# Review of Funding and Financing Options for Transjakarta and Proposed Electric BRT System in Other Indonesian Cities

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# ITDP Introduction

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# Since 2020, under various studies, ITDP supports the national and regional governments for deploying electric buses & two-wheelers.

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**E-mobility Adoption Roadmap for Indonesian Mass Transit System**
- *Funding: The World Bank*
- *January - March 2022*

**TUMI E-bus Mission in Jakarta**
- *Funding: Transformative Urban Mobility Initiative (TUMI)*
- *June 2021 - November 2022*

**Supporting Jakarta's Transition to E-mobility**
- *Funding: UNEP-CTCN*
- *March 2020 - May 2021*


**Action Plan to Scale-up Transjakarta E-buses**
- *Funding: UK PACT*
- *February 2021 - March 2022*

**Regulatory and Financial Basis for First Phase Transjakarta E-bus**
- *Funding: UK PACT*
- *March 2022 - March 2023*

**Timetable for Two-Wheeler Ride Hailing Fleet Electrification**
- *Funding: UK PACT*
- *February 2021 - February 2022*

**National context:**

**Mainstreaming Electric 2&3 Wheelers in Indonesia**
- *Funding: UNEP*
- *July 2021 - August 2022*


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# Current Funding and Financing Scheme: Transjakarta and Buy The Services Program

| Transjakarta | Buy The Service Program |
|---|---|
| Organized by PT. Transportasi Jakarta (**Region-Owned Enterprise**) | Organized directly by the Ministry of Transport (**Government Entity**) for several Indonesian cities |
| Run a **Gross Cost Contract with public transport operators** in Rp/km basis | |
| Most of the revenue comes from Government of Jakarta's subsidy. | All of the revenue comes from Ministry of Transport's direct subsidy. |
| The operators **procure the fleets through investment loan from commercial banks** or through leasing from OEMs - **corporate financing with operators' balance sheet** is applied. | |
| Collect farebox revenue. | Do not collect farebox revenue (as of now) since the government entity act as a regulator. |
| For operating e-bus, **the operators provide the overnight charging needed at the depots** and contracting with charging infrastructure providers. | |

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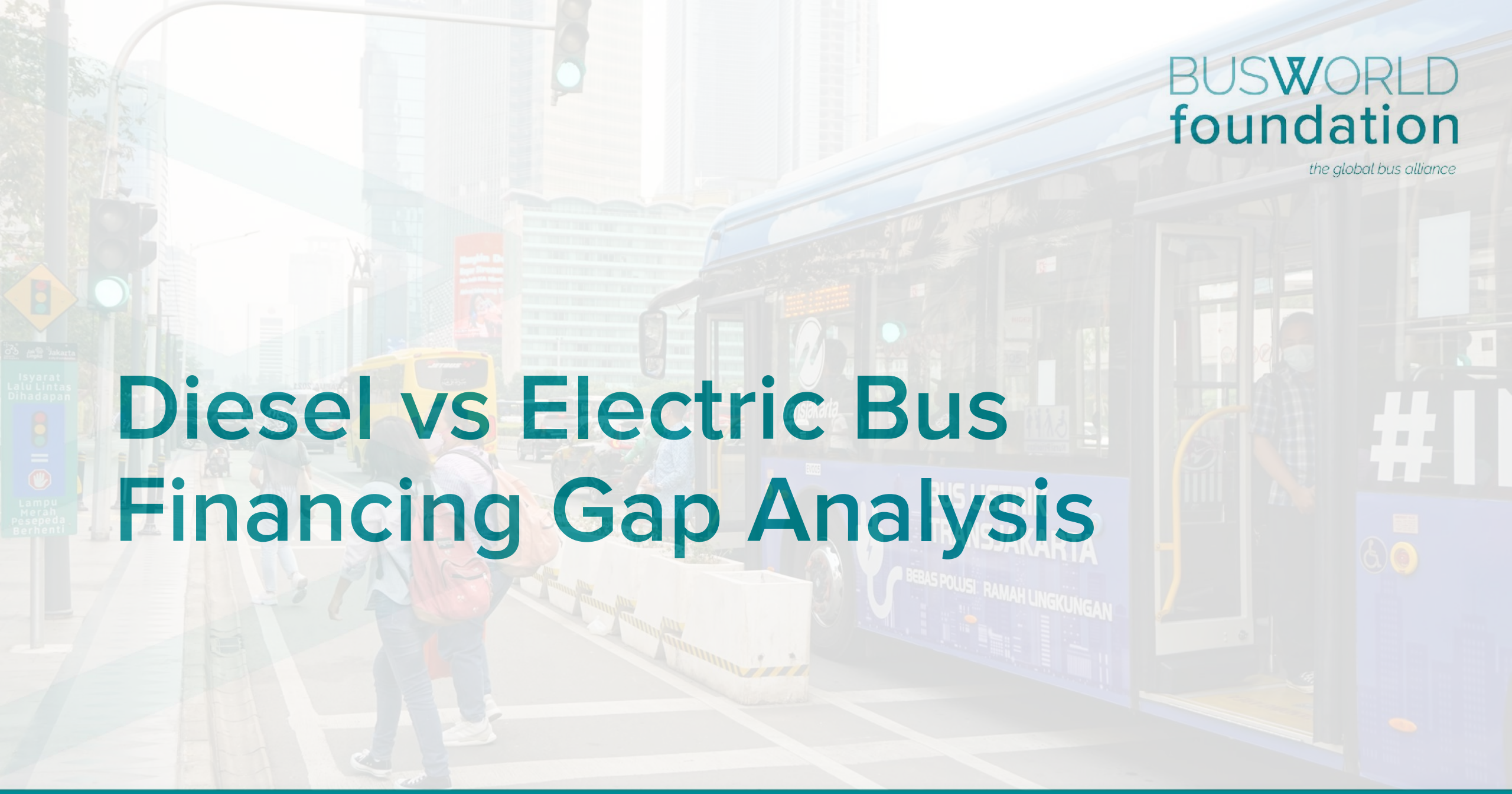


# Diesel vs Electric Bus Financing Gap Analysis

# 1 Higher Capital Cost.

- Fleets purchasing cost is higher due to the higher cost of bus **battery**.
- The operators provide the **charging facilities and connection to grid** at their depots, thus adding additional cost need to reserve.

# 2 Dependency on subsidy.

High dependency on subsidy that is decided annually **creates hesitation to commercial banks or other financing institutions** on the repayment of the loan.

# 3 Technology Readiness.

Banks tend to provide lower loan portion of e-bus equity due to **lack of experience with the e-buses** and uncertainty in terms of residual value.

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# 4 Lack of Strong Political Support.

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**90%** Nationwide

**100%** Jakarta (Transjakarta)

**Electric bus deployment target in 2030.**

**41%** Nationwide, NDC

**50%** Jakarta, RPRKD

**GHG Emission Reduction in end-use sector (transportation) in 2030**

There is already deployment target but **still lacks of strong political support** for the government to **commit resources for the multi-years of deployment**.

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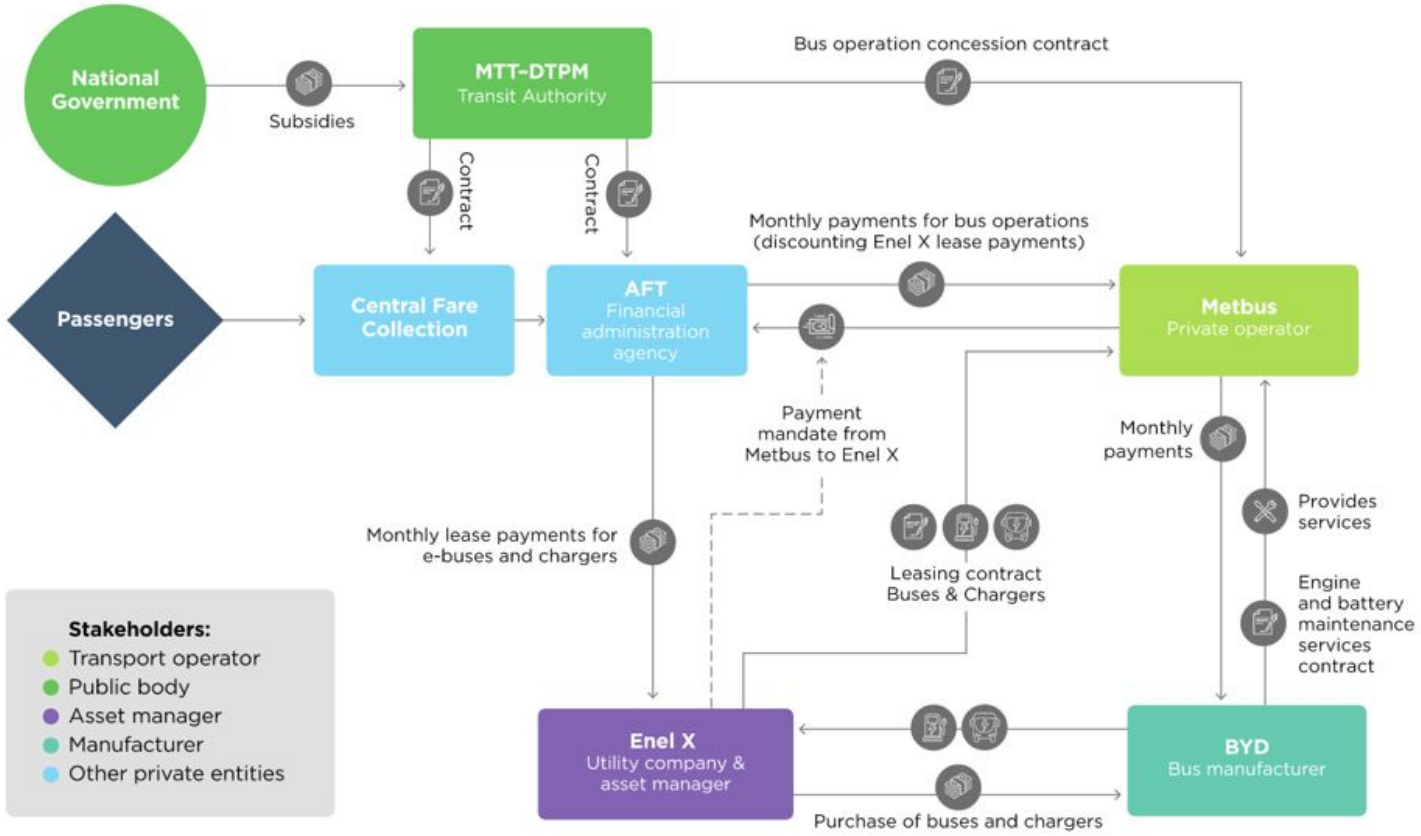
# Benchmarks from Other Countries

# Santiago de Chile




*Source:*
*Day 3 Jakarta E-Mobility Event: Workshop on Technology Selection and Business Model for Electric Buses and Peer-to-peer Knowledge Exchange*

Through **corporate financing scheme**, **utility companies** finance the buses, batteries, and charging infrastructure, with a 10-year lease duration.

| Entity | Deal 1 | Deal 2 | Responsibility |
|---|---|---|---|
| Utility Company | Enel X | Engie | Buys buses and charging infrastructure from OEM, leases buses to operator, charges the buses and supplies (renewable) energy |
| Private bus operator(s) | Metbus | Buses Vule, STP | Operate Gross Cost Contract, pay lease rent, energy charges |
| OEM | BYD | Yutong | E-bus manufacturers, warranty, O&M |
| City Transit Authority | DTPM[1] | DTPM | Guarantees payment to leasing Company |
| Financial Administrator | AFT[2] | AFT | Deducts lease fee from operator's fee and remits directly to Enel X |

*[1] Directorio de Transporte Publico Metropolitano*
*[2] Administrador Financiero de Transantiago*

# India

en.byd.com

Up to

**40%**

cost of the e-bus is subsidised in India under the **FAME program**.

The selected **e-bus OEMs** wet-lease fleets to

**SRTU**

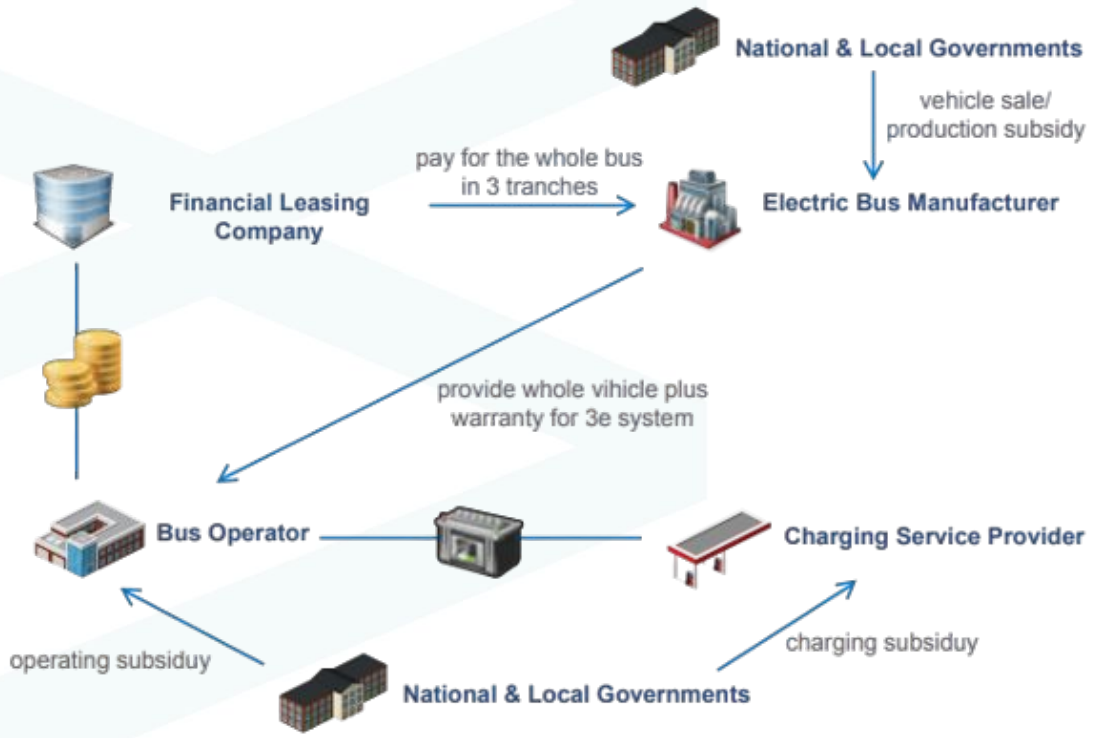
(State Road Transport Undertakings)

to **provide, operate, and maintain the fleets** under the Gross Cost Contract scheme.

Most of the case, **corporate financing scheme** is used, where the OEMs finance the e-bus projects.

# Shenzhen, China

**In order to lower total costs and market risks, Shenzhen has been able to integrate many parties.**




*Source:*
*International Bank for Reconstruction and Development / The World Bank. Electrification of Public Transport: A Case Study of Shenzhen Bus Group. 2021.*

- **Financial leasing companies purchased the fleets and batteries** from OEMs and rent them to Shenzhen Bus Groups (SZBG).
- The Shenzhen bus companies **outsource the charging and maintenance services** to charging service providers.
- The national & local government subsidies the:
  - OEMs to produce and sale the fleets;
  - charging service providers for charging subsidy; and
  - SZBG for operating subsidy.

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# Potential Funding Sources & Financing Options for E-Bus Programme in Indonesian Cities

# Potential Funding Sources

**Traditional funding mechanism** for financing e-bus programme will result in **a very limited number of buses been able to be procured** due to limited financial capacity of the operators. **Several potential funding sources** could be explored to **accelerate the e-bus deployment**.

| Potential Funding Sources | Notes |
|---|---|
| Exporting Credit Agencies (ECA) | • ECA will provide guarantee/ insurance to commercial banks (mostly foreign) where they are comfortable to work with.<br>• **UKEF**, a UK-based ECA, **interested in financing the Transjakarta e-bus program**.<br>• This scheme needs a GGL from The Ministry of Finance & a commitment to procure from its associated countries a certain minimum component of the goods/ equipment. |
| PT. Sarana Multi Infrastruktur | • Channelise government, private sectors, as well as multilateral and bilateral funds for e-bus programme.<br>• Issue **green funds** for e-bus projects.<br>• Provide regional loan to subnational-level government. It is also possible to combine green funds and regional loan.<br>• If **Transjakarta** wants to implement this scheme for their e-bus program, it requires:<br>  ◦ Government of Jakarta to request the PT. SMI to issue the loan.<br>  ◦ Approval from Jakarta house of representatives and formalised through Regional Regulation. |
| Multilateral Development Banks (MDB)/ Bilateral Development Banks (BDB)/ Development Financing Institutions (DFIs) | • MDB/ BDB could provide loan, fund guarantee through a credit enhancement facility (CEF), or through equity participations for **green funds**.<br>• Will be used on the **Electric BRT Program in Greater Medan and Bandung** where the **World Bank** provide loans for establishing the e-bus infrastructure on those metropolitan areas through Ministry of Transport.<br>  ◦ An ROE need to be established on each province to enable the e-bus services.<br>  ◦ Two kinds of business models in Bandung & Medan were recommended: bundled & unbundled.<br>  ◦ The financing source mainly comes from the Provincial Government.<br>• **ADB and KfW** has also discussed with **Transjakarta** to finance their **e-bus program**. |
| Sovereign Wealth Funds (SWFs) | • SWFs could act as grant issuers that provides liquidity support (in cash) to e-bus projects. |

# Case: Transjakarta E-Bus

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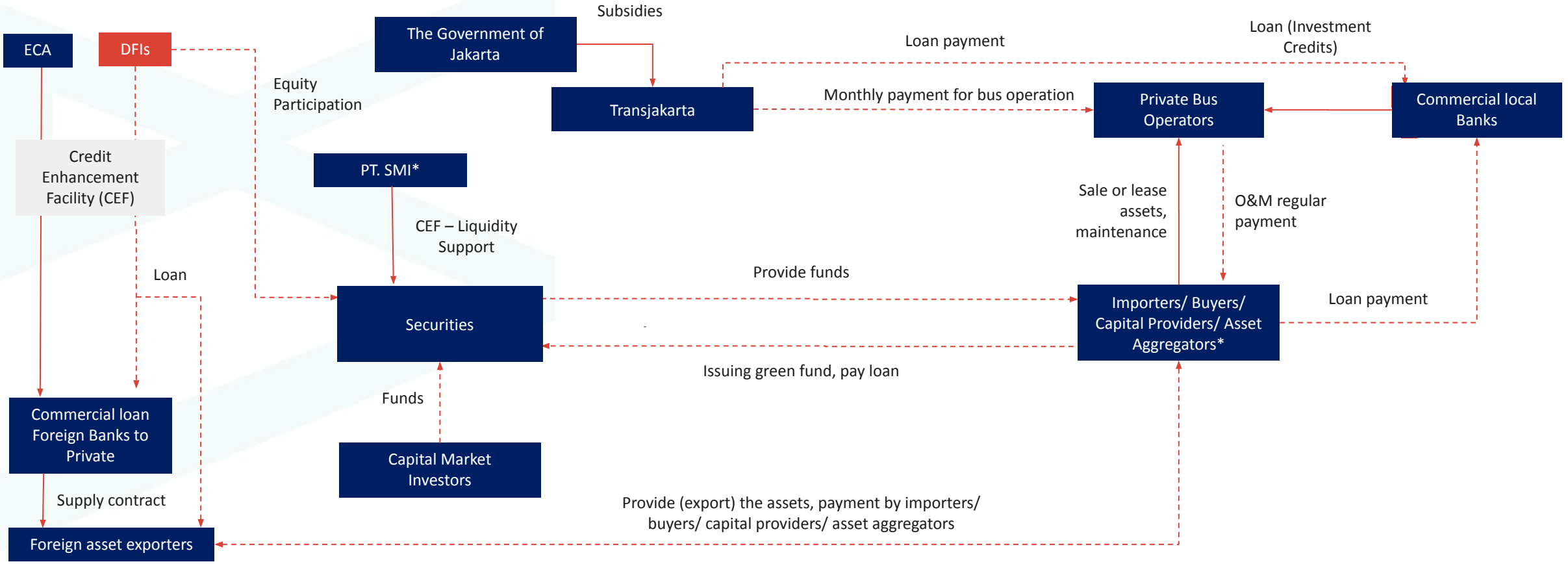
Importers, APM, or capital providers sells directly or carries out leasing contracts the assets needed (electric buses and charging infrastructure) to operators. This scheme will **maximize the role of existing players without changing the roles** that have been carried out so far and **provide asset access to operators through capital providers**.



# Key Takeaways

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Integrate various parties to lower costs and distribute risks.

Asset ownership and operational separation.

Implement leasing scheme.

The importance of financial leasing companies or asset aggregators which have healthy balance-sheet.

The importance of subsidy to lower the cost.

# Thank you