



1st APEC LOW CARBON MODEL TOWNS (LCMT) SYMPOSIUM

EFFICIENCY AND ENERGY SUSTAINABILITY IN MUNICIPALITIES PROGRAM PRESEM

Jakarta, Indonesia
September 14th, 2017

Supporting Programs to Efficiency Energy in Cities



**Energy Sector Management
Assistance Program**

TRACE
(Tool of Rapid Assessment City Energy)



**Identifies sectors with the most opportunities
for energy efficiency**

Tool of Rapid Assessment City Energy

TRACE

Key Performance
Indicators
(KPI)

Information
Concentration
(28 KPIs)

Results Peer
comparison

Sector
Prioritization

Priority Sector
Results

Sector and
Consumption
Evaluation

Selection of
Priority Sectors for
Investments in
Energy Efficiency

Tool of Rapid Assessment City Energy TRACE

Mexico: Sectors with more potential for Energy Savings



Selected Sectors for the Mexican Program

México: Ministry of Energy (SENER): Efficiency and Energy Sustainability in Municipalities Program PRESEM

**Energy
Efficiency**

**Environmental
Protection**

**Social
Participation**

**Sustainable
Development
Cities**

Efficiency and Energy Sustainability in Municipalities Program PRESEM

Ministry of Finance - SENER: World Bank

Scope: One City per State (31 States)

Metodology: TRACE



Components of the Program

- I. Policy Development and Institutional Strengthening
- II. Municipal Investment in Energy Efficiency

Actions on Energy Efficiency in:

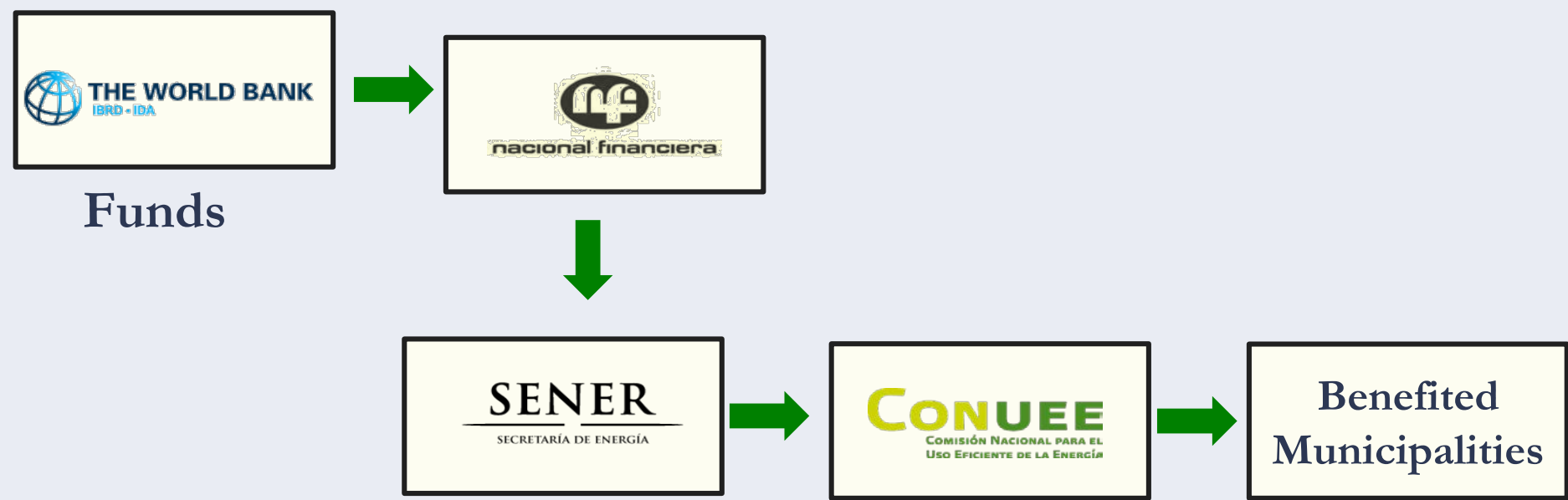


Public Lighting
Drinking Water Pumping
Municipal Buildings

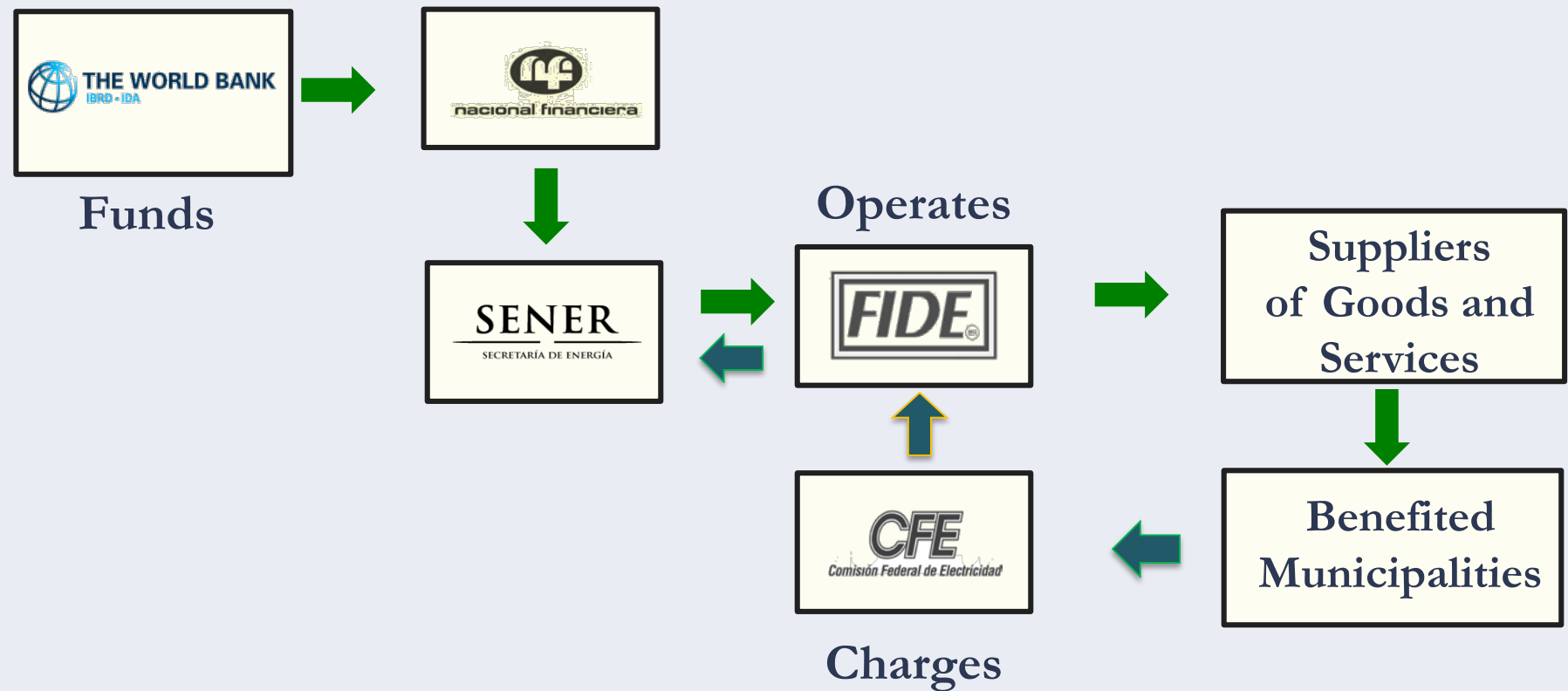
Initial Investment

World Bank	100 Million USD
SENER	16 Million USD

Project Component I: Policy Development and Institutional Strengthening



Project Component II: Municipal Investment in Energy Efficiency



Program Component II: Municipal Investment in Energy Efficiency

- Feasibility studies,
- Executive Projects,
- Document and procurement process,
- Purchase and installation of efficient equipment
- Supervision of works
- MRV Protocol

First Stage Program PRESEM

Executive Projects Development and
Procurement Document

Purchase and Installation of the Equipment



Public Lighting



Municipal Buildings



HUAMANTLA, TLAXCALA

Water Pumping

Public Lighting Project León, Guanajuato

Concept	Technology
Light Points	LED



Replacement of 8,025 high pressure sodium steam light for high efficiency LED lights in 52 main roads.

Investment: 7.2 Million USD

Water Pumping Project Huamantla, Tlaxcala



The set up of 6 underwater motor pumps high efficiency machines for the drinking water service supply.



Investment: 0.61 Million USD

Municipal Buildings Project Puebla, Puebla

5 Energy Efficiency Actions:

Municipal Buildings	Technologies
CityHall	➤ Photovoltaic System
Municipal Attention Center	➤ Photovoltaic System
Infrastructure and Public Services Office	➤ Photovoltaic System
Administration Office	➤ LED Lighting ➤ Air Contitioning ➤ Photovoltaic System
City Food Central Supply	➤ Refrigeration ➤ Compressed Air ➤ Power Factor ➤ Photovoltaic System

Investment: 0.55 Million USD

Possible Colaboration Areas

PRESEM Project



**APEC Low-Carbon Model
Town (LCMT) Project**

- Change the mindset of Energy Efficiency: migrate from technology analysis to location analysis
- Design Policies and Methodology to plan low carbon cities
- Create capacities of Energy Efficiency in municipalities
- Promote the production of electricity from clean and renewable sources.

Possible Colaboration Areas

PRESEM Project



**APEC Low-Carbon Model
Town (LCMT) Project**

- Develop Energy Management Systems.
- Monitoring systems to evaluate benefits of Energy Efficiency.
- Join forces to contribute to the mitigation on the effects of climate change
- Exchange success stories of sustainable cities to show social and economic benefits.

THANK YOU



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PRESEM: Goals

- To support Programs that contribute to the National Strategy for Climate Change
- Strengthen the institutional capacities of municipalities
- To promote and fund energy efficiency projects in selected municipalities without debts, but the payment of a service
- Municipalities partially cover the cost of the investments throughout the energy savings generated from the energy efficiency projects.

Project Component II: Lessons Learned

- ✓ Lack of Programs and not enough preventing maintenance in the facilities
- ✓ Hydraulic and Electric facilities not in adequate conditions, or unsafe for its operation
- ✓ Lack of budgeting practices for maintenance
- ✓ Include the Pre-diagnosis studies an evaluation of the facilities

Component II: : Recomendations

- ✓ To support the cities that show documental evidence of its preventive maintenance
- ✓ To include in the authorized projects an Incentive repair Electric and Hydraulic facilities in unsafe or deteriorated conditions
- ✓ Include records of the operation of the Equipment and Systems in the Programs of attention to the Cities

Component II: : Recomendations

- ✓ To privilege those cities that show evidence of its budget programming for maintenance
- ✓ To avoid as much as possible program substitution of inefficient equipment (Retrofit)
- ✓ Promote local capacity creation on Energy Efficiency.

Efficiency and Energy Sustainability in Municipalities

Program PRESEM

PROGRAM PHASES

**1. Energy Efficiency
Diagnosis in 32
municipalities.**

**2. Policy and
Institutional
Strengthening.**

**3. Support to
Implementation of
Actions on Energy
Efficiency**

**Energy Efficiency is fundamental for the
sustainable growth for the promotion of
competitive cities.**

Project Component I: Policy Development and Institutional Strengthening

- Diagnosis of Energy Efficiency in Municipalities
- Capacity creation in Energy Efficiency at Municipal Level
- Energy System Management Development in Municipalities