

Updates on Smart Grid Development in Vietnam

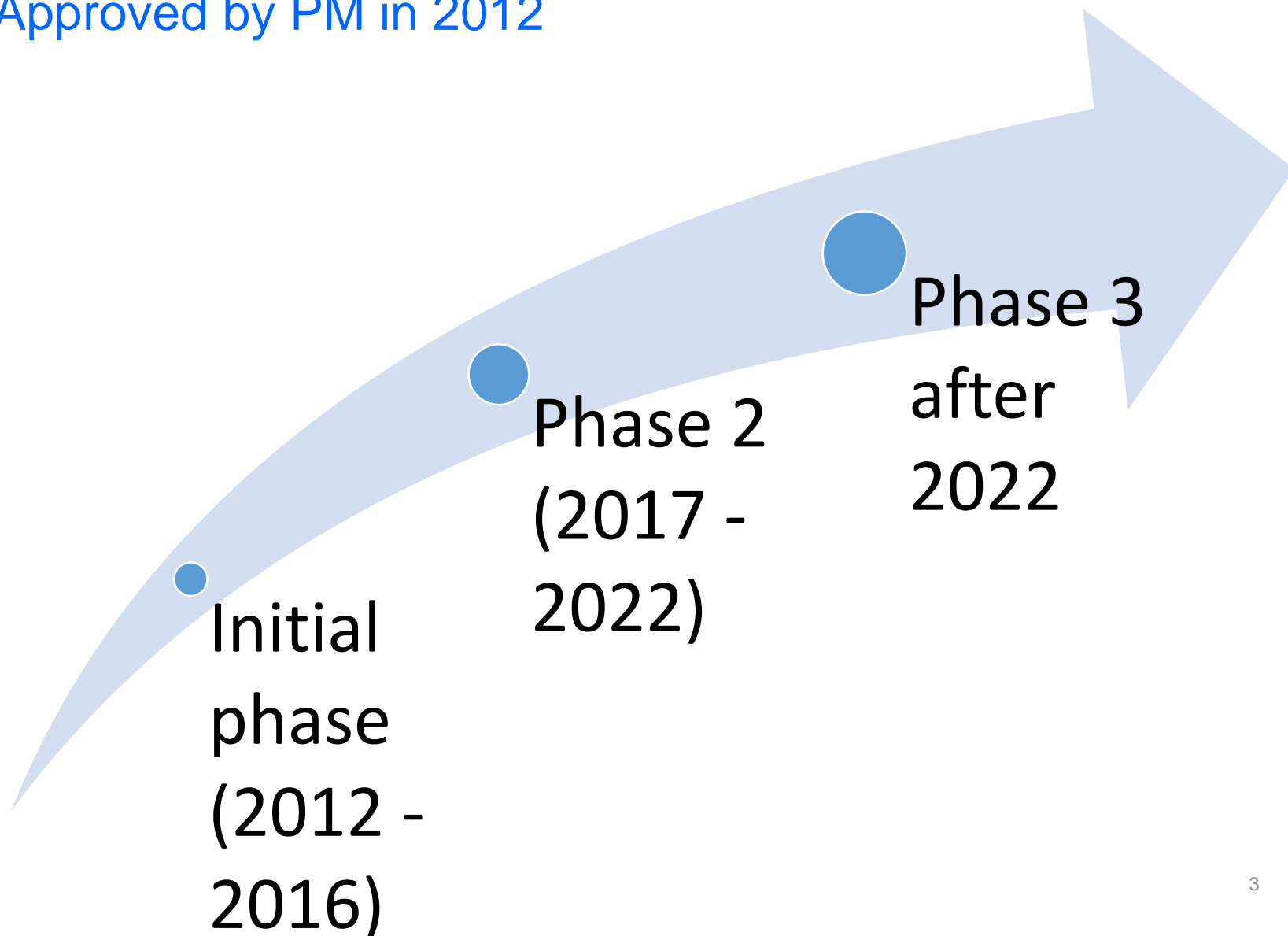
- Overview of Renewable Energy Mix
- Vietnam Smart Grid Roadmap
- Ho Chi Minh City Smart City Project
- Research at HCMUT related to Smart Grid

by Nam Nguyen-Quang

➤ By 2018, Vietnam energy mix is

Total (MW)	51200
Renewable Energy	2016
Other sources	218
Imported	1340
Oil-fired thermal	1507
Coal-fired thermal	18448
Large hydro plants	16008
Combined-cycle gas	7182
Small hydro plants	4422

➤ Approved by PM in 2012



Smart Grid Program

Smart
Transmission
and System
Operation
Subprogram

Smart
Distribution
Network
Subprogram

Smart
Metering
Subprogram

Smart
Customers
Subprogram

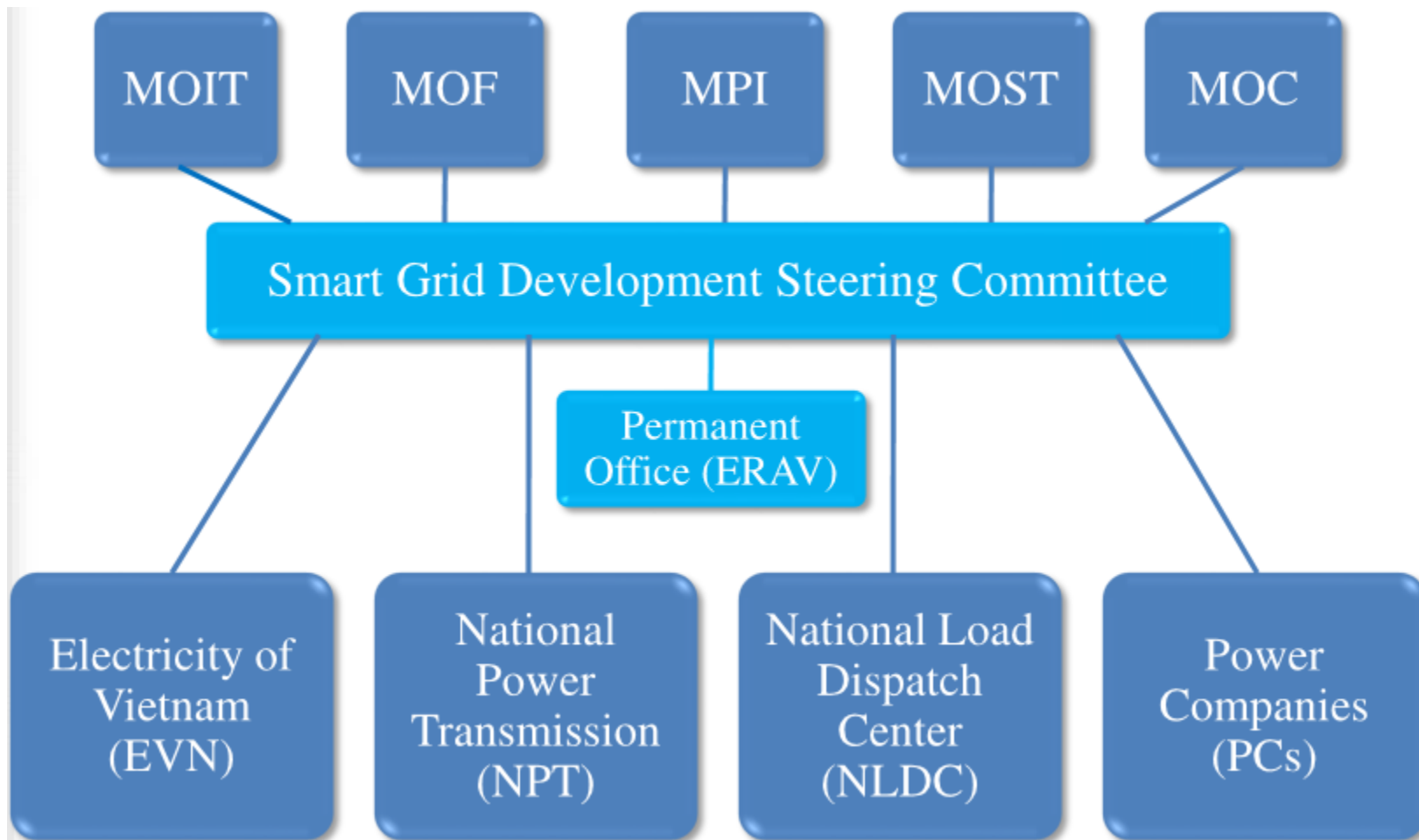
Transversal – Social Friendly subprogram

Phase 1
2012-2016

Phase 2
2017-2022

Phase 3
2022 and upward

Smart Grid Development Steering Committee



- Smart Grids for Renewable Energy and Energy Efficient, 7/2017 - 6/2021, (<http://gizenergy.org.vn/en/project/smart-grids-for-renewable-energy-and-energy-efficiency>)
- Direct Power Purchase Program - Pilot Program, 12/2019 - 12/2023, between 5 MWp and 50 MWp (for solar)

- Started in 2017, and currently has three pillars:
 - The common database and development of the open data ecosystem
 - Smart Urban Operation Centre
 - Socio-Economic Simulation and Forecast Centre
- Many difficulties and challenges faced in the implementation process such as limited human resources and infrastructure
- Suggested to build a common "framework" for communities

- “Constructivist Education and Research in Renewable Energy Technology”, Partner: Cork Institute of Technology, 63000 EUR (funded by the Irish Embassy)
- “Develop Manufacturing Technology for Public Smart Lighting using LED”, Partner: Dien Quang Lamp JSC, Bach Khoa Engineering JSC, 578000 USD (funded by HCMC)
- “Research on the Development of Control Technique and Optimal Operation for Hybrid AC-DC Microgrid”, funded by VNU-HCM