

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”**

May 2017

**Case Study Material\***

\*A total of 27 case studies were received by the UNECE secretary for the International PPP Forum. The material is being published as received from the contributors.



## **Acknowledgements**

Many have contributed to this compilation of case study material. Special thanks are due to Pedro Neves and to the contributors of each case study. The secretarial team was led by Tony Bonnici.



# Table of Contents

Case 1: Algeria, Port Sector, PPP- Bejaia International Container Terminal .....	1
Case 2: Armenia, Water Sector, PPP-based Reforms in the Water Sector of Armenia .....	6
Case 3: Chile, Health Sector, Hospital Infrastructure PPP Programme Maipu and La Florida Hospitals.....	11
Case 4: China, Transport Sector, Longhua Modern Tram (Phase I) PPP/BOT Project.....	16
Case 5: China, Transport Sector, MTR (Shenzhen) Line 4 PPP/BOT Project.....	21
Case 6: Egypt, Waste Water Sector, New Cairo Waste Water Treatment Plant .....	26
Case 7: Ethiopia, Energy Sector, Energy Access to Shine Refugee Camp.....	31
Case 8: Ethiopia, Transport Sector, Ethiopia Light Railway Project .....	36
Case 9: Morocco, Energy Sector, Noor II and III Solar Power Plants .....	41
Case 10: Myanmar, Energy Sector, People First PPP in Post Sanction Myanmar .....	46
Case 11: Philippines, Health Sector, Total Laboratory Automation of Clinical Laboratory .....	51
Case 12: Philippines, Regional Development, Butuan City Regional Development Programme ....	56
Case 13: Poland, Urban Development, Development of Urban Adaptation Plans for Cities with more than 100,000 Inhabitants in Poland.....	61
Case 14: Portugal, Business Incubator, Mafra & Ericeira Business Factory .....	66
Case 15: Russia, Education Sector, Public Private Partnership Department.....	71
Case 16: Russia, Health Sector, Construction of Water Sports Complexes.....	76
Case 17: Russia, Health Sector, Public Utility Infrastructure Systems.....	81
Case 18: Russia, Health Sector, Medical Industrial Park .....	86
Case 19: Russia, Waste Management Sector, Construction and Operation of Waste Recycling Plant.....	91
Case 20: Segegal, Transport Sector, Dakar Toll Road.....	96
Case 21: Spain, Energy Sector, Barcelona Districlima .....	101
Case 22: Spain, Transport Sector, Barcelona's Highway Maintenance – 'Las Rondas' .....	106
Case 23: Spain, Sustainable Cities, Maintenance and Conservation of the Furniture and Equipment in the Beaches; Cleaning of the Beaches in the Metropolitan Area of Barcelona.....	111
Case 24: Ukraine, Port Sector, PPP Kherson Port & Lower Dnieper River .....	116
Case 25: Ukraine, Waste Water Sector, Mechanical Biological Treatment Plant in Khmelnytsky as the First Waste PPP in Ukraine .....	121
Case 26: United States of America, Disaster Recovery, PPP for Temporary-to-Permanent Housing in Disaster Recovery .....	126
Case 27: United States of America, Health Sector, Harbor-UCLA Medical Center Expansion and Surgery and Emergency Facility Replacement .....	131



Case 1

Algeria

Port Sector

PPP- Bejaia International Container Terminal



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



Project:	PPP- Bejaia International Container Terminal
Project Proponent:	Portek International Pte Ltd (PIPL)
Project Organization:	Algerian Government via Entreprise Portuaire de Bejaia (EPB)



**Public Organization:** Ministry of Transport and Ministry of Finance

**Private Organization:** Portek International Pte Ltd (PIPL)

**Capital Providers:** EPB invested in infrastructure upgrading via a soft loan from PIPL. PIPL invested in modern container handling equipment, IT system and management expertise of International standard to operate the facility



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

It is the first PPP for port privatization in Algeria. The Joint Venture (JV) in which the Government via EPB holds a majority stake but gives the management control to a private entity, PIPL. In the last decade of the collaboration, the port has grown the container volume by almost 3 times, while employment has increased by 4 times. The transfer of management expertise, which covers all level of the workforce has resulted in deployment of 2 expatriates out of a total workforce of 600 people only. Our current CEO is an Algerian. The success of this venture can be attributed to a good working relationship between EPB and Portek in which the Government is supportive of PIPL's implementation of business plans including but not limited to assisting in getting Governmental approval, promoting best practices and enhancing strong labour union relationship.



UNECE \_ 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



Where:	The project is in Bejaia in Algeria, a small City of about 200,000 people but the port actually serves the key sectors in sugar, consumption products and industrial goods. Our involvement expands the coverage to benefit the Central-East of Algeria including the Inland regions.
Why:	Our involvement in the project actually made the port in Bejaia grow from among the smallest ports in Algeria to the 3 <sup>rd</sup> largest port in the Country. As such, new industries start to develop in the region, logistic sector grows and more factories were set up. So, besides increase in employment in our port, it also has a multiplier effect in job creation in the region.
What:	We strongly believe in creating quality employment as a means to improve quality of life. When we say quality, we refer not only to creating employment in the lower level but skill upgrade to higher level like Engineering, IT and even management skills.
Who:	The key players are the Port Authorities, labour unions, customers and even fellow workers. We have regular communication in the handling of the business with the Port authorities, always providing innovative ideas to improve the efficiency. We have regular dialogues and visits to understand and satisfy customer needs and even have union representatives sitting in the Board so that they understand the business direction of the organization.
When:	It is a 20-year concession starting from 2006 and we have duly implemented all the initiatives as committed in the agreement, many well ahead of time.

UNECE \_ 500 People First PPPs for the SDGs ... *our way to end poverty, protect the planet while leaving no one behind*



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## a) Increase access to essential services and promote equity

Ports have always been the main gateway to import and export of goods. Efficient infrastructure development of the port and its management has positive impact in managing the cost of goods in the Country via lower transportation cost.

Efficient management also brings about employment and impart of essential skills quality. Portek usually promotes social equality as we measure our people in terms of capability.

UNECE \_ 500 People First PPPs for the SDGs ... *our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## b) Develop a resilient infrastructure and improve environmental sustainability

Our presence in this PPP has raised the productivity of the port operation by at least 3 fold. This means that vessel can complete their operation early.

The improvement in Infrastructure development to handle specialized container handling equipment allows shipping lines the option to switch from inefficient geared vessels to the more efficient and newer non-geared vessels helps in cutting CO2 emission.

The creation of our Inland Container Depot (ICD) unlock the congestion in the port and brings us closer to the customers.

Our strong advocate to use rail transportation between our port and the ICD works towards reduction of CO2 emission

However, many of our equipment is still diesel operated rather than electric due to instability in power supplied from the Grid. This is an area in which we hope to work with the Government so that we can switch to electric operated equipment.

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*





## c) Demonstrate the economic and financial effectiveness of the project

The investment in development of the Port facility is internally funded by private investment with pay-back from the business. The Government does not require to invest incrementally into the business as we have a re-investment plan whereby we allocated a portion of the profit on an annual basis. The rest are distributed as dividend between the shareholders which is the Government.

We also allocated a fixed budget on training. This has the impact of increasing the skill level of our people who can then command higher salary.

Our activities also resulted in a multiplier effect of rejuvenating the economy leading to more local industries being created and thus, more employment.

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*



## d) Be replicable and scalable

The project in Bejaia, Algeria is into its 10<sup>th</sup> year of collaboration. Expansion plan is in the pipeline. We are replacing the older equipment with newer and more fuel efficient units.

We are also investing in upgrading new stretch of quay. In the pipeline, we are in the process of building a new training center for the Port sector including but not limited to installation of crane simulators for training of operators. This will be the first of its kind in Algeria.

Human Capital needs continuous investment. It is not just about increasing employment and also improving the quality of the skill set. We earmarked an annual budget (pegged to revenue) for training.

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*





## e) Engage all stakeholders

Transparency is the key. Internally, we have regular dialogue session with staff and Union representatives. We even have Union representatives sitting in our Board of Directors meeting so that they are kept updated on the business direction of the Company.

Externally, we engaged regularly with stakeholders in the Port including Customs, Police as well as our customers.

We are also involved in colleges and Universities from recruitment of fresh school leavers to giving talks to students. This is the entry level. Thereafter, we have programs to train the personnel either in the technical or administrative aspects. The establishment of the training center will further enhance such trainings.

For managerial roles, cross training is also available, either locally or overseas, even in Singapore and Tokyo



Case 2

Armenia

Water Sector

PPP-based Reforms in the Water Sector of Armenia



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

<b>Project:</b>	PPP-based reforms in the Water Sector of Armenia
<b>Project Proponent:</b>	Gagik Khachatryan
<b>Project Organization:</b>	Government of Armenia



UNECE \_ 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

<b>Where:</b>	<p>Project area: the territory of Armenia</p> <p>Population: more than 2.1 million</p> <p>The sector: water supply and sewerage</p>
<b>Why:</b>	<p>The water sector is entirely managed based on PPP</p> <p>Partnership with stakeholders</p> <p>Connection with SDGs</p> <p>Access to better services</p>
<b>Who:</b>	<p><b>Background</b></p> <p>water supply was a few hours a day</p> <p>water quality was at high risk</p> <p><b>Reform expectations</b></p> <p>access to universal, safe and reliable water supply for all</p> <p>increased water supply duration, providing affordable water</p> <p><b>Key players</b></p> <p>SCWE</p> <p>PSRC</p> <p>WRMA</p> <p><b>PPP Milestones</b></p> <p>First Generation of Reforms: 3 Management &amp; 1 Lease contracts</p> <p>Second Generation of Reforms: National lease contract</p>

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind





## a) Increase access to essential services and promote equality

### Access to essential services

- water duration has increased 3-4 times and is currently in average 19-23 hours (24 hours in major residencies)
- supplied water quality complies with health standards
- affordable water has been provided
- starting from the mid-2017 more than 60% of consumers will have access to the newly constructed wastewater treatment facilities

### Equality

Equal water standard for all  
Gender Action Plan

UNECE \_ 500 People First PPPs for the SDGs ... *our way to end poverty, protect the planet while leaving no one behind*



## b) Develop a resilient infrastructure and improve environmental sustainability

### Carrying out PPP contracts

- managed infrastructures and investments according to best industry practice
- mainly changed water supply structure from mechanical to gravitational
- implemented zoning/sectorization of networks
- energy consumption in the sector has been reduced around 10 times
- fuel consumption has been lowered around twice

### Consequence

Resilient infrastructures became attractive for applying advanced forms of PPP (lease/concession)

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## c) Economic and financial effectiveness of the project

Financial sources to support the project within next 15 years

Tariff (responsibility of the lessee)

- expenses of the lessee and a reasonable profit - more than \$830 million
- financial debt partially payments undertaken by the government - \$236 million
- mandatory capital expenditures - \$77 million
- lease fee - \$175 million
- no subsidiary fund from the state budget

Performance guarantee - \$5.9 million  
(responsibility of the lessee)

Major Investments - around \$550 million, (for the first 5 years - \$200 million)  
(responsibility of the lessor)

Development of the local market

Participation into PPP contracts  
Procurements of goods and services  
Utilities staff

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## d) Be replicable and scalable

Sharing experiences and knowledge between countries

International cooperation

Capacity building support to countries and reform leaders

Development of human resources

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*





## e) Engage all stakeholders

Partnership between stakeholders in launching PPP contracts

Consultation during establishing tariff

Coordination investment implementation

Coordination and monitoring of PPP contract KPIs



Case 3

Chile

Health Sector

Hospital Infrastructure PPP Programme

Maipu and La Florida Hospitals



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

Project:	HOSPITABLE INFRASTRUCTURE PPP PROGRAMME MAIPU AND LA FLORIDA HOSPITALS
Project Proponent:	San José- Tecno Control S.A. (Spanish companies)
Project Organization:	Consortium through a concessionaire company



**Public Organization:** Ministry of Public Works mandated by the Health Ministry.

**Private Organization:** San José – Tecno Control consortium, in charge of: project development, building, supply of non-clinical furniture and operation of basic and special services.

**Capital Providers:** 100 % private financing.

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

- Reduce the construction time and guarantee the delivery of the project in the agreed time.
- Avoids deviations in building and equipment budgets.
- Private sector has more experience in project management and is more specialized and innovative.
- Relevant risk transfer.
- Releases public resources for other projects.
- Allows economic programming of healthcare systems with historical deficit.



UNECE \_ 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

Where:	located in Santiago's two main populated municipalities: Maipú and La Florida. These two hospitals represent an assigned population of more than 2 million people.											
Why:	the country is reforming the health system in order to achieve the following objectives: <ul style="list-style-type: none"><li>• Decrease inequalities</li><li>• Challenges in population ageing</li><li>• Provide services according to expectations</li><li>• Improve healthcare achievements</li></ul>											
What:	both hospitals were awarded in November 2009 and now they are in operation.											
Who:	<table><tr><th>Hospital</th><th>Superface (m<sup>2</sup>)</th><th>Number of Beds</th></tr><tr><td>Maipú</td><td>70.000</td><td>375</td></tr><tr><td>La Florida</td><td>72.000</td><td>391</td></tr></table>			Hospital	Superface (m <sup>2</sup> )	Number of Beds	Maipú	70.000	375	La Florida	72.000	391
Hospital	Superface (m <sup>2</sup> )	Number of Beds										
Maipú	70.000	375										
La Florida	72.000	391										
When:	the Ministry of Public Works mandated by the Health Ministry. San José – Tecno Control consortium won the tender.											

UNECE \_ 500 People First PPPs for the SDGs ... *our way to end poverty, protect the planet while leaving no one behind*





## a) Increase access to essential services and promote equity

### Benefits for users:

- Reduce hospital start-up.
- Greater complexity in infrastructure and equipment.
- Guarantee maintenance and conservation of infrastructure.
- Maintenance and renewal of equipment
- Guarantee levels of service.

■ % Notas 1 a 4

■ % Notas 6 a 7

▲ % Neto  
(6 a 7 - 1 a 4)



UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind



## b) Develop a resilient infrastructure and improve environmental sustainability

- Guarantees maintenance and conservation of infrastructure's initial conditions in similar terms during the period of concession.
- Hospital design meets Chilean seismic regulation standards for public building. The regulation was reviewed during 2010 after the February earthquake, incorporating higher levels of security and requirements.
- There are existing insurances covering infrastructure from possible catastrophic events.
- The project was submitted to the Environment Impact Evaluation, fulfilling all environmental standards.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## c) Demonstrate the economic and financial effectiveness of the project

In terms of public subsidy, both proposals required a 22% less of resources.

Hospital	Building stage			Operation stage		
	Max subsidy	Final subsidy	Saving (%)	Max subsidy	Final subsidy	Saving (%)
Maipu	27.494.727	21.418.393	22%	4.630.691	4.630.691	0%
La Florida	29.785.955	23.203.259	22%	5.016.582	5.016.582	0%

The construction cost per square meter using PPP is lower.

Hospital built with PPP (U\$/m2)	Hospital built directly (U\$/m2)	PPP/direct
<b>1.502</b>	<b>1.867</b>	<b>80%</b>

Operational budget of other hospitals is clearly lower through concessions.

HOSPITAL	operational Anual budget (U\$)	Annual concession budget (U\$)	Actual Budget vs Concession (%)
ANTOFAGASTA	36.784.850	21.475.030	71,29%
SALVADOR – GERIÁTRICO	46.418.938	22.531.768	106,02%
SANTIAGO OCCIDENTE	24.963.002	17.427.597	43,24%

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## d) Be replicable and scalable

The project is replicable due to the important benefits that presents:

- Lower costs in construction and operation.
- Reduces commissioning time in service deadlines.
- Offers more complex infrastructure with greater services, equipment and number of beds.
- Guarantees periodical maintenance and appropriate renewal of medial and clinical equipment.
- Ensures permanent levels of service previously defined in terms of food, cleaning, waste management and security.

This model is adaptable to the specific needs: it can vary from construction and maintenance of infrastructure up to the provision of all clinical and medical services.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind





## e) Engage all stakeholders

During the stage of project design, citizen participation procedures were executed fulfilling the ministry's requirements.

At the same time, public authorities, both regional and national, have had instances of participation and contribution to the project. All which are regulated by the Environmental Impact Evaluation System.

The Health Ministry, Public Works Ministry and Health service authorities were engaged since early stages in the project development.



Case 4

China

Transport Sector

Longhua Modern Tram (Phase I) PPP/BOT Project



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



Project:	Longhua Modern Tram (Phase I) PPP/BOT Project
Project Proponent:	Longhua Modern Tram (Phase I)
Project Organization:	Government of Longhua District, Shenzhen



**Public Organization:** Government of Longhua District, Shenzhen

**Private Organization:** Shenzhen Metro Group

**Capital Providers:** Government of Longhua District, Shenzhen Metro Group

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

The tram system will integrate the north side of Longhua into the city's rail network and is expected to significantly ease commuting difficulties, especially since the northern extension of Line 4 is still being planned. The tram line will eventually connect with Line 4 at Guanlan Central Station. This project provides the citizens with convenient, safe, and environment-friendly railway transit service by motivating all the parties.



UNECE \_ 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



<b>Where:</b>	Longhua Modern Tram is located in Shenzhen, Guangdong. The forecast peak passenger flow will be 21 million in 2017
<b>Why:</b>	BOT project upgrades the governmental investment, construction, operation and management in urban railway transit, makes more clear the responsibilities of government, society and enterprises; It also attracts the enterprises to invest and operate of the urban railway transit; It will have a good economic benefit by transforming the extensive management to meticulous management
<b>What:</b>	This project provides the citizens with convenient, safe, and environment-friendly railway transit service
<b>Who:</b>	Government of Longhua District, Shenzhen, Shenzhen Metro Group
<b>When:</b>	Construction of two tram lines in Longhua New District, Shenzhen, Guangdong, China commenced on December 2013. Phase I was put into operation in 2017

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind





## a) Increase access to essential services and promote equity

- Demonstration Line starts from Qinghu Station of Line 4, crossing Qinglong Road, Meilong Road, Dahe Road, Renmin Road, and Ping'an Road, and ends the Cross of Guanlan Avenue. The branch line is set in South Huanguan Road.
- The total length of the Line 4 is 11.7km with 20 station while the length of the Main line is 8.59 km with 15 stations and the average distance between each station is 606m and the Branch line is 3.13km long with 5 stations and average distances is 572m.

UNECE \_ 500 People First PPPs for the SDGs ... *our way to end poverty, protect the planet while leaving no one behind*



## b) Develop a resilient infrastructure and improve environmental sustainability

- The sections and greenbelts between trams jointly shared to save land resource and beautify urban landscape. Crossings of trams are jointly shared with other vehicles.
- Car Depot covers an area of 8 hectares with the 56 trains' parking capacity, together with other five and seven modules. It is also has the Parking garages, repair workshops, complex building and line network control centers.
- Trains are 100% low-floor steel wheel and steel railway tramcars, with the wireless (super-capacitor) energy storage for power supply. The initial stage has 15 cars and the long-term stage is 34 cars.
- The operation is integrated with intelligence control. The 11 subsystems in the line are managed under the integrated system. Two signal systems feature by connection and independent check. By using the priority strategy, the traffic police can realize the unified control, and maintenance management respectively.

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*



## c) Demonstrate the economic and financial effectiveness of the project

1. Public bidding projects
  - Modern tram project BOT investment, construction and operation & simultaneously-implemented projects
2. Contents of bidding
  - (1) Modern tram project BOT investment, construction and operation (social investment)
  - (2) BOT project franchise operation and supervision (supervised by government)
  - (3) General contracting of simultaneously-implemented projects (invested by government)
- Superstructure Platform Structure Project of Car Depot.
- Urban Road Planning and Reconstruction Project along the Line.
- South Hengkeng Road Reconstruction Project
- Line 4 Northern Extension Project from Qinghu Station
3. Three contracts
  - Tram BOT Project Contract (bid-inviter and bidder sign Investment and Construction Franchise Operation Contract).
  - Tram Operation and Supervision Contract (governmental department and bidder sign Operation and Supervision Contract).
  - General Contract of Simultaneously-implemented Project (bid-inviter and bidder sign General Contract of Simultaneously-implemented Project)

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*

## d) Be replicable and scalable

- Through the open, fair and just bidding of the projects such as Shenzhen Metro Line 4, Hualong Modern Tram PPP/BOT, the competent social capitals and management (investment, operation and construction undertakers) have been introduced into Shenzhen. This is helpful for improving construction, operation and management of urban railway transit. It will bring good economic and social benefits. In addition, it will provide healthy development strategy for the transformation and upgrading of the supply mode in urban railway transit.
- Break the traditional city rail transit full government investment, commissioned by the enterprise (state-owned) on behalf of the construction and operation of the single (cost return) management mode, financing market management market mechanism ecological city rail transportation supply innovation side.
- Break the traditional extensive management in solving the transportation problem; and preliminary establish a new ecological development for the PPP/BOT project construction and operation management by using cover spatial reuse development (track + property) on railway.
- Break the traditional extensive management of the single subsidies plan and initially establish an open and fair bidding for Government's city rail transit project and realize the unified franchising mechanism.
- Break through the traditional urban railway transit investment, construction and management mechanism that only relies on subsidies, and established the ecological franchise operation mechanism, in which the government organizes bidding invitation, the society and enterprises conduct joint investment, financing, construction, operation and management, and the passengers enjoy transportation service at a reasonable ticket price.

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*





## e) Engage all stakeholders

- By conducting the separated bid of superstructure of the car depot, it provides a legal application example for the land use mode of urban railway transit.
- The project encourages all the parties including the government, society and market to enhance the management of urban public welfare facilities and to meet the development of modern international city.
- The project provides the citizens with convenient, safe, and environment-friendly railway transit service by motivate all the parties.



Case 5

China

Transport Sector

MTR (Shenzhen) Line 4 PPP/BOT Project



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

Project:	Shenzhen Long Hua Light Rail PPP/BOT Project
Project Proponent:	Main line and branch line of Shenzhen Long Hua Light Rail
Project Organization:	Shenzhen Municipal Government

**Public Organization:** Long Hua (Shenzhen) District Government, Shenzhen Metro Group

**Private Organization:** Qian Hai Fund Corporation (Shenzhen)

**Capital Providers:** Qian Hai Fund Corporation (Shenzhen)

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

Long Hua light rail construction provides great benefit for the citizens in Shenzhen. Besides reducing traffic congestion, secondary roads are build and building blocks are constructed along the line.



UNECE \_ 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

<b>Where:</b>	Long Hua light rail is located in the Long Hua District of Shenzhen, Guangdong, China. This line can be connected with metro Line 4.
<b>Why:</b>	By implementing the urban railway transit PPP/BOT project, innovative investment and financing systems will be used, and finally it can realize a more positive competition and healthier project development.
<b>What:</b>	The project improves international development of Shenzhen and provides citizens with better urban railway transit services.
<b>Who:</b>	Long Hua (Shenzhen) District Government, Shenzhen Metro Group, Qian Hai Fund Corporation (Shenzhen)
<b>When:</b>	Long Hua district government began to launch the study of light rail project PPP/BOT in 2013. The formal contract was signed in July 2015. This line will be officially put into use in June.2017.

UNECE \_ 500 People First PPPs for the SDGs ... *our way to end poverty, protect the planet while leaving no one behind*



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## a) Increase access to essential services and promote equity

With this project, all the districts of Shenzhen can be connected more closely. They will be the most preferable destinations of regional economy and social resources. It is significantly important to promote the modernization and internationalization level of Shenzhen city. With the technology used in this project, not only the carbon dioxide emissions can be reduced, but also the urban landscape can be promoted. For the citizens, the light rail is an effective and helpful project, especially for the area which cannot be covered by the metro lines.

UNECE \_ 500 People First PPPs for the SDGs ... *our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals

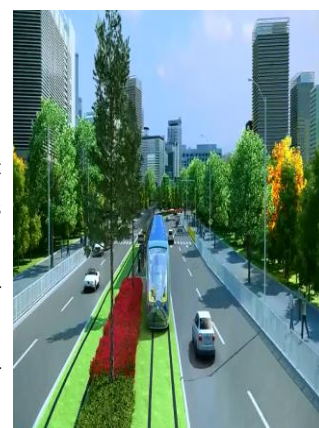


## b) Develop a resilient infrastructure and improve environmental sustainability

Main line of Demonstration Line starts from Qinghu Station of Line 4, and crosses Qinglong Road, Meilong Road, Dahe Road, Renmin Road, Central HUanshi Road, Ping'an Road, and the crossing of Guanlan Avenue. The branch line is set in South Huanguan Road. The main line is 8.59 km with 15 stations of which the average distance between stations is 606m. The branch line is 3.13km with 5 stations of which the average distance between stations is 572m.

Trains are 100% low-floor steel wheel and steel rail tramcars. Wireless (super-capacitor) energy storage for power supply. Initial stage: 15 cars; long-term stage: 34 cars.

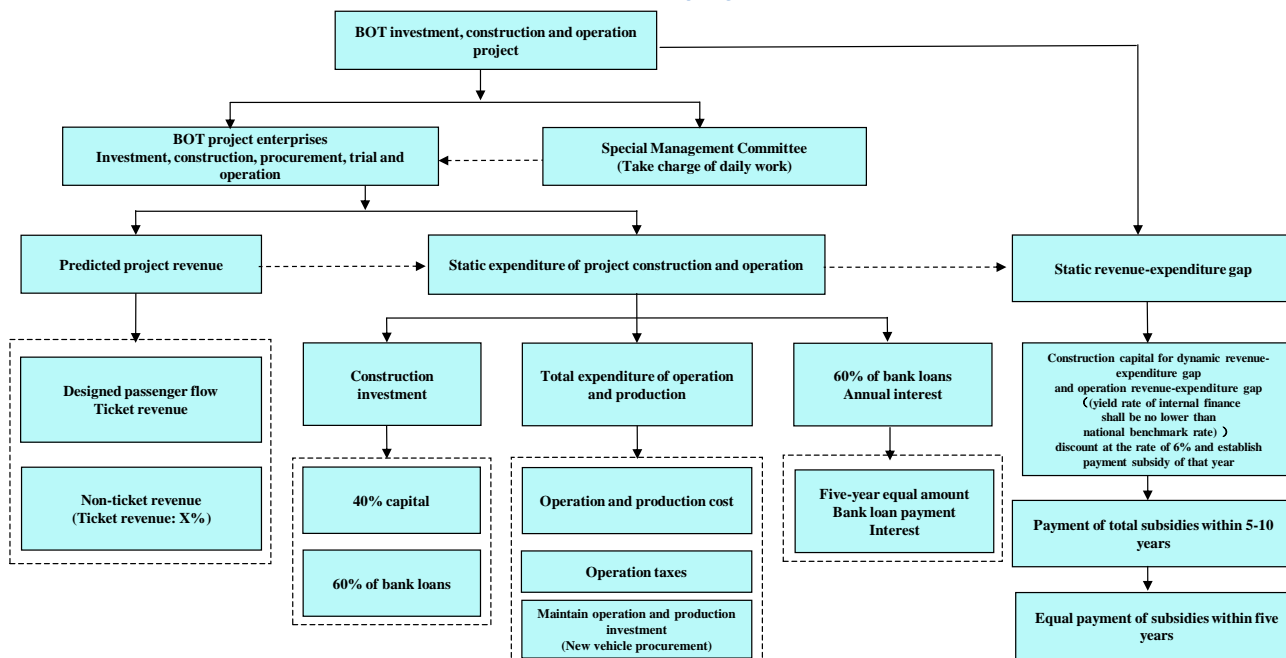
The sections and greenbelts between trams jointly save land resource. Crossings of trams are jointly shared with other road vehicles.



UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*



## c) Demonstrate the economic and financial effectiveness of the project



UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

## d) Be replicable and scalable

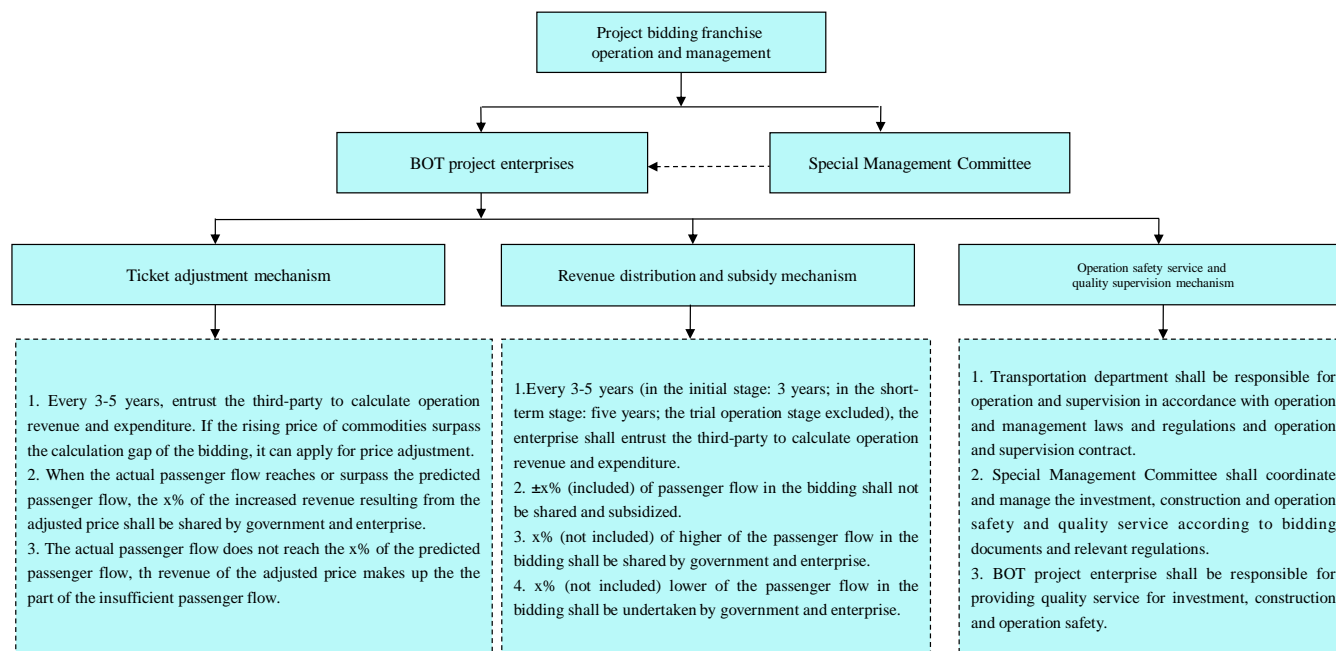
The transformed and upgraded investment, construction, operation and management in urban rail transit make the responsibilities, rights and interests of government, society and enterprises more clear. This has attracted the companies to invest in the construction and operation of urban rail transit. It is expected that this will result in better management.

This project provides the methodology for other countries or regions, especially in the city infrastructure construction field.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



## e) Engage all stakeholders



UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



Case 6

Egypt

Waste Water Sector

New Cairo Waste Water Treatment Plant



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

Project:	New Cairo Waste Water Treatment Plant (New Cairo WWTP)
Project Proponent:	New Urban Communities Authority (NUCA) – Ministry of Housing , Utilities and Urban Communities
Project Organization:	Orasqualia for the Development of the Wastewater Treatment Plant SAE

**Public Organization:** Ministry of Housing , Utilities and Urban Communities.  
Ministry of Finance in charge of the Public-Private Partnership Central Unit

**Private Organization:** Aqualia New Europe (is a joint venture of Aqualia (51%) and the European Bank for Reconstruction and Development (EBRD) (49%)) (50% shares), Orascom Construction Industries SAE (OCI) (50% shares), Aqualia Infraestructuras (EPC), FCC Aqualia (O&M), Orascom Construction Industries (EPC and O&M)

**Capital Providers:** SPV registered capital (Dec. 2015) 30,140,485.31US. National Société Générale Bank SAE (NSGB)12 (32.99%), Commercial International Bank (Egypt) SAE (CIB) (32.77%), Arab African International Bank SAE (17.12%) and Ahli United Bank (Egypt) SAE (17.12%).

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

Drinking water shortage was a pressing issue in Egypt's environmental sustainability. The existing wastewater treatment infrastructure did not produce water with adequate levels of quality to enable the water to be used to irrigate agricultural and urban green areas, forcing freshwater to be used instead. A PPP was used to build new infrastructure to reuse urban wastewater for irrigation, thereby reducing freshwater use. The project would additionally reduce the water pollutants entering the River Nile.

The administration benefited from the private know-how and capital investment while the private firms participated in a milestone profitable and sustainable project.



UNECE \_ 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

Where:	The New Cairo Wastewater Treatment Plant is a plant located in New Cairo, a city created in the southeastern part of Cairo in 2000 in a former desert area, to ease problems deriving from an overcrowded capital.
Why:	One of the main challenges faced by the new city was the shortage of drinking water due to the harsh environmental conditions. The purpose of the urban wastewater plant was to treat regular urban wastewater. On the other hand, the lack of public capital to finance infrastructure was solved using a PPP, that would bring in highly needed capital and know-how transfer by private sector.
What:	(1) An increase in the availability of drinking water (since treated water would be used for irrigation purposes instead of freshwater); (2) a reduction in the environmental impact of the wastewater discharge into the River Nile (with a direct positive impact on human health and the river's ecology).
Who:	The contracting authority, New Urban Communities Authority (NUCA) was assigned risks such as landscape, supply of utilities and demand; Orasqualia was assigned risks such as construction, financing, interest rates, and foreign exchange rates.
When:	(2008) PPIAF assistance program report, (2009) announcement of the New Cairo WWTP contract, (2010) financial closure and construction start, (2011) political protests start, (2012) construction finished, (2013) New Cairo WWTP starts operations, (2029) contract ends.

UNECE \_ 500 People First PPPs for the SDGs ... *our way to end poverty, protect the planet while leaving no one behind*





## a) Increase access to essential services and promote equity

Before the New Cairo WWTP was in operation, wastewater was emptied into the river, which had significant negative effects not only on the river's ecosystem but on public health, particularly on those more vulnerable that make from the river a way of living.

New Cairo WWTP was designed to:

- Reduce the use of (scarce) freshwater for tasks such as irrigating agricultural and urban green areas.
- Limit the volume of polluted water dumped into the river with consequent negative effects on human health and the ecosystem.

Benefits for the residents and society:

- Increase in the availability of freshwater.
- Reduction of pollutants dumped into the river led to improved public health.
- Better quality for farming increased the quality of products with direct effects on human health, and might have increased agricultural productivity, fostering economic growth in the region.
- The plant provided regular jobs for 63 permanent skilled workers directly and 617 workers indirectly.

UNECE \_ 500 People First PPPs for the SDGs ... *our way to end poverty, protect the planet while leaving no one behind*



## b) Resilient infrastructure and improvement in environmental sustainability

The PPP allowed to bundle the construction and operations activities, adopting a lifecycle management approach, that led to efficiency gains and reduction of the maintenance cost for the SPV.

Maximum environmental standards required by NUCA. During the construction process NUCA did not accept, as is the common rule, any discharge of water of a quality outside the parameters established in the contract. That forced Orasqualia to construct (at its own cost) a 2 km pipe to the closest WWTP for further treatment during the commissioning period.

Once functioning the plant enabled a reduction in the quantity of pollutants (raw sewage) dumped into the River Nile. This improved the river's water quality, which had positive direct effects on the river ecosystem and on human health. Additionally, more fresh water was available for human consumption.

An estimated measure of the reduced river pollution with the plant working at full capacity would be as follows:

- 94 tons of BOD5 (five-day biological oxygen demand) per day avoided
- 105 tons of TSS (total suspended solids) per day avoided
- 135 tons of COD5 (five-day chemical oxygen demand) per day avoided

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## c) Economic and financial effectiveness of the project

The New Cairo plant mobilized private investments totaling \$140 million.  
PPP contract value US\$482 million for 20-year concession

Payment based on a sewage treatment charge including a fixed payment coverage (investment, debt, RoE and fixed operating cost) plus variable operating charge based on volume of treated sewage (m<sup>3</sup>)

The SPV was created on April 9, 2009, with registered capital in Egyptian pounds of E£250,000 (45,704 USD). On December 31, 2015 the registered capital was 236,000,000 EGP (30,140,485.31 USD).

The debt, structured as project finance without recourse, amounted to E£566 million<sup>11</sup> (103.47 million USD) in two tranches:

- E£550 million (100.55 million USD) in the form of a long-term facility (15 years) to finance up to 70% of the Project's investment cost (EPC cost) (estimated at E£785.2 million, then worth 143.55 million USD). The remaining 30% was in equity of the SPV.
- E£16 million (2.93 million USD) in the form of operation performance letters of guarantee to be issued during the operation period.

The banks acting as lenders were National Société Générale Bank SAE (NSGB)<sup>12</sup> (32.99%), Commercial International Bank (Egypt) SAE (CIB) (32.77%), Arab African International Bank SAE (17.12%) and Ahli United Bank (Egypt) SAE (17.12%). The banks had a step-in right and a pledge regarding the SPV shares acknowledged in the PPP agreement by all the parties involved under specific circumstances.

Local economy benefited from the spill over effects of importing the experience and know-how of a multinational enterprise such as Aqualia working in alliance with a local operator. That should result eventually in improvements of efficiency in the local economy.

The total number of regular jobs associated with the plant are 63 (5 for the SPV and 58 for the O&M joint venture) to add to the indirect jobs created.

*UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## d) Replicability and scalability

The New Cairo WWTP provides a good example on how to develop a complex, technologically advanced, and costly infrastructure in a lower middle income country, with environmental and sustainable problems, unstable political system, and weak currency. The latter is a critical element when trying to attract international bidders / investors.

Some of the valuable learned lessons that can be considered when trying to replicate this PPP project in other developing countries are:

- Adequate risk transfer to the part more able to deal with it
- Incentivize international firms to invest by offering fair financial conditions. That will also foster a more competitive tender
- Critical to set an independent PPP unit to provide stability to the project
- Design good governance systems to foster communication between the contracting authority and SPV

The experience acquired in the project was also used to design the Law No. 67, regulating Partnership with the Private Sector in Infrastructure Projects, Services and Public Utilities, passed on August 2010. A stable legal framework and the first successful experience can have positive effects on encouraging other Ministries and sectors to develop PPPs. Success as example.

The project also required training local employees to use the last technology systems used in the New Cairo WWTP. Ultimately, that would benefit local economy due to spill over effects and setting best practices.

*UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind*





## e) Stakeholders engagement

As a urban project, New Cairo WWTP involved many different stakeholders

- Ministries: Ministry of Housing, Utilities and Urban Development, and Ministry of Finance
- Independent bodies: Public-Private Partnership Central Unit
- Regional governments: Cairo Governorate
- Firms: Financial institutions (IFC, ERDB, private banks), private firms including concessionaires and its providers
- Egyptian citizens, consumers, and fishermen.

New Cairo city is the result of the policy implemented by the Egyptian government to ease the congestion in downtown Cairo. The lack of a proper water treatment system affected particularly Egyptians through product consumptions, either consuming fish from the River Nile or agricultural products irrigated with polluted water.

However the most affected were those making from that area of the Rive Nile the way of their living, as they were exposed to water with high pollution levels.

The construction of the New Cairo WWTP improved substantially the environmental conditions and made more fresh water available benefiting the society across the board. These improvements had specially beneficial effects on those more vulnerable.

A good governance system is critical for the correct development of the process and involvement of the main stakeholders in the decision making. New Cairo WWTP established two governance committees to supervise how the project was functioning and to deal with unexpected situations that might arise during the contract: Partnership Committee and Performance Monitoring Committee.

The PPP governance committees were composed of members of the administration and SPV to supervise the correct functioning of the infrastructure and to deal with eventual changes in the circumstances under which the contract was signed. They included also independent experts.

**UNECE 500 People First PPPs for the SDGs...** *our way to end poverty, protect the planet while leaving no one behind*



## Case 7

### Ethiopia

#### Energy Sector

#### Energy Access to Shine Refugee Camp



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



Project:	Energy Access to Shire Refugee Camps in Ethiopia <a href="http://www.alianzashire.org">www.alianzashire.org</a>
Project Proponent:	
Project Organization:	



**Public Organization:** AECID Spanish Agency for International Development Cooperation  
itdUPM Innovation and Technology for Development Centre, Technical University of Madrid

**Private Organization:** Iberdrola, Philips Lighting Spain & Fundación Acciona Microenergía

**Other Organizations:** UNHCR United Nations High Commissioner for Refugees. Collaborating partner.  
NRC Norwegian Refugee Council. Implementing partner.

**Capital Providers:** Seed capital provided by AECID. Human and in kind capital provided by private organizations and itdUPM.



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

Alianza Shire is a cross-sectoral partnership where public, private and international organizations combine resources in order to improve energy access in humanitarian contexts, specifically in refugees and IDPs camps. Energy access is a problem that need to be approached through innovative solutions able to solve the challenges faced in a refugee camp due to the lack of energy like environmental degradation, SGBV, absence of livelihood opportunities and limitations in the provision of basic services.



UNECE \_ 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals

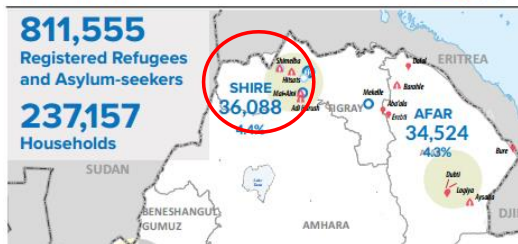


## Where?

### ETHIOPIA

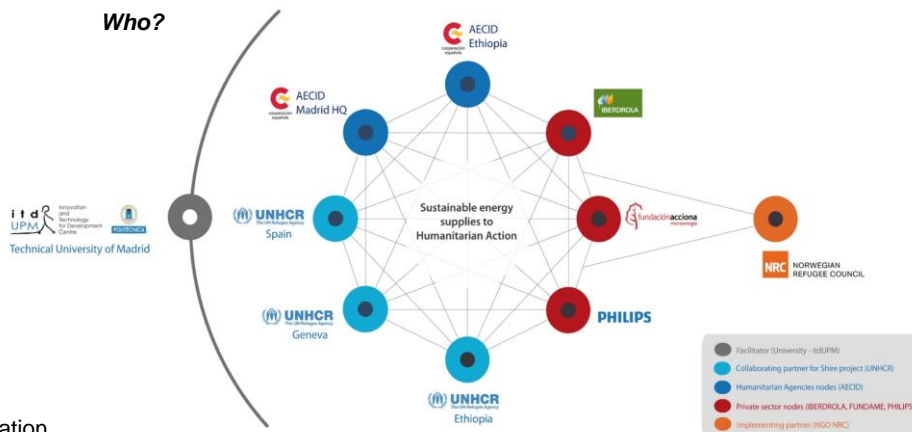
Refugees and Asylum-seekers

as of 28 February 2017



**Shire Refugee camps:** Eritrean refugees, young population  
**Adi-Harush:** Settled in 2010, sheltering 8000 refugees

## Who?

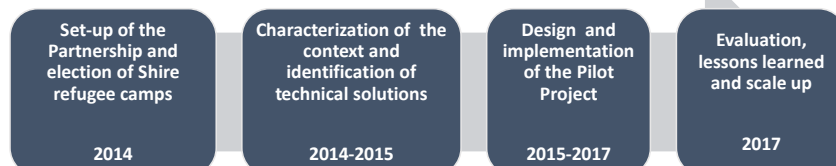


## What & When?

### Why?

Gender and protection  
Lack of livelihood opportunities  
Deforestation  
Conflict with host community  
Camp management

**Issues related to the lack of energy access**



UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## a) Increase access to essential services and promote equity. Pilot project

### Lighting

- Installation of street lighting. 64 lighting points in more than 4 km around the camp and the host community
- Installation of indoor lighting in 7 communal kitchens.

### Improvement and extension of the electricity grid

- Connection of 7 communal services, including communal kitchens, the Primary School, Market Places, Wellness Centre for women and girls
- Reparation and rehabilitation of one transformer
- Installation of protections in 14 communal services (Distribution boxes, General Protection Boxes, ground connections...)

### Protection issues

- Prioritization of the areas and services more relevant for the life of the unaccompanied minors in the camp
- Prioritization of the zones with a higher rate of gender based violence incidents
- Inclusion of the Host Community



UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## Adi-Harush refugee camp – Street Lighting Map



UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## b) Develop a resilient infrastructure and improve environmental sustainability. Pilot Project

### Training

- Theoretical training (lighting, electric grid, risk prevention and first aid) to 28 persons
- Practical training (installation of the equipment) to 15 refugees and 4 persons from the host community

### Technical Sustainability

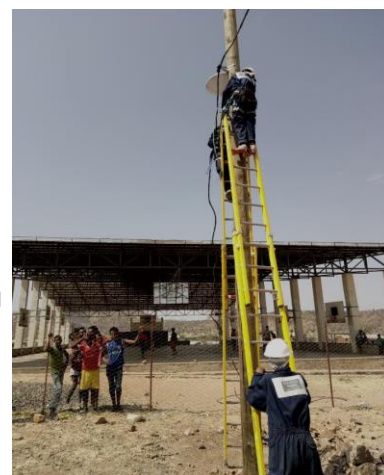
- Creation of an Operation and Maintenance Work Team, formed by 4 refugees that will work as Norwegian Refugee Council social workers with a 3 years contract
- Main activities: Maintenance of the installations, connection of new services and collection of information for the monitoring and evaluation

### Environmental impact

- Deforestation. The connection of the communal kitchens to the grid will avoid the collection of firewood for cooking purposes.

According to the estimations, depending on the availability of electricity from the grid, around 1500 Tn firewood per year will not be collected

- CO2 emissions. The connection of the communal services will reduce the emissions of CO2 due to the burning of firewood for cooking or diesel for running the services. The CO2 emissions savings will be between 1000 and 3000 Tn per year, depending on the availability of energy from the grid



UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## c) Demonstrate the economic and financial effectiveness of the pilot project

### Funds

- Seed capital: 280000 € since December 2014, funded by AECID
- Human resources and in kind contributions:
  - Private companies: IBERDROLA, PHILIPS, FUNDACIÓN ACCIONA
  - itdUPM
  - UNHCR

### Estimated impact

- Key data: Daily diesel consumption for running the communal services in the camp:  
€/L = 166€/day = 60000€/year  
Price of kWh from diesel generators: 0,25 €.  
Price of kWh from the grid: 0,029 €.
- Economic savings: Depending on the availability of electricity from the grid, around 35000 €/year
- These savings don't include those avoided costs in terms of SGBV incidents, deforestation or CO2 emissions

### Livelihood opportunities

- Operation and Maintenance Work Team created among the refugees trained to ensure the sustainability of the installations
- Opportunities of the creation of energy related businesses to the refugees trained by the project



UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## d) Be replicable and scalable

### In Shire refugee camps

Once the pilot project has been successfully implemented, the replication in Shire refugee camps would be feasible due to different factors like:

- Knowledge of the context,
- Elaboration of a specific tools adapted to a refugee camp context (training toolkit, audit of the grid)
- Synergies created at field level
- Availability of quality material.

### In other camps in Ethiopia

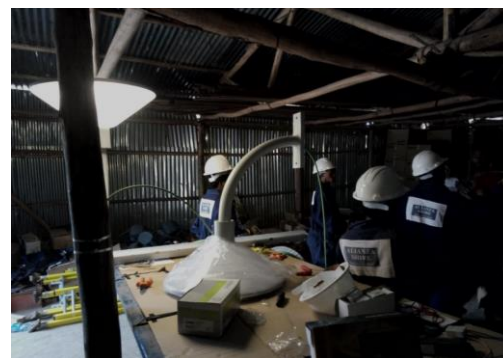
- Common factor in Ethiopian refugee camps: connection or proximity to the grid
- Participation of national electric company (EEU)
- Involvement of Governmental Agency for Refugees (ARRA)

### In other refugee camps

- Involvement of UNHCR
- Need of characterization before design of solutions
- Relevant implementing partners/Operators with presence in the camps like NRC
- Possibility of any kind of energy intervention due to the background of the companies: grid, wind power, hydro power, lighting, solar and business models

### Other sectors

- Water: solar pumping
- Livelihoods: energy for private businesses
- Creation of business models: biogas, solar charge center, etc.
- Shelter: Private connections with intelligent/pre-pay electric meters



UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## e) Engage all stakeholders

Beneficiaries: refugees and host community: Participation in the characterization, training, implementation and monitoring of the activities

University: itdUPM, broker/facilitator of the partnership: coordination of all stakeholders; promotion of the systematization and dissemination of the knowledge

### Local Authorities

- ARRA (Ethiopian Agency for Refugees and Returnees Affairs): facilitation of the surveillance of the Ethiopian regulations, knowledge of the context and security issues inside the camps
- EEU (Ethiopian Electric Utility), involved in design, training and facilitating of the works in the national grid since the beginning of the project

International Organizations: UNHCR (United Nations High Commissioner for Refugees), collaborating partner

### Civil Society Organizations

- NRC (Norwegian Refugee Council): implementing/operator partner, supporting with the logistic and implementation issues
- Ayuda en Acción-Jesuit Refugee Service: implementing/operator partner, supporting with the logistic and implementation issues
- IRC (International Rescue Committee): support with gender and protection issues
- NRDEP (National Rural Development and Environment Programme): support with environment issues

### Private companies

- Iberdrola: Technical support related to the installation and operation of the electricity grid
- Philips Lighting Spain: Technical support regarding street and indoor lighting technologies
- Fundación Acciona Microenergía: Technical support in solar technologies and business model

Public Agency: AECID, funding the project and supporting through the Humanitarian Aid Office and the Technical Cooperation Office in Ethiopia

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*



## Case 8

### Ethiopia

#### Transport Sector

#### Ethiopia Light Railway Project



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

<b>Project:</b>	<b>Ethiopia Light Railway Project</b>
<b>Project Proponent:</b>	the AALRT Operation and Maintenance Management Service
<b>Project Organization:</b>	Ethiopian Government

**Public Organization:** Shenzhen Municipal Government, Ethiopian government

**Private Organization:** China Railways Engineering Group (CREC), Shenzhen Metro Group Co.Ltd. (SZMC), Ethiopian Railways Corporation

**Capital Providers:** China Railways Engineering Group (CREC), Shenzhen Metro Group Co.Ltd. (SZMC)

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

This project connects Chinese urban railway transit construction service functions, technical standards, reliability, operation and management documents with overseas urban railway transit projects, and operates and cultivates local talents in urban railway transit construction, operation and management (win-win cooperation in Belt and Road Initiative).



UNECE \_ 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

<b>Where:</b>	This project is in Ethiopia. The planned lines are 75km in the overall length, and the lines in the Addis Ababa E-W & N-S (Phase I) Project to be executed currently approximate 31.048km in length.
<b>Why:</b>	In May 2014, Premier Li paid an official visit to Ethiopia and stated that the cooperation between China and Ethiopia would focus on the infrastructure construction and energy resources development and expand the win-win collaboration between our two countries on light railway and highway projects. China would like to share all the related experience with Ethiopia and transfer the competitive industries and technology to Ethiopia.
<b>What:</b>	With the experience and top-rank service brand in urban railway transit industry, SZMC will bring the operation management technology to the global market.
<b>Who:</b>	AALRT staff composition includes three parties. The Management Contract composed of SZMC and CREC is in charge of operation organization. And ERC sent staff to learn from the management contract. The management authority will be transferred to ERC on the expiry of the contract.
<b>When:</b>	In May 2014, the consortium of SZMC and CREC bid for the AALRT Operation and Maintenance Management Service and signed a contract with ERC in December, 2014. The contract period is 41 months. After 3 years of operation, the local staff will take over all the operation and maintenance work.

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind





## a) Increase access to essential services and promote equity

AALRT project includes two lines, which are N-S Line and E-W Line. As for this E-W line of LRT project (Phase I), the total length of the subgrade section is 13.09km and the total length of elevated station is 3.92km. There are a total of 22 stations, including 6 elevated stations, 2 semi-underground stations and 14 ground stations with the average station interval of 794m. The N-S line subgrade length is 10.06km and the length of elevated section is 5.907km and the underground section is 0.66km. There are a total of 22 stations, including 8 elevated stations, 1 underground station and 13 ground stations with the average station interval of 772m.

The N-S Line was put into official operation on Sep. 20th, 2015. By Nov. 20th, the total ridership had reached 6.5 million, with the average daily ridership of 60 thousand. E-W Line was put into official operation on Nov. 10th, 2015, by Nov. 20th, the total ridership had reached 2.8 million, with the average daily ridership of 6 thousand. Currently, the two lines are in full operation.

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind



## b) Develop a resilient infrastructure and improve environmental sustainability

Ethiopian government invited Shenzhen Municipal Government to finalize the Safety and Trial Operation Conditions Assessment. Therefore, Shenzhen Urban Railway Transit Association accomplished Safety and Trial Operation Conditions Assessment for AALRT (Phase 1). The experts team prepared the documents auditing and on-site inspection of operation preparation, light railway construction and equipment system. Then the experts team formulated the Safety and Operation Conditions Assessment Report for AALRT(Phase 1) and put forward the issues and recommendations for modification.

In the semi-annual operation management KPI evaluation of AALRT, as the operation supervisor, the consulting company of Italian National Railway Group gave a high score of 99.95 to the operation of AALRT by SZMC, fully affirming the operation and management level of SZMC.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## c) Demonstrate the economic and financial effectiveness of the project

As of February 28, 2017, the passenger flow volume of the network is 52.9 million, maximum daily passenger volume is 185,000, total Fare revenue is 160 million Birr (approximately 6.95 million US dollars), with the strict control of the operation and high attention for the operation safety, the ridership maintains steady growth.

In September 2016, Shenzhen Metro signed the contract of the advertising resources in 9 stations, which can increase the income by 24 million Birr (approximately 1.04 million US dollars). At the same time, Shenzhen Metro Launched the public bidding work of the rest of the advertising resources in the other 30 stations, which will increase the revenue by nearly 100 million Birr (approximately 4.35 million US dollars) every year for the light rail company .

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



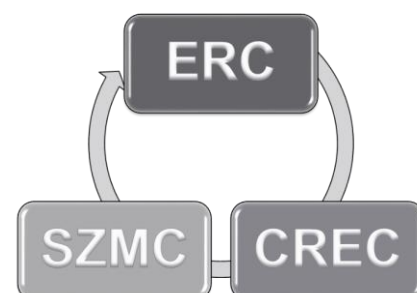
**THE GLOBAL GOALS**  
For Sustainable Development

## d) Be replicable and scalable

The project can be replicated in other countries in Africa and other continents.

Shenzhen Metro launched AALRT staff training course, which includes the local training course and the training in Shenzhen. AALRT has completed theoretical training of 20523 persons/3289 class hours totally, including 19010 persons/2833 class hours for Ethiopian staff, 1628 persons/453 class hours and 774 persons/76 class hours for local staff.

Shenzhen Metro believes that training is a crucial part of replicability and scalability of projects.



UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*





## e) Engage all stakeholders

For Ethiopian people, Ethiopia light rail is the first urban rail transit line. It has not only greatly improved the traffic mode for local residents who always travel by taxi or by bus, and also brought the great convenience to local residents.

For the government of Ethiopia, Chinese government has provided loans, which solve the financial difficulties for Ethiopia's government in the large infrastructure projects.



## Case 9

### Morocco

### Energy Sector

### Noor II and III Solar Power Plants



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



Project:	Noor II and III solar power plants (Morocco)
Project Proponent:	Thibaut Mourgues (tmourgues@4ipgroup.org)
Project Organization:	4IP Group



**Public Organization:** Morocco Agency for Solar Energy (MASEN)

**Private Organization:** *Investor and Operator:* ACWA Power (Saudi Arabia)  
*Contractors:* Sener (Spain), Sepco III (China)

**Capital Providers:** *Equity:* consortium led by Acwa Power (75%), MASEN (25%)  
*Debt:* MASEN, through IFIS (African Development Bank, the Agence Française de Développement, the Clean Technology Fund, the European Commission, the European Investment Bank, Kreditanstalt für Wiederaufbau and the World Bank).



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

- Renewable energy generation contributing to reorientation of energy mix toward improved sustainability
- Affordable tariff through innovative blending financing
- Industrial integration (35% local content) ensuring know-how transfer
- Market rate equity return (competitive tender) for the investors



UNECE \_ 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



<b>Where:</b>	Draa-Tafilalet region, 10 km from Ouarzazate (Morocco), in a sparsely populated area. Power will be connected to the national grid, thus having a national impact.
<b>Why:</b>	fossil fuel represented 94% of energy consumption in 2008. Renewable energy plan aims to reach 42% renewable energy by 2020. Solar energy should represent 25% of installed capacity by 2020 (over 2000 MW). Noor will be the major component of the plan, with respectively 160 MW for Noor I, 200 MW for Noor II and 150 MW for Noor III.; PPP chosen to involve private sector for technical skills and equity finance.
<b>What:</b>	ensure clean and affordable power generation to cope with expected consumption growth and limit reliance on imported fuel.
<b>Who:</b>	MASEN: public authority (preparation, land owner, debt financing, tendering, contractual counterpart, equity shareholder); Government of Morocco (debt guarantee); ONE public utility (power purchaser); Private party (designing, equity financing, construction, operation and maintenance); Public party: takes full risk on debt; private party: takes full risk on debt and equity.
<b>When:</b>	Project prepared from 2010 onwards (originally initiated by Desertec); Tender: 2014; Start of construction: 2015 ;Start of operations: late 2017/2018; Contract ends: 2042.

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind





## a) Increase access to essential services and promote equity

Over 99% of population has access to electricity. Challenges ahead lie in ensuring affordable and reliable power generation.

The totality of the project production will be purchased by the public utility (ONE) under a PPA contract. Thus the Government remains in charge of distribution issues (connecting rural areas, determining tariffs, etc.) and has full control over distribution social policy.

The project tariff is set at 1.42 MAD/kWh for Noor III, i.e. 0.15 USD/kWh. Its increase is limited by an indexation formula for the duration of the contract.

Therefore ONE is not financially constrained by expensive commitments which would limit its capacity to implement affordable tariffs for the poor or for businesses.

In addition the project includes industrial integration for 35%, know-how transfer, and directly and indirectly creates job.

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind



## b) Develop a resilient infrastructure and improve environmental sustainability

Noor II is CSP using parabolic trough and with 7 hours energy storage

Noor III is CSP using solar power tower with 8 hours energy storage

Both plants use dry-cooling systems. All necessary water is produced through the local Mansour Edabbhi dam with a negligible impact on overall quantity available (less than 1%).

The environmental impact lies in the reduction of CO<sub>2</sub> emissions. Noor II and III save around 0.5 mt CO<sub>2</sub> per year, or 13 mt during the 25 years operating period.

No adverse significant environmental or social impact is expected from project construction and operation.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind





## c) Demonstrate the economic and financial effectiveness of the project

Project IRR: 4%

Equity IRR: 7%

Financing plan (in M Euros):

IFIs: 1 392

EU grant: 90

Sponsors: 270

Total: 1 752

Project debt is raised by MASEN and passed through (same conditions) to the project company.

Masen will acquire all the power produced through a Power Purchase Agreement and pass it through to ONE, the public utility.

The project will support :

- local economy: jobs creation, industrial integration, spillover effect
- Moroccan economy: fuel import savings 'estimated to 0.3% GDP), affordable energy to sustain development (power consumption growth rate of 5%/year)

*UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind*



## d) Be replicable and scalable

The success of the project has inspired similar project in wind power generation in Morocco.

Other countries can replicate the project by taking a few steps:

- Developing a national strategy to increase renewable energy share in energy mix
- Creating a specialized agency with the required flexibility and expertise
- Securing Debt concessional funding from donors and IFIs
- Organizing a well prepared and highly competitive tender resulting in an affordable tariff
- Imposing industrial integration constraints to benefit local industry

The economic and social impact of the project is evident:

- locally, it will boost the job market (200 to 1200 jobs during construction). A Recruitment Policy is incorporated into the EPC's Construction Environmental and Social Management Plan (CESMP), which sets out the proposed measures to maximise the benefits to the local population and economy. The number of local population employed by the project and the training provided to the workforce is monitored. The employment of women and vulnerable groups is specifically targeted and monitored.
- It will foster the renewable energy industry in Morocco, with a view to export regionally the know-how
- Nationally, it will contribute to providing affordable energy required by economic development and households consumption.

*UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind*





## e) Engage all stakeholders

The project was highly consensual. Masen organized public consultations from 2010 in accordance with Moroccan law and international standards. A public enquiry was held in September 2011.

The project was presented in 2015 to a mix of local inhabitants, Government and administrative bodies, local private offices and associations. Concerns raised involved:

- Consumption of water during the operation phases
- Solar flux/rays from the tower on neighbouring communities
- Employment
- Role of the project in the development of the local population

The mitigation measures set in place include:

- Minimal water use,
- Zero wastewater discharges,
- Water treatment for reuse onsite,
- Inclusion of provisions in the Environmental and Social Management Plan to promote the employment of the local population and the provision of training.



## Case 10

### Myanmar

### Energy Sector

### People First PPP in Post Sanction Myanmar



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



Project:	PEOPLE FIRST PPP IN POST SANCTION MYANMAR
Project Proponent	ANGLO EURO DEVELOPERS (S) LTD
Project Organization:	ANGLO EURO ENERGY MYANMAR

**Public Organization:** Directorate of Investment and Company Administration, Myanmar Investment Commission.  
**Private Organization:** Anglo Euro Developers (S) Ltd  
**Capital Providers:** Private Investors with support from Multilateral Development Agencies & Commercial Banks



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

- Myanmar is post-sanction economy, sanction was lifted less than a year ago.
- Majority of population are low income and low middle income group. High middle income group is minimal.
- Direct Social Impact on each of SDGs from Poverty Eradication, to improvement of Quality of Life, Basic Amenities, Jobs creation, and Democratic institutions and Parliamentary procedures are evolving in place.
- Myanmar has opted for Clean Energy options in LNG and Renewables instead of Coal (there are existing coal mines), hence Government decisions and policies have direct Environment Impact and greenhouse carbon emissions.
- PPP policies and regulations are being formulated including provision of Government Guarantees for PPP projects. This is a step in the right direction to attract foreign investments for much needed infrastructure projects. PPP can certainly play a very important role in Myanmar as it has been a closed economy for many decades.



Our projects have a direct impact on most of the SDGs.  
 Job Creation (No 8) Poverty Eradication (1) Improving Quality of Life (2,3,4) Clean Energy, Climate Action (6,7,9,13 & 15) and PPP impacts on SDG 16 & 17



UNECE \_ 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



Where:	Myanmar has a population of 55 million. Our Renewables projects in Solar and Integrated Waste Water Treatment & Biogas Energy Solutions are located near high load center of Yangon and nearby Mon and Ayeyarwady States, with a rapidly growing population of 10 million. Key Economic and Investment Sectors: Oil & Gas 34%, Electrical Power 30%, Manufacturing 12%, Telecommunication 8%, Real Estate 5%.
Why:	1. Due to decades of closed economy and sanctions, basic infrastructure such as power generation and transmission, telecommunications infrastructure, refineries, and manufacturing are seriously lacking or in need of maintenance. The country has the advantage to adopt sustainable policies and projects with direct contribution to SDGs. 2. Private sector is still developing, with a few local prominent companies with international operations. From risk mitigation viewpoint PPP is a viable approach.
What:	In addition to job creation, Biogas Energy and Renewable Solutions, provide transfer of technology in clean energy generation promoting Climate Action. Myanmar needs badly a growing middle income population to foster internal economic growth. The consumption demand and growth catalyst are certainly there, the economic and legal structures, institutional governance and regulations, industrial and financial innovations have to be put in place.
Who:	The Directorate of Investment and Company Administration (DICA) under Ministry of Finance supports our business and technological approach. At this stage Public sector is in urgent need for capacity building and Private partners like ourselves are playing a much needed role in promoting PPP awareness and we shall be partnering National University to run Professional PPP courses (CP3P) an innovation of the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), the Inter-American Development Bank (IDB), the Islamic Development Bank (IsDB), the Multilateral Investment Fund (MIF), and the World Bank Group (WBG).
When:	Government approval for our projects shall be within six months. By October 2017 the Myanmar Parliament shall finalize their regulations on approval process and legal framework for Government Guarantees for PPP Projects. Review of regulation under Public Debt Management Law shall be finalized in same period.

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## a) Increase access to essential services and promote equity

### A1. INTEGRATED WASTE WATER TREATMENT & BIOGAS ENERGY PLANT

Patented German technology 2013, Waste Water Treatment built capacity ranges from 8,000 to 100,000 m3 designed to comply with German industrial WW standards and regulations. Well over 10 plants in full commercial operation in China since 2006

Integrated Solution: Waste Water Treatment + Biogas Energy Production Enhanced energy efficiency,  
Increased biogas yield and energy production (+30 to 50% or more) Greatly reduced WW discharge (from 10% to 40%)  
Fertiliser sales: Adds new and potentially significant revenue stream  
Potential benefits from carbon offsets. Zero Carbon emissions (CO2)

Direct Impact on SDGs 9 Industry, Innovation, Infrastructure, SDG 7 Affordable Clean Energy, SDG 6 Clean Water Sanitation, SDG 12 Responsible Consumption and Production.

### A2. SOLAR POWER PROJECTS

We are supported technically by Canadian Solar Inc who has developed and installed 1.8GW solar power plants globally. Canadian Solar is a global leader in solar project development, construction and installation.

Presently selection sites under PPP structure with Provincial Governments.

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

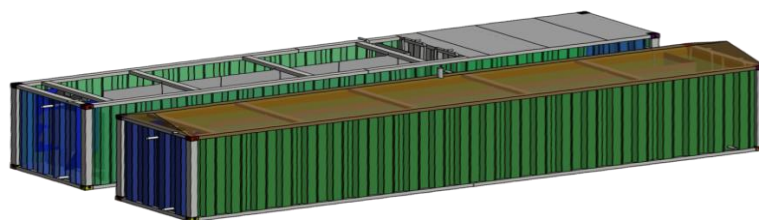
## b) Develop a resilient infrastructure and improve environmental sustainability

### INTEGRATED WASTE WATER TREATMENT & BIOGAS ENERGY PLANT

- Can be modular or large-scale configuration. Modular units use 40 ft. Containers
- Tailored design for large-scale units (e.g., 200,000 m3 per day)
- Containers incorporate durable stainless steel fabrication
- Movable/portable
- Suitable for remote/off-grid locations
- Modular design significantly reduces construction cost
- Minimum lifespan of 20 years for each installation (using stainless steel fabrication)
- Containerized design means plant can be located closer to sources of waste, resulting in reduced transportation and storage costs.
- Innovative & robust technology significantly reduces operation and maintenance (O&M) cost

### ENVIRONMENT IMPACT

- Zero Carbon Emissions (CO2)
- Production of biologically valuable Fertilizer
- Sale or owner-use of the generated Electrical Energy & Heat



UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## c) Demonstrate the economic and financial effectiveness of the project

<b>DEBT 70%</b> Project Funding from Multilateral Development & Commercial Banks	Mezzanine	<b>EQUITY 30%</b> Equity by Private Investors
---	-----------	--

Based on Waste Water Affluent of 3,500 m3 per day.

<b>Payback Period 3.5 years</b>	<b>IRR 24% pa</b>	<b>RoE 14% pa</b>
---------------------------------	-------------------	-------------------

Note: Including return from Biogas Energy sales (150,000 kW/day) and Organic Fertiliser sales (200 MT/day).

Guarantees shall be provided by Government for approved PPP Projects (waiting for Parliamentary approval).

Availability Payments shall be from Government through Multilateral Development Bank loans and Credit and Commercial Bank syndicated loans.

Contingent Liabilities are covered by underwriting of Risk mainly construction risks.

Project Contribution to local economy is the Sales of Biogas Energy as clean energy to local authorities and Organic Fertilizer sales, which is locally produced. This benefits local farmers and contributes to local economy and at the same time Biomass Projects impact directly on SDG 7 Clean Energy, SDG 9 Industry and Innovation and SDG 12 Responsible Production.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## d) Be replicable and scalable

- Modular design facilitates scalability and replicable in other locations or country.
- Units can be combined to make an integrated waste/waste water treatment & power plant
- Decentralized design of modular plants reduces demand on electrical networks
- Excess power can be sold to private clients or the grid
- Energy self-sufficient (can be operated fully off-grid)
- Potentially significant revenue from surplus energy (electricity or gas) sales

## HUMAN CAPITAL DEVELOPMENT

- Anglo Euro Developers Specialist Team shall train local workers and employees at site including operations and maintenance. This includes Public operations and management teams.
- There shall be transfer of skills and know-how to local workers in order to upgrade their vocational skills.
- Project/Asset Development and Management
  - Training shall be given at different phases of the Project, pre-construction training and safety induction,
  - on-site training on construction and assembly, ISO standards, work to order, and post construction training.
- Operations & Maintenance Training and Skill Upgrading.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



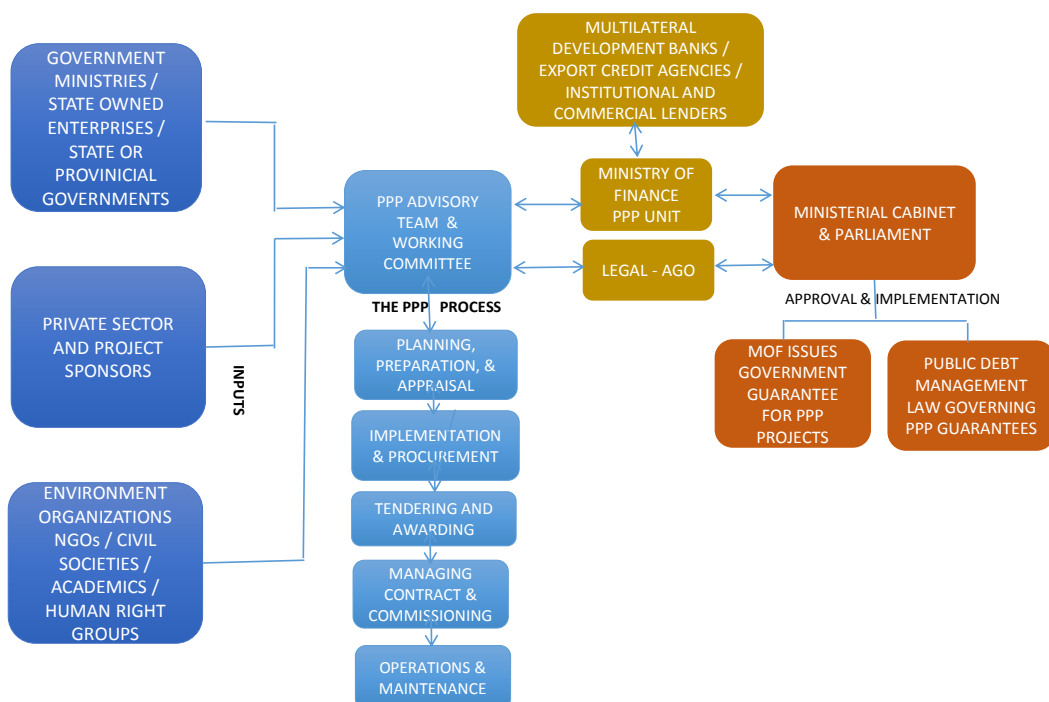
# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## e) Engage all stakeholders

PPP GOVERNANCE MODEL AND PROCESS BETWEEN GOVERNMENT, STAKEHOLDERS AND LENDERS.



UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



## Case 11

Philippines

Health Sector

Total Laboratory Automation of Clinical Laboratory



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



Project:	<b>Total Laboratory Automation of Clinical Laboratory</b>
Project Proponent:	Dr. Januario D. Veloso
Project Organization:	National Kidney and Transplant Institute (NKTi)



**Public Organization:** National Kidney and Transplant Institute (NKTi) is a government-owned tertiary specialty center under the supervision of the Department of Health. The NKTi Medical Laboratory caters to both private and service patients, offering over 500 quality and accurate clinical diagnostic tests. It is the first ISO 15189-accredited clinical laboratory in the Philippines in 2009, and was granted re-accreditation in 2014.

**Private Organization:** Sysmex Philippines, one of the branches of Sysmex Corporation in the Asia Pacific, supplies the platform for Hematology and Clinical Microscopy. Siemens, on the other hand, provides the platform for Clinical Chemistry. They have long been partners of NKTi Medical Laboratory, rendering comprehensive diagnostic services in terms of machines, reagents, as well as after-sales support.

**Capital Providers:** Department of Health

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

Total Laboratory Automation (TLA) is a lease agreement-type set-up which allows FULL AUTOMATION from sample reception to storage, including AUTOVALIDATION of results. This allows consistently quick turn-around-time for each result, while at the same time maintaining accuracy by minimizing operator-dependent errors. This has also effectively reduced the number of staff needed to man each section, allowing them to be redistributed to areas where they are needed most. Hence, more patients are better served daily.



National Kidney and Transplant Institute

UNECE \_ 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



<b>Where:</b>	Hematology, Clinical Microscopy, and Clinical Chemistry Sections are now fully automated.
<b>Why:</b>	In 2015 when the laboratory was only semi-automated, it took 3 hours for routine specimens and 90 minutes for outpatient STAT samples to be processed. Turn around time (TAT) for in-patient STAT samples was 45 minutes. In cases of emergency when time is of the essence, this was simply unacceptable. Also, because of rash specimen handling, processing, and release, errors were frequently encountered.
<b>What:</b>	Improved patient care Laboratory errors minimized Shorter turn-around time
<b>Who:</b>	Stakeholders: Ensure availability of quality services for all through provision of funds Suppliers: Provide state-of-art healthcare services including preventive maintenance and calibration of machines Pathologists: Cross-checks when results are doubtful Clinicians: Request services that are of quality for the benefit of patients Patients: Avail of healthcare services with corresponding fees for sustenance of services

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## WHEN

**1983**

1<sup>st</sup> automated chemistry analyser

**2004**

Installed Centralized Laboratory Information system

1<sup>st</sup>

integrated HIS/LIS in PH

**2009**

1<sup>st</sup> total laboratory automation system in PH



**2009**

Achieved ISO 15189:2007 accreditation



**2013**

Auto-validation in Hematology



**2016**

Auto-validation in Clinical Chemistry and Clinical Microscopy

Siemens Aptio automation with automated inventory management system



National Kidney and Transplant Institute

End of Contract:

**2019**

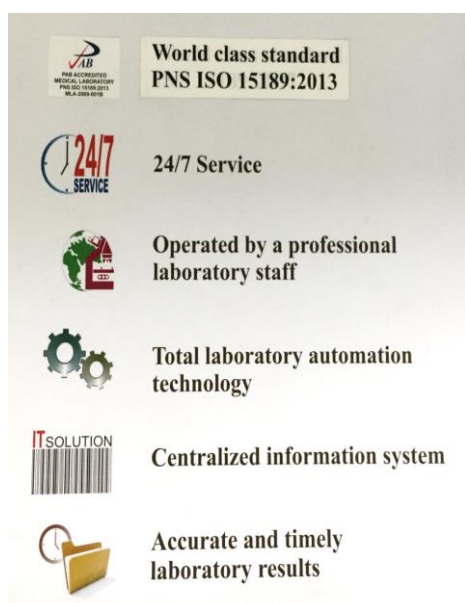
UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

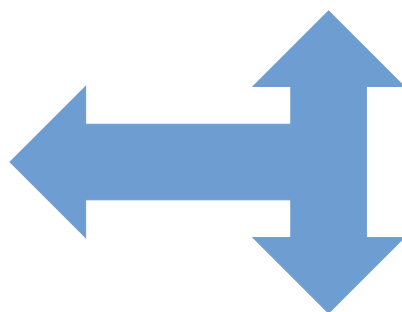
People First PPPs for the United Nations Sustainable Development Goals



## a) Increase access to essential services and promote equity



## PAY PATIENTS



## SERVICE PATIENTS

**NO** stratification whether pay or service patients. ALL samples processed equally and ALL services are of GOOD QUALITY.

ROUTINE: 2 hours TAT.  
STAT (in & outpatient): 45 minutes TAT.

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## b) Develop a resilient infrastructure and improve environmental sustainability

- **Quality control** – courtesy of end user (conducted daily by the medical technologists)
- **Preventive Maintenance** – courtesy of supplier (bi-annually)
- **Calibration Recall System** – courtesy of supplier (once a year)

\*Supplier can also be called to report to the laboratory as needed



## Lean Approach Eliminates Unnecessary Waste

- Aliquote only when required.
- Eliminate unnecessary material waste and labor time.
- Save costs (material and labor) and time.
- Employs third party agency to collect infectious waste materials (blood and other body fluids).

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## c) Demonstrate the economic and financial effectiveness of the project

SECTIONS	TOTAL SERVICE RENDERED (2015)	TOTAL SERVICE RENDERED (2016)	% INCREASE IN SERVICE
Clinical Microscopy	52,721	57,219	9 %
Clinical Chemistry	742,392	740,427	0 %
Hematology	132,895	147,460	11 %

- Medical technologists double check samples prior to loading
- Samples can be loaded by regular personnel
- Unique designs increase staff efficiency and productivity

SECTIONS	INCOME (2015)	INCOME (2016)	% INCREASE IN INCOME
Clinical Microscopy	13,870,325.00	14,859,291.25	7 %
Clinical Chemistry	253,927,830.00	245,568,432.50	-3 %
Hematology	71,003,606.25	79,811,670.00	12 %

### TOTAL FOR 2016:

**3% increase in income**

**5% increase in service**

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## d) Be replicable and scalable

### Replicable

- At present, several institutions are already making use of TLA (i.e. Makati Medical Center, St. Luke's Medical Center).
- Many other hospitals also want to have their own TLA set up.
- NKTl was invited to speak on several occasions, earning positive feedback from interested parties on:
  - **Autovalidation** with NKTl as the prototype, entitled *"Transcending Laboratories with Proven Laboratory Management Validation"* (Marriott Hotel Manila, August 2016)
  - **Total Laboratory Automation**, entitled *"Chemistry Total Laboratory Automation – Our journey"* (Singapore, April 2016)



National Kidney and Transplant Institute

This project promotes quality healthcare for all patients by creating strong partnerships with key stakeholders, providing exceptional solutions, and employing efficient systems for the benefit of ALL.

### Scalable

- Staff from each section underwent supplier-sponsored in-house trainings for one week upon installation of machines.
- Staff were trained to familiarize oneself with the machines including simple troubleshooting.
- Section heads were also briefed on the management aspect.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## e) Engage all stakeholders

### ROLES OF STAKEHOLDERS/ ADMINISTRATORS

- Understand the business needs of NKTl
- Understand the current lab processes/workflows
- Acknowledge best demonstrated practices in the lab
- Identify gaps/challenges such as nonconformity of patients or inefficiency of staff
- Call for regular strategic planning to address challenges and to ensure that external regulation requirements for a clinical laboratory are met.



Chairman

Division Head

Department  
Chief Med  
Tech

Division Chief  
Med Techs

Section Chiefs



National Kidney and Transplant Institute

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



## Case 12

Philippines

Regional Development

Butuan City Regional Development Programme



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



Name of Project:	Butuan City Regional Development Programme (Butuan City, Mindanao, Philippines)
Name of Speaker:	Sam Tabuchi (kstabuchi@toyo.jp) Satoshi Kato (katou-sa@chodai.co.jp)
Public Organization:	Butuan City and its affiliated agencies
Private Organization:	Chodai Co., Ltd., Equi-Parco Construction Company & Twinpeak Hydro Resources Corp.

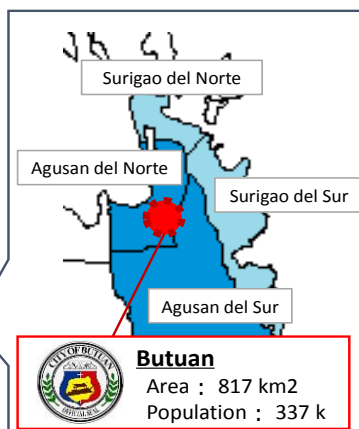
## Philippines

Area : 300,000 km2  
Population : 100 million



## Mindanao

Area : 100,000 km2  
Population : 22 million



Sam Tabuchi



TOYO UNIVERSITY



Satoshi Kato



CHODAI CO., LTD.  
CONSULTANT & SERVICE PROVIDER



EQUI-PARCO CONSTRUCTION COMPANY  
General Engineering \* General Building



Twinpeak Hydro Resources Corporation

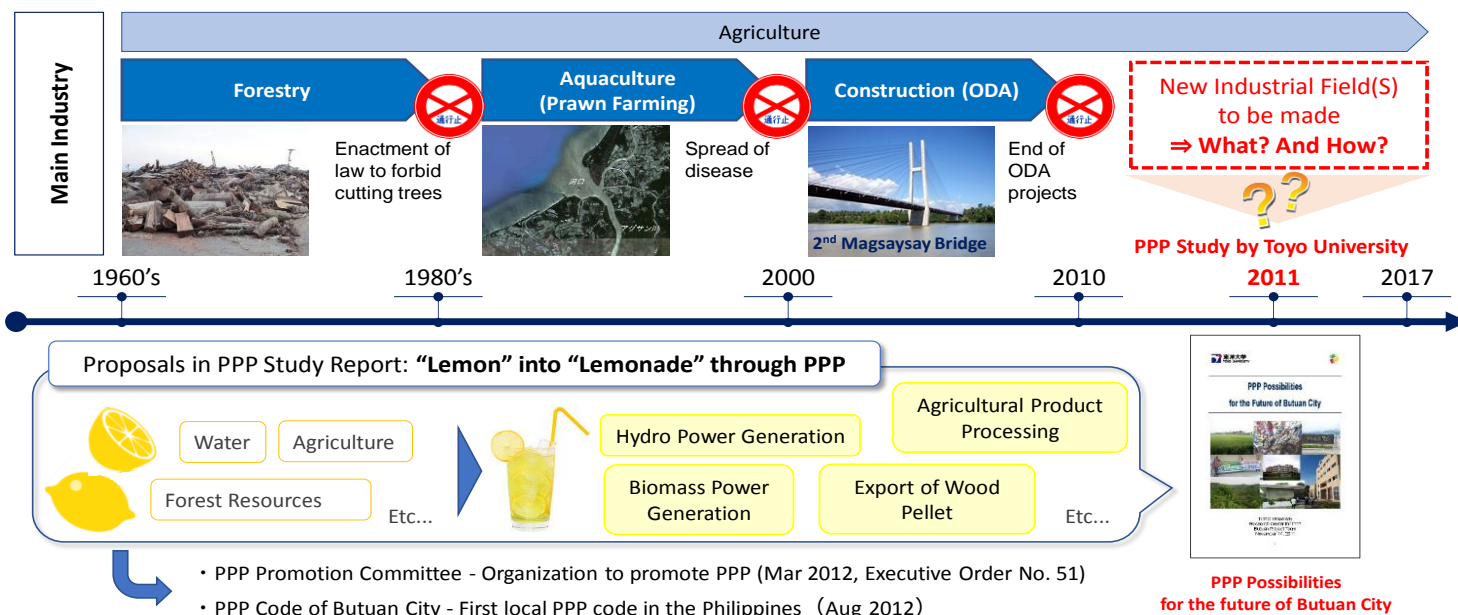
UNECE \_ 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## Background



UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

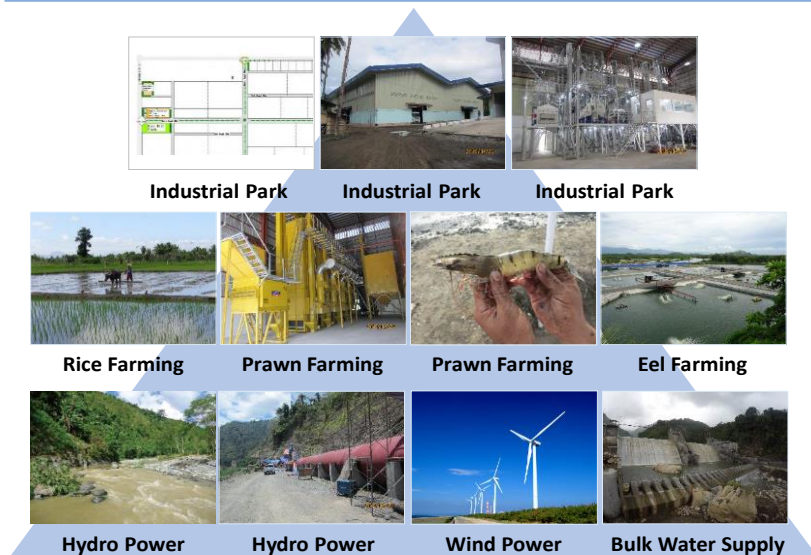
People First PPPs for the United Nations Sustainable Development Goals



## Concept/ Target

Phase	Goal/ Target
3 <sup>rd</sup> Phase	<ul style="list-style-type: none"> <li>✓ Employment Creation,</li> <li>✓ Wage Increase</li> </ul>
2 <sup>nd</sup> Phase	<ul style="list-style-type: none"> <li>✓ Stable Supply of High-Valued Commodities, while Increasing Productivity</li> </ul>
1 <sup>st</sup> Phase	<ul style="list-style-type: none"> <li>✓ Development of Basic Infrastructure such as Electricity and Water etc</li> </ul>

## Regional Development by Taking "step by step" Approach



UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## Feature

### Features of Butuan Projects

a) Increase access to essential services and promote equity	<ul style="list-style-type: none"> <li>✓ Access to stable power supply and clean water, trying to be established through the Phase-1 projects</li> <li>✓ Stable supply of basic infrastructure to increase QOL as well as to bring in other industries, achieving more employment creation</li> </ul>
b) Develop a resilient infrastructure and improve environmental sustainability	<ul style="list-style-type: none"> <li>✓ Renewable energy project(s) being prioritized</li> <li>✓ Involvement of Japanese companies with high eco-consciousness and advanced technology along a Japanese gov't policy of "High quality infra"</li> </ul>
c) Demonstrate the economic and financial effectiveness of the project	<ul style="list-style-type: none"> <li>✓ Support from Japanese gov't such as JICA, METI, JBIC etc for feasibility study and loan provision, improving project economics</li> <li>✓ Portfolio effect, with less risk, brought by several bundled projects conducted simultaneously</li> <li>✓ All projects promoted under private sector initiative (profit-driven and then self-supported): sustainable without rely on support</li> </ul>
d) Be replicable and scalable	<ul style="list-style-type: none"> <li>✓ All projects on region level (local gov't level): project size is relatively small for many players to join</li> <li>✓ Target: Regional development by job creation for &amp; with local communities</li> </ul>
e) Engage all stakeholders	<ul style="list-style-type: none"> <li>✓ MOUs signed among parties across countries (Japan-Phil) and across sectors (public, private and academic)</li> <li>✓ All stakeholders, especially private, with long term commitment</li> <li>✓ Good circulation of "many stakeholders bring more stakeholders"</li> </ul>

### SDGs



UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



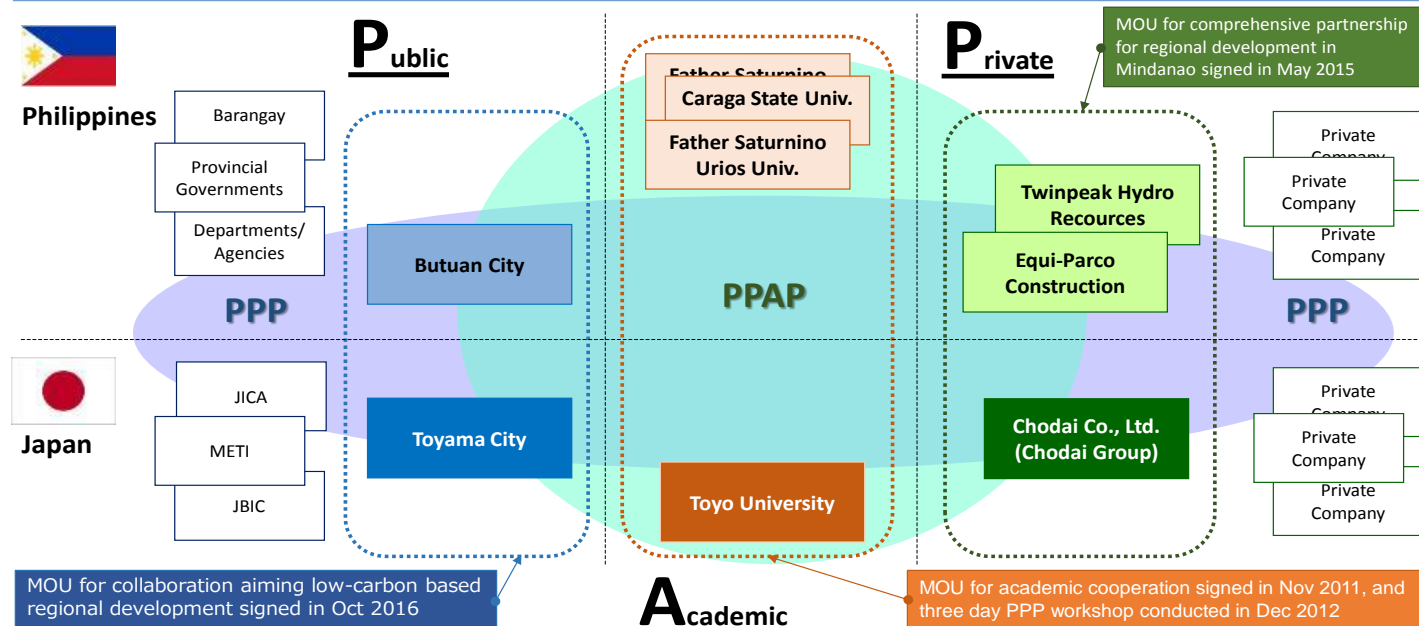
# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## Structure



UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## Partnership across Country & Sector

30 Jun 2016: Mr. Lagnada inaugurated as Mayor



### 10 Priority Impact Projects

- 1) Bright Butuan;
- 2) Clean Butuan;
- 3) Orderly Butuan;
- 4) Progressive Barangays;
- 5) People-friendly City Hall;
- 6) Excellent-Driven City Hall;
- 7) Clean Water;
- 8) Fast and Efficient Licensing in Butuan;
- 9) Transparent City Hall;
- 10) Save Butuan.

11 – 13 Aug 2016: Toyama city official visited Butuan



In Oct 2016: Toyama and Butuan Inter-city Cooperation commenced

Toyama and Butuan entered into an MoU, together with private companies, for inter-city cooperation and exchange in the "UN CoE Local Governments Network Event" held by Toyo University.



UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS  
For Sustainable Development

## Investment

	Project	Overview	PJ Cost (PHP)	Status
1 <sup>st</sup> Phase	Asiga river Hydro	8MW/ Run-of-river type	1,200 Mil	Under Construction
	Taguibo river Hydro	5MW/ Run-of-river type	750 Mil	Pre-FS done
	Wawa river Hydro	23MW/ Run-of-river type	4,000 Mil	FS done
	Biomass Power	2MW/ Rice husk type	429 Mil	Pre-FS done
	Wind Power	150MW (2MW×75)	13,648 Mil	Pre-FS done
	Bulk Water Supply	Capacity upgrade to 80k m3/day	565 Mil	Under Operation
2 <sup>nd</sup> Phase	Agriculture	Rice Farming & Milling	Non public	Under Operation
	Aquaculture	Prawn Farming	Non public	Pre-FS done
		Eel Farming	Non public	Under Operation
3 <sup>rd</sup> Phase	Industrial Park (SEZ)	Development area: 140ha	3,562 Mil	Pre-FS done
Total			Php 24,154 Mil (USD 503 Mil)	

Annual budget level in Butuan City: Php 1,500 Mil ⇒ Estimated budget for public works \* = Php 300 Mil (USD 6.24 Mil)

\* On national level, approx. 20% of the total budget is spent for public works in the Philippines

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

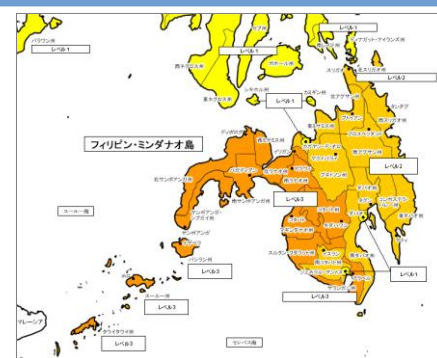
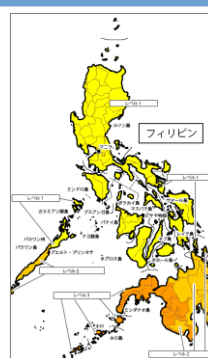
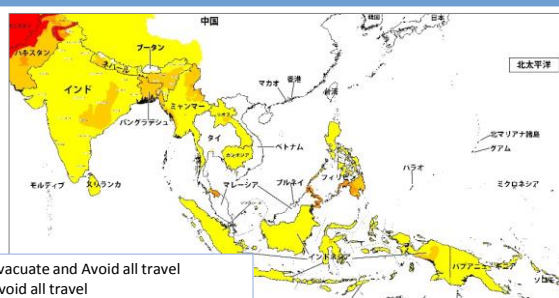
# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS  
For Sustainable Development

## Significance – Replicability & Contribution to Regional Development



- ✓ FDI (Private investment) into Mindanao has been weak, given the relatively high security level, as rated by Ministry of Foreign Affairs of Japan
- ✓ International assistance/ aid to Mindanao is limited, so more private investment therein should be inevitable for sustainable development
- ✓ If this Butuan project goes well, then this could be spread out across other cities in Mindanao as a **“model for regional development”**

### Feature of Butuan project model

- 1) “Same partners” work together for “multiple projects” simultaneously in the “same area”
- 2) Local based partner(s), well motivated for development of their area, is involved
- 3) All the stakeholders share a common goal of “regional development” upon a base of “long term.”

“People-First PPP”

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



## Case 13

Poland

Urban Development

Development of Urban Adaptation Plans for Cities with more than  
100,000 Inhabitants in Poland



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

Project:	Development of Urban Adaptation Plans for cities with more than 100,000 inhabitants in Poland (MPA Project)
Project Proponent:	Ministry of the Environment
Project Organization:	Public

**Public Organization:** Ministry of the Environment – beneficiary & coordinator, Ministry of Finance – State Budget - provides national contribution to the Project budget (the rest of Project budget is provided by EU-Funds).

**Private Organization:** Environment Protection Institute — National Research Institute (leader), Institute of Meteorology and Water Management — National Research Institute, Institute for Ecology of Industrial Areas and a consulting and engineering company ARCADIS, as well as a subcontractor responsible for project communications — Deloitte Poland.

**Capital Providers:** EU Funds: Operational Programme Infrastructure and Environment 2014 – 2020 (85%); National Funds (15%)

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

Project aims at the vulnerability and risk assessment of each city to climate change and at planning adaptation solutions, including soft and hard measures with respect to the identified hazards. All Urban Adaptation Plans will be developed in accordance with one methodology. The project will contribute to the improvement of the safety and quality of life of the citizens. It will also support the local authorities in accessing financial resources for the investments.



*Let's feel  
the climate!*  
www.44mpa.pl

UNECE \_ 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

Where:	Project is located in Poland, on the basis of the partnership with 44 cities, mostly with more than 100 000 inhabitants, almost 30% of Polish population will be covered by Urban Adaptation Plans.
Why:	Cities are particularly sensitive areas where the most urgent, topical challenges are concentrated, from the shortage of water and poor air quality, flood risks and hazards, heat waves/island to economic disturbances and social instability. The project is the first step to adapt urban areas to climate changes, a role-model for other areas and a reference point for further works in the field of adaptation in Poland.
What:	The major objective vulnerability assessment to climate changes of 44 largest Polish cities and planning relevant and effective adaptation measures appropriate for the identified threats.
Who:	Ministry of the Environment with support of external Contractor - Consortium and 44 partner cities. Partners are responsible and obliged for cooperating with the Contractor, have to establish the city-interdisciplinary team, including the leader - the contact person.
When:	January 2017 – signing the agreement, Contract lasts 24 months - for Urban adaptation plans development process (including public consultations, SEA etc). Project terminates in 2019

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind





## a) Increase access to essential services and promote equity

Urban Adaptation Plan for the city means resilient and climate proof infrastructure and society

Main goals:

- Determination of vulnerability of the largest cities to climate change
- Planning for adaptation actions at the local level
- Raising awareness of the need for adaptation to climate change at the local level

Project and its outcomes will be accessible to all without restriction on any grounds.

Outcomes will result in meaningful improvements and resilience to climate change impacts for most important essential services such as water sources, energy infrastructure, health and well-being of the citizens.

The participation of stakeholders and city dwellers in MPA development will facilitate implementation of activities stipulated in MPA in the future (approval of the suggested options to adapt to climate changes). At each project stage, the documents will be consulted with the appropriate urban team and stakeholders.

As part of the project, a large-scale information and educational campaign is planned, aimed at raising citizens' awareness in the field of climate change and of the need for adaptation to its effects.

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind



## b) Develop a resilient infrastructure and improve environmental sustainability

Developing climate adaptation strategies (plans) is the first step aimed at strengthening resistance and adaptation to changing climate conditions. Due to its scale, this is an innovative and unique project. The result of the project, which means next step in this context, i.e. implementing adaptation measures will enhance cities' resilience to climate change, and consequently, the entire country.

MPA implementation will change the everyday life of city inhabitants. For instance, the modernized flood-protection system, effective rain water management procedures, green and blue, ecosystem-based solutions or the development of the information and alarm systems in case of hazard will make the inhabitants feel safer.

Aesthetic changes in the urban infrastructure and vegetated areas, reduced thermal hazard, improved living and investment conditions thanks to the MPA relations to urban spatial development plans shall improve the comfort of living in the cities and reduce the risk resulting from the climate change effects.

Strategic Environmental Assessment of the MPA Project will be undertaken and also Environmental Impact Assessments will be carried out for the actions implemented as a result of the project.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind





## c) Demonstrate the economic and financial effectiveness of the project

Every city copes with the climate hazards specific to its structure and conditions. Poland is highly diversified in this respect. The extreme weather phenomena found in Poland include e.g. high temperatures or heavy rainfall. Floods, inundations or droughts are the immediate hazards for the inhabitants' safety, their housing situation and urban infrastructure.

Implemented on the basis of the urban plans adaptation actions will avoid losses, so these actions will certainly pay off. Every 1€ invested for adaptation to climate change represents 4€ - 7€ savings that would need to be invested into actions after climate related events.

Implementation of the urban adaptation plans will involve engaging local businesses and creating jobs.

For the non-investment project such KPIs was not counted, but cost-benefit analysis will be carried out during the project implementation to analyze adaptation options for every city.

For Poland the probable consequence of failure to take adaptation actions in all sectors will be losses at around PLN 86 billion in the perspective of 2020, which in the years 2021-2030 could amount to up to PLN 120 billion.

MPA Project has Non-investment and Non-return character.

Project is funded by EU Funds: Operational Programme Infrastructure and Environment 2014 – 2020 (85%) and National Funds (15%)

*UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind*



## d) Be replicable and scalable

Project develops methodology for other cities, also middle and small ones. The stages of the process can be replicable for any local government unit or region.

Project engages actors on different levels such as: central governments, local governments, researchers, institutes, experts. Moreover as an effect of the project outcomes also private sector will be involved for the execution of the adaptation measures and actions selected for implementation in each cities urban adaptation plan

One methodology and one scope of the plans for all partners plays an important role at the implementation phase of the documents. Due to this solution easy exchange of the solutions, good practices and project ideas will be possible. Another positive aspect of one methodology is the ease of comparability and completeness of cities vulnerabilities, climate impacts and conditions as well as indicators for the future evaluation process of the project.

*UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind*



## e) Engage all stakeholders

Project engages actors on different levels such as: central governments, local governments, researchers, institutes, experts. Moreover private sector will be involved for the execution of the adaptation measures and actions selected for implementation in each city as an outcome and result of the Project.

Awareness among decision makers and society is a key to successful and effective adaptation to climate change process. It's crucial to be sure that the problem of the climate-related impacts and the significance of climate change adaptation is properly highlighted at every level. It was a very important issue considered at the stage of signing the partnership agreement between cities and Ministry of the Environment.

An important component is also the participation and involvement of stakeholders and MPA beneficiaries (cities) and public consultations of the Project, including consultations of proposed adaptation measures and solutions. City inhabitants are more and more active and aware of the changes and due to involvement in the MPA development process they will obtain further knowledge and experience and influence over the local government later decisions on the selection and implementation of adaptation measures elaborated in MPAs



## Case 14

Portugal

Business Incubator

Mafra & Ericeira Business Factory



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

Project:	Mafra & Ericeira Business Factory
Project Proponent:	Teresa Preta
Project Organization:	Territórios Criativos

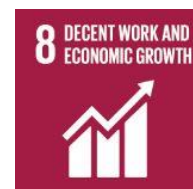


**Public Organization:** Municipality of Mafra that owns the business incubator M&EBF - Mafra & Ericeira Business Factory, accredited by IAPMEI - Portuguese Agency for Competitiveness and Innovation, and member of RNI - National Incubators Network – both under the Ministry of Economy.

**Private Organization:** Territórios Criativos is the operator, specialized in entrepreneurial activities and training, business incubators management and incubators community management. It is the hired entity that fosters the local entrepreneurial ecosystem.

**Capital Providers:** Operationalization: Municipality of Mafra, entrepreneurs' monthly fees, rooms renting and sponsorship of a local bank. We are developing a sustainability model which also includes progressive fees to newcomers, and the possibility of bigger local companies to "sponsor" some rooms. Infrastructure: funds from PORL, QREN, PORLISBOA.

**Why is this project a Case Study for People First PPPs:** This PPP is a win-win solution: Public infrastructure/ equipment + hired private experts = more agility, great social and environmental impact, more employment. Social impact: The possibility of running a proximity infrastructure, in small villages, that offers the same services/ facilities of any incubator of reference situated in a large urban centre (inclusive growth); The contribution to the national economic growth and employment in an OECD country with the highest unemployment rates - slightly above 10%; Equal opportunities for all, based on the fact that 51% of our entrepreneurs are women and the average age of all entrepreneurs is over 45; The agile implementation of the strategic goals of the Municipality (creation of employment and settlement of people in the territory) in the business incubator, keeping in mind the particularities of each new company/ startup/ project/ entrepreneur; The exchange of expertise in the field of entrepreneurship between the hired experts and the local municipal staff; The implementation of the best practices in terms of training and support to entrepreneurs that want to establish their new companies or startups in a territory away from the large urban centres.



UNECE \_ 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

<b>Where:</b>	Municipality of Mafra, namely the villages of Mafra (17 986 inhabitants) and Ericeira (10 260 inhabitants). Area: 291 Km2. Population: 76 685; working age population: 37 144. The key economic sectors: Tourism, Blue Economy, Agriculture.
<b>Why:</b>	the municipality of Mafra had no infrastructures available for entrepreneurs / startups 2 years ago. There was a need for a new approach for this brand new economic framework. Since Municipality of Mafra did not have the expertise to build and develop an entrepreneurial ecosystem, opted for a PPP solution, outsourcing this service to Territórios Criativos. Now, there is consistent network that connects all local players of entrepreneurship: M&EBF, GAE, CLDS, A2S, AIP, ACISM, local schools, local Business Angels, local authorities, etc.), which provides all necessary information and infrastructures to local and immigrant entrepreneurs. We now have 60 projects in the business incubator, distributed by its two poles (Mafra and Ericeira).
<b>What:</b>	we already give support to 60 projects in M&EBF and our goal is to have an answer to all local/ immigrant entrepreneurs that live in the Mafra region.
<b>Who:</b>	Municipality of Mafra: financial and macro-management of the incubator. Territórios Criativos: micro-management and operationalization of the incubator. Key partners: IAPMEI, RNI – national network of incubators, CMIM – Portuguese chamber of commerce, local and national Business Angels Clubs, local and national consulting enterprises, Secretary of State of Industry, mentors and Advisory Board.
<b>When:</b>	Start: April 2015. The transformation process: began from day 1, when the first keys of the incubator were handed to the first entrepreneurs. The contract as well as the operations started in April 2015. Other milestones: October 2015: first postgraduate studies program in the municipality of Mafra took place in EBF; April 2016: 32 projects, 46 working places, occupancy rate exceeded the 50%. September 2016 - opening of the second pole of the Business Factory, in Mafra. October 2016: accreditation of the incubator by IAPMEI – national agency for competitiveness and innovation; January 2016: creation of "Clube Business Angels do Oeste" in the Business Factory, with local investors; February 2016 and February 2017: organization of the international event Startup Europe Week that gathered all local players to discuss the local opportunities for entrepreneurs.

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## a) Increase access to essential services and promote equity

- This project definitely promotes equity in terms of access to employment and entrepreneurial activities, since Mafra & Ericeira Business Factory provides its services to everybody without restrictions. Interesting facts: 50% of our entrepreneurs are women, the average age of our entrepreneurs is over 40 years. Their backgrounds are very different from entrepreneur to entrepreneur. We have people from various different countries (Britain, France, Holland, Italy, Germany).
  - The services are also accessible to socially and economically vulnerable people: the fees are very low compared to the market (50€/ month per working place). This price includes: the working place, access to internet, mentoring, business bootcamps, consulting in various areas of expertise (law, etc), training programmes in business models, marketing, leadership (etc) among others.
  - Also the younger people up to 29 years old, living in the region of Mafra, benefit from a 50% discount.
- M&EBF provides the inhabitants of small villages the same services/ facilities of any incubator of reference situated in a large urban centre. Local people, migrants or immigrants have the opportunity to run their business/ create their own job near their place of living. They don't have to leave the territory to do so.

UNECE \_ 500 People First PPPs for the SDGs ... *our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## b) Develop a resilient infrastructure and improve environmental sustainability

The building of Ericeira Business Factory is from the time of the dictatorship period in Portugal. It was a primary school and after local authorities had built a bigger school, this building was 6 years without being used: from many of the different uses discussed for the building (parking lot, shopping centre, etc), it was finally decided by the Municipality of Mafra that it would be a business incubator in order to create employment and fix/ attract people in/to the territory.

The management of this incubator will last after the contract, since Territórios Criativos developed and implemented a collaborative process of capacitation and training of the municipality staff (training on the go) in order not to threaten the continuity of the project, in case the municipality does not renew the contract.

Regarding the environmental sustainability, if only half of our projects (30 out of 60) would have to go to an incubator in Lisbon by car, they would have to travel at least 100 Km each per day (return trip), which means this project considerably contributes to the reduction of the carbon footprint.

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## c) Demonstrate the economic and financial effectiveness of the project

The incomes are: entrepreneurs' monthly fees, rooms renting and the sponsorship of a local bank (Caixa de Crédito Agrícola). We are developing a sustainability model which also includes progressive fees to newcomers, and the possibility of bigger local companies to "sponsor" some rooms.

Two of the main strategic goals of the municipality of Mafra are: to create employment and incentivize people to remain in the territory. This way, this infrastructure is seen as an investment in the local territory and in the local people. Creating the perfect conditions for the fostering of businesses will result in a huge impact on the territory and in people's quality of life.

One of Mafra & Ericeira Business Factory's main purpose is to leverage entrepreneurs' businesses, but also of the local companies. We contribute to the growth of local economy, since we enhance partnerships between the Business Factory community and the local suppliers, we promote local businesses and jobs. We accept trainees from local schools and don't charge their working place.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## d) Be replicable and scalable

Our project has a multiplier effect: we step in - share our expertise and prepare the locals - to step out afterwards.

It is already being replicated in other regions of Portugal (away from the great urban centres, namely in villages or small towns), due to the partnerships that Territórios Criativos have with other municipalities.

This PPP can be replicable in all sectors of economy, since the incubators can be generalist or directed to specific sectors of activity (like Ericeira Business Factory – Blue Economy and Tourism/ Mafra Business Factory – Agriculture and Technology).

Moreover, this project is also replicable and scalable since Territórios Criativos offer two different solutions:

- One with a resident team of experts (like in Mafra & Ericeira Business Factory);
- The other, where we prepare, train and provide tools to the municipal/ local staff for a shorter period of time without a resident team.

It can also be replicated in other countries, since the team of Territórios Criativos is willing to travel abroad to "implement the operation", have already studied, worked and lived abroad.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind





## e) Engage all stakeholders

From the very beginning, Mafra & Ericeira Business Factory engaged the local and national players, and created fruitful partnerships. Regarding the local players, most of them are all settled in the incubator (identified with \*), in order to integrate the local entrepreneurial ecosystem:

GAE\*: provides technical support for the entrepreneur in its “phase zero”, when the entrepreneur is still deciding whether to move forward with his/ her idea or not.

CLDS\*: promotes entrepreneurship in the secondary schools and offers social solutions to local unemployed people;

A2S\*: manages national and European funds and helps entrepreneurs with the eligibility of their projects;

Clube Business Angels do Oeste\*: group of local investors that are willing to invest in local businesses;

Local Schools: partnerships in order to provide in loco workshops of entrepreneurship and also to accept trainees in M&EBF without charging the working place;

CCIP: Portuguese chamber of commerce provides all its services to our entrepreneurs for free under the programme AUP;

ACISM: Association of commerce, industry and services of Mafra provides its services to our entrepreneurs for free;

IAPMEI and Startup Portugal are partners in the promotion of entrepreneurship and sharing of best practices;

RNI: national network of incubators;

Consulting companies: Moneris, Conceito, Tibness provide consulting to our entrepreneurs as well as workshops;

Law firms: Isabel Neves & Associados, Gastão Cunha Ferreira provide consulting to our entrepreneurs;

Advisory Board: help to define the strategy goals of the incubator;

Mentors: provide individual mentoring sessions to the entrepreneurs;

Caixa de Crédito Agrícola: main sponsor of M&EBF;

Turismo de Portugal : protocol “fostering Innovation In Tourism”.



Case 15

Russia

Education Sector

Public Private Partnership Department



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

<b>Project:</b>	<b>Public Private Partnership Department</b>
<b>Project Proponent:</b>	The Bank for Development and Foreign Economic Affairs (Vnesheconombank) State Corporation
<b>Project Organization:</b>	Financial University under government of Russian Federation



**Capital Providers:** Fund of financial University, investments made by the partners of Department and income from business activities of department.

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

Across the world in the last thirty years, public private partnerships (PPP), project finance and private finance have played key roles in infrastructure development and service innovation.

In Russia the market of PPP projects actively developing in the last 7-10 years.

PPP department is devoted to one of the most important mechanisms for the development of public infrastructure – public-private partnership (PPP) and is aimed at the development of the market for PPP projects in Russia.



## Educational Programs



UNECE \_ 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

<b>Where:</b>	Moscow, Financial University under the Government of Russian Federation, the University has 65 000 students studying various topics of financial industry;
<b>Why:</b>	the Department goals are to train experts in the PPP project development and management, and offer advanced training to PPP project participants and to be engaged in fundamental and applied research in order to address pressing issues related to public infrastructure development backed by the use of PPP mechanisms;
<b>What:</b>	the Department is implementing several educational programs: MSc program in PPP management (full-time and part-time) and executive course for regional public officials. Also new MSc program in infrastructure finance will be launched in 2018.
<b>Who:</b>	Dr. VLADIMIR DMITRIEV, Head of Department Dr. SERGEI KELBAKH, First Deputy Department Head for research work Dr. ALEXANDER BAZHENOV, Codirector of master's program Dr. IRINA PEROVA, Deputy Department Head
<b>When:</b>	The Department was formed on 26 October 2010 by the Bank for Development and Foreign Economic Affairs (Vnesheconombank) State Corporation.

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## a) Increase access to essential services and promote equity

The Department actually pioneered the development of the PPP projects market in Russia.

PPP Department focuses on offering PPP fully specialized programs/courses.

Practice-oriented nature of the programs makes it a good option not only for those who are approaching the topic for the first time, but also for professionals who need to advance in their career and enhance skills developed on the field.

Programs consider PPPs in both network infrastructure, such as roads, bridges, tunnels, and water systems, as well as social infrastructure including schools, hospitals, and courthouses.



UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## b) Develop a resilient infrastructure and improve environmental sustainability

The department has strong academic background of the faculty with professional experience in PPPs and project finance in different sectors. It consists of staff members of Vnesheconombank, Avtodor, Federal Center for project finance, Institute of Economics of Russian Academy of Science, etc.



INNOKENTIIY  
ALAFINOV



SVETLANA  
KOZLOVA



KIRILL  
RATNIKOV



SERGEY  
SIVAEV



KIRILL  
MALUTIN



NATALIA  
CHERNYSHOVA



VIKTOR  
NORBU

In addition to the academic staff, the lectures and seminars are supplemented by guest lectures delivered by senior officials from the international financial institutions and experienced professionals from various firms and organizations (both public and private sector) that are actively involved to expose participants to the most significant cases and experiences.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## c) Demonstrate the economic and financial effectiveness of the project

### **MSc in PPP management**

The department has running MSc program in PPP Management for 5 years with 15-20 new students every year.

About 60-70% of them are recent bachelors graduated from different universities. Remaining part are practitioners with scholarships supported by Vnesheconombank (Russian development bank), or Avtodor, Russian toll road development and operating company.

Graduates have joined Central Governments and Agencies, regional and local Authorities, development institutions, public and private companies, consultancy firms and investment companies, industrial operators, etc.

### **MSc in Infrastructure finance**

(launch in 2018)

Demand for this educational program is significant and expected to grow. This is the only program which is designed to produce professionals in this sphere.

The target job market for this program are commercial banks, asset management companies, private pension funds, Central bank of Russia, Ministry of finance, etc.

### **Executive course for regional officials**

The Program was designed to help develop the capabilities public and private sector leaders need to successfully plan, create, and operate infrastructure PPPs.

The program has graduated about 300 representatives from public and private sectors.

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## d) Be replicable and scalable

It may be reproduced in any region of Russia and any country in the world where there is an urgent need of PPP specialists.

Programs, provided by the PPP Department, is a unique opportunity to learn the complex dynamics of PPP and project finance transactions. Such knowledge plays a key role in successful design and implementation of such complex contracts for current and future public and private sector professionals alike.

The programs are designed to provide participants the opportunity to learn from successful and critical case selected to cover all the program's contents and prepared in the way to facilitate and optimize the learning process.

Due to the strong academic background of the faculty and their professional experience the Department has a chance to transfer actual knowledge.



UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*





## e) Engage all stakeholders

3 December 2014 was signed an agreement on joint activities in the field of training of specialists PPP

- Avtodor
- Bank of Development
- Federal Center for Project Finance
- Financial University

Partners of Department:

- Ernst & Young
- Herbert Smith Freehills
- Internacional Finance Corporation



## Case 16

Russia

Health Sector

Construction of Water Sports Complexes



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

Project:	Construction of water sports complexes
Project Proponent:	The government of the Rostov region, Ministry of Sport of Rostov region The project is developed by Vnesheconombank
Project Organization:	No information

**Public Organization:** the government of the Rostov region

**Private Organization:** *potential investors/contractors/operators:* "Inzhtrans-stroy-SPb" (OJSC); Sports and Recreational Association "Don pools"; HOCHTIEF Russia; Citic Construction Co. Ltd.; China Civil Engineering Construction; VINCI Construction; Bouygues Batiment International;

*potential financial organizations/investors:* Sberbank of Russia; Gazprombank; VTB Bank; Management company "Leader".

**Capital Providers:** **Total investment** – 4,8 bill. RUB. Investor's share– 20%, loan financing organizations' share – 80%. Possible to provide subsidies in the form of capital grant in the amount of 1 billion RUB.

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

Physical culture and sports in the country are engaged in only 32% of the population. Existing facilities don't meet modern standards and requirements. One of the priorities of social and economic development policy for the period until 2020 is the formation of a new social development mechanism and dissemination of a healthy lifestyle.

The aim of the project is the sport infrastructure development, improving availability of sport and wellness swimming, promotion of healthy lifestyle, improving the competitiveness of Russian sport and the creation of new jobs.



UNECE \_ 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

<b>Where:</b>	Rostov region, population – 4,2 million people, the key economic sectors: agricultural industry, food-processing industry, engineering industry, coal industry, automobile industry
<b>Why:</b>	Low level of sport activity of the population caused by the low level of sports facilities availability. The coefficient of sports facilities utilization is around 40%. More than 60% of the sports facilities are built in the second half of the 20th century and no longer meet modern standards and requirements. Undoubtedly there is a need to construct water sports facilities, and gradually forming stable solvent demand which attracts potential investors, allows to use the PPP mechanism
<b>What:</b>	The construction and operation of 30 water sports and wellness complexes (appropriating standards) on the territory of 27 municipalities of the Rostov region applying PPP mechanisms; the increase of complexes utilization coefficient: the increase of the number of habitants, who go swimming constantly, on 50%; the creation of more than 2.5 thousand new jobs
<b>Who:</b>	Governor of Rostov region is supporting this project. Responsibilities of a public partner: transfers land plots on the right of lease; undertakes to pay the operating fees to the concessionaire; Responsibilities of a private partner: design, construction, operation of the plant, attraction of investments, provision of fee-based services of appropriate quality
<b>When:</b>	The project is at the stage of preparation for competitive procedures
<b>Risks:</b>	Risk associated with non-attraction of an investor; impossibility of financial closing; construction risks, risk of commercial revenue loss (demand risk)

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## a) Increase access to essential services and promote equity



### The main goal of the project

Increase the accessibility of sport and health swimming among different age groups of the population, people with different income levels , and also for people with disabilities

### Accompanying goal

Instillation of love for sports and healthy lifestyle from early childhood

### Accompanying goal

Creation of good conditions for both beginners and current champions

UNECE \_ 500 People First PPPs for the SDGs ... *our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## b) Develop a resilient infrastructure and improve environmental sustainability

- ✓ The project is divided into 6 subprojects.
- ✓ At the moment the technical concept of the project has been formed. These will be objects of three types: a multifunctional gym with a swimming pool, a swimming pool for settlements with a small population and a swimming pool for cities. The inspection of the land plots for compliance with the requirements for the facilities location and for the availability of all necessary communications has been carried out.
- ✓ The analysis of the objects operational capabilities has been carried out.
- ✓ The analysis of the technical, technological and environmental risks of the project has been carried out.

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*

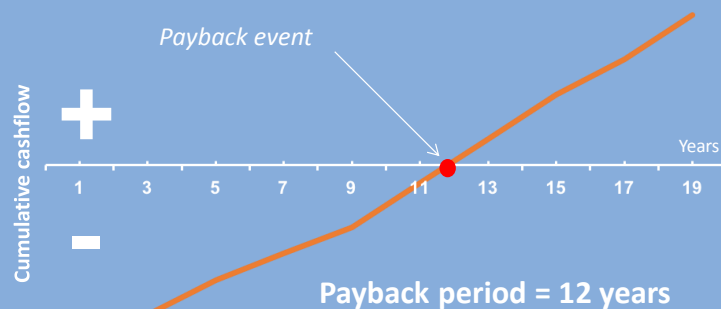
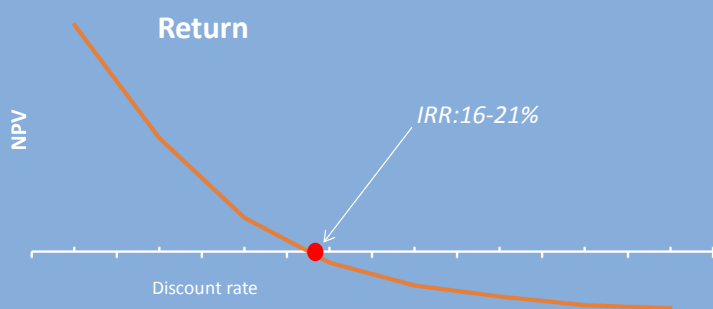


# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



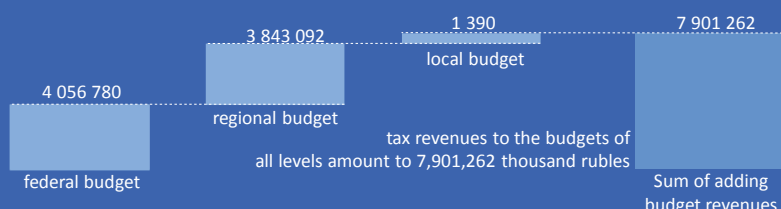
## c) Demonstrate the economic and financial effectiveness of the project



### The Project implementation has a positive social and economic effect:

The Project implementation has a positive social and economic effect:  
Creation of new jobs and increase of the availability of sport and wellness swimming among different age groups of the Rostov Region population. The project implies a double increase in the number of schoolchildren who annually go swimming - up to 36,000. In addition, more than 2.5 thousand new jobs will be created in sport complexes

According to the concession agreement, the private partner receives the grantor's payment from the budget and at the same time retains the right to provide paid services.



UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

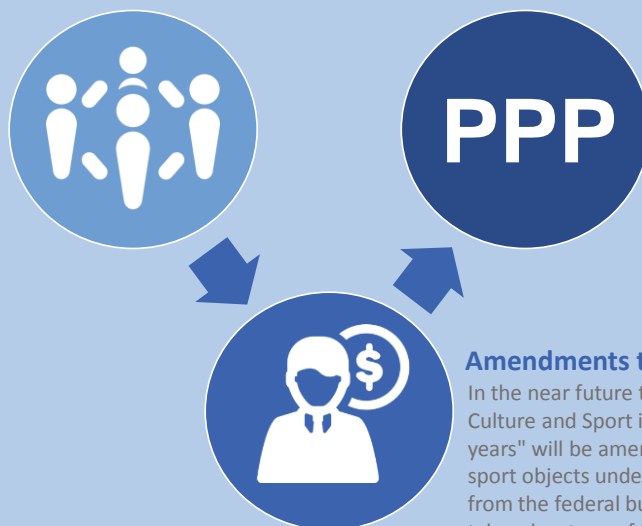
People First PPPs for the United Nations Sustainable Development Goals



## d) Be replicable and scalable

### Share the experience

The Russian regions are recommended to use the positive experience of the Rostov region in the construction of sport facilities on the basis of the public-private partnership model. The State Duma Committee on Physical Culture, Sport and Youth Affairs came to this decision as the result of the meeting held in the Don region. The governor of the Rostov region supported the decision and also suggested replicating this practice in other regions of Russia.



### Creation of PPP working group

An interdepartmental working group was set up in March 2016 on behalf of A. Dvorkovich to adapt and implement the mechanism of public-private partnership in the sport sector. The interim results of its activities were the development of about 30 proposals to amend the current legislation, which will be sent to all the regions of Russia for thorough study.

### Amendments to the Federal Program

In the near future the program "Development of Physical Culture and Sport in the Russian Federation for 2016-2020 years" will be amended. This will allow regions, building sport objects under the PPP model, to apply for subsidies from the federal budget. A number of regions intends to take advantage of the new opportunity.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals

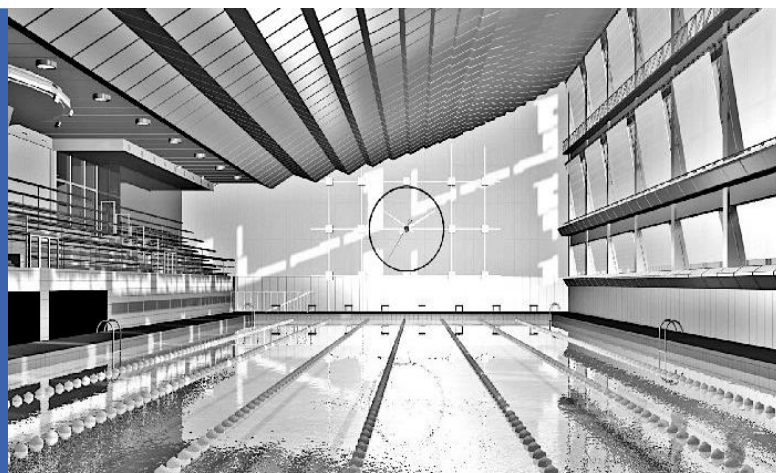


**THE GLOBAL GOALS**  
For Sustainable Development

## e) Engage all stakeholders

The Sports and Recreation Association "Don Pools" takes an active part in the promotion of the project. The founder of the association is the regional sports public organization "The Swimming Federation of the Rostov Region", whose president is the Rostov businessman Igor Gorin (co-owner of the company "Don Plaza").

"The Swimming Federation of the Rostov Region" has developed and coordinated with the Ministry of Physical Culture and Sport of the Rostov Region "The Program for the Development of Swimming in the Rostov Region for 2015-2020".



**UNECE 500 People First PPPs for the SDGs...** *our way to end poverty, protect the planet while leaving no one behind*



## Case 17

Russia

Health Sector

Public Utility Infrastructure Systems



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

Project:	Public utility infrastructure systems (Water and Sanitation)
Project Proponent:	Volgograd (Municipality)
Project Organization:	LLC «Koncessiya vodosnabzheniya»



**Public Organization:** Municipal unitary enterprise «Gorvodokanal»

**Private Organization:** Operator, developer: LLC «Koncessiya vodosnabzheniya», investor: CJSC Management company «Lider»

**Capital Providers:** CJSC Management company «Lider» is the private financing arranger of the project in terms of equity

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

The project is intended to solve the problem with the quality of water supply and sanitation in Russia.

The absence of enough investments in plumbing infrastructure has become inadequate to satisfy the growing market, quality service discrepancy in water supply and water disposal systems. In this case, in Russia in 2014, 256 accidents happened in the system of water supply on a per 100 km of web that is on average 2,6 times more than in countries with developed plumbing. In case of water sanitation, the share of grey unpurified water, thrown off into the natural waters is almost 7 times more than, for example, in Poland.

**Win win solution** for the public sector: improved quality of services provided, solved the problem with budget shortages and efficiency of operating, fulfilled social responsibility.

**Win win solution** for the private sector: guaranteed minimum level of required return, gained reliable long-term investment opportunities, created positive social image.



UNECE \_ 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

Where:	Volgograd, Russian Federation, population is 1,02 mln, fast growing area, key economic sector is agriculture
Why:	Critical level of <b>deterioration</b> of water supply networks - <b>80%</b> , <b>low efficiency</b> of replacement carried out by Municipal Unitary Enterprise "Gorvodokanal", the <b>lack of budget</b> resources for a huge project – all this became the precondition for the PPP solution
What:	<b>Improvement of the quality</b> of public and municipal <b>services</b> , reduction of the burden on regional and local budgets, as well as <b>enhancement of social responsibility</b> and <b>improvement of quality of life</b> of the population of the Volgograd region
Who:	Municipal administration of Volgograd, <b>Concessor</b> , is the initiator that undertakes to provide to the Concessionaire the necessary conditions for execution of works on construction and reconstruction of the assets of the Organization; LLC «Koncessiya vodosnabzheniya», <b>Concessioner</b> , is obliged to invest in the creation and reconstruction of objects, perform the construction and reconstruction; CJSC Management company «Lider» is the <b>Investor</b> , Municipal Unitary Enterprise «Gorvodokanal» is the <b>Organization</b> , that supplies and discharges water in Volgograd
When:	<b>Start of the project</b> – 2014, <b>governmental approval</b> – November 2014, <b>process launched</b> – June of 2015, <b>project ends</b> – December 2044

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind

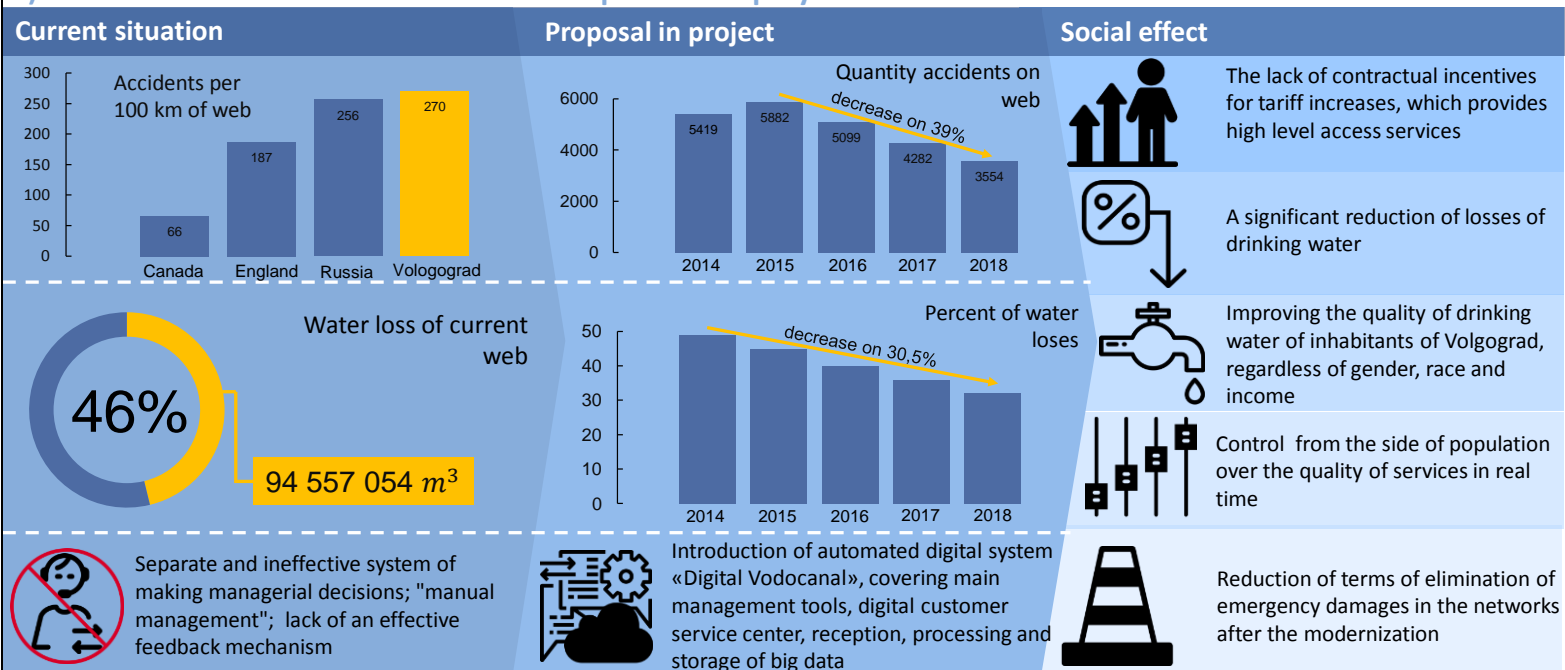


# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## a) Increase access to essential services and promote equity



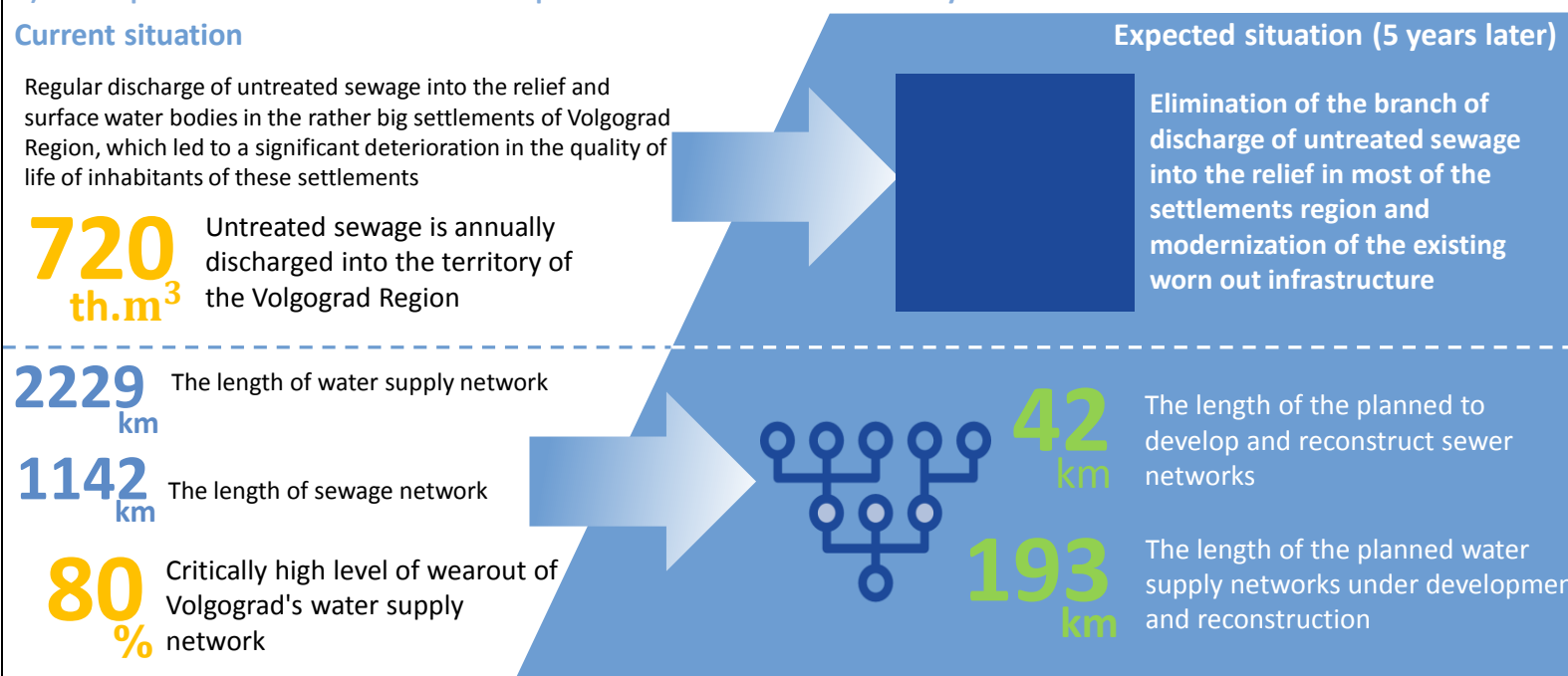
UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## b) Develop a resilient infrastructure and improve environmental sustainability



UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

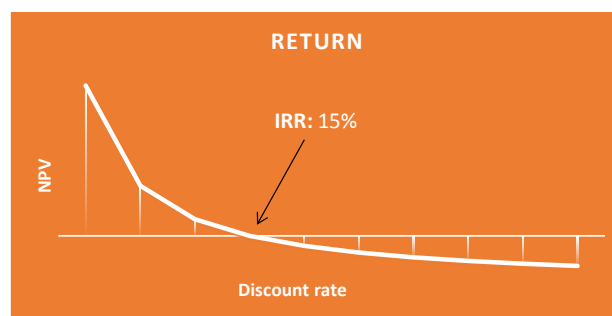
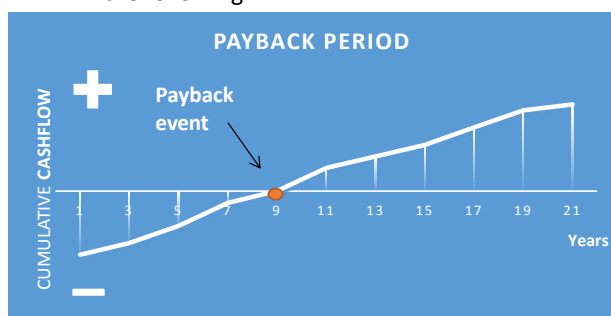
People First PPPs for the United Nations Sustainable Development Goals



## c) Economic and financial effectiveness of the project



The total amount of investments is RUB 58 bln (approximately 1.02 billion US dollars) for the whole project and RUB 7 bln (approximately 120 million US dollars) for the first 3 years of realization. Main KPI's of the project are the following:



Initial stages of the project were financed by CJSC Management company «Lider». Revenue is generated from tariffs on water supply and sanitation. Business model is constructed in a way that from one hand provides high returns and optimal payback period, and from the other hand presents better tariff in Russia, that is affordable for citizens.



For the reconstruction there have been attracted Russian suppliers and companies. Moreover, in scope of the project workplaces were created, that in turn boosted local economy.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## d) Be replicable and scalable

*This design may be reproduced in any region of Russia and any country in the world where an urgent need to upgrade the basic infrastructure is limited to a meager budget.*

*Also, this design is worthy of the fact that it could be replicated because the return on investment comes at the cost of improving management efficiency*

Replication



External effects

*Successful implementation of this project may serve as a useful externality. In this case, the Concessor will receive a proven tool to attract a private partner to the public sector, where the state is least effective as a Manager.*

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind





## e) Engage all stakeholders

The project was supported by representatives of federal and regional authorities.



Also the project was fully supported by the citizens of the city Volgograd



## Case 18

Russia

Health Sector

Medical Industrial Park



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

Project:	Medical industrial park
Project Proponent:	Ministry of Health of the Russian Federation Government of the Novosibirsk Region
Project Organization:	JSC "Innovative Medical Technology Center (Medical Technopark)"



**Public Organization:** Ministry of Health of the Russian Federation  
Government of the Novosibirsk Region

**Private Organization:** The project management company is JSC "Innovative Medical Technology Center (Medical Technopark)", companies - manufacturers of medical products are the residents of the medical industrial park

**Capital Providers:** Share of state financing (federal and regional budgets) - 30%,  
Private sector investment - 70% .

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

Medical technopark is a unique project for Russia, combining medicine, innovation and science. It was built with the active participation of the Novosibirsk Research Institute of Traumatology and Orthopedics. The project is the first at the federal level, not only in the health sector, but also in the social sphere. The project is aimed at creating production facilities for the manufacture of medical devices in the field of trauma, orthopedics, neurosurgery and other areas of health protection.

The project has high economic and social significance for 12 regions of the Russian Federation. The project implementation will create new jobs in the Novosibirsk region and provide tax revenues to the budgets of various levels.



UNECE \_ 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

Where:	Novosibirsk Region with population 2,7 billion people and 178 th. km <sup>2</sup> area, key industry: industrial production, agriculture, science, technology, incl. medical;
Why:	due to the lack of industrial infrastructure, the Novosibirsk Scientific Research Institute could not produce medical devices, although it owns 230 patents for innovative medical products. The regional budget could not allocate a necessary amount of funds. It was made decision to build a medical park in the form of PPP.
What:	creation of the competitive production facilities complex for the manufacture of medical devices in the field of traumatology, orthopedics, neurosurgery and other areas of health protection, including for import substitution purposes; The main activities: the production of prostheses, devices for the rehabilitation of patients with the musculoskeletal and nervous system pathology, the production of metal structures for traumatology and orthopedics.
Who:	the Government of the Novosibirsk Region supported this project at all stages of its implementation. The project takes into account the interests of business, academic community and the regional government.
When:	the project terms: 2015-2018. The commissioning of the first phase of the project - June 2016. The commissioning of the entire complex - 2018

## Main project's risks:

1

administrative risks

2

the risk of choosing an unscrupulous investor

3

the risk of non-targeted use of the object

4

the demand risk

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## a) Increase access to essential services and promote equity

«The main goal of the project is the creation of products and technologies that could be integrated into medical practice after necessary approbations and studies, so that our developments start helping all the people without restriction on any grounds, e.g. race, creed etc. as soon as possible»



The Innovative Medical Technology Center CEO -  
Ekaterina Mamonova

The Innovative Medical Technology Center (IMTC) is created to turn scientific ideas into specific medical technologies and products and bring them to the market - not only domestic, but also foreign.

UNECE \_ 500 People First PPPs for the SDGs ... *our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## b) Develop a resilient infrastructure and improve environmental sustainability

The medical park is divided into four zones - diagnostic, clinical, research and rehabilitation, 12 places in intensive care and 8 - in operating rooms. The area of the medical park is 3200 square meters.

Since 2018, the production capacity will be not less than 53,000 units of medical devices (including components and knots for the production of medical devices)

Production capacity	Units of devices per year
Endoprotheses and their components	Not less than 20 000
Systems of structures and their components for traumatology, orthopedics and neurosurgery	Not less than 9 500
Exoprotheses and their components	Not less than 22 500
Hardware-software complexes	Not less than 1000



**40% of the  
market in the  
Russian  
Federation**

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*





## c) Demonstrate the economic and financial effectiveness of the project

The total amount of investments under the concession agreement (associated with the creation of the industrial park) is **685 million rubles**.

The project recoupment is achieved through the implementation of manufactured medical devices, as well as the rental of premises for the medical park residents.

The project investment attractiveness: **the net present value (NPV) is positive** (91,897 million rubles).

**Internal rate of return (IRR) – 19%**, weighted average cost of capital (WACC) – 16%.

**The discounted payback period is 12 years.**

The medical technopark has attracted more than 1.6 billion rubles to its projects and infrastructure. By 2020 the company plans to increase the volume of innovative medical services, products and technologies to 8 billion rubles.

### Socio-economic effect:

- 1** by 2020 the volume of production of innovative medical services, devices and technologies by the companies- residents of the Medical Industrial Park will be 2 billion rubles.
- 2** creation of import-substituting industries will ensure the creation of at least 143 jobs.
- 3** after commissioning of the whole complex tax revenues to the budgets of various levels will be 2,629 billion rubles.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



## d) Be replicable and scalable

- ✓ The scheme of implementation of this project can be replicated in many regions with analogous problems of not using (idle) production capacity.
- ✓ The project is aimed not only at the production of medical devices, but also can promote the technology development and the production of innovative medical devices, which will stimulate the development of engineering, education and health technologies.
- ✓ In the Innovative Medical Technology Center structure there is a training business center in which scientific practical activities and educational programs are constantly held. The center is a scientific discussion platform, which has already been visited by more than 200 leading specialists and scientists from Russia, Kazakhstan, Belarus, Ukraine, Germany, France, Switzerland, England, Japan, Luxembourg, Korea.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## e) Engage all stakeholders

The project was supported by representatives of federal and regional authorities.

April 29, 2016 JSC "Innovative Medical Technology Center (Medical Technopark)" was included in the Association of Clusters and Technoparks, which consists of more than 45 organizations in particular: Technopolis "Moscow", Technopark "Skolkovo".

**UNECE 500 People First PPPs for the SDGs...** *our way to end poverty, protect the planet while leaving no one behind*



## Case 19

Russia

Waste Management Sector

Construction and Operation of Waste Recycling Plant



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

<b>Project:</b>	Construction and operation of waste recycling plant (Solid domestic waste management)
<b>Project Proponent:</b>	The government of St.Petersburg
<b>Project Organization:</b>	LLC "Levashovo. Waste recycling. Project"



**Public Organization:** The government of St.Petersburg

**Private Organization:** Helector S.A.-Actor Concessions S.A.-Actor S.A. - industrial sponsor;  
VTB "Capital" – financial sponsor

**Capital Providers:** Total investment – 300 mil.€  
About 73 mil.€ the consortium intends to invest from its own funds  
Greatest bulk of financing came in the form of loan – 130 mil.€

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

Waste disposal is one of the most urgent problems in Russia. According to the Auditing Chamber, there are a lot of unauthorized landfills and waste disposal sites in Russia. It has less than 400 companies for solid waste sorting and recycling. This number is more than three times lower than required for the country. In the region, no more than 12% of the total volume of solid household waste goes for processing, the rest is exported to polygons, the resource of which has been long exhausted.

Waste sorting and processing allows to reduce the load on the Earth ecosystem and creates an infrastructure for saving resources; utilization allows to reduce the level of toxic agents impact on the environment and human health, reduces the risk of the most dangerous diseases (tetanus, botulism, gas gangrene, etc.)



UNECE \_ 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

<b>Where:</b>	Levashovo, the Leningrad region; <b>population</b> of the region – <b>1,8 million</b> people; key economic sectors: <b>manufacturing</b> , transport and communications, <b>agriculture</b> , construction
<b>Why:</b>	Only about <b>7-8%</b> of collected solid waste are <b>involved in economic circulation</b> , the rest of their volume is sent for burial, which leads to <b>environmental pollution</b> ; the majority of existing <b>polygons have fulfilled</b> their resources. Annually in St. Petersburg about 1.8 million tons of SHW is formed. According to forecasts, in 2020 it will grow to 2 million tons. The Leningrad region produces 1.2 million tons of SHW per year. The sufficient volume of the SHW market in the region, <b>the availability of a regional program</b> in the solid waste management sphere, <b>the availability of the validity of tariff and budgetary funds</b> for the private partner expenses compensation allow to structure the project in the form of PPP
<b>What:</b>	<b>Reduction of the level of the toxic agents</b> impact on the environment and human health, reduction of the most dangerous diseases risk; <b>rationalization of waste management; saving resources</b> ; ensuring the quality standard of public services, public education and awareness in the sphere of solid waste management
<b>Who:</b>	<b>Governor of St. Petersburg Georgy Poltavchenko</b> supported this project. Responsibilities of a public partner: provision of land, plant loading, compensation for lost income. Responsibilities of a private partner: design, construction, operation of the plant, attraction of investments
<b>When:</b>	<b>2010</b> - The Regional Target Program for Solid Household and Industrial Waste Management in St. Petersburg for the period 2012-2020 is approved; <b>2011</b> - Competition for the construction of a garbage processing plant; <b>2011</b> – Signing of a PPP agreement; <b>2014</b> – Entering the VTB Capital project as a financial partner. Construction – 4 years; operation – 26 years. <b>The project is in construction phase</b>

## Main project's risks:

1

land purchase and site risk

2

risk of commercial revenue loss (demand risk)

3

dependence of return on investment from the tariff regulation body

4

excessive budgetary burden, risk of negative reaction of the region inhabitants, currency risk

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS  
For Sustainable Development

## a) Increase access to essential services and promote equity



### QUALITY FIRST



One of the main objectives of the project is the provision of qualitative (established by standards) public services.

### COVERAGE OF USERS



The user of a public good (service) is everyone who lives in the region, without restriction on any grounds, e.g. race, creed etc.

### ACCOMPANYING OBJECTIVES



The project is aimed at forming the ecological awareness of the population, the education and informing of the population in the sphere of solid waste management.

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



THE GLOBAL GOALS  
For Sustainable Development

## b) Develop a resilient infrastructure and improve environmental sustainability

**30  
years**

The conclusion of the agreement on the construction of a waste recycling plant actually means that the city is committed to supply wastes to the plant and ensure the payment of recycling thereof for 30 years. In case of default of the contract, the city will have to pay a penalty. The fee for waste recycling at the plant will be about 4-5 times higher than the average price set in the city.

**80%**

The plant is scheduled to process at least 350 thousand tons of solid waste per year. At the same time the recycling depth should be at least 80%.

**Prohibition  
of use  
waste-burning  
practices**

It was assumed that the plant will be a waste-burning one. However, the city Vladimir Lavlentsev decided that the company should not use the waste-burning practices. The non-hazardous waste when burning transforms into a dangerous substance (the 4-5 danger class 'morphies' to the 1st and 2nd class). This brings, for example, dioxins - toxic, carcinogenic substances that have the ability to bioaccumulate (build up in the body), can cause cancer and infertility and lead to genetic changes.



The project makes a great contribution to the preservation of the environment and natural resources of the country for future generations. Nevertheless, in accordance with the environmental impact assessment, there are some shortcomings.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## c) Demonstrate the economic and financial effectiveness of the project

The planned cost of the project amounted to **300 million euros**, out of which about 73 million euros the consortium intends to invest from its own funds and 130 million euros - through loans.

Source of return on investment - tariff revenue, revenue from the sale of the plant's products, compensation payments from the budget of the region.

**IRR = about 15%.**

**Payback period – 15 years.**

**Number of new workplaces - 400 (approximately)**

The involvement of the city administration makes the project economic and financially sustainable. The waste processing plant also can not be paid back due to the tariff: in Russia the share of consumer payments for the collection, waste removal and especially for disposal is negligible (lower than in Europe). If we build a modern production with a low cost of processing, the profit can be quite large, provided that the city administration undertakes to supply garbage to the plant constantly. Such a stable business is a good opportunity to place long money.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## d) Be replicable and scalable

The task of efficient resources circulation through the transition to a new technological structure is relevant for all the regions of Russian Federation.



### From

Inefficient scheme

Russian regions are recommended to use the positive experience of the Leningrad region in creating waste-processing plants based on the model of public private partnership. Nevertheless, it is worth noting that a more efficient investment scheme is the construction of several waste transfer stations and garbage processing facilities alongside with the construction of one inter-municipal solid waste polygon than the construction of individual polygons in each municipal district. Thanks to the use of such scheme, it is possible to reduce the rate of growth of the tariff for the solid waste utilization



### To

Contemporary, ecological scheme

This scheme does not provide for withdrawal the large amount of land from circulation. In addition, the organization of environmental monitoring, conducted by the supervisory bodies, is greatly simplified. The recycling service starts from the waste transfer station, which is close to the place of solid waste formation. The costs for solid waste collecting and transporting are decreasing.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



## e) Engage all stakeholders



The impact on the project implementation was provided by "Greenpeace Russia" and environmental activists who are **against incineration**. Citizens expressed dissatisfaction as well. The regional media became the channels of information dissemination, also, **citizens created communities in social networks**. **Public hearings** on the project were held. As a result of numerous **protests**, the enterprise **abandoned incineration practice**. Also, the location of the garbage recycling plant was changed (Initially the plant was scheduled to be located in the Yanino township, the Leningrad region).



## Case 20

Senegal

Transport Sector

Dakar Toll Road



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

<b>Project:</b>	<b>Dakar toll road</b>
<b>Project Proponent:</b>	Thibaut Mourgues
<b>Project Organization:</b>	4IP Group



**Public Organization:** APIX (delegated public authority), Ministry of Finance and Transport Ministry (public authority)

**Private Organization:** Eiffage group (sponsor, contractor, operator)

**Capital Providers:** Private part - *Equity*: Eiffage; *debt*: IFC, African Development Bank, BOAD, CBAO  
Public part - GoS, AFD, World Bank

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

- The road reduces traffic jams, thus reducing pollution and creating economic gains
- Affordable tariffs ensured via viability gap financed by GoS
- Improved urban planning (easier access to social services, spatial integration, classified forest preservation)
- Social dimension was granted priority with restructuring of poor urban areas and resettlement plan.



UNECE \_ 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

<b>Where:</b>	Dakar, capital of Senegal. Tranche 1 involves 25 km from Dakar (Patte d'Oie) to Diamnidio. Extension to airport (17 km) represents tranche 2. it runs through a densely populated mostly impoverished area.
<b>Why:</b>	2 million inhabitants in the zone covered by the road, many of them poor. Difficulties in commuting caused by existing road congestion reduce quality of life, economic opportunities and access to social services. PPP favored for private sector skills and private finance.
<b>What:</b>	40 000 vehicle/day traffic (including minibuses and buses); reducing commuting time, congestion and pollution, improving urban planning, favoring spatial integration.
<b>Who:</b>	APIX (Senegal PPP unit) was in charge of project preparation and implementation. Private partner takes private financing, construction, operational and traffic risk.
<b>When:</b>	project start 2004, tendering 2007, PPP contract signature 2009, commissioning 2013, extension contract negotiation and signature 2014, financial close extension 2014, completion 2017, end of contract 2039.

UNECE \_ 500 People First PPPs for the SDGs ... *our way to end poverty, protect the planet while leaving no one behind*



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## a) Increase access to essential services and promote equity

- The road is designed to be affordable to the public through viability gap financed by Government. Real traffic higher than anticipated proves the affordability.
- The social dimension includes:
  - Resettlement of 2000 families in a living area (Keur Massar / Tivouane Peulh) offering modern conditions (social infrastructure includes school, primary health care and mosque)
  - Urban restructuring of the Pikine Irregular South area where 250 000 inhabitants were exposed to flooding risk
  - Social responsibility of the operator during operations (community support e.g. school, agricultural)
  - Creation of 300 permanent local jobs (2000 during construction)

UNECE \_ 500 People First PPPs for the SDGs ... *our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## b) Develop a resilient infrastructure and improve environmental sustainability

The private party guarantees the availability of the equipment. Swelling risk of clay ground handled with elevation of road surface by 2.5 m upon a laterite layer (not forecasted during feasibility study). Water drainage works reconstructed.

Average traffic time reduced from 2 hours to 30 minutes, thus reducing CO2 emissions and congestion.

Improved traffic safety

Preservation of 700 hectares of Mbao classified forest

Closing of irregular landfill of Mbeubeuss

Resettlement area provided with all modern amenities

Densely populated area upgraded to protect from flooding, ensure drainage and improve social infrastructure

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*





## c) Demonstrate the economic and financial effectiveness of the project

Project IRR: 12% (base case)

Economic VAN (mln Euros):	Senegal	77
	Government (47) Users	125
	Investors	16

Financing (mln euros)

Public part:	472	Private part:98	
- Senegal	293	- Eiffage equity	32
- World Bank	79	- Boad senior debt	23
- AFD	60	- IFC senior debt	20
- AfDB	50	- AfDB senior debt	10
		- CBAO senior debt	8

Eiffage local subsidiary (Eiffage Senegal, present in Senegal since 1926) in charge of the project together with mother company Eiffage, creating 300 permanent local jobs (2000 during construction).

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



## d) Be replicable and scalable

- The project allows for the economic development and integration of a whole area, easing access to base services such as education and health. As the first toll road in SubSaharan Africa outside of South Africa, it could be used as a model for other developing countries congested capitals.
- Scalability: successful implementation of first phase paved the way for extension of the road until new international airport. Planned extension to neighboring countries (transport corridors)
- Human capital:
  - Eiffage Senegal trained to assume responsibility for operational management of the equipment.
  - Government bodies such as APIX supported to prepare and implement PPP projects (in particular through a PPIAF grant)

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind





## e) Engage all stakeholders

Because of its obvious advantages, the project benefited from a large consensus strengthened by a careful outreach to all stakeholders (including advertising campaigns)

Project steering committee established with participation of all Ministries involved.

Feasibility studies involved several rounds of public consultations. Detailed work was carried to determine the level of affordable tariff.

Each affected party was supported by a social component :

- Resettlement of 2000 families (nearly 20 000 individuals) to a new fully equipped area (70% chose the proposed new area and 30% the monetary compensation)
- Urban improvement and restructuring of a flooding-prone area with 250 000 inhabitants
- Environment protection (closing of landfill, forest classification)

NGO hired as mediators for resettlement issues. Conciliation commission established to handle disagreements on compensation. Residents organized themselves by forming local associations to discuss compensation or amenities in the new area.



Case 21

Spain

Energy Sector

Barcelona Districlima



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



Project:	Districtlima
Project Proponent:	Barcelona City council
Project Organization:	Districtlima

**Public Organization:** The project is legally carried out on the basis of 2 contracts signed with both competent Public Authorities: Administrative Contract of Consorci del Besòs (Barcelona City Council + Aj. Sant Adrià City Council) and Administrative Contract of 22@BCN (Municipal company 100% Barcelona City Council)

**Private Organization:** Investor & developer: Districtlima. Contractor: Engie for the production plants and several other contractors for network execution. Operator: Engie

**Capital Providers:** The stakeholders of Districtlima S.A. are:  
Engie (50,8%); Tessa (20%) – *Urban waste-to-energy plant*; Agbar (19,2%); IDAE (5%) – *Spanish Energy Agency*; ICAEN (5%) – *Catalan Energy Agency*

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

Districtlima approaches sustainable energy to people, helps to improve air quality, reduces primary energy dependence, reduces the consumption of power, water, refrigerants and fossil fuels, and helps to reduce the heat island effect. Districtlima also integrates fatal energy from the waste-to-energy plant (Tessa), reinforcing energy independence, circular economy. A PPP was used to build a waste-to-energy plant that brings sustainable energy to degraded areas. The administration benefited from the private know-how and capital investment while the private firms participated in a milestone profitable and sustainable project.



UNECE \_ 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



<b>Where:</b>	Districtlima is located in the area of Forum of the Cultures 2004 (in Sant Adrià de Besòs) and in the 22@ area, the technological district of Barcelona City. Districtlima supplies heating and cooling to a surface of more than 970 000 m2, in a high populated area (more than 60 000 people living) and with high density of enterprises, universities and public buildings (museums, hospitals, public housing for people with special social needs...)	<b>When:</b>	<b>Forum Area - Consorci del Besòs</b> <b>January 2002:</b> Consorci del Besòs tender bit for the execution of a DHC system in the Forum area <b>July 2002:</b> Award to the joint venture Elyo-Axima-Aigües de Barcelona <b>September 2002:</b> signing of the Administrative Contract Construction of the Plant and network <b>March 2004:</b> Constitution of Districtlima who assumes the exploitation of the system <b>June 2004:</b> Service supply beginning <b>2027:</b> Contract End <b>22@ Area – 22@BCN</b> <b>March 2001:</b> 22@BCN launches an Ideas Competition for the execution of a DHC system in the 22@ area <b>November 2004:</b> 22@BCN's tender bit for the execution of a DHC system <b>March 2005:</b> Award to Districtlima <b>July 2005:</b> Signing of the Administrative Contract <b>2008-2010:</b> Tanger Plant Construction <b>2032:</b> Contract End
<b>Why:</b>	Both areas (22@ and Forum) were highly degraded areas, after the XIXth century industries disappeared in the 60's. Most of the buildings located there were abandoned, becoming a focus of filth and delinquency. Public Administration decided in early 2000's to urbanize both areas, under innovation and sustainability criteria, including therefore the execution of a DHC network in the project.		
<b>What:</b>	Districtlima approaches sustainable energy to people, helps to improve air quality, reduces primary energy dependence, reduces the consumption of power, water, refrigerants and fossil fuels, and helps to reduce the heat island effect. Districtlima also integrates fatal energy from the waste-to-energy plant (Tessa), reinforcing energy independence, circular economy.		
<b>Who:</b>	Local Administration has catalyzed de DHC energy deployment and foremost in its role as planner and regulator.		

UNECE \_ 500 People First PPPs for the SDGs ... *our way to end poverty, protect the planet while leaving no one behind*

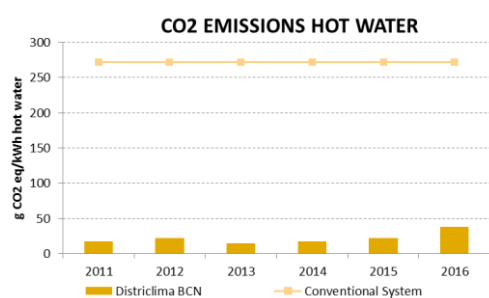
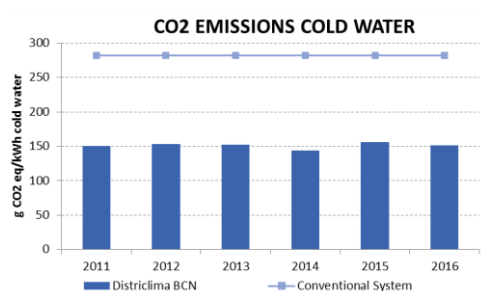


## a) Increase access to essential services and promote equity

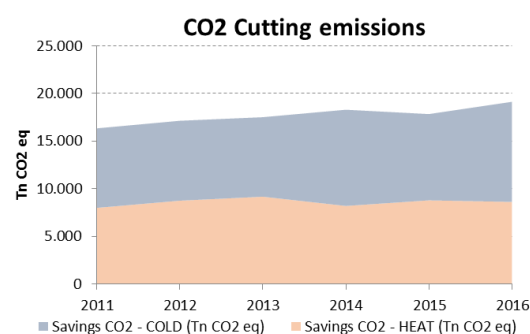
The project contributes to the equity between the old and degraded areas at the Besòs side with the ongoing transformation under a new economic conception in 22<sup>nd</sup> technological district. So the integration of social housing and public facilities in the middle of a private economic initiative helps a model of social life in which the citizens can live, access to education and work in the same area and with equal opportunities. Therefore the competitiveness of the system has a great strength in the success of the sustainability and competitiveness provided.

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind

## b) Develop a resilient infrastructure and improve environmental sustainability



THE TECHNOLOGY INTEGRATED IN DISTRICLIMA PROJECT IS CUTTING ABOUT 20,000 Tn CO<sub>2</sub> emissions per year in BARCELONA.



The development of district heating and cooling systems, based on renewable sources help communities on saving, not only CO<sub>2</sub> emissions, moreover reduces acoustic pollution and the cities global warming produced heating/cooling systems.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

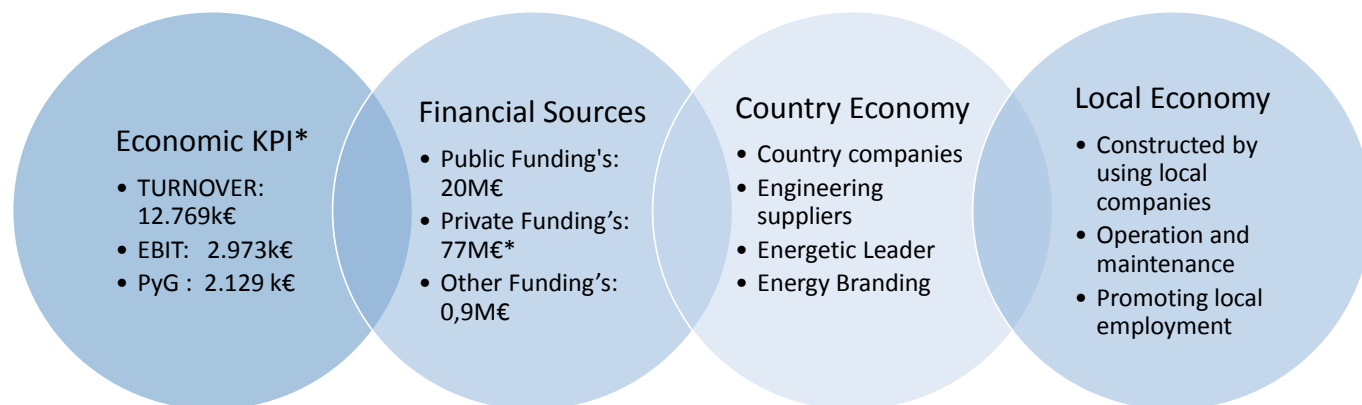


# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## c) Demonstrate the economic and financial effectiveness of the project



\*Values year 2017.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## d) Be replicable and scalable

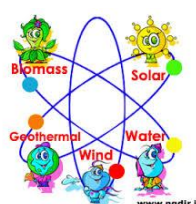


### DHC Technologies

- High temperature DH
- Low temperature DH
- Cooling district networks
- Cooling and heating networks

### Potential costumers

- Industries
- Residential buildings, neighborhoods.
- Hospitals, Universities, Hotels,...



### Renewable energies/ Sources

- Geothermal
- Biomass
- Solar Thermal
- Waste Heat or RES
- Co-generation

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind





## e) Engage all stakeholders

For the success of this type of project one of the main success keys is obtaining the “social license”, meaning that to engage the growth of the project it’s essential to have the acceptance and recognition of public opinion, specially the influencers in the specific area. To involve the local associations, civil platforms, etc. it’s necessary a great effort in organizing seminars, visits, publications..., otherwise only the economic logic is not enough to guarantee the sustainability and success of the initiative.

From the public side, it’s important to create a project with its own life with no dependence on the different political trends throughout the project, so it can offer an answer to different sensibilities that could appear (focus on smart city topics, social equity, urban development, companies competitiveness...)



## Case 22

Spain

Transport Sector

Barcelona's Highway Maintenance – 'Las Rondas'



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

Project:	Barcelona's Highway Maintenance – 'Las Rondas'
Project Proponent:	Consell Comarcal del Barcelonès and Metropolitan Area of Barcelona
Project Organization:	Matinsa and Indra



**Public Organization:** Metropolitan Area of Barcelona (*Àrea Metropolitana de Barcelona*) and Consell Comarcal del Barcelonès

**Private Organization:** Special Purpose Vehicle between Mantenimiento de Infraestructuras (70%) and Indra Sistemas (30 %)

**Capital Providers:** The different municipalities of the metropolitan region: Barcelona, Sant Adrià de Besòs and Santa Coloma de Gramenet.

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

*Las Rondas* are one of the main arteries for the entrance of traffic into the city of Barcelona from other municipalities in the metropolitan region. With over 1.2 million people passing through them every day, *las Rondas* present themselves as a key infrastructure for the proper functioning of traffic and transport at the metropolitan level. Without decent maintenance, traffic accidents could surge significantly, causing an increase in levels of pollution, and having a negative impact in the economic activity of the city at large.

Through a public-private collaboration, the metropolitan public institution of Barcelona is ensuring that these highways offer an adequate level of maintenance. As the level of traffic continues to increase, road-maintenance is key to achieving a sustainable transport infrastructure both at the city and metropolitan level.



UNECE \_ 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

<b>Where:</b>	Metropolitan Area of Barcelona. This includes the municipalities of Barcelona, Sant Adrià de Besòs and Santa Coloma de Gramenet.
<b>Why:</b>	Proper maintenance of roads is key to avoid potential road accidents, and thus ensure low levels of traffic and the adequate conditions for economic activity to prosper. In this sense, incentivizing the creation of an effective transport network in a city and metropolitan area goes beyond building infrastructure – the maintenance of infrastructure is of great importance as well. Creating a PPP brought a number of benefits to the project, ranging from private know-how and innovation, to economic efficiency.
<b>What:</b>	The maintenance of the PPP included cleaning, paving the road, signaling and other additional operations that result from accidents or unforeseen events
<b>Who:</b>	The contracting authority ( <i>Àrea Metropolitana de Barcelona</i> ), the council of the different municipalities (Barcelona, Santa Coloma de Gramenet and Sant Adrià de Besòs) and the <i>Consell Comarcal del Barcelonès</i> . Public institutions were assigned risks such as financial risks, demand risk and political risks, among others. The private sector, in this case the Special Purpose Vehicle (SPV) integrated by Matinsa and Indra, was assigned the risks of inflation and certain risks on non-completion of contract.
<b>When:</b>	Many contracts, renewed every four years. For the 2011 call, the timings were: (2011) contract notice, (2012) start of operations, (2014) end of formal contract, (2014) local authorities decide to extend the contract for two additional years, (2016) end of contract. This is a pattern found in all the contracts, except the 2016 call, which foresees four formal years of contract.

UNECE \_ 500 People First PPPs for the SDGs ... *our way to end poverty, protect the planet while leaving no one behind*





## a) Increase access to essential services and promote equity

Inadequate road maintenance can lead to high levels of road accidents, traffic, pollution and health problems for citizens. The metropolitan institution of Barcelona decided to create a PPP for the maintenance of roads in the main metropolitan highways.

The maintenance of highways included:

- All those systematic operations undertaken regularly to ensure that roads are in adequate conditions, such as cleaning and road checking.
- All those operations that might arise due to unforeseen events, such as accidents and bad weather conditions, among others.
- All those operations related to security and data management

Ensuring such activities through a PPP will increase access to transport services to people and bring other benefits to the urban area of Barcelona. Specifically, this project helps:

- Decrease the number of accidents
- Decrease the number of injured people or deaths resulting from road accidents
- Decrease the traffic level both in the highways and within the city of Barcelona and its surrounding municipalities, having an effect in the number of people that can have access to these roads, public transport (via buses), and public services at large (movement of the ill between hospitals, commuting to school/universities, etc.)
- Decrease the pollution level resulting from traffic congestions and a better flow of cars both through *las Rondas* and within the city of Barcelona
- Decrease the number of deaths resulting from air pollution in the metropolitan area of Barcelona, especially in the surrounding areas
- Increase quality of life of citizens, with a better air-quality and less traffic noise

Such improvements will be experienced by every citizen, and thus promote better quality of life and health, among others, to every person regardless of background, income level and race.

UNECE \_ 500 People First PPPs for the SDGs ... *our way to end poverty, protect the planet while leaving no one behind*



## b) Resilient infrastructure and improvement in environmental sustainability

The know-how of the private sector for road maintenance brought both innovation and economic efficiency for the supply of this service. By setting a number of conditions and systematic operations to carry out, local authorities ensured that the adequate maintenance conditions were met.

The number of road accidents in *Las Rondas* has been decreasing since the construction of the highways, indicating that, among others, the maintenance has been successfully implemented. Moreover, the air-quality in the city of Barcelona has been increasing over time due to the incorporation of effective public transport within Barcelona and between the different municipalities of the metropolitan region and fewer traffic in the city. Although it is certainly hard to disentangle the causal effects of such results, the proper functioning of *las Rondas* has been a key part in the process, as they are the key artery of traffic for the entrance and exit of people to the city.

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*



## c) Economic and financial effectiveness of the project

The financing of the project is carried out by the Consell Comarcal del Barcelonès, which is in charge of paying the private company for giving the maintenance service. The money, however, is provided by the local authorities, namely the councils of Barcelona, Sant Adrià de Besòs and Santa Coloma de Gramenet, and the regional authority, the Generalitat de Catalunya. The money is transferred to the metropolitan institution, the Àrea Metropolitana de Barcelona, which in turn gives the money to the Consell Comarcal del Barcelonès.

The payment is given to the private company by monthly payments depending on the specific maintenance activities that the company had to do in that specific month. The price of such activities was arranged in the contract prior to the signing, implying that the private company is subject to any inflation risk that might arise during the contractual period.

The amount paid by public institutions every year has been lower than what it was expected. This indicates that this public-private partnership has delivered the services needed at a lower cost than what public institutions forecasted. The payments also included a salary for all the workers in charge of the project, ensuring that local workers get a decent pay.

Moreover, this public-private partnership presented a number of monetary warranties that incentivizes the delivery of adequate maintenance. Indeed, if the company does not comply with the standards put forward in the contract, they will have to pay a fine of roughly 5% of the estimated project cost in the form of a warranty that local authorities keep.

Finally, the local authorities in charge of this PPP hired an independent institution for the supervision of the project, which ensured that all the conditions followed for the maintenance of the road were objective and had the prime goal of delivering the best service possible.

*UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind*

## d) Replicability and scalability

The case of the maintenance of the metropolitan highways, *Las Rondas*, provides a number of valuable lessons, in particular with infrastructure maintenance PPPs. These are:

1. The creation of a public and opened competitive tender process that operates under an established legal framework
2. Presence of independent companies/institutions in the monitoring of the service quality given, namely whether the maintenance given by the PPP complies with all the standards set out in the contract
3. Existence of innovation incentives for choosing companies in the tender process
4. Creation of risk-mitigating mechanisms such as warranties that incentivizes private companies to provide a good service, and gives public companies certainty that the company will provide the service successfully
5. Moreover, in terms of timing, local authorities extended the contract period to four years in the last call in order to avoid political cycles and ensure the most objective tender process possible and stability in the provision of the service.

We find that the lessons set out above can be applied to any other infrastructure maintenance project.

*UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind*



## e) Stakeholders engagement

As an urban project, the maintenance of metropolitan highways, *Las Rondas*, involved many different stakeholders:

- Local councils: Barcelona, Santa Coloma de Gramenet and Sant Adrià de Besòs
- Metropolitan bodies: Metropolitan Area of Barcelona (*Àrea Metropolitana de Barcelona*)
- Regional governments: Generalitat de Catalunya
- Independent public bodies: Consell Comarcal del Barcelonès
- Independent private bodies: SGS Tecnos which, through a different public tender, was assigned to monitor the maintenance of the highways
- Firms: Matinsa and Indra
- Citizens, neighbor associations

Public institutions were in charge of the design of the tender process and the conditions of the Public Private Partnership. Moreover, they were also in charge of paying private companies for the maintenance of the service.

The existence of private bodies to design the conditions for the PPP and ensure its completion was an important part of ensuring an independent and good-quality provision of the service at all times. The awarding of such role was given to private companies through a different tender process, also designed by public authorities.

The firms in this process were the ones that won the competitive tender process. These were Matinsa and Indra.

In terms of governance bodies, the awarding of the public tender was decided by the so-called 'contracting roundtable' (*mesa de contratación*), which integrated a member of each of the public bodies responsible of this project. By integrating each of the stakeholders involved in the tender process, local authorities ensured that the process was as objective and independent as possible, integrating everyone's views and opinions.



## Case 23

Spain

Sustainable Cities

Maintenance and Conservation of the Furniture and Equipment in the Beaches  
Cleaning of the Beaches in the Metropolitan Area of Barcelona



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

Project:	(1) Maintenance and conservation of the furniture and equipment in the beaches (2) Cleaning of the beaches in the metropolitan area of Barcelona
Project Proponent:	Area Metropolitana de Barcelona (AMB) – Barcelona metropolitan area authority
Project Organization:	(1) Coptalia SAU & (2) FCC

**Public Organizations:** Metropolitan Area of Barcelona (AMB) and 8 City Councils (Sant Adrià de Besòs, Gavà, Badalona, Viladecans, Castelldefels, El Prat de Llobregat, Montgat, Barcelona)

**Private Organizations:** Stachys SA (bankruptcy), Coptalia SAU & FCC

**Capital Providers:** Private capital needed to finance machinery, vehicles, tools, training, and wages payment was initially provided by the concessionaires.

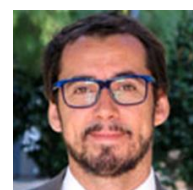
## Why is this project a Case Study for People First PPPs:

The first contract included the maintenance and conservation of the furniture and equipment in beaches such as showers, benches, bins, handrails, and public bathrooms among others. That had direct effects on people's good health and safety (Goal 3) when using the beaches of the metropolitan area of Barcelona.

The second one, consisted on the cleaning of the beaches, specially the sand area and the garbage generated in the area. That had a direct impact on sanitation (Goal 6) and users wellbeing.

Thanks to the integration of the contracts of several municipalities public administrations benefited from economies of scale that led to a reduction cost of the service for municipalities, and ultimately for taxpayers. Both contracts had a strong impact on life on land (Goal 15) and on environment by reducing garbage dumped in natural areas. All these factors allow us to define these contracts as People First PPPs based on the SDGs.

The role of private firms is to provide services adapting them to the necessities of citizens.



UNECE \_ 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

Where:	Project is located in the beaches of the metropolitan area of Barcelona, that covers 41 beaches, more than 2 million square meters of sand, and receive more than 8,5 million visitors per year. The AMB includes 36 municipalities with a total of 3,2 million inhabitants.
Why:	Before the projects started each of the municipalities had their own service of maintenance of equipment and cleaning of beaches. The integration led to an homogenization of services in the municipalities, overall cost reduction and improvement of quality in the results due to higher professionalization of the services. That had a clear positive impact on the quality of life of beach users and the environment. The homogeneity of the geography and easy access to the beaches benefited the integration of the contracts existing in different cities. The benefits derived from the PPP contract are: integration of 8 different contracts, economies of scale, competition for the contract, and certain degree of risk transfer.
What:	The project improves safety on land and in the environment promoting overall a higher standard in the quality of life of citizens.
Who:	The AMB is the public institution in charge of the works on behalf of the 8 city councils that have beaches in the metropolitan area of Barcelona. Two private companies were in charge of providing the services with the quality standards agreed in the two contracts. In both contracts tasks were assigned to the concessionaires while main risks were assigned to the contracting authority, AMB.
When:	The AMB signed the agreements with the 8 City Councils on 2011 in order to homogenize the services that it was already providing to the municipalities in the metropolitan area (in 2015 for Barcelona). The analyzed contracts started on 2009 (equipment maintenance) and 2013 (cleaning beaches), respectively. Operations started one month after the contracts were awarded. Duration were of 8 years in total (6+2 & 6+1+1, respectively).

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind



## a) Increase access to essential services and promote equity

The services associated to the contracts increased the access of people to a safe and clean natural areas such as beaches.

The services consisted on improving the maintenance of the equipment and beach cleaning. That resulted on a healthier environment particularly for beach users. The equipment includes things such as showers, toilets, benches, vigilance towers, that make the citizens experience more pleasant and safe. Additionally, it also provided clean water and sanitation availability (Goal 6), making more sustainable cities and communities (Goal 11), and life on land (Goal 15).

The better existing conditions resulted in an increase of the number of people going to these common areas of the metropolitan area fostering communities development. Finally, it helped to improve social justice as it is an area accessible for all citizens without restriction.

Safety



Safety



Sanitation & community development



UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind

## b) Resilient infrastructure and improve environmental sustainability

The contract of maintenance of equipment tackles one of the main problems public administrations face, the public infrastructure management. Public administrations sometimes wait to do maintenance works until it is too late. The inadequate maintenance can led to situations when the level of degradation force to replace the existing infrastructure, at a much higher cost for the taxpayer.

The service associated to the contract helps to develop a resilient infrastructure that can last over years reducing the maintenance cost during the whole lifecycle of the equipment favoring responsible consumption of public goods (Goal 12) by reducing the residues generation and ultimately improving life on land (Goal 15).

The second contract, the cleaning of the beaches had a direct impact on the improvement of the environment and ecosystem in the beaches (Goal 15).



UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## c) Economic and financial effectiveness of the project

The projects are funded with monthly payments to the concessionaire for the works specified in the contract: maintenance and cleaning.

The contracts also specified the quality level that needed to be achieved in any of the areas. The contracting authority, AMB, is in charge of the quality control of the works. The contract includes penalties associated to the non-compliance of the requirements to guarantee the proper accomplishment of the quality targets by the concessionaires.

The private companies finance the payment of the wages and the machinery to be used to clean the beaches, recovering the amounts on monthly payment by the contracting authority.

The first concessionaire of the contract of maintenance of equipment due to internal financial problems filed for bankruptcy less than one year after being awarded the contract. The contracting authority awarded then the contract to the company ranked second in the tender to keep providing the service of maintenance to the municipalities.

None of the two contracts required large investments besides the purchase of machinery needed to clean the sand and vehicles to pick up the garbage. For that reason no SPV was created in any of the cases.

The outsourcing of the service allowed to generate competition for the contract in the tender and ultimately reduce the cost for the taxpayer for a given service quality.

Both concessionaires were either large construction corporations (FCC) or subsidiaries (Coptalia of Copcisa) with enough financial resources to provide the service in a solvent way.

The contracts provided stable and regular jobs to citizens, and as a result of better cleaning conditions, more people were attracted to the beaches fostering economic activity in the metropolitan area of Barcelona.

*UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## d) Replicable and scalability

Economies of scale often allow the reduction of provision of the service cost and creation of synergies that result in efficiency gains.

In this particular case the integration in 8 different municipalities of the maintenance of infrastructure and beach cleaning in two separate contracts (not bundling activities themselves) allowed to achieve economies of scale and a reduction in the provision cost of the two different activities.

That was possible due to the fact that the coast in the metropolitan area of Barcelona has similar morphology and shape making easy to clean the beaches in a continuous way.

In some cases only an invisible line separates the beaches of two different municipalities. By integrating into a single contract it was possible to homogenize the service of all municipalities.

The project can be replicated in all those municipalities where the beaches are close enough or easily accessible that scale economies are possible.

Another interesting feature is the integration of services in different municipalities under a single metropolitan authority to somehow overcome limits to integration of services in Spanish legislation (in Spain municipal public companies cannot offer services outside their area, but private firms can). Many other services or sectors such as health care services or public transport can benefit from economies of scale if being provided by AMB as contracting authority.

Next step for the project would be the bundling of the maintenance of the equipment and equipment procurement, that could include the management of the bills in order to align interest of agents looking for a life cycle approach management system that reduces overall cost. Additionally, the cleaning of beaches could be also integrated.

*UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind*





## e) Engagement of stakeholders

The project is an example of People First PPPs as it involves the public metropolitan authority (AMB), the firms providing the services, and finally all of those that benefit from better and safer public spaces such as kids, parents and beach users.

The AMB adopted a leading role in order to align the 8 municipalities interest and provide the best possible service to these municipalities citizens at the smallest cost.



*UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind*



Case 24

Ukraine

Port Sector

PPP Kherson Port & Lower Dnieper River



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

<b>Project:</b>	<b>PPP Kherson Port &amp; Lower Dnieper River</b>
<b>Project Proponent:</b>	Kherson Sea Commercial Port (KSCP)
<b>Project Organization:</b>	Administration of Sea Ports of Ukraine

**Public Organization:** the Ministry of Infrastructure of Ukraine with support of the World bank

**Private Organization:** Developer of the Project – Royal Haskoning DHV

**Capital Providers:** Private Investor & Global Infrastructure Facility

## Why the Project is a Case Study for People First PPPs:

Port shipping is an important component of physical infrastructure. The Project will allow developing a high quality, reliable, sustainable and resilient cargo transportation in Ukraine. Modernization of Sea Port of Kherson will result in development regional and trans border infrastructure, economic development and human well-being as in Kherson city and in other cities of Ukraine, facilitation of export of grain, metals, break bulk etc.

The main social impact of the Project is creating opportunities for development of agricultural business in Ukraine and, as result, increasing employment in this field.

The Project will have significant ecological effect as a results of energy efficiency, transition to the use of electricity instead of diesel fuel, providing safety transportation of grain and other food products



UNECE \_ 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

<b>Where:</b>	Kherson city, Ukraine, 135.7 sq.km, 300 thousand population, the key economic sectors: mechanical engineering, food production
<b>Why:</b>	Ukraine has a high potential for export of grain and other crops. The current throughput of Kherson Sea Commercial Port (KSCP) is 1.7 million tons. As a result of the Project implementation the throughput could increase in 1.8 – 2.9 times. Strengths of the Project: good location (connection to river and Black Sea; largely ice-free navigation, spare capacity available, established port infrastructure & services, easy to remove bottlenecks (lack of storages etc.), opportunities to improve efficiencies. PPP solution is considered as a mechanism of attracting financial resources and knowledge transfer.
<b>What:</b>	the Project will create opportunities to increase Ukrainian export of grain and other crops as well as employment in agricultural and transport sectors of Ukraine by using local supplies, and local companies and promoting local jobs
<b>Who:</b>	Initiator of the Project is the Ministry of Infrastructure of Ukraine. The Project preparation is supported by the World Bank via Global Infrastructure Facility. It is being discussed with representatives of the Ministry of Economic Development and Trade, Association Ukrainian Logistics Alliance, Administration of River Ports, Ukrainian Sea Port Authority, Kherson City and Kherson Regional Administration, representatives of private business and their associations.
<b>When:</b>	Final decision regarding the Project implementation is planned to be taken at the beginning of 2018. Construction start date is planned for 01.01.2019. Operation start date - 01.01.2020. Term of concession – 15 years.

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind

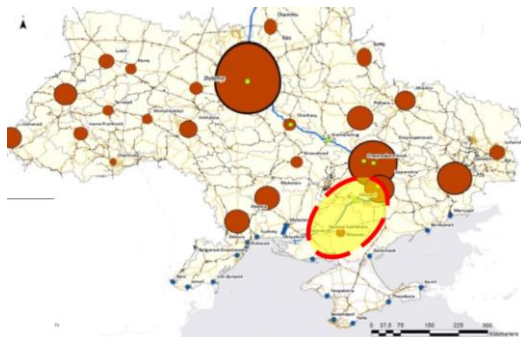


# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## a) Increase access to essential services and promote equity



### Social impact of the Project

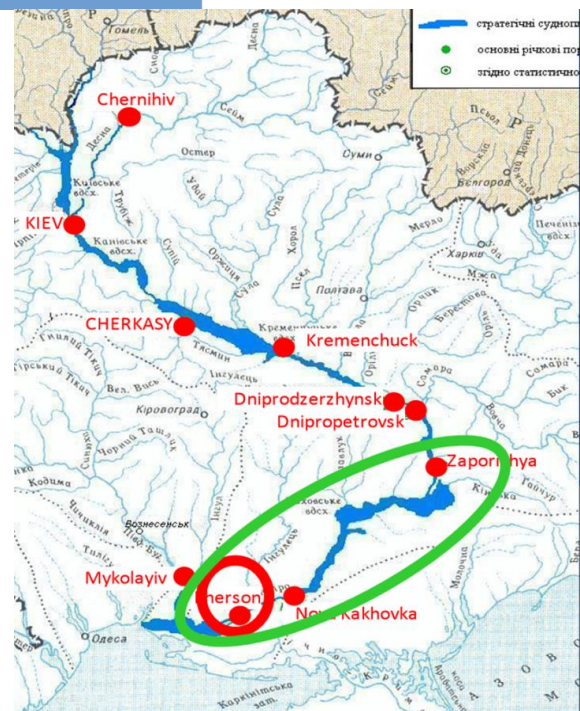
Creating access to transport infrastructure in Ukraine, developing agricultural and other local products export, increasing employment, improving the quality of life

#### Social risks:

- Staff redundancy
- Traffic in Kherson city
- Land use (future)

In the framework of the Project it would be necessary to provide social compensation of KSCP staff redundancy through:

- professional training
- financial compensations



UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## b) Develop a resilient infrastructure and improve environmental sustainability

KSCP handles a mix of cargoes: grain, metals, break bulk, etc.

Cargo flows could increase for all commodities – in accordance with different scenarios in 1.8 – 2.9 times. Grain is a very promising commodity – a lot of various stakeholders in Ukraine are interested in the Project implementation.

The Project will create sustainable long term infrastructure ensuring environmentally friendly and safe transportation of grain and other food products.

#### Scenarios:

- Mixed cargo port: Grain high + other cargo medium
- Mixed cargo port: Grain high + metal high + other cargo low
- Specialized port: Grain only

For all scenarios it is necessary to mitigate the key risks concerning air & water quality and to increase energy efficiency through:

- Proper design
- Adequate construction practices
- Introduction of "state of the art" techniques

### Scenario A



### Scenario B



### Scenario C



UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind





## c) Demonstrate the economic and financial effectiveness of the project

### Preliminary Economic Evaluation: Summary of results

	Scenario A	Scenario B	Scenario C
EIRR	46%	48%	41%
NPV (million UAH)	1,757	1,488	1,302
NPV (million USD)	65.4	55.4	48.4
B/C-Ratio	2.90	2.99	2.29

### Preliminary Financial Evaluation: Assumptions of the financial model

Operations start date: 1.01.2020

Duration of concession: 15 years

Financing (mixed with MDB) financing:

Gearing: 50%

Loan tenure: 8 years

Interest rate: 10%

Corporate tax rate: 18%

Terminal handling fees:

Cereals: 5.50 USD/ton

Building materials: 5.17

USD/ton

Fertilizers: 7.08 USD/ton

CAPEX phasing:

Year 0: 70%

Year 5: 20%

Year 10: 10%

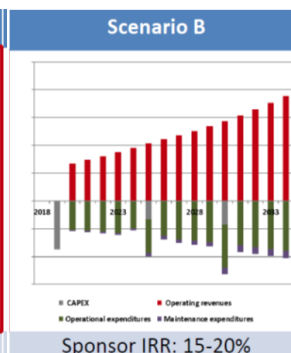
Indexation:

CAPEX & tariffs: 5%

OPEX: 3.75%

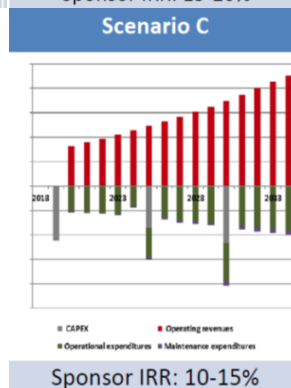
**Source of the Project Financing:** Private Partner equity, EBRD, EIB, WB

**Business Model:** Most appropriate contractual model = BOT/Concession agreement;  
“Demand-Risk” based contract for private bidder; Freedom for private sector to define the nature of terminal business; The use of the berth/quay wall is included in the concession



### Preliminary conclusions

- Each scenario is a viable proposition;
- No scenario stands out
- Slight preference for Scenario A (mixed cargo port) based on NPV.



UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



## d) Be replicable and scalable

One of the tasks of the Project implementation is piloting and developing a methodology of implementing PPP based port projects in Ukraine

The Project is less expensive and less complicated than other potential port projects (Odessa, Mykolayev, Chernomorsk, Yuzhnyi).

The World Bank and European Bank of Reconstruction and Development actively participate in the Project preparation and capacity building activities (by conducting trainings for local public authorities and promoting PPP mechanism in the society). The team involved in the Project preparation process consists of representatives of IFI, the Ministry of Infrastructure of Ukraine, the Ministry of Regional Development and Trade of Ukraine, local authorities, foreign & local consultants

### Regional impact

The Project could be very useful for other developing economies.

The methodology to be applied in the framework of implementation of the Project could be replicated in the countries with low institutional capacity of public authorities, lack of trust to private business participation in infrastructure modernization among the population, especially poor people.



UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind





## e) Engage all stakeholders

**Central Governments:** the Ministry of Infrastructure, the Ministry of Economic Development and Trade

**Local Governments:** Kherson City Administration, Kherson Oblast Administration

**IFI / Capital Providers:** World bank, European Bank of Reconstruction and Development, Global Infrastructure Facility

**Project Developers:** Royal Haskoning DHV, INFORMAL, JURIMEX, REBEL, CTS (Center for Transport Strategies)

**Private sector:** Cargo owners, Freight forwarding companies, Private transport operators, Stevedoring companies, Container liners

**Industry associations:** Ukrainian Logistic Alliance,

**Universities / Academies:** Academy of Public-Private Partnership

**Professional Unions:** Port Professional Union

**Civil Society:** Local NGOs



Case 25

Ukraine

Waste Water Sector

Mechanical Biological Treatment Plant in Khmel'nitsky as the First  
Waste PPP in Ukraine



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

<b>Project:</b>	<b>Mechanical biological treatment plant in Khmelnytsky as the first Waste PPP in Ukraine</b>
<b>Project Proponent:</b>	Khmelnytsky City Administration (Ukraine)
<b>Project Organization:</b>	State Agency on Energy Efficiency and Energy Saving of Ukraine



**Public Organization:** Khmelnytsky City Administration (Ukraine) with the support of the Ministry of Economic Development and Trade of Ukraine & the State Agency on Energy Efficiency and Energy Saving

**Private Organization:** Project Coordinator - Alan Young, US Peace Corps Volunteer. Project Promoter – PPP Academy & Ukrainian PPP Center

**Capital Providers:** Private Investor & IFIs

## Why the Project is a Case Study for People First PPPs:

The City of Khmelnytsky is faced with a number of significant municipal solid waste (MSW) issues that directly affect its 265,000 residents. The city's landfill is over 60 years old and far beyond its capacity. It is an environmental hazard and its current life expectancy is projected to be just 5-6 more years. In addition, the city, like Ukraine as a whole, is seeking to improve air quality and substantially reduce municipal and other waste through reduction, recycling and reuse.

One of the task of the Project is to reduce the MSW sent to the landfill by 87 percent beginning from 2019 that will extend the life of the landfill by 25 years, till the year 2042.



UNECE \_ 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

<b>Where:</b>	<b>Khmelnytsky City, Ukraine</b> , 90 sq.km, with a population of 269,000, the key economic sectors: mechanical engineering, food production.
<b>Why:</b>	Absence of Waste Treatment Facilities is one of the main problems in Ukraine. Only about 5.93% of household waste is treated, including 2.73% - burned and 3.2% - used as recyclable materials and for waste recycling plants. Annually in the country there are about 500 million tons of domestic and industrial waste. According to the latest information, 12.5 billion tons have been accumulated at the landfills in Ukraine. The area of the city waste landfill is 13.6 hectares. Over the years the operation has accumulated more than 4.6 million tons of waste. Annually about 80 thousands tons of waste is transported to the landfill in Khmelnytsky.
<b>What:</b>	the Project will implement in the city higher landfill and waste management standards, consistent with those in other parts of Europe; improve environment in Khmelnytsky and increase quality of life of the people.
<b>Who:</b>	Initiator of the Project is the Mayor and the City Administration. The Project is being implemented in the framework of Smart Environment Plan 2017 and City Development Strategy for 2017-2025. Both these documents have been prepared in a transparent and inclusive way and are being discussed with different city stakeholders (city administration, city council, private business, NGOs, universities etc.). The State Agency on Energy Efficiency and Energy Saving & the Ministry of Economic Development and Trade are supporting this project as a first PPP waste management project in Ukraine.
<b>When:</b>	Final decision regarding the Project implementation is planned to be taken at the end of 2017. Construction start date is planned for 2018. Term of PPP – 15 years

UNECE \_ 500 People First PPPs for the SDGs ... *our way to end poverty, protect the planet while leaving no one behind*



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals

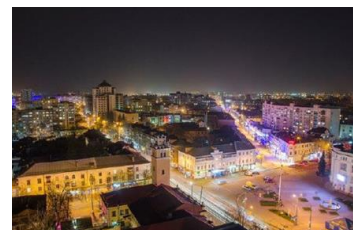


## a) Increase access to essential services and promote equity

### Social impact of the Project

- Elimination of the main source of chemical pollution
- Reduction of CO2 emissions
- Establishment of a holistic, integrated system of waste management that engages citizens and creates environment friendly solutions.
- Improving the quality of life of the residents in Khmelnytsky

Environment and quality of life in the city has been recognized as the first priority goal of citizens based on result of a survey conducted in 2016, in which more than 2,000 residents in Khmelnytsky took part.



UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## b) Develop a resilient infrastructure and improve environmental sustainability

The heart of the Project is a 4,000 square meter **Mechanical Biological Treatment (MBT)** plant that will **sort municipal waste, treat the organic fraction through anaerobic digestion (AD)** and **convert the non-organic fraction to solid recovered fuel (SRF) or refuse derived fuel (RDF)**.

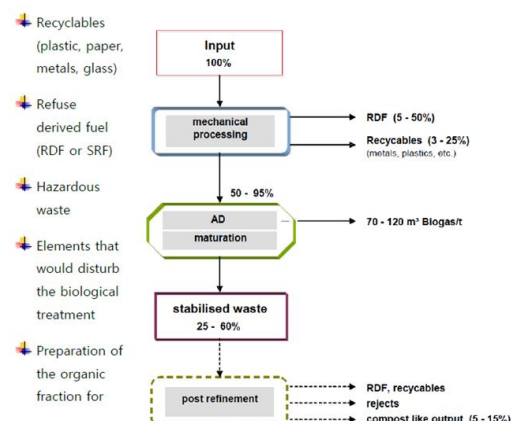
Heat from the generators will be used to process the high calorific value content to create densified refuse derived fuel (d-RDF) pellets for use in the city's 19 district heating boilers that currently use 6,000 tons of wood pellets annually

SRF could be used for production into pellets to be burned in the city's 19 wood pellet district heating plants. Khmelnytsky's large amount of waste from sewing factories is excellent feed-stock for SRF.

The Project will allow maximum exploitation of MSW to generate as much energy as possible and thus contribute to Ukraine's renewable power needs.

### Additionally with the Project preparation and implementation:

- A special programme should be established to prevent used batteries from entering the MSW stream. About 90 percent of batteries are magnetic and can be sorted by magnetic separators.
- An introduction of separate collection of garbage is being implemented in schools.



UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind



## c) Demonstrate the economic and financial effectiveness of the project

Reclamation & Recovery Economic Analysis Assumptions		
Capacity	50,000 metric tons of OFMSW	
Yield	100 meters <sup>3</sup> per metric ton of OFMSW	
Energy value of biogas	6.6 kWh/m <sup>3</sup>	
Green tariff	\$0.14 USD per kWh for biomass	

Biogas and Power Production Estimates		
OFMSW per year, say	60,000	Metric tons
Expected yield rate	$\times 100$	Nm <sup>3</sup> /ton
Annual yield of biogas	6,000,000	Nm <sup>3</sup>
Energy value of biogas	$\times 6.6$	kWh/Nm <sup>3</sup>
Energy value per year	39,600,000	kWh
Electrical production efficiency	$\times 40\%$	GE specifications
Annual electrical production	15,840,200	kWh/year
Green Tariff	$\times 14$	in USD per kWh
Maximum power sales	\$2,217,600	Annually

### Power Sales Projections based on 1MW Generation Capacity

An annual yield of 6 million Nm<sup>3</sup> provides an hourly flow rate of about 750 Nm<sup>3</sup> per hour.

Capacity:	2,000	kW (multiple generators)
Hours per day	$\times 24$	
Operating days per year	$\times 330$	30 days per year downtime
	15,840,000	kWh's per year

say:	15,800,000	kWh/year
Green Tariff	$\times 14$	in USD per kWh
Projected power sales	\$2,212,000	Annually



### Cash Flow from MBT Operations

Annual Operating Costs (in millions, USD)	
Administration	\$50,000
Staffing	200,000
Maintenance & Supplies	200,000
Insurance	100,000
Contingency	50,000
<b>Estimated Operating Costs</b>	<b>\$600,000</b>

### Revenue Summary

Power sales	\$2,212,000
SRF sales (say 20,000 tons/year @ \$60/ton)	1,200,000
Sale of PET plastic & recyclables (say 1 percent of 150,000 tons/year @ \$200/ton)	300,000
Gate/Tipping Fees (to be determined after WCS)	xxx
<b>Total Revenue</b>	<b>\$3,712,000</b>

Less annual operating costs 600,000

**Net Annual Revenue from Operations** **\$3,112,000**

**Source of the Project Financing:** Private Partner equity, EBRD, EIB, WB  
**Business Model:** PPP mix agreement with the municipal support (providing waste)

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

## d) Be replicable and scalable

One of the tasks of the Project implementation is piloting and developing a methodology of implementing PPP based Waste projects in Ukraine  
 According to the data of the Ministry of Ecology and Natural Resources there are about 10 thousand of such landfills, which accumulated more than 12.5 billion tons of waste. Annually about 500 million tons of solid and industrial waste is produced. The country has no modern industry of solid waste disposal.

At the same time Ukraine has a modern and attractive PPP legislation that was developed with the assistance of the World Bank and EBRD. This process continues – preparation of the new Concession Law is being finalized.

Cities in Ukraine are looking for approaches to implement their Waste Treatment Projects and require knowledge on attracting private business for resolving this task. To assist them the State Agency on Energy Efficiency and Energy Saving had established a Working Group with the participation of the Ministry of Economic Development and Trade, Khmelnytsky City Administration, PPP Academy and other experts for piloting this project and disseminating the information about it in Ukraine.

### Regional impact

The Project could be very useful for other developing economies in the region.

The methodology to be applied in the framework of implementation of the Project could be replicated in countries with low institutional capacity of public authorities, and a lack of trust in private sector participation in infrastructure among the population.

	Cities of Ukraine 300 thousand +	Population	Waste per year, tons
1	Kiev	3 500 000	1 050 000
2	Kharkiv	1 500 000	450 000
3	Dnepr	1 200 000	360 000
4	Donetsk	1 100 000	330 000
5	Odessa	1 000 000	300 000
6	Zaporozhe	900 000	270 000
7	Lviv	800 000	240 000
8	Lugansk	500 000	150 000
9	Mekolayev	500 000	150 000
10	Vinnitsa	400 000	120 000
11	Kherson	360 000	108 000
14	Cherkassy	320 000	96 000
15	Chernigiv	310 000	93 000
16	Poltava	300 000	90 000
17	Sumy	300 000	90 000
18	Zhitomir	300 000	90 000
19	Kirovograd	300 000	90 000
20	Khmelnytskyi	260 000	78 000
21	Chernovtsy	260 000	78 000
22	Rovno	250 000	75 000
23	Ternopil	235 000	70 500
24	Lutsk	218 000	65 400

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## e) Engage all stakeholders

**Central Governments:** the State Agency on Energy Efficiency and Energy Saving  
the Ministry of Economic Development and Trade of Ukraine

**Local Governments:** Khmelnytsky City Administration and City Council,  
Khmelnytskyi Oblast Administration

**IFI:** GIZ, US Peace Corps

**Project Developers:** Alan Young, US Peace Corps Volunteer jointly with the  
Kmelnytskiy City Administration and Communal Enterprise  
"Spetscomuntrans"

**Private sector:** more than 10 industrial enterprises of the city

**Associations:** Khmelnytsky Trade Chamber of Commerce & private  
entrepreneurs

**Universities / Academies:** Khmelnytsky National University, Khmelnytsky  
University of Management & Law, Ukrainian - Japan Center  
under University, Academy of Public-Private Partnership

**Civil Society:** 8 local NGOs in different fields of activity

## Stakeholder Analysis

	External or internal?	Characteristics e.g. citizen, shop owner, politician	Impact (Low, Medium, High)	Influence (Low, Medium, High)	Potential	Strategy for engaging the stakeholder
<b>TARGET GROUPS</b>						
Residents	External	Adults	High	High	Close the lid, remove batteries, pay higher tariffs	Media relations, education
Com. businesses	External	Mixed origin	High	Low		
City agencies	Internal	Mixed origin	Medium	Low		
<b>BENEFICIARIES</b>						
Most residents	External	Eco-residents	High	High	Market information	Personal visits
Recyclers	External	Businessmen	High	Medium	Governance, funding	Periodic briefings
City Council	Internal	Politicians	High	High	Green tariff rate	
Electrical power consumers	External	Ukrainians	Low	Low		
<b>NEGATIVELY AFFECTED</b>						
"Pickers"	External	Low income	High	Low	Labour	
Residents with small income	External	Low income	Medium	Medium	Awareness	
<b>ACTORS</b>						
Mayor	Internal	Decision maker	High	High	Political decisions	Briefings
City Council	Internal	Decision maker	High	High	Political decisions	
Educators	External	Universities	Low	Low	Education	
Financing sources	External	Business/IFO	High	High	Funding	
Media	External	Local TV, Radio	Medium	Medium	Info support	
Law makers	External	Parliament	Low	High	Legal	
NGOs	External	Local Eco oriented NGOs	Medium	Low	Community inv.	



UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



## Case 26

United States of America

Disaster Recovery

PPP for Temporary-to-Permanent Housing in Disaster Recovery



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development



Project:	PPP for Temporary-to-Permanent Housing in Disaster Recovery
Project Proponent:	International PPP in Resilience Specialist Centre, Inc.
Project Organization:	Private Non-Profit

**Public Organization:** U.S. Department of Housing and Urban Development, Texas General Land Office

**Private Organization:** A partnership of the Community Development Corporation of Brownsville, the Building Communities Workshop, TexasHousers, Hazard Reduction and Recovery Center at A&M University, La Unión del Pueblo Entero, and A Resource In Serving Texas Equality (ARISE)

The Ford Foundation also provided a grant for assistance in developing the model

**Capital Providers:** Community Development Financial Institutions, Commercial Banks

## Why is this project a Case Study for People First PPPs: A Best Practice in Disaster Recovery/Resilience utilizing PPP

The RAPIDO program offers solutions to disaster recovery and resilience, creating a bottom-up community based approach that is centered on the families it intends to support. The design process examines not only architectural issues, but every level of process, specifically the social, economic, and political contexts that make up a disaster scenario. RAPIDO evaluates and redesigns the entire process with the people that are impacted most.

RAPIDO addresses the following Sustainable Development Goals:

- Goal #3 (healthy lives)
- Goal #9 (resilient infrastructure)
- Goal #11 (resilient cities)
- Goal #13 (combat climate change impact)
- Goal #16 (inclusive, access, effective institutions)

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

<b>Where:</b>	The pilot project was developed in the Rio Grande Valley in the U.S State of Texas, an impoverished region on the border with Mexico.
<b>Why:</b>	Hurricane Dolly, a category 2 cyclone/typhoon, caused widespread flooding, particularly in low-to-moderate income neighborhoods, where pre-disaster housing was already inadequate. A group of concerned civic leaders and non-profit organizations worked with affected citizens to develop a new approach based on a temporary shelter (core) that could be easily expanded into a quality affordable home. Utilizing pre-assembled components for the core provided significant cost savings, proved very resilient (can withstand hurricane strength winds) and allows additional rooms to be added in converting the shelter into a quality affordable home. The PPP solution was chosen because the U.S. Federal Government's policy is not to fund permanent home construction for temporary shelter. The core unit is not considered a permanent home; however, utilizing a case management system to provide private financing and construction, the units were able to be converted into permanent homes.
<b>What:</b>	Applying this successful concept to flood-ravaged Louisiana, which lost an estimated 60,000 affordable homes in 2016, could provide a significant improvement in quality of life for low-income survivors. This is critical in the context that, 10 years prior to the floods, Louisiana lost 250,000 affordable homes to storms and decay.
<b>Who:</b>	Private: A partnership of non-profit organizations led by Better Communities Design Center, Texas Housing and the Community Development Corporation of Brownsville, both organizations dedicated to providing decent housing for low income citizens. Other members include labor rights organization La Union del Pueblo Entero, latino assistance organization ARISE, the Hazard Reduction and Recovery Center at Texas & M University, and the Texas Low Income Housing Information Service. Public: U.S. Department of Housing and Urban Development and Texas General Land Office.
<b>When:</b>	On April 19, The Texas State Senate Committee on Intergovernmental Relations approved a bill to expand the program statewide, and the State of Louisiana is considering adopting the program in partnership with private philanthropic organizations for ongoing recovery from August 2016 floods.

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind



## a) Increase access to essential services and promote equity

The project, applied in Louisiana, will increase access to affordable quality housing for victims of the 2016 Louisiana Floods. Over 200,000 homes were destroyed, approximately 30% of which were classified as “affordable”, or priced at less than US\$100,000. These 60,000 homes added to the 250,000 lost within the ten years prior to the floods have created a crisis in affordable housing. Many homes destroyed were sub-standard, unhealthy, and dangerous, particularly mobile homes that cannot withstand strong winds. The RAPIDO model provides a strong, decent temporary shelter, priced at approximately US\$25,000, assembled on site, that can later be converted either on site or disassembled and moved to a new site, that may be expanded to create a high-quality affordable home for less than a total, including the temporary unit, of less than \$100,000 (the average cost in pilot project conversion totaled US \$86,000 including the core). After use as a temporary shelter, the core unit may be donated to a non-profit that, in turn, donates the unit to survivors. Using a case management system, families will work with design and building professionals to create their own home using the core unit as a base, learn about credit and mortgage financing if they had never owned a home, and work with Community Development Financial Institutions to obtain financing for the conversion. Those who cannot obtain financing may choose to rent, and agreements may be structured to apply a portion of their rent to eventual ownership. Providing access to safe, affordable housing that may be raised if in flood-prone areas, is resilient, and provides families with better health, including overcoming the trauma associated with disaster, and promotes social justice through providing an opportunity to improve their financial standing with a transferable asset and a safe, welcoming environment. Utilizing the Public sector in PPP provides the basis for social justice and make essential services accessible to all without restriction on any grounds such as race, ethnicity, religion, or orientation, as those requirements can be built into the donation process.

UNECE \_ 500 People First PPPs for the SDGs ... *our way to end poverty, protect the planet while leaving no one behind*

## b) Develop a resilient infrastructure and improve environmental sustainability

This project develops a resilient infrastructure in three ways:

1. The design of RAPIDO housing, which allows inexpensive elevation in flood-prone areas, can help prevent urban sprawl.
2. The core unit is able to withstand hurricane force winds, and all construction techniques were developed to provide resilience (for example, “hurricane clips” are used to prevent roof damage)
3. Utilizes wood, a renewable resource, rather than steel or concrete lowers the carbon footprint and may allow the use of local wood products (soft-wood trees which grow much faster-no rainforest wood)

RAPIDO emphasizes redefining the recovery system to make it more efficient and effective. Policy changes to encourage more sustainable recovery options are encouraged, such as redevelopment of impacted neighborhoods and rural areas rather than new “greenfield” development and the fiscal and environmental costs associated with new development.

The RAPIDO design allows for assembly of components in 4 days, and construction of the core unit from those components in 3 days. The rapido model can shorten time to put families back in their home from years to months, even weeks. Flexibility, choice, and empowerment are hallmarks of the RAPIDO model. It is truly a PEOPLE FIRST PPP initiative.

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## c) Demonstrate the economic and financial effectiveness of the project

The project is financially sustainable, and private sector financing entities will be provided with a fair market rate of return commensurate with the risk taken. In the United States, a specific type of institution, Community Development Financial Institutions, are non-bank lenders who raise capital based on their ability to successfully lend to low-to-moderate income populations and/or areas. These institutions will be utilized to provide funding for permanent conversions in Louisiana. Thanks to the case manager “navigators”, who themselves are trusted members of the community, families were informed in how to finance a home, make family budgets, and other knowledge to lessen risk for them, and the institutions that provide financing to them.

Using local labor and supplies will benefit private sector partners in affected communities. Funding used for construction and assembly of both core units and permanent homes will stay in the communities, versus manufactured homes that are usually shipped in from other places. Private landowners may benefit if their properties are used as sites for temporary-to-permanent development for families who did not have a home prior to the disaster, or who decide not to rebuild on disaster-vulnerable property. Pre-procurement arrangements with local suppliers will greatly aid in the ability to “scale” the system in case of widespread home damage. In addition, the model is also being considered for small businesses and community organizations that may sustain building losses.

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## d) Be replicable and scalable

The RAPIDO process can be replicated in any country. The primary issues to enable replication are funding for conversion from temporary to permanent conversion, capacity to produce components, and development of an effective case management system

It is transferable to other sectors. Discussions are underway to utilize the same model for temporary-to-permanent structures for small businesses, non-profit organizations, and local/provincial public entities. In addition, construction of components for and assembly of the core units and expansions to permanent housing will create jobs and utilize a value-added renewable resource, wood, that will stay in the country where grown rather than be exported wholesale, using sustainable forest practices.

The project is scalable, and assuming the Louisiana project is implemented, will be scaled to eventually enable the production of thousands of units for both ongoing recovery and in preparation for inevitable future weather-related events.

Management of the pilot project have openly and freely shared their process, held a day-long training session with those working on Louisiana recovery, and a webinar on specific issues. They are willing to share their designs and specifications upon commitment that they will not be exploited for profit at the expense of vulnerable people and that core units will always be converted to permanent homes, even if the unit itself is not expanded.

UNECE 500 People First PPPs for the SDGs... *our way to end poverty, protect the planet while leaving no one behind*



## e) Engage all stakeholders

The partnership approach, including advocacy organizations such as labor rights organization La Union del Pueblo Entero and latino assistance organization ARISE assured stakeholder involvement, and the case management system ensured that all stakeholders were not only heard, but accommodated as much as possible.

Each organization and agency filled a necessary role in ensuring the success of the pilot Project.

1. Building Communities (bc) workshop, a Texas non-profit, provided overall leadership of the pilot project
2. The Community Development Corporation of Brownsville served as a liason with local officials and neighborhood groups
3. Texas Low Income Housing Information Service worked with bc workshop on design and development of the RAPIDO model
4. Hazard Reduction and Recovery Center at Texas A&M University advised on resilient design and served as a
5. La Unión del Pueblo Entero worked to ensure fair and equitable treatment of workers involved in the program
6. A Resource In Serving Equality (ARISE) served as an advocate for families and individuals throughout the project
7. U.S Housing and Urban Development provided funding to the state of Texas General Land Office through the Community Development Block Grant Disaster Recovery Program
8. Texas General Land Office Community Development and Revitalization Program allocated Communiuty Development Block Grant Disaster Recovery Program funds for the RAPIDO pilot project



## Case 27

United States of America

Health Sector

Harbor-UCLA Medical Center Expansion and Surgery and Emergency  
Facility Replacement



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

Project:	Harbor-UCLA Medical Center Expansion and Surgery and Emergency Facility Replacement
Project Proponent:	Harbor-UCLA Medical Center
Project Organization:	ADEC Innovations

**Public Organization:** County of Los Angeles Department of Public Works

**Private Organization:** FirstCarbon Solutions (FCS), a company which provides environment management solutions under ADEC Innovations provided Harbor-UCLA Medical Center with expert environment consulting services and California Environmental Quality Act (CEQA) documentation in the form of a Mitigated Negative Declaration (MND) and guidance on construction placement to minimize environmental and residential impacts.

**Capital Providers:** The Hospital's Board of Supervisors unanimously approved the budget for the project last September 2010, with initial financing from tax-exempt commercial paper and federal stimulus funds. Pierre Sprinkler & Landscape also partnered up for the first time with Hensel Phelps Construction Co. on the \$332 million emergency room expansion project.



Presented by:  
Mr. James Donovan  
CEO, ADEC  
Innovations



**Why is this project a Case Study for People First PPPs:** The hospital expansion project sought to increase the capacity of the Medical Center by expanding and optimizing medical facilities. FCS was called upon to assist with environmental clearance and preparation of an air quality, noise and traffic/parking technical report, which helped the Medical Center balance the goals of enhancing patient care through new facilities while complying with environmental regulations. The collaboration of FCS with Harbor-UCLA Medical Center turned out to be profitable (through consulting services) and at the same time sustainable (saving lives through the expansion of the facility).

UNECE \_ 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

<b>Where:</b>	Harbor-UCLA Medical Center is a 570-bed public teaching hospital located at 1000 West Carson Street in Torrance, California within Los Angeles County, United States. The Surgery/Emergency Replacement Project increased the size of the existing emergency room from 25,000 square feet with 42 surgery bays to about 75,000 square feet with 80 surgery bays. The project also added 190,300 square feet of new hospital facilities housing 16 surgery suites, adult and pediatric triage and a new entrance, lobby and waiting area. Other features include a new heliport and 544-vehicle parking structure.
<b>Why:</b>	Before construction of the project, patient wait times have stretched into days, averaging about 14 hours for care in the emergency room inside the main hospital building, which was constructed in 1963. Moreover, Harbor-UCLA was the only county hospital without a parking structure. Surface parking was scarce, with cars filling every space of pavement inside the rambling campus between Normandie and Vermont avenues. Outpatient clinics and some administrative offices were housed in portable mobile units that dot the property.
<b>What:</b>	The new building additions of Harbor-UCLA Medical Center expansion project provides greater efficiencies through a more organized layout and separation of inpatient and outpatient services, resulting in a better patient experience and enhanced level of care. Currently, the Medical Center has the ability to perform more patient procedures with the expanded Surgery and Emergency. Additionally, there are two standalone canopies, a free-standing heliport and a new parking structure that can accommodate approximately 544 vehicles.
<b>Who:</b>	Three key players were involved for the project to be possible. First is the County of Los Angeles who supported the project and currently funds the Harbor-UCLA Medical. Second is Pierre Sprinkler & Landscape who partnered with Hensel Phelps Construction Co. on the \$332 million emergency room expansion project. To complete the project, Pierre did multiple move-ons, one of which involved converting a grassy knoll into a parking lot as well as removing existing trees for reuse. In order to convert the knoll, Pierre crews removed the existing irrigation system and cap any valves that remain. Once Hensel Phelps constructed the parking structure, Pierre crews moved on site again to replant the trees among other landscape and install necessary irrigation. Lastly, FirstCarbon Solutions (FCS) provided the hospital with expert CEQA Guideline, timely pre-construction environmental consulting services, and guidance on construction placement to minimize environmental and residential impacts.
<b>When:</b>	The county Board of Supervisors, which oversees four public hospitals, began planning for the expansion project in 1990. It was approved in 1994, but bureaucratic issues and funding held up construction. After more than 20 years of planning and celebration, the construction began in February 2010 and was completed in 2013. The completion of the new campus plan will all be finished by 2030 which includes more parking in above-ground structures, more patient beds, lots of open grassy areas, and retail stores.

UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



## a) Increase access to essential services and promote equity

The purpose of Harbor-UCLA's Expansion Project is to increase the capacity of the Medical Center by expanding and optimizing existing facilities. With the relocation of the Surgery, Emergency and Central Sterile Processing Departments to the new building, approximately 45,600 square feet of space within the existing hospital will be vacated. This vacated space will be remodeled and used to consolidate and expand other departments.

The new building additions would provide greater efficiencies through a more organized layout and separation of inpatient and outpatient services. More patient procedures can be done which can result in a better patient experience and enhanced level of care.

As the healthcare industry transitions to a more standardized, collaborative, and preventative care model of health care delivery, and away from reliance on acute-care inpatient treatment, Harbor-UCLA anticipated that there will be an increasing need for them to enhance their outpatient programs and other patient support services for all and without any restriction. Harbor-UCLA sees a clear need to invest in its facilities and programs to continue to fulfill its role as a strategic piece of the healthcare "safety net" of Los Angeles County in general and for South Bay communities in particular.



UNECE \_ 500 People First PPPs for the SDGs ... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

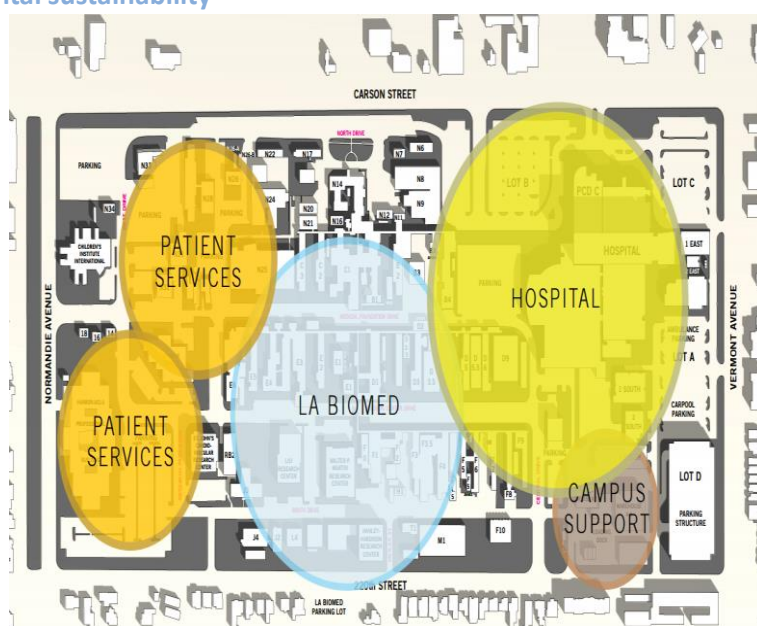
People First PPPs for the United Nations Sustainable Development Goals



## b) Develop a resilient infrastructure and improve environmental sustainability

One of the master plans for Harbor-UCLA is to develop it as a "total health environment" so it can actualize its role as a central community resource that focuses on health management and care. The campus master plan expands current thinking beyond systems that "do less harm" through reducing negative resource impacts to create a campus that "heals." Sustainability and green building techniques would be integrated from the beginning of design, through construction, to building occupancy and daily use. Green building techniques in buildings will be intended to be integrated with campus infrastructure such as integrated stormwater and wastewater treatment. Together, all of these elements will effectively lower resource and energy requirements, reduce greenhouse gas emissions, and enhance long-term sustainability.

FirstCarbon Solutions helped Harbor-HCLA Medical Center balance the goals of enhancing patient care through new facilities while complying with environmental regulations that apply to new construction. FCS' environmental planning services allowed Harbor-UCLA Medical Center to proceed with the best development plan that fully complied with regulatory and environmental requirements in a seamless and cost-effective manner, while improving the patient experience.



Existing zone

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## c) Demonstrate the economic and financial effectiveness of the project

Harbor-UCLA has a significant economic impact on surrounding jurisdictions and the County as a whole as a result of the spending by campus tenants and their employees in the regional economy.

According to Harbor-UCLA's master plan in February 2012, specifically, the Harbor-UCLA tenants spend about \$307 million on goods and services, about 85 percent of which is captured in the County, and \$451 million on wages and salaries. This activity generates an estimated 5,500 direct and 8,700 indirect and induced jobs in the County (a total of about 14,200 jobs). If 100 percent of the spending by HarborUCLA tenants were captured locally, its economic impact in the County would increase by about 2,200 additional jobs.

The Harbor-UCLA expansion project alone, along with construction at Martin Luther King Jr.-Harbor Hospital in Willowbrook, created upward of 10,000 construction jobs. Contractors were Pierre Sprinkler & Landscape who partnered with Hensel Phelps Construction. With bond financing available through the federal stimulus package passed in 2009, the county Board of Supervisors approved plans and the work began for the initial site.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind

# International PPP Centre of Excellence

People First PPPs for the United Nations Sustainable Development Goals



**THE GLOBAL GOALS**  
For Sustainable Development

## d) Be replicable and scalable

The plans to build a new hospital tower so it will be a main focal point and new center of the campus, facilitated outpatient facilities, new open spaces for the enhancement of patient, visitor, and staff experience, realigned patient and visitor vehicular entrances and parking, spatial programs, research facilities focused on wellness, and retail/commercial services – all of which encompass the expansion project that has been proven to work in the community of Los Angeles county due to the jobs it create. Despite the big budget to complete all of these by 2030, the project can be replicated in another country since all of them are possible to construct especially in countries where hospitals are scarce, provided that they have the right partnership with the public sector like Los Angeles County, the right environmental consultant like FCS, and the right contractor like Pierre Sprinkler & Landscape and Hensel Phelps Construction.

The planning team of Harbor-UCLA's master plan studied how its market will likely evolve over the next 10-15 years resulting in the following key conclusions:

**Population Growth and Changing** - Harbor UCLA will see an increasing demand for healthcare services in the future due to population growth and aging and already low healthcare utilization rates today.

**Workforce Changes** - Future physician and nursing shortages in The County of Los Angeles will compel Harbor-UCLA to rethink how it provides care in the community moving forward .

**Funding** - Harbor-UCLA will likely benefit from the expansion of Medicaid beneficiaries resulting from Health Reform, however, this reimbursement stream will continue to pay below cost, and other reimbursement streams will see declines in growth rates

**Harbor-UCLA Response** - Harbor-UCLA will need to (1) enhance its operating performance – near-term and long term, (2) define new care models, (3) lead in activities to better manage the health of the residents of the County of Los Angeles, and (4) grow intelligently in order to remain a viable and successful safety net provider.

UNECE 500 People First PPPs for the SDGs... our way to end poverty, protect the planet while leaving no one behind



## e) Engage all stakeholders

Harbor-UCLA Expansion Project involved different sectors. Aside from the public sector (County, Regional Agencies and Organization) and the private companies like FCS, Pierre Sprinkler & Landscape, and Hensel Phelps, they also involved the Harvard-UCLA academe. These stakeholders developed such a master plan which enhanced the unique and highly interactive relationship between the clinical, educational, and research components of the Harbor-UCLA Medical Center.

In the US, public consultation specifically for a hospital expansion and/or renovation project engages stakeholders. In an article released by Becker's Hospital Review, there are 6 out of 34 most expensive hospital expansion renovation who were voted by a local or state government body to be approved took place in 2016.

1. The Massachusetts Department of Public Health's Public Health Council voted Oct. 20 to approve [Boston Children's Hospital's](#) proposal to begin construction on a \$1 billion expansion project.
2. City, state and federal officials held a ribbon-cutting ceremony Nov. 18 to mark the long-awaited opening of the [Veterans Affairs hospital](#) in New Orleans. Although it was projected to cost about \$625 million, a U.S. Government Accountability Office report said the actual cost of the new hospital came closer to \$1 billion.
3. The Georgia Department of Community Health on Dec. 12 approved a request by Atlanta-based [Piedmont Hospital](#) to build a \$603 million, 16-story patient tower next to its main campus.
4. The local city board in early September approved Washington, D.C.-based [MedStar Georgetown University Hospital's](#) proposal to construct a new \$567 million hospital.
5. Tacoma, Wash.-based [CHI Franciscan Health](#) in late August submitted a letter of intent to the Washington State Department of Health requesting regulatory approval to invest in a new, \$530 million hospital at Harrison Medical Center-Silverdale (Wash.).
6. The Delaware Health Resources Board in May approved Dover, Del.-based [Bayhealth Medical Center's](#) \$277 million expansion plan.