

CHAPTER 1 ENERGY AND ELECTRICITY

OVERVIEW

EuroCham Green Growth Sector Committee (GGSC) recognises and supports the essential priorities of the Government in managing the energy market in Vietnam. These priorities are:

- ▶ Delivering a supply of reliable and affordable energy for sustainable economic growth. GGSC notes, with mounting concern, commentary from Vietnam Electricity (EVN) which indicates that there is a risk of power shortages in the period 2020 to 2022 in southern Vietnam: This is of great concern to GGSC members who are power consumers;
- ▶ Ensuring the sustainable development of the power sector, based on a new National Power Development Plan (PDP) 8 being developed in 2019 and expected to be finalised in 2021¹ which will urgently mobilise private sector investment, and support the completion of equitisation and the sale of power generating assets;
- ▶ Reducing greenhouse gas emissions from energy production in line with the Paris Agreement and the Intended Nationally Determined Contributions (INDC) plan submitted by Ministry of Natural Resources and Environment (MONRE); and
- ▶ Enhancing the adoption of energy-efficient materials and technology that reduce atmosphere heating, emissions, pollution, redundant or even wasteful electricity demand. European companies have products and expertise in achieving substantial energy efficiency. If PDP 8 relies on energy efficiency, the overall goal for urgent investment in new electricity production may be lower, therefore, up to US\$ 30 billion made available for other uses.

At the Vietnam Business Forum (VBF) 2016, EuroCham, together with other chambers of commerce in Vietnam, presented the first Made in Vietnam Energy Plan (MVEP 1.0) to Prime Minister Nguyen Xuan Phuc. Since the publication of MVEP 1.0, we have seen many of our expectations met, such as the installation and grid connection of 7,000 MW of solar utility energy, compensating for electricity shortages, the signs of development for installation of “behind the meter” renewable energy, and so on. Starting from 2018, based on the first ground-breaking MVEP 1.0, EuroCham and other chambers in VBF have worked on an updated version to reflect Vietnam’s rapidly changing energy context.

We are honoured to announce the launch of the second Made in Vietnam Energy Plan (MVEP 2.0)² in January 2020. MVEP 2.0 is an energy strategy that focuses on renewable energy, natural gas, energy efficiency and battery storage as well as grid improvements and expansion that will attract private sector investment. It aims at three primary goals: meeting growing energy demand; securing energy independence; and enabling consumer access to clean energy.

EuroCham stands by the MVEP 2, which is a clear and workable proposal for energy policy in this crucial time. Sustainability is rapidly becoming a key topic of interest and engagement of the government of Vietnam and of public opinion, and MVEP 2.0 is providing means to realise a more sustainable growth of the energy sector in terms of environmental impact but also in economic and social terms.

It is reported that air pollution is importantly impacted by the way electricity is produced by coal-fired thermal plants more than by any other source.³ While the solutions in the short term may include installing more filters in the coal fired plants to reduce emissions in the medium term it is a more economical, safe and strategically resilient solution to switch to renewable sources supplemented for the time being by gas and seriously engaging in energy efficiency. This is yet another reason to stop using coal and, especially, to stop investing in new plants,

1 “Power Development Plan 8: What is new?”, *Electricity Vietnam*, 13 November 2019. Available at <<https://www.evn.com.vn/d6/news/Xay-dung-Quy-hoach-dien-VIII-Diem-gi-moi-6-12-24600.aspx>>, last accessed on 8 December 2019.

2 At the launching event of Made in Vietnam Energy Plan 2.0 in January 2020, the Prime Minister suggested to rename the plan “Made by Vietnam Energy Plan”.

3 “Future air quality in Ha Noi and northern Vietnam”, *IASA Research Report*, October 2018. Available at <https://www.iiasa.ac.at/web/home/research/researchPrograms/air/news/Future_air_quality_in_Ha_Noi.pdf>, last accessed on 8 December 2019.

in addition to the ones mentioned in the MVEP 2.0: the cost is no longer competitive with alternative renewable sources, the fact that it is wholly imported makes it strategically vulnerable, and it can no longer be financed.

For the plan to be successful, other policy conditions need to be put in place to facilitate the way private funds reach the projects. These conditions are mainly contained in the Law on Public-Private Partnerships (PPP) being drafted and on planning which projects are feasible.

The following recommendations are also in harmony with Vietnam's commitments in the EVFTA signed in June 2019 and ratified by the European Parliament in February 2020. Regulations on the Feed-in-Tariffs (FIT) for renewable energy, as well as the mechanism for direct purchase of energy from renewable energy producers, should be introduced as fast as possible to meet market demand and grasp investment opportunities coming from European enterprises in a timely manner. The Government should also adopt a faster timeline for the implementation of the Competitive Wholesale Market (CWM), so that European suppliers can participate in the market. Furthermore, we suggest an oversight mechanism and institutional set-up in accordance with EVFTA commitments to coordinate regulations and implementation between the ministries and EU partners. EU investors will be more comfortable investing greater capital in Vietnam if the country can provide legal certainty on the various treaty rights well before the EVFTA comes into force.

I. MADE IN VIETNAM ENERGY PLAN 2.0 (MVEP 2.0)

Relevant authorities: Central Economic Commission (CEC), Ministry of Finance (MOF), Ministry of Industry and Trade (MOIT), Ministry of Planning and Investment (MPI), Office of Government (OOG),

Issue description

Global energy markets have begun to consolidate around a consensus that the costs of renewable energy and clean technologies will continue to decline rapidly and that these resources will compete with other sources of energy on the basis of cost within the next five to ten years, if not sooner. Developments in global and regional energy markets over the past two years greatly increase the probability for a 2030 energy market that is much more focused on lower-cost renewable energy and less dependent on fossil fuels leading to more diverse, secure, reliable and affordable energy systems.

The trend outside Asia has been towards increased renewable energy, a shift from coal to renewables, natural gas and battery storage. Globally, wind and solar are becoming the lower-cost alternative to coal and battery storage is becoming a competitive alternative to gas peaker plants.

- According to the International Renewable Energy Agency (IRENA), the average cost of electricity from onshore wind power has fallen dramatically from US\$ 84/MWh in 2010 to US\$ 55 in 2018.⁴ According to Bloomberg New Energy Finance's 2018 New Energy Outlook, solar and wind power prices are expected to fall by 71 per cent and 58 per cent respectively by 2050.⁵ There is no international agency or institute forecasting such a similar forecast for reductions in the price of fossil fuel-based power plants.
- Similarly, battery storage, which offers new opportunities for the maintenance of grid stability, has attracted many prominent power plant, transmission and engineering companies. According to Bloomberg New Energy Finance, the industry has seen prices declining annually by 21 per cent since 2010.⁶

Furthermore, a growing number of global corporations are directly purchasing renewable energy from independent power producers:

4 "Renewable Power Generation Costs in 2018", *International Renewable Energy Agency*. Available at < <https://www.irena.org/publications/2019/May/Renewable-power-generation-costs-in-2018>>, last accessed on 8 December 2019.

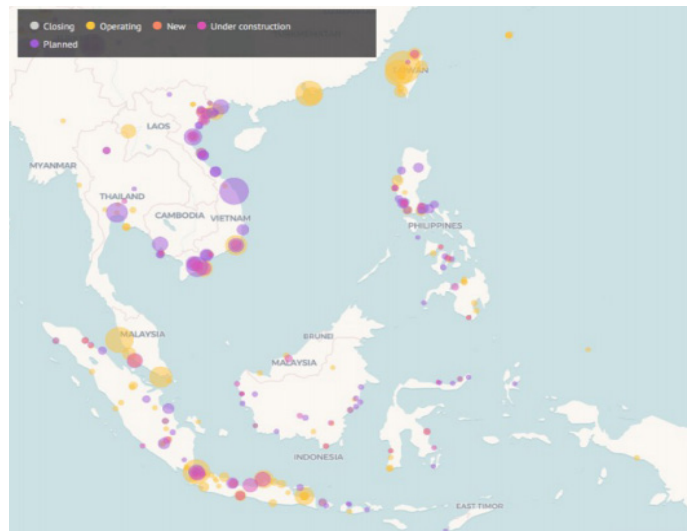
5 "New Energy Outlook 2019", *Bloomberg NEF*. Available at <<https://about.bnef.com/new-energy-outlook/>>, last accessed on 8 December 2019.

6 "A behind the scenes look into lithium-ion battery prices", *Bloomberg New Energy Finance*. Available at <<https://about.bnef.com/blog/behind-scenes-take-lithium-ion-battery-prices>>, last accessed on 8 December 2019.

- There are now 174 companies, including some of the world's best-known brands, who have signed the RE100 pledge to use 100 per cent renewable energy.⁷
- Global corporations represented in Vietnam have signaled their interest in procuring renewable energy via the proposed Direct Power Purchase Agreement (DPPA), where the power producer and power end-user can directly contract for the supply of clean energy.

Despite this global trend, Vietnam still has more coal thermal power capacity planned or under construction than any other country in Southeast Asia.⁸

Figure 3: Current, under construction and planned coal thermal power plants in Southeast Asia



Source: Carbon Brief

Potential gains/concerns for Vietnam

Vietnam's energy system is imbalanced with generation largely in the North and demand growing in the South. PDP 7 proposed constructing new coal thermal power plants in the South to resolve that imbalance.

- Relying on thermal plants poses important risks: increased costs for coal importing; less energy security due to reliance on imported coals amid increasing demand; increased infrastructure costs that require additional investment; and financing risks.
 - Vietnam's lower quality coal is inferior to thermal coal imports. Under the forecast proposed by PDP 7 (revision), Vietnam would require over 100 million tons of imported coal by 2030.⁹ Clearly, this demand cannot be met by domestic output, estimated at roughly 40 million tons per year.
 - Thermal (bituminous) coal required by power plants is sold on volatile global markets that are highly indexed to economic conditions outside Vietnam.
 - Growing imports will place pressure on Vietnam's foreign currency reserves.
 - Foreign-owned coal plants set up on Build-Operate-Transfer (BOT) basis or a Build, Own, Operate, Transfer

7 "224 RE100 companies have made a commitment to go 100% renewable. Read about the actions they are taking and why", *RE100*, 2019. Available at <<http://there100.org/companies>>, last accessed on 8 December 2019.

8 "Global coal power", *Carbon Brief*. Available at <<https://www.carbonbrief.org/mapped-worlds-coal-power-plants>>, last accessed on 8 December 2019.

9 "Coal-fired thermal power generation keeps playing a very important role", *Vietnam Electricity*. Available at <<https://en.evn.com.vn/d6/news/Ensuring-energy-security-Coal-fired-thermal-power-generation-keeps-playing-a-very-important-role-66-163-1577.aspx>>, last accessed on 8 December 2019.

(BOOT) basis, both of which may have cost recovery periods greater than 20 years,¹⁰ are especially vulnerable to changes in the cost structure of energy.

- The planned build-out of coal power plants under PDP 7 would have had significant social and environmental impacts that were not adequately considered.
- The result has been a backlog of renewable projects seeking approval alongside a coal power development strategy that has been unable to attract investment.

Despite the obvious trends in the development of renewable technologies, PDP 7 did not provide a clear pathway for the development of renewable energy sources, and only a few incentives to this growing industry. The wholesale implementation of PDP 7 would have led to a reduction in the long-term competitiveness of Vietnam's energy sector. Vietnam, and specifically the South and South-Central regions, holds tremendous promise for a solar-based energy system while the market for onshore and offshore wind projects is financially attractive. However, utility-scale solar projects are currently held back by a lack of grid infrastructure and wind projects are limited by a lack of grid capacity in certain regions.

In addition, Vietnam's electricity tariff does not recover full costs and represents a risk for the future of the electric power system. According to the World Bank, the electricity tariff in Vietnam is among the lowest in the region, even compared with the countries with low income per capita such as Cambodia, Indonesia, the Philippines, Laos and Myanmar.¹¹ Public statements of EVN and the Government indicate the need to have consumer tariff reflect the full cost. However, the details of how this will happen, and the pathway for tariff increases, remain unclear.

MVEP 2.0 proposes a diverse energy system that includes a greater focus on renewable energy, particularly in the South where new energy sources are needed. Private sector investors have shown a rapidly growing interest in renewable energy over the past three years. In order to meet the needs, MVEP 2.0 recommends that PDP 8 creates opportunities for private sector investment in grid infrastructure.

The adoption of MVEP 2.0 would result in the following major sustainable outcomes:

- Enhanced energy security from the inclusion of natural gas, energy efficacy and renewables generation within the energy system. Redundancy and diversification are key to energy system security and resilience;
- Reduced power system costs relative to a coal-focused energy plan by limiting vulnerability to volatile coal markets, avoiding the financial liabilities of stranded assets, and reducing costs associated with public health and environmental impacts;
- Increased private investment in renewable energy projects that ease the Government's power generation burden;
- A "Socialised" electricity market that protects disadvantaged households with the least capacity to pay, but which is also financially sustainable for EVN and reflects a move to market-based pricing within the term of PDP 8;
- Reduced greenhouse gas emissions and air pollution and the other costs relative to a coal-focused energy plan and alignment with Vietnam's NDC commitments; and
- Support Small and Medium-sized Enterprises (SMEs) and other private industry initiatives that reduce energy intensity, enable the use of residential rooftop solar and increase energy efficiency through public education and regulatory procedures.

Recommendations

MVEP 2.0 goals require the enacting of the following fundamental policies:

¹⁰ In practice, governments rely on the Pay Back Period (PBP) under the minimal Internal Rate of Return (IRR) as expected by the concessionaire to determine the concession period.

¹¹ "Electricity Tariff, Power Outages and Firm Performance: A Comparative Analysis", Arlet, J., 2017. Available at <<http://pubdocs.worldbank.org/en/444681490076354657/Electricity-Tariff-Power-Outages-and-Firm-Performance.pdf>>, last accessed on 8 December 2019.

- > Create a fairer allocation of risk between private sector investors and the state counter-parties/partners:
 - We kindly suggest MOIT make important improvements and amendments to the standard PPAs for wind power, biomass and waste to energy, similar to the updates on model solar PPA in July 2019;
 - Support local banks to cooperate with international banks and investors to co-invest with local developers with bankable solar projects;
- > Stimulate energy efficiency investment and distributed electricity generation by power consumers, by creating a market-based electricity pricing system under PDP 8:
 - Prioritise designing the daytime hourly tariff for Commercial and Industrial (C and I) consumers to reduce the peak demand and the peak load on the transmission system and reduce transmission losses in the draft revised Decision 28/2014/QĐ-TTg, on the structure of electricity retail tariff;
 - Create regional variation in retail tariffs to reflect the different regional prices in the wholesale electricity market;
 - Publish a roadmap to market-based electricity tariff to 2020 and 2025 for Commercial and Industrial consumers;
- > Areas of investment that can leverage the private sector need to be focused on in the development of PDP 8:
 - Upgrade and expand transmission and distribution networks;
 - Improve management of the energy system to accommodate a greater role for renewable energy and Battery Energy Storage Systems (BESS);
 - Improve energy-related data collection and distribution including solar radiation mapping, wind resource mapping, and land suitability analysis;
 - Promote policies that encourage public institutions and residential households to use biomass, solar, wind and other clean sources of power generation; and
 - Speed up decision-making and coordinate regulations to encourage the development of offshore gas, LNG, energy efficiency, and renewables.
- > We understand that MOIT has been working on a draft Circular to replace Circular 12/2017/TT-BCT on Power Operation Licensing. However, according to the draft, we understand that the threshold of 1MWp exemption for capacity plant to be implemented without a Power Operation License remains unchanged. Thus, we continue to suggest MOIT takes into account our recommendation of increasing the exemption from 1MW to 3MW to fully capture the benefits of investment in solar rooftop energy systems in the new draft Circular. We also request the urgent attention of the Ministry of Finance and the Ministry of Industry and Trade to resolve the issue and to clarify when payments/credits will be made for electricity supplied.
- > MOIT should consider facilitating the development of offshore wind power by: creating an internationally bankable PPA; synchronising Permitting, Licensing and Master Planning in a single one-stop shop; including EVN National Power Transmission Corporation (NPTC) and all stakeholders in the development of a Strategic Grid Transmission Plan; consider allowing developers to build their own 220kv and 500kv transmission lines; and define the power pricing roadmap for a FIT and transparent auction system that will be in force at least until 2025 and which can attract international investors;
- > “Behind the meter” clean energy power plants should be exempted from the need to obtain an Operating License up to 50MW capacity; not required to seek approval in the National Energy Development Masterplan; but required to give EVN reasonable notice of when the power plant is to be commissioned;
- > In solar and wind energy we believe two developments should be pursued by Vietnam: Off-shore plants and combination with battery storage. Off-shore plants not only leave the land available for other uses but avoids all the bureaucracy of assigning the land to the power plant. Battery technology can become a strategic



advantage of Vietnamese industry fostering investment and new employment and the deployment of batteries in plants gives them the continuity that otherwise renewable energy must find in being complemented by other technologies, today mostly thermal plants. Vietnam has committed to improve market access for private sector power developers and allow competitive energy markets to be established. Although there has been some progress on equitisation of the EVN GENCO companies, we recommend MOIT to soon finalise the GENCO equitisation and disposal and implement the Wholesale Energy Market in 2020; and

- › The implementation in practice of the Planning Law 2018¹² is still causing power investors great concern, as it requires a high level of integration between central, provincial and ministerial authorities for the formulation of all master plans nationwide, including the Power Development Master Plan 8 and it will still require a specific decision of the Prime Minister. In the meantime, there are some uncertainties and delays.¹³ While we acknowledge the progress achieved in this field by the law makers, it is not completed. We, therefore, request clarification of the process for approval of new grid-connected electricity generating plants in Vietnam, and recommend minimising and simplifying the licensing processes. In this regard, we welcome the Government's Resolution 68/NQ-CP dated 12 May 2020,¹⁴ tackling the red-tape-challenge in Vietnam. Following its guidelines, at least 20 per cent of regulations for businesses are expected to be cut or simplified from the present through 2025. Foreign investors operating in the renewable energy and energy efficiency fields look forward to the effective and practical implementation of these guidelines within the given timeframe.

EuroCham's Green Growth Sector Committee applauds signs of the development of a stronger relationship, through working cooperation and dialogues, with the Party's Central Economic Commission (CEC), Ministry of Industry and Trade (MOIT) and Ministry of Planning and Investment (MPI) in the development of energy policy for the private sector. We anticipate that EuroCham members' expertise in financing, energy market analysis, technology solutions, energy efficiency solutions, materials and risk mitigation will be of valuable assistance to relevant Ministries and authorities in developing a reliable and sustainable energy supply for Vietnam in the future.

ACKNOWLEDGEMENTS

EuroCham Green Growth Sector Committee

¹² Law 21/2017/QH14 of the National Assembly dated 24 November 2017 on planning, valid since 1 January 2019.

¹³ "Online conference on implementation of Planning Law", *Nhan Dan Online*, 15 July 2019. Available at < https://www.nhandan.com.vn/nation_news/item/40871902-hoi-nghi-truc-tuyen-toan-quoc-ve-thuc-hien-luat-quy-hoach.html>, last accessed on 8 December 2019.

¹⁴ Resolution 68/NQ-CP dated 12 May 2020 of the Government promulgating the Program to streamline and simplify regulations related to business activities during 2020 - 2025