Lessons from the urban energy portfolio of PPP Center

ACEF 2022 DDW Program

June 17, 2022

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Status of Urbanization and Electricity in Philippines

Urbanization and Climate Change

- Population at 111 million (2021), growing at 1.3% to 1.4% per year.
- Urban population at 48% in 2021, and share growing at 0.7% per year.
- Most vulnerable country to climate change (source: institute for Economics and Peace, 2019):
  - Average 20 typhoons per year;
  - Sea-level rise;
  - Extreme rain and heat waves;
  - 23 active volcanos and 100 - 150 earthquakes per year (>4.0 magnitude).

Electricity Sector

- Electricity consumption per capita at 717 kWh versus Japan's 7,519 kWh (2019);
- Consumption growing rapidly at 6.5% per year;
- Challenges:
  - Security of supply (limited and aging);
  - Reliability (blackouts & brownouts);
  - Affordability (2nd most expensive in Asia);
- Power sector structure:
  - Generation (competitive and mostly privatized);
  - Distribution/Transmission (regulated and privatized)

Urban Energy Challenges and Opportunities

Challenges

- Rapid Urbanization;
- Coordination (Public/Private, Local/Central);
- Capital-intensity of Sustainable Electricity Solutions;
- Local Governments Short Election Cycle;
- Competing Budget Priorities.

Opportunities

- Energy Demand Rapid Growth;
- Competitive Cost of Sustainable Energy Solutions;
- Local Governments Demand and Policy Powers;
- Local Public-Private Partnerships (PPP);
- Distributed Energy Solutions.

- Immediate Opportunities:
  - Waste-to-Energy Solutions;
  - Solar Energy / Battery Storage.
- Short-Term:
  - Electrical Vehicles;
  - Embedded Power Plants;

Public-Private Partnership (PPP) Logic and Opportunities

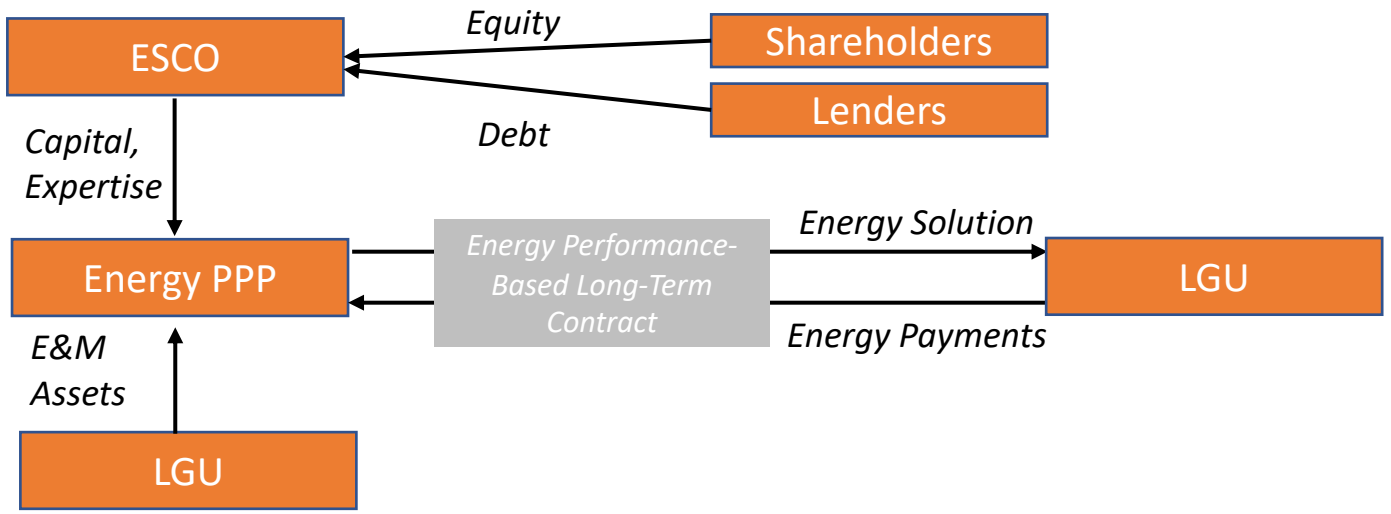
- A contractual agreement between the government and a private firm for delivery or operation of public infrastructure.
- Key advantages to government (public):
  - Provides public infrastructure while saving capital that might not be available or prioritized;
  - Lower long-term infrastructure cost;
  - Aligns public and private incentives.
- Key advantages to private firm:
  - Viable business;
  - Secures strategic asset not available otherwise (e.g., large land areas through eminent domain).
- ADB's Urban Climate Change Resilience Trust Fund (UCCRTF) is supporting the PPP Center in the development of projects anchored on a comprehensive climate risk and vulnerability assessment.

Urban Energy Challenges and Opportunities

Urban Energy PPP Examples

Project Name	Structure	Details
Dagupan WTE	20 Years JV	Plastics into fuel, food wastes into methane
Puerto Princesa WTE	25 Years JV	Processes landfill wastes into gas
Quezon City WTE	35 Years JV	Processes waste generating 36MW
NEDA sa Makati Property	35 years BOT	Green Building

Urban Energy PPPs Business Models Under Development



Urban Energy Lessons

- Coordination is critical: between the public and private sector, and between central and local governments;
- Sustainable clean urban energies tend to be more capital intensive but whole-life cost is lower than fossil fuel alternatives;
- Substantial opportunities for Public-Private Partnerships (PPPs);
- Sustained Policy support is crucial. Examples:
  - RE Auctions (DOE-REMB);
  - Energy Efficiency Regulations (DOE-EUMB);
  - Sustainable Finance Roadmap (DOF/BSP).

PUBLIC-PRIVATE PARTNERSHIP CENTER

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The presentation reflects the analyses and opinions of the authors and does not necessarily reflect those of the PPPC

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