commitment to development objectives aligned with these goals is not. When comparing our investment results to the SDGs and their underlying targets, the results are impressive. We recently took a sample of 52 of Sarona’s investee companies across all fund, and analysed the overlap between their activities and the SDG-related impact. We were pleased to see that these companies have contributed materially to 15 out of the 17 SDGs, and to 94 out of the 166 underlying targets.

## **Case 28**

### **China**

#### **Technology Sector**

#### **Rent and Share for a Green World**

## Rent and Share for a Green World

**Name of the speaker and email contact:** Deborah YUEN (dy@ecrent.com)

**Public Organization, managing the public interest:** Government

**Private Organization, developing the project:** ECrent Worldwide Company Limited

**Capital Providers, financing the project:** ECrent Worldwide Company Limited

### **Why is this project a Case Study for PPPs:**

ECrent is the largest online rental platform, which encourages people around the world to rent rather than buy for maximizing the use of earth's resources to protect our environment.

Over-consumption is a key problem. Products are bought in large quantities and product life-cycles are shortening with products being discarded at an increasing rate to make way for newer models. This has led to the increasing need for landfills which are full of products not biodegradable and even harmful to the environment.

ECrent helps to change the human consumption pattern through renting, making consumption more sustainable, and accelerating the adoption of green economy. Through ECrent, people can easily share their idle assets with those who need to utilize, and this reduces inequality. Assets can be accessible and enjoyed by all which lead to social equity and social harmony. Moreover, ECrent promotes green entrepreneurship and encourages people to start their own rental businesses easily in their communities with very little cost and to work from home, regardless of their status, gender, or abilities. This helps to attain full social employment and achieve sustainable economic growth.

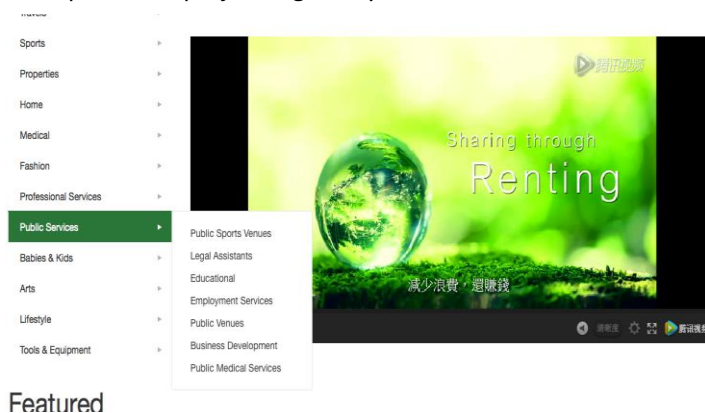
Over-consumption has led to increasing trash and landfills which damage our environment and is not sustainable. Companies focus on production and selling with little attention paid on the disposal of the items sold. The impact on the environment and widening of social gap have been leading to social discord. The rental market has been fragmented, and there is no simple and quick channel for consumers to find and access information on renting and sharing items.

ECrent embraces the "Sharing Economy" concept and waste reduction worldwide. Collaborative consumption maximizes the use of the earth's resources and reduces carbon footprint. This can help utilize resources effectively. ECrent hopes to promote sustainable use of resources as well as to facilitate the sharing of existing resources and thereby improving the quality of life.

ECrent aims to change human consumption pattern from buying and owning everything, to renting and maximize the utilization of existing resources, and minimize wastage. The platform enables people to share their idle assets with those who needs to utilize them. This helps to reduce inequality. With the ECrent platform, anyone can start their own rental businesses even working from home. This contributes to employment and sustainable economic growth.

Government involvement can accelerate adoption. ECrent tackles the problem of government resources underutilization: venues, equipment, civil services, etc. ECrent developed Public Services channel to open up the doorway to make available underutilized government resources for civil rental usage. Public facilities such as townhalls, tennis courts, venues, etc, can be made available for rental on ECrent. Idle assets that belong to the Government, such as buses, computers, etc., can also be made available for rental to the public. It also facilitates cross-government equipment rental such as medical and computer equipment rental.

ECrent being the main private organization to provide the platform and market education directions, organising local operators to spread the project regionally.



The concept was designed privately and we met with representatives from government and consulates.

New consumer trends that can cater to modern consumer demands of “The Right of Use” vs “Ownership” were studied. ECrent allows local governments to list their public resources for rental and long-term cooperation. Public facilities/services can be made available for search and rental booking on ECrent. Idle assets that belong to the Government e.g. buses, ambulances, barricades, etc. can also be made available for rental to the public and other entities/governments.

Through user feedbacks and comments on the specific government resources, ECrent can reflect such back to the government authorities, so it can act as a channel between public and the government in gathering public feedback on the quality of public facilities and services.



ECrent's headquarters is located in Hong Kong but our project is covered on the internet globally.

ECrent's online rental platform with mobile app is now covering 35 countries. Building on top of existing market leading global cloud computing solutions, ECrent utilizes stable and secure services to build up a high availability global solution.

Currently privately-funded with intention for IPO in 4Q2016



ECrent has many business operators around the world to cover different size and type of communities. We have a residential program for the communities to join, to promote sharing of resources within the communities, to minimize unnecessary consumptions. The unused items generate extra incomes for the community. Through community sharing, it improves community neighborhood relationship while reducing the amount of waste for the landfills.

#### **People**

Through ECrent, people can easily share their idle assets with those who need to utilize and this reduces inequality.

#### **Planet**

ECrent encourages people to rent rather than buy to save on the earth's resources and protect the environment.

#### **Prosperity**

Through ECrent, people can rent and utilize more assets with less money, while asset owners can build up more values and extra incomes by renting their idle assets to others. ECrent also provide different models for entrepreneurship, more opportunities to improve lives.

#### **Partnership**

ECrent joins into government partnership to extend public assets and services for general rental, while at the same time also partners with regional operators to accelerate on market educations and penetration for the new sustainable consumption behavior.

#### **Peace**

While "Sharing Economy" can facilitate a healthier environment and equity on utilization of resources, it can reduce conflicts due to social injustice and jealousy, thus building more peaceful and friendly communities.

With more sharing brought about by the ECrent platform, the community becomes more closely knit.

We measures number of items and varieties available, and public services available in each community. The number of items and services shared directly correlates with the reduction in the number of items bought - which would have contributed to carbon emissions through the production of items it was bought.

ECrent is the world's largest and most extensive global online rental platform with mobile app covering 35 countries.

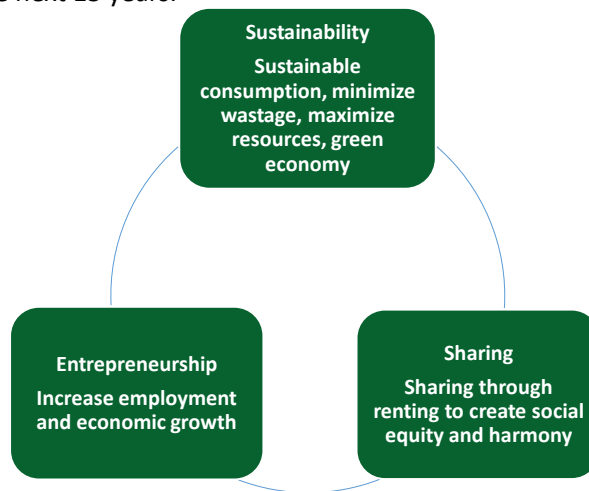
- 109 items and services channels (Extensive coverage and flexible to add)
- 35 item posting regions (Target to cover all countries and regions globally)
- 10 local languages support (Continue to expand and cover more languages)

ECrent has the global operators network, accelerating ECrent global market coverage and penetration. It is easier to spread market education messages around the world in parallel, strengthening market growth and brand awareness.

Rent and share for green world



ECrent encourages the owners of assets to share with others. Through ECrent, people can easily share their idle assets with those who have not, and this reduces inequality. It supports sustainability and can help low income, disadvantaged, and the poor people to utilize more, as well as facilitating the efficient distribution and usage of resources worldwide. They are aligned with a set of SDG goals to end poverty, protect the planet, and ensure prosperity for all as part of a new sustainable development agenda to be achieved over the next 15 years.



## **The Team**

### **■ Deborah Yuen, Founder**

ECrent was founded in 2013 by Ms. Deborah Yuen who has over 20 years' experience in the finance and IT sectors. Prior to ECrent, Deborah worked at HSBC for 12 years and was the Head of Marketing Asia Pacific. Deborah also worked for various finance and IT companies including The Stock Exchange, BIS and Barclays Bank in London and MCI in Washington DC and AT&T in Hong Kong. Deborah graduated with an Engineering degree from the University of Durham in the UK and an MBA from the University of California at Berkeley in the US.

### **■ Thomas Chan, Chairman**

Dr Thomas Chan is a seasoned entrepreneur and businessman with over 20 years' experience in property development, investments, merger and acquisition in the Hong Kong and China markets. Thomas was one of the Ten Outstanding Young Persons of Hong Kong in 1995. He was the Hong Kong affairs adviser of the Liaison Office of the Central People's Government in the Hong Kong and the Honorary Executive Chairman of Tsing Hua University Association in Hong Kong. He was appointed Economic Consultant by the local governments of Lan Zhou, Zhang Jia Kou, Shi Jia Zhuang, Beijing Great Wall and Cheung Du. Thomas has an MBA and PhD in Business Administration.

### **■ Parkson Yip, Director**

Mr. Yip, holds a degree in Bachelor of Science in Computer Engineering from Boston University (USA). Mr. Yip joined ECrent as Managing Director in 2014. He served in JDB Holdings (previously JobsDB) as Managing Director from 2005 to 2014. Mr. Yip was the Chief Technology Officer in Guangzhou Ruixin Technology Limited from 2002 to 2005. Mr. Yip served as software engineer in Cisco Systems from 1996 to 2000 and IBM from 1992 to 1996 respectively. Mr. Yip has 20+ years experiences in the IT and Internet media sectors.

## **Case 29**

**United Kingdom (Wales)**

**SDGs Strategy**

**Well Being of Future Generation**



|                         |   |
|-------------------------|---|
| <b>Project</b>          | Well-being of Future Generations (Wales) Act 2015   |
| <b>Speaker</b>          | Andrew Charles, Welsh Government  |
| <b>Organizations</b>    | Welsh Government, public authorities, business, third sector  |
| <b>Why a case study</b> | New legal framework for a small country to clear legal requirements on public sector in Wales to deliver and contribute to the Welsh sustainable development goals and the UN Sustainable Development Goals by setting Welsh specific goals, duties and an independent Future Generations Commissioner. |



**Y GYMRU  
A GAREM  
THE WALES  
WE WANT**

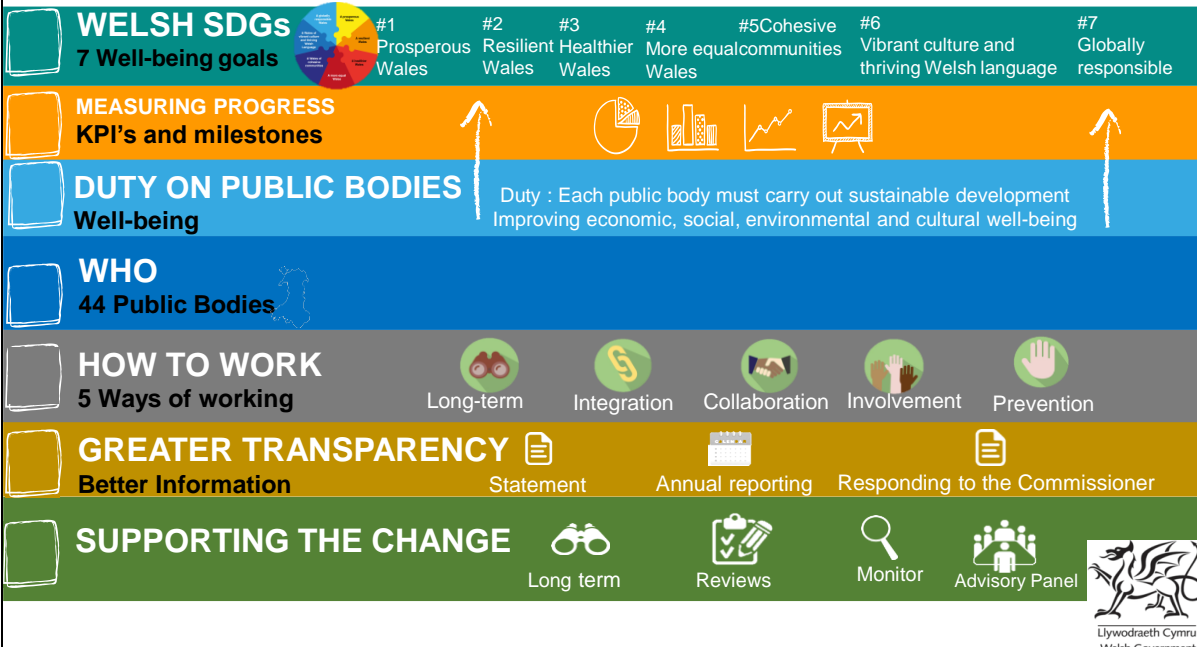
| Context   |  | Sustainable development journey  |  |  |
|---|--|--|--|--|
|  <p><b>1998</b><br/><b>Government of Wales Act</b><br/>S.121 "Sustainable Development"</p> |  <p><b>2006</b><br/><b>Government of Wales Act</b><br/>s.79 "Sustainable Development"<br/>s.60 "well-being"</p> |  <p><b>2009</b><br/><b>One Wales : One Planet</b></p> |  <p><b>2011</b><br/><b>Commitment to legislate for sustainable development</b></p> |  <p><b>2015</b><br/><b>Well-being of Future Generations (Wales) Act</b></p> |

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



## Strategy

## New legislation



## 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

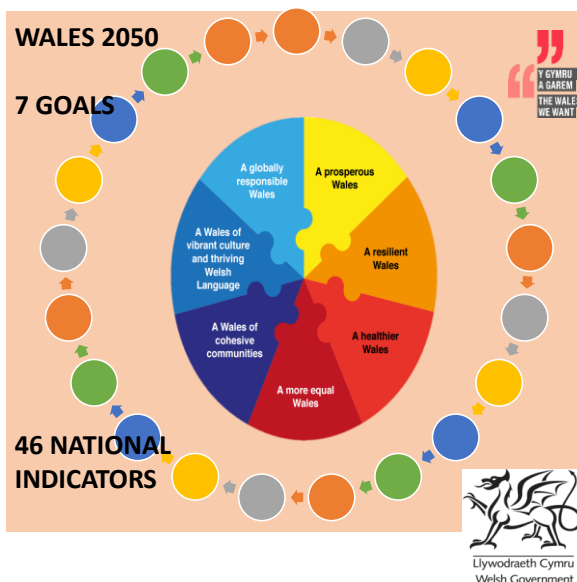
\*Figures based on 2012  
Source : [www.wales.com](http://www.wales.com)

## PROGRESS Indicators & Milestones

### WALES 2050

### 7 GOALS

### 46 NATIONAL INDICATORS



## Impact on People and Planet

| People   | Planet  | Prosperity  | Partnership   | Peace   |
|--|---|---|---|---|
| <p>National conversation on the “Wales We Want”. 7000 people engaged<br/> <a href="http://www.waleswewant.co.uk">www.waleswewant.co.uk</a></p> <ul style="list-style-type: none"> <li>• WIIP</li> <li>• Sustainable Management Scheme</li> <li>• Towards Zero Waste</li> <li>• Warm Homes</li> </ul>  | <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 the 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)<br/> <a href="http://www.sdcharter.net">www.sdcharter.net</a></p>  <p>Y SIARTER SUSTAINABLE<br/>DATBLYGU DEVELOPMENT<br/>CYNALIADWY CHARTER</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>  |

## 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.

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





**THE GLOBAL GOALS**

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

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](http://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)**



## People First

### The Welsh Government



### National Assembly for Wales

The National Assembly for Wales is the democratically elected body that represents the interests of Wales and its people, makes laws for Wales, and holds the Welsh Government to account.

### Commissioners (Peter Davies & Sophie Howe)



### Public sector

Our public services are an integral part of all our lives. Every day they help to save lives and change lives for the better.. They support not just our well-being now, but also that of future generations.

### Children , Young People and Communities



### Business & the Third Sector





## **Case 30**

### **Colombia**

#### **SDGs Strategy**

#### **Sustainability Indicators in Colombia**

**Name of project:** Sustainability Indicators for PPPs in Colombia

**Name of the speaker and email contact:** Sebastian Lema; [mlema@dnpp.gov.co](mailto:mlema@dnpp.gov.co)

**Public Organization, managing the public interest:** National Planning Department

**Private Organization, developing the project:** Arup consulting

**Capital Providers, financing the project:** 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        | → | Environmental indicators for design, construction, operation, and dismantling of public infrastructure.  |
| 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 including 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 & Planet:

- The real impacts of the sustainability indicators for PPP will only be 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 do not cover all the indicators associated with the eco footprint, 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 improving health, education, water and sanitation, and sustainable energy, among others SDGs.



| SDGs | Sustainable Development Goals   | no impact | some impact | high impact | describe impact                            |
|------|---|-----------|-------------|-------------|--|
| 1    | end poverty   | X         |             |             |  |
| 2    | end hunger  | X         |             |             |  |
| 3    | well being - healthy lives  |           | X           |             | The indicators cover the health sector     |
| 4    | quality education   |           | X           |             | The indicators cover the education sector  |
| 5    | gender equality   | X         |             |             |  |
| 6    | water and sanitation for all  |           |             | X           | Water consumption and quality              |
| 7    | affordable and sustainable energy   |           |             | X           | Energy efficiency and use of renewables    |
| 8    | economic growth & decent jobs for all   | X         |             |             |  |
| 9    | resilient infrastructure, sustainable industrialization, foster innovation                |           |             | X           | Resilient infrastructure                   |
| 10   | reduce inequalities within and among countries  | X         |             |             |  |
| 11   | cities inclusive, safe, resilient and sustainable   |           | X           |             | Air quality and waste management           |
| 12   | responsible consumption by all  |           |             | X           | Use of sustainable materials and recycling |
| 13   | combat climate change   |           |             | X           | Reduce CO2 emissions                       |
| 14   | protect the ocean   |           | X           |             | Reduce water pollution                     |
| 15   | take care of the earth  |           |             | X           | Protection of ecosystems                   |
| 16   | peaceful and inclusive societies, justice for all, accountable institutions at all levels | X         |             |             |  |
| 17   | mechanisms and partnerships to reach the goals  |           | X           |             | Indicators on environmental impacts        |



### **Scalability & Replicability of the (Case Study) project:**

- The sustainability indicators have been designed to be replicated within the whole country for the sectors in 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 were 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.



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

- **The main public organizations:** PPP and Sustainable Development units in the National Planning Department, supported by USAID
- **The main private organizations:** Arup Consulting
- **The management teams:** The development of the indicators was led by the National Planning Department, incorporating feedback from ministries, PPP consulting firms, the sustainable construction council, and international cooperation agencies.
- **National Planning Department growth strategy:** lead, coordinate, and articulate the Colombian planning in the medium-and long-term for sustainable and inclusive development.
- **How the SDGs are part of this strategy:** Colombia was one of the first countries to include the SDGs in the National Development Plan.

