



THE EVOLUTION OF VIETNAM'S RENEWABLE ENERGY MARKET

Vietnam, December 9th, 2024

About of Mr. Dang Quoc Bao and Trungnam Group

About Mr. Dang Quoc Bao - Deputy General Director of Trungnam

With over 15 years of experience in energy and infrastructure, Bao has been pivotal in shaping Trungnam Group's position as a top investor in renewable energy since joining in 2016.

His expertise spans project development, policy advocacy, and sustainable energy strategies, driving Vietnam's energy transition and fostering innovation in renewable solutions. Bao holds an MBA from the University of Hawai'i at Mānoa, equipping him with a strong foundation to lead impactful initiatives in the renewable energy sector.

About Trungnam Group

Trungnam Group was founded in 2004 and has made significant progress in its 20 years of operation. Trungnam Group has grown into a large private corporation with a multi-industry ecosystem that includes **05 areas of activity**:

- ▶ Energy
- ▶ Construction
- ▶ Infrastructure
- ▶ Real Estate
- ▶ Information Technology Electronics Industry

The Largest Renewable Energy Investor In Vietnam

Trungnam Group is proud to be a leading pioneer who contributes to the development of Vietnam's energy industry and ensures national industrialization and modernization goals. We always complete projects on a large scale with lightning speed and high financial efficiency.



Total capacity: **1.63** GW

 **> 2.000.000**
panels

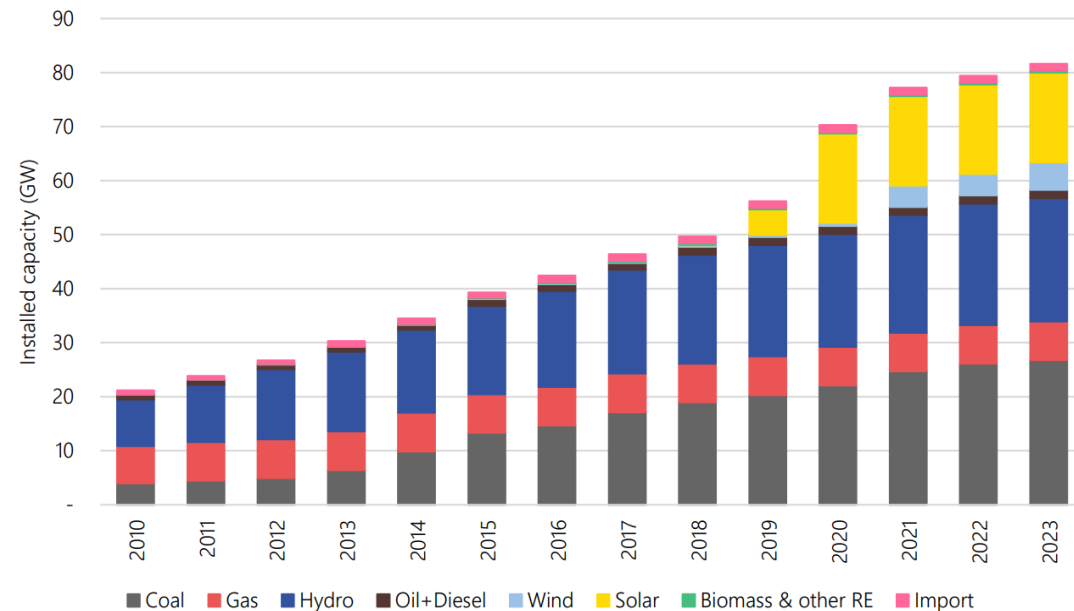
 **165** wind
turbines

 **02** Substation
500kV



Overview of Vietnam's Sustainable Energy

Over the last decade, the Vietnamese power sector has grown and evolved remarkably, driven by the country's economic expansion and a substantial increase in electricity demand. During this period, the power system primarily relied on coal, gas, and hydropower plants.



Historical installed capacities in Viet Nam (Institute of Energy 2024)

Both hydropower and coal-fired power plants have been extensively installed across Viet Nam reaching capacities of 22.8 GW and 26.7 GW, respectively, in 2023 (Institute of Energy 2024). Solar and wind power have not contributed significantly to the capacity mix until recently. Development of solar power has grown rapidly in 2019-2020, while onshore wind power also took off from 2021. As of 2023, 16.5 GW solar and 5.1 GW onshore wind were installed across the country.

Current Market Status:

- Rapid growth: Vietnam ranks 1st or 2nd in ASEAN for wind and solar energy development.
- Key factor: Solar, wind, and small hydro projects dominate.

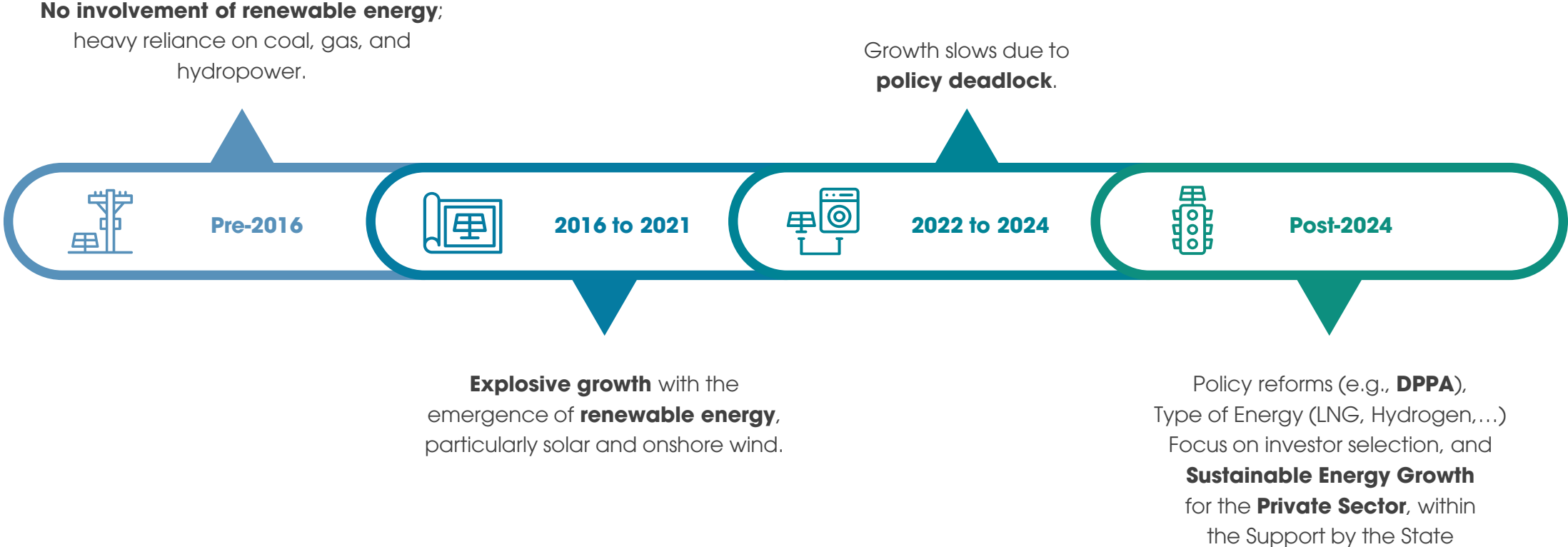
Achievements:

- By 2023, renewable energy accounts for over 20% of the total energy mix.
- Solar farms and large-scale wind farms are notable successes.

Challenges:

- Policy inconsistencies.
- Grid infrastructure limitations.
- Financing and investment risks.

The Evolution of Vietnam's Renewable Energy Market





Policy Landscape

- No contribution of renewable energy in the power mix.
- Strategy focused on coal, gas, and hydropower.

Sector Structure

- Dominance of state-owned enterprises like EVN.
- Rare involvement of the private sector in developing power projects.

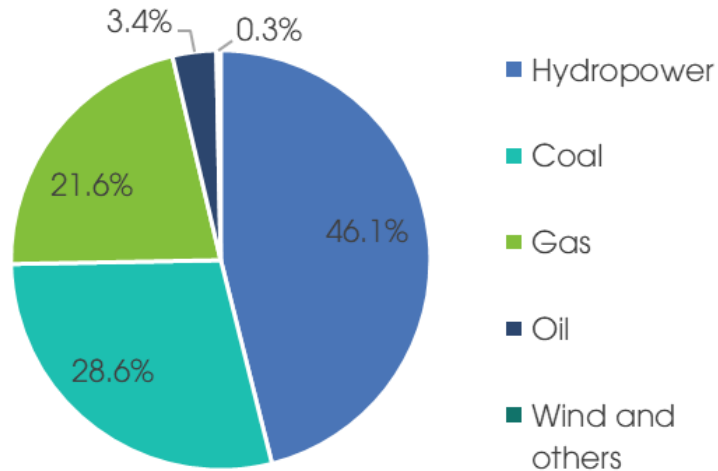
Annual Growth

- Installed capacity exceeded 34,000 MW, ranking 3rd in ASEAN and 31st globally.
- Power reserve reached 30%, ensuring stable supply.
- Hydropower produced 60 billion kWh – **Small Hydro-Power Booming**

Key Issues

- Reliance on Hydropower: Dominant share, vulnerable to drought.
- Limited Renewable Energy: Minimal wind and solar contributions.

Power Sources 2015





Policy Landscape

- Issue of feed-in tariffs (**FITs**) for **solar and wind power**.
- Supportive decrees (e.g., Decision 11/2017 and 39/2018).

Sector Structure

- Rapid **private sector** participation.
- Emergence of foreign investments in large-scale projects

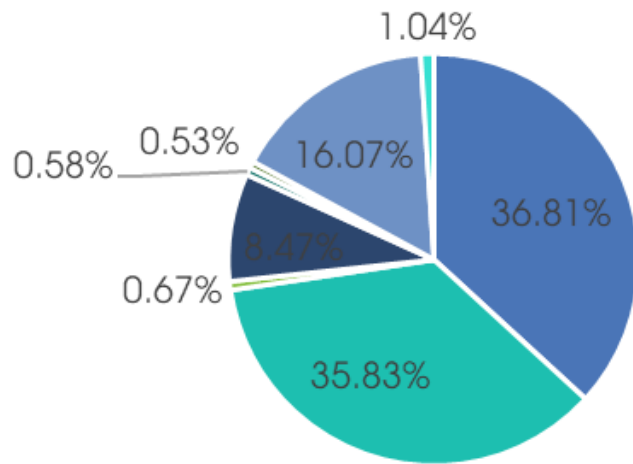
Annual Growth

- **Sustainable Energy Boom:** Over 20 GW of renewable energy capacity were added as of 2021.
- Challenges: **Grid overload, curtailments, and unclear regulations.**

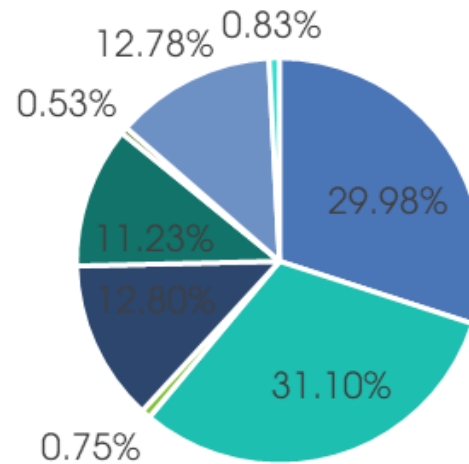
Key Issues

- Inadequate grid capacity.
- Regulatory instability led to project delays and investor uncertainty.

Power Sources 2019 - 2020



2019



2020

- Hydropower
- Coal fired
- Wind
- Solar
- Rooftop solar
- Biomass
- Gas fired + oil fired
- Imported



Policy Landscape

- **FIT mechanism expired;** no replacement framework implemented.
- Policy vacuum created uncertainty for new investments.

Sector Structure

- Stagnation in project approvals and investments.
- Focus shifted to maintaining existing renewable energy projects.

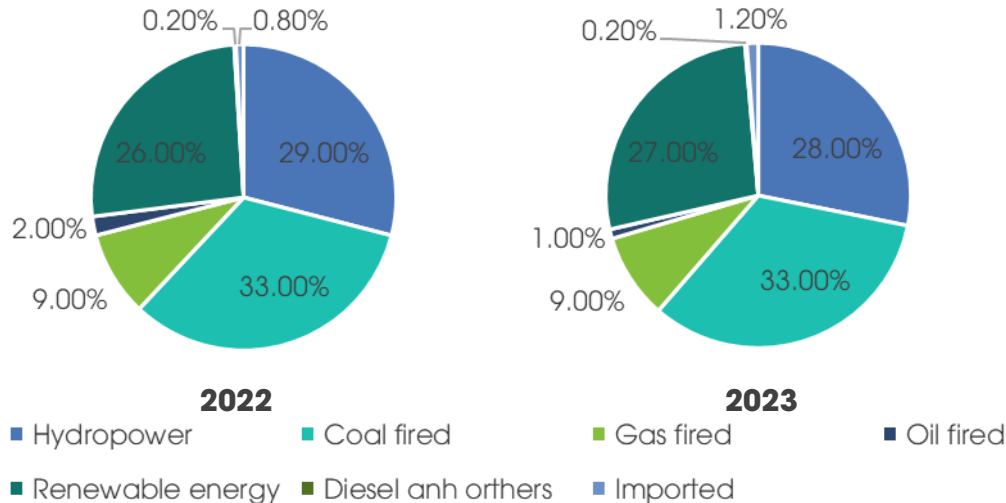
Annual Growth

- Decline in new project launches.
- Renewable energy market faced its slowest growth in years.

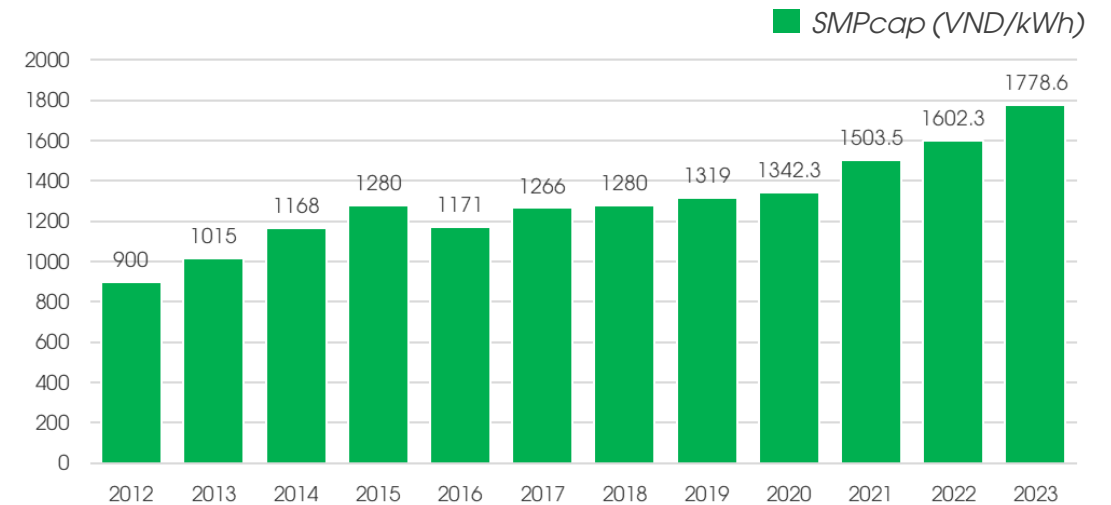
Key Issues

- **Policy deadlock** and lack of leadership in transitioning from FITs to new mechanisms.

Power Sources 2022 - 2023



Ceiling price 2012 - 2023





THANK YOU

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