

# CHALLENGES AND OPPORTUNITIES FOR PETROVIETNAM DURING THE COVID-19 PANDEMIC AND IN THE ENERGY TRANSITION: DEVELOPMENT ORIENTATIONS IN DOWNSTREAM SECTOR

**PETROVIETNAM**  
Energy for National Development



**Vietnam National Oil and Gas Group**, known internationally as Petrovietnam (“PVN”), is a 100% state owned enterprise operating across the entire oil and gas value chain.

**Established in 1977**, PVN is now Vietnam’s largest economic group and a substantial contributor to Vietnam’s State Budget and GDP annually.

The Group has a quasi-monopoly in the oil and gas sector in the country, and is also **one of 7 strategically important State Owned Enterprises in Vietnam**.

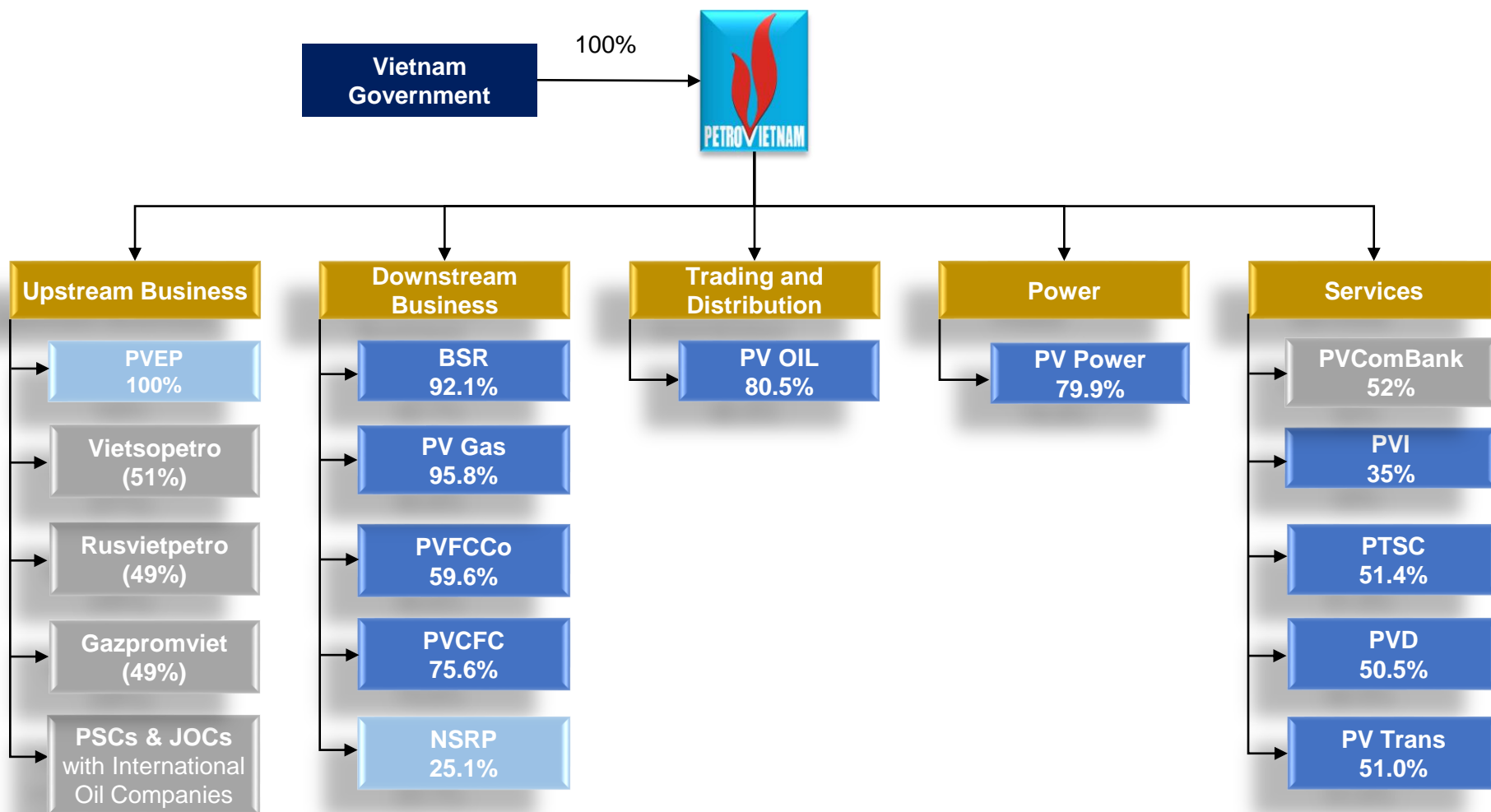
### **Mission**

Contribute to ensure national energy security and, as a leading business group, help build and develop Vietnam economy.

### **Strategic Vision through 2025**

Be a leading petroleum group in the region – a pride of Vietnam.





 Public Listed Subsidiaries

 Private Subsidiaries

 Associates & Joint Ventures

### Exploration and Production

- PVN Group is the only local company with access to the country's oil and gas reserves. PVN Group also acts as the **sole local partner** in PSCs, JOCs and JVs in Vietnam
- **Petrovietnam Exploration Production Corporation (PVEP)** is the upstream arm of PVN Group and conducts the core business of exploration and production. Currently, PVEP is operating over 53 projects, 11 projects are overseas

### Refining and Petrochemical & Gas

- **Binh Son Refining and Petrochemical Co. Ltd. (BSR)** owns and operates Dung Quat Refinery, Vietnam's first domestic refinery which commenced operations in 2011. Total processing capacity of 6.5 million tons per year, meets over 30% of Vietnam's domestic demand for gasoline and lubricant.
- **Nghi Son Refinery and Petrochemical LLC (NSRP)** is a Joint Venture between PVN (25.1%), Kuwait Petroleum Europe B.V. (35.1%) from Kuwait, and Idemitsu Kosan Co. Ltd. (35.1%) and Mitsui Chemical Inc. (4.7%) from Japan with total capacity of 10 million tons per year. Total supply from BSR and NSRP is to meet ~80% of domestic demand
- PVN Group dominates the local urea fertilizer market with more than 80% market share. The Group operates 2 fertilizer plants – Phu My Fertilizer Plant, operated by subsidiary PetroVietnam Fertilizer and Chemicals Corp (PVFCCo), and Ca Mau Fertilizer Plant, operated by subsidiary PetroVietnam Ca Mau Fertilizer JSC (PVCFC)
- **Petrovietnam Gas (PV Gas)** is involved in gathering, transporting, storing, processing and distribution of gas and gas products in Vietnam. PV Gas is the only company that engages in the gas pipeline business in Vietnam. PV Gas operates Dinh Co and Ca Mau Gas processing plants, which meet 21% of domestic demand for LPG. PV Gas makes up 60% of Vietnam's wholesale market for liquified gas, and 22% of domestic retail market

### Power Generation

- **Petrovietnam Power Corp. (PV Power)** is the second largest power producer in Vietnam, with development focus on gas power plants. PV Power currently manages 8 power plants, with combined capacity of over 4,000 MW, and contributes around 13% of Vietnam's total electricity output

### Trading and Distribution

- **Petrovietnam Oil Corp. (PV OIL)** is the sole unit of PVN operating and doing business in import/export, trading of crude oil, storing, marketing and distribution of oil products. PV OIL is the second largest player in the petroleum distribution business in Vietnam, accounting for 20% - 22% of domestic market. In Laos, PV OIL holds the second position with ~20% market share of retail business and 15% overall market share

### Others

- PVN Group is also involved in providing services to the oil and gas industries – **Petrovietnam Technical Services Corp. (PTSC)** provides technical services such as EPC, FSO/FPSO, offshore support vessels, **Petrovietnam Drilling and Well Services Corp. (PV Drilling)** provides drilling and related services, **Petrovietnam Transportation Corp (PV Trans)** provides local sea transportation services

### Targets:

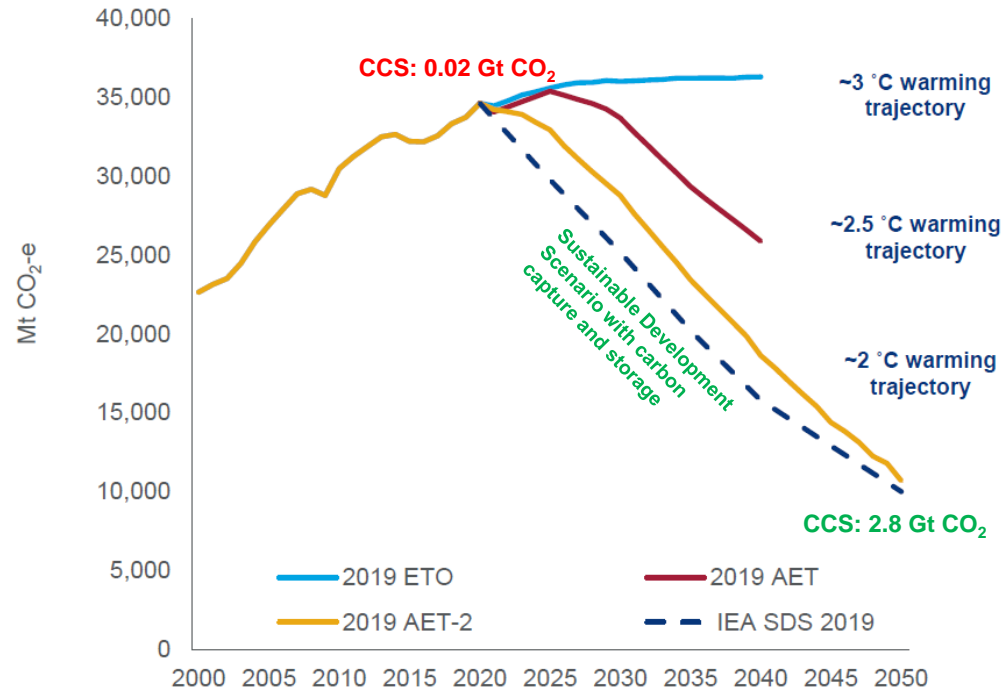
- Limit global warming to less than 2 degrees C by 2100;
- And an effort for a more ambitious target of 1.5 degrees C than the pre-industrial era by 2050.

### Solutions:

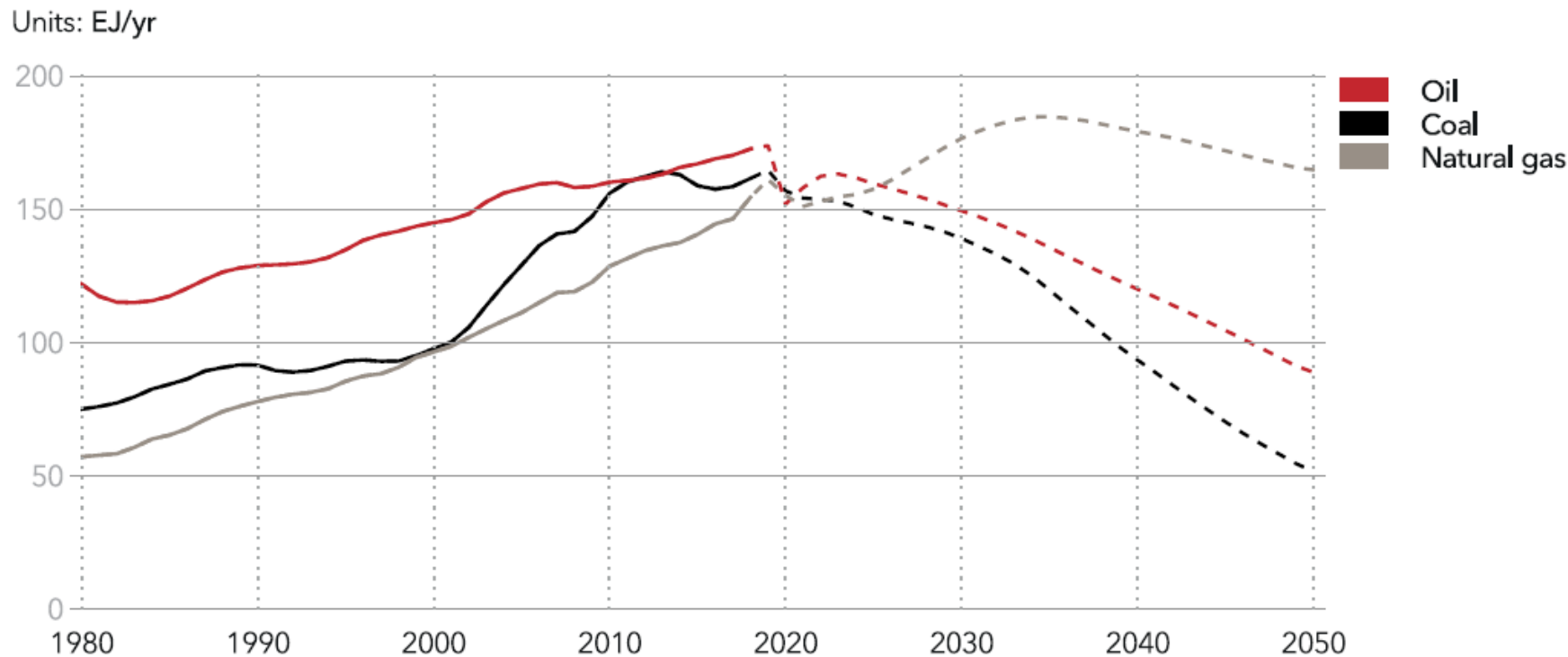
- Carbon capture and storage (CCS);
- Save and use energy efficiently;
- Convert to use energy recourses with low or no carbon emission;
- Policies.

With the impact of the Covid-19 pandemic, a reduction of ~ 6% in energy demand is expected in 2020, and it will take time to recover. The energy transition trend will happen faster.

### CO<sub>2</sub> Emission Scenerios



Source: IEA, WM (2019)



Source: DNV (2020)

The pandemic will likely lead to a 13% reduction in global crude-oil demand in 2020, mainly due to the impact on the transport sector. Oil demand has already reached a plateau, peaking in 2019, and will not increase further.

Natural gas/LNG will surpass oil as the largest source of primary energy in 2026. It will peak in 2035 and then taper off gently to 2050.

## Challenges and Trends for Downstream Sector in Energy Transition

Energy transition is forecasted to occur with a downward trend in primary energy demand for coal and crude-oil, while demand for natural gas/LNG and RE (solar, wind) will increase.

Demand for petroleum products (gasoline, diesel,...) will drop sharply as the electrification will take place strongly in the transport sector, with the development of BEVs and FCEVs → need a suitable strategy for the refineries.

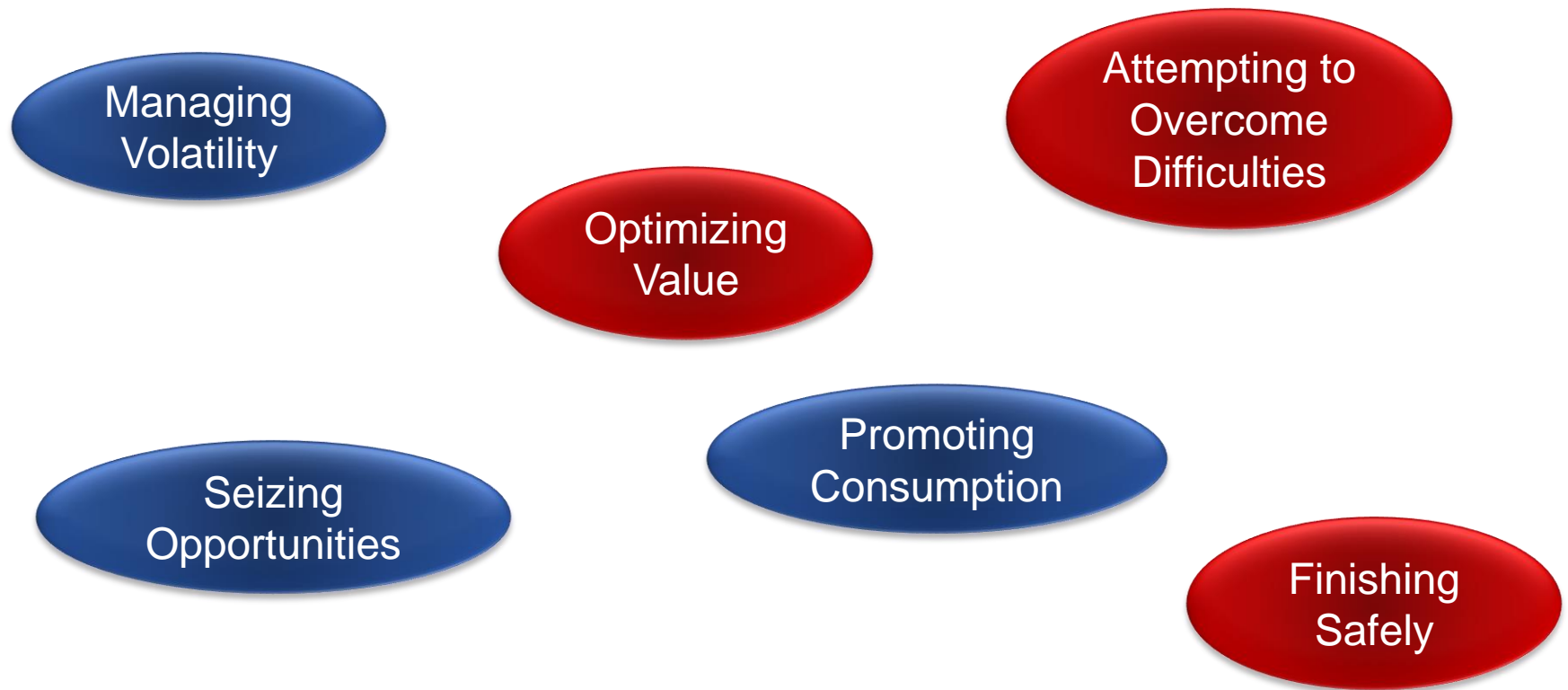
Natural gas/LNG will play an important role in the energy transition, helping to reduce emissions in power generation and in areas that are difficult to electrify, such as heavy industries and shipping. Natural gas/LNG also helps to balance the power system thanks to the “flexible gas” solution → require a suitable strategy in the gas sector.

Hydrogen may play a big role in energy transition, in areas where electrification is difficult. Hydrogen will be an important energy carrier while the portion of renewables increases. According to calculations, if 100% of electricity is produced from wind and solar, 20% - 30% of electricity produced will need to be converted to hydrogen to stabilize the system → need to build a clear national roadmap for hydrogen economy

Energy demand is expected to peak around the early 2030s, then gradually decrease due to increased energy efficiency. With the increasing contribution of Big data and AI technology, it will increase connectivity and automation, making the energy system more efficient and economical.

In 2020, the majority of oil and gas companies faced difficulties and losses due to the impact of the "double crisis", including the decline in oil prices and the Covid-19 pandemic; however, PVN still recorded positive business results, achieving 101% as planned.

PVN proactively implemented a comprehensive solution package:





Resolution No. 55-NQ/TW on the orientation of Vietnam's National Energy Development Strategy to 2030, with a vision to 2045, directs the continued development of the gas industry, prioritizing investments in infrastructure for import and consumption of liquefied natural gas (LNG).

PVN sets a goal to maintain our leading-supplier position in the gas market in Vietnam, with following actions will be implemented:

01

Develop strategies/policies to ensure a stable gas supply for the existing gas consumers.



02

Invest in new gas infrastructures, connecting gas systems in the market to increase autonomy in regulating gas consumption



03

Invest in gas/LNG import infrastructure nationwide, based on the national gas supply and demand



04

Organize market studies/surveys, implement marketing to expand market size and gas users





Extend the processing chain further, diversify and improve products' quality in the oil refining and petrochemical sector

- Continue to operate plants with safety, stability, and flexible capacity; continue improvements on energy saving and optimization solutions to reduce costs and improve operational efficiency of plants; control of raw materials to improve product quality.
- Focus on developing petrochemicals (including petrochemicals from gas) and chemicals to increase the added value of petroleum products; take advantage of the geographic location and infrastructure of oil and gas processing centers, which were invested, to develop plants in the direction of extending processing chain further.
- Access investment opportunities in developing new products with high added value, participating in the production and supply chain in Vietnam, aiming to extend to the regional market.
- Replace and supplement the shortage of raw materials with other stable sources (i.e. crude oil, renewable energy, coal, LPG, LNG , ...)

**THANK YOU  
FOR YOUR ATTENTION**

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