

# Electricity regulation in Vietnam: overview

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## Electricity market

### 1. What is the role of the electricity market in your jurisdiction?

#### Overview

By the end of 2014, 34 gigawatts of electricity generation capacity had been put into operation in Vietnam, producing about 146 terawatt-hours (TWh) of electricity (according to a report of Vietnam Electricity (EVN) available at <http://evn.com.vn/d6/gioi-thieu-d/Bao-cao-thuong-nien-EVN-2015-2-50-16674.aspx>). On 18 March 2016, the Prime Minister issued Decision No. 428/QĐ-TTg, which provided for the revised power development plan VII (PDP VII) for the period of 2011 to 2020. It predicts an overall power demand increase by a factor of about 2.4 in the next five years or 10% to 12% per year, reaching a demand of up to 245TWh in 2020 and 559TWh by 2030.

In order to change Vietnam's agriculture-based economy to a more industrial economy, Vietnam is transforming its electricity generation mix over the next two decades. To attain this goal and to ensure energy security, it is increasing its electricity generating capacity. Vietnam plans to add substantial coal-fired capacity and also plans to build the first nuclear reactors in Southeast Asia. Under PDP VII, coal power plants will be the main contributors to the expansion of capacity, surpassing hydropower as the primary resource of electricity generation.

#### Recent trends

The role of the private sector and foreign investment in particular is increasing in the Vietnamese electricity market. Most foreign investment takes the form of build-operate-transfer projects (BOT), where a foreign investor builds a power generation project, operates it for certain period of time to gain profits, and then transfers it to the Vietnamese government. The following are examples of newly licensed BOTs:

- Phu My 3.
- Phu My 2.2.
- Mong Duong 2.
- Vinh Tan 1.

A number of BOT projects are currently being negotiated, for example:

- Van Phong 1.
- Song Hau 2.
- Long Phu 2.

The total capacity of foreign-invested power producers accounted for 2,800 megawatts in 2015 and is increasing.

## Regulatory structure

### 2. What is the regulatory framework for the electricity sector?

The electricity sector is regulated by the:

- Electricity Law of 2004 (amended in 2012).
- Guiding decrees, decisions, and circulars issued by governmental authorities (together, Electricity Laws).

The Electricity Laws formalise the shift of the electricity sector to market mechanisms and diversify forms of ownership and management over electricity generation, wholesale and retail. They also provide the conditions and requirements for operating an electricity business. Vietnam's policies are to liberalise the electricity market and encourage foreign investors to invest in the market (see *Question 24*).

#### Regulatory framework

Currently, Vietnam's electricity market is dominated by Vietnam Electricity (*Tập đoàn Điện lực Việt Nam*) (EVN). EVN (via its subsidiaries) acts a single buyer of all electricity generated from on-grid independent power projects.

Power transmission, distribution and retailing systems are also exclusively operated by EVN subsidiaries. Private companies, including foreign-invested ones, are only independent power producers that sell their generated power to EVN's wholesaling subsidiaries.

To create a more competitive electricity market, the Vietnamese government aims to divide EVN-owned power plants and generation companies to become independent generators, wholesalers, and retailers (except for power plants of economic, security or defence importance). These plants and generation companies will not be involved in electricity transmission. However, this plan has yet to be implemented. EVN and its subsidiaries remain responsible for the transmission, distribution, and sale of electricity to end-consumers.

#### Regulatory authorities

See box, *The regulatory authorities*.

## ELECTRICITY COMPANIES

### Main companies

### 3. What are the main companies involved in electricity generation, transmission, distribution and supply?

The main companies involved in electricity generation are:

- EVN and its subsidiaries.
- Independent power producers (IPPs).
- Privatised or partly privatised generation companies.
- Build-operate-transfer (BOT) projects.

The Vietnam Oil and Gas Group (*Tập đoàn Dầu khí Quốc gia Việt Nam*) (PVN) and Vietnam National Coal-Mineral Industries Holding Corporation Limited (Vinacomin) are the biggest IPPs in Vietnam. EVN, PVN and Vinacomin account for 75% of the total electricity generation capacity.

Electricity transmission is exclusively vested in the National Power Transmission Corporation (NPTC). Electricity distribution and supply is exclusively operated by five subsidiaries of EVN (that is, North Power Corporation, Central Power Corporation, South Power Corporation, Hanoi Power Corporation, and Ho Chi Minh City Power Corporation).

### Generation

Primary sources include fossil fuel, oil and water, which are put into generation power plants to generate the power. The produced power is then connected and transmitted through the National Load Dispatch Centre (NLDC) and the transmission systems (NPTC) (via 500kV, 220kV and 110kV lines) to Electricity Purchase and Trading Corporation (EPTC), which in turn sells electricity to the five power corporations (PCs) mentioned in the preceding paragraph. The PCs (or via their subsidiaries in localities) then sell electricity to end-consumers. NLDC, NPTC, EPTC, and the PCs are solely owned and controlled by EVN.

### Transmission

NPTC is responsible for managing the national power transmission grid in the country. According to EVN's 2015 Vietnam Electricity Annual Report (EVN's Report), the country's transmission grid has 19,300 km of transmission lines and 106 substations of 56,426 megavolt ampere (MVA) capacity. Total energy transmitted in 2014 reached 120 billion kWh, an increase of 9% against 2013. The national power transmission system covered 61 out of 63 provinces and cities in the country.

### Distribution

Currently, EPTC is the single buyer purchasing all generated electricity. EPTC in turn resells electricity through distribution grids to the five PCs to retail to end-consumers.

### Supply

EVN's PCs purchase electricity from EPTC then sell it to end-consumers. According to the EVN's Report, the total power volume sold in 2014 was 128,431 million kWh.

### Unbundling requirements

At present, transmission, distribution and supply is exclusively vested in EVN through its wholly owned subsidiaries.

### Foreign ownership

#### 4. Are there any restrictions concerning the foreign ownership of electricity companies or assets?

There is no restriction concerning the foreign ownership of electricity companies or assets that are involved in electricity generation in Vietnam. Currently, all foreign generation companies invest in the electricity sector in Vietnam via the form of build-operate-transfer (BOT) projects. Transmission and distribution of electricity is not yet open to foreign investors. Rather, Vietnam Electricity and its subsidiaries still play a monopolistic role in these areas.

### Import of electricity

#### 5. To what extent is electricity imported?

To ease power shortages in the north, Vietnam signed its first power import contract with China in October 2005, at a price of 4.5 US cents per kilowatt hour (kWh). The price was increased to 5.1 US

cents per kWh on 1 January 2009 then 6.08 US cents per kWh in 2012. Electricity purchased from China served 13 provinces in the northern part of Vietnam.

The volume of imported electricity from China significantly dropped in recent years, and the power purchase contract between China and Vietnam expired in 2015. However, a news article in April 2016 reported that Vietnam is continuing to purchase electricity in a low volume from China for the year 2016. Details of the power purchase for this year are not publicly available.

## ELECTRICITY GENERATION AND RENEWABLE ENERGY

### Sources of electricity generation

#### 6. What are the main sources of electricity generation?

According to the Vietnam Electricity's (EVN) report, the main sources of electricity generation in 2015 (approximately) include:

- Hydropower: more than 46% of total generation.
- Coal: more than 28.6% of total generation.
- Natural gas (including gas and oil): more than 25% of total generation.
- Other sources (including, wind power, bio energy, solar energy): 0.32% of total generation.

### Fossil fuels

Coal and natural gas rank as the second and third source of electricity generation in Vietnam, respectively. Due to Vietnam's limited domestic coal and oil resources, its fossil import will likely increase.

According to the United Nations Development Programme's 2012 Report (*Fossil Fuel Fiscal Policies and Greenhouse Gas Emissions in Vietnam*), coal is projected to cover over 56% of all electricity production capacities by 2030, and Vietnam is expected to import about 80 million tonnes of coal per year. Consumption of refined petroleum products also appears to be growing. As a result, Vietnam is likely to become a net oil importer by volume in the future.

### Nuclear fission

The two nuclear power plants in Ninh Thuan are scheduled to be built in 2020 (that is, Ninh Thuan 1 and Ninh Thuan 2).

### Renewable energy

Except for hydropower, which accounts for more than 46% of the electricity demand, other renewable sources are in a very early stage. The main renewable sources used are wind, solar and bioenergy (including biogas and biomass). According to the EVN's Report, they account for less than 0.32% of the total energy generation in the country.

#### 7. Are there any government policies, targets or incentives in place to encourage the use of renewable or low carbon energy?

### Government policies/incentives

The Vietnamese government offers various incentives to encourage the development of renewable energy. In particular, Decision No. 2068/QĐ-TTg dated 25 November 2015 (Decision 2068) provides incentives which include:

- Zero import duty for assets to form the fixed assets of a renewable energy project, and for materials and semi products which are unavailable in the domestic markets.

- Corporate income tax exemption or reduction.
- Land rental exemption or reduction.
- Government funding for research and technology of pilot projects.

However, the existing incentives seem insufficient to encourage investors to develop renewable projects in Vietnam. This may be because those incentives are targeted to benefit small hydropower projects only.

### Renewable energy targets

There are many renewable energy targets. In particular, Decision 2068 sets out the following non-binding targets:

- The ratio of renewable energy to total consumed primary energy will be 31% in 2020, 32.3% in 2030 and 44% in 2050.
- The volume of renewable energy will reach 101 billion kWh in 2020, 186 billion kWh in 2030 and 452 billion kWh in 2050.
- The ratio of renewable energy production capacity will reach 38% in 2020 and 43% in 2050.

See table, *Renewable energy sources*.

## 8. What are the main obstacles to the development of renewable energy?

The main obstacles to the development of renewable energy include:

- Lack of capital funding.
- The price offered to renewable power producers is low, while investment costs for production of renewable energy are high, which is not attractive to investors. Vietnam Electricity, the sole buyer of electricity, has no motivation to purchase the electricity from the renewable energy generators at a higher price, as it is reportedly selling the generated electricity to consumers at a loss.
- Lack of human resources specialised in renewable energy.

## 9. Are there any plans to build new nuclear power stations?

Vietnam plans to build two nuclear power stations in Ninh Thuan province. The government has adopted various policies to encourage the development of nuclear power. Specifically, nuclear power stations have been included in the national power development strategy for the period 2012 to 2020, according to which five nuclear power stations will be put into operation from 2020 to 2030. A plan for a comprehensive development of infrastructure facilities for nuclear power until 2020 and a plan for the training of staff to serve the development of nuclear power have also been approved.

However, due to the Fukushima disaster in 2011, the commencement of the building of the nuclear power stations in Ninh Thuan province have been postponed until 2020 for safety reasons. Construction was initially intended to begin in 2014. The plans are projected to begin generation in 2028.

### Authorisation and operating requirements

## 10. What are the authorisation requirements to construct electricity generation plants?

Depending on the scale of the plant, an electricity generation licence from the Ministry of Industry and Trade (MOIT) or the

Electricity Regulatory Authority of Vietnam (ERAV) or relevant provincial People's Committee (where the plant is located) must be obtained.

Under the Electricity Laws, an investor who wishes to obtain an electricity generation licence must satisfy the following general conditions:

- Being an enterprise established and operating in accordance with the Law on Enterprises of 2014. If the enterprise is a foreign investor, it must also obtain an Investment Registration Certificate in accordance with the Law on Investment of 2014.
- Fulfilling other conditions provided for in *Question 12*.
- Having paid fees for the licence fee.

## 11. Are there any requirements to ensure new power stations are ready for carbon capture and storage (CCS) technology, or requiring a plant to retrofit CCS technology once this is ready?

No specific plan for the use of CCS has been formulated so far. In fact, the use of CCS is still being researched in Vietnam.

## 12. What are the authorisation and main ongoing requirements to operate electricity generation plants?

An investor who owns a power plant must satisfy the following key conditions:

- Having an investment project for construction of a power plant that conforms to the approved plan (currently, PDP VII) on the development of electricity in the country.
- Having the necessary technological equipment, facilities servicing the operation, workshops and architectural buildings whose technical design has been approved, and which have been constructed, installed, and verified in accordance with the applicable statutory requirements.
- Having the necessary IT infrastructure and a system on operating, supervising and collating data appropriate for the requirements of the power system and power market.
- Having an environmental impact assessment report for the electricity generation project which has been approved by the competent governmental authority.
- The power plant must have a system on fire fighting and prevention which has been checked and accepted.
- The person or persons directly managing technical aspects and operation must have a university degree or higher in the power sector or equivalent technical sector, and must have worked in the electricity generation sector for at least five years. The person(s) directly in charge of the operation must have been trained for his/her particular job, for safety requirements, and have been issued a certificate for operation of a power plant.

## 13. What requirements are there concerning connection of generation to the transmission grid?

In order to be connected to the transmission grid, a power plant must satisfy technical and safety requirements provided by law. In addition, it must sign an agreement with the National Power Transmission Corporation (NPTC), which runs the national transmission grid.

## ELECTRICITY TRANSMISSION

### *Authorisation and operating requirements*

#### 14. What are the authorisation requirements to construct electricity transmission networks?

A licence to construct electricity transmission networks from the Ministry of Industry and Trade (MOIT) must be obtained. In addition to satisfying the requirements mentioned in *Question 10* (for the issuance of electricity general licences), the applicant must also satisfy the technical and personnel conditions required by the Electricity Laws (see *Question 12*). There is no specific legal requirement as to a notification to the MOIT before operating the electricity transmission network. However, before a network can be connected to the national grid, the electricity regulators will check if the network satisfies the technical and personnel conditions.

#### 15. What are the authorisation and main ongoing requirements to operate electricity transmission networks?

See *Question 14*.

### *Transmission charges*

#### 16. How are the charges and conditions for the transmission of electricity regulated?

In Vietnam, the charges for the transmission of electricity are regulated by the Vietnamese government. The annual average transmission price is determined based on the National Power Transmission Corporation's (NPTC) total transmission revenue and the total electricity NPTC allocates to units at the delivery points.

The current transmission price is VND86.4/kWh (about 0.38 US cents) and is exclusive of value added tax of 10% (*Official Letter No. 2103/BCT-DTDL of the Ministry of Industry and Trade, dated 12 March 2015*).

## ELECTRICITY DISTRIBUTION

### *Authorisation and operating requirements*

#### 17. What are the authorisation requirements to construct electricity distribution systems?

An electricity distribution licence from the Electricity Regulatory Authority of Vietnam (ERAV) or provincial People's Committee must be obtained. In addition to satisfying the requirements mentioned in *Question 10* (for the issuance of electricity general licences), the applicant must also satisfy the technical and personnel conditions as required by the Electricity Laws (see *Question 12*).

#### 18. What are the authorisation and the main ongoing requirements to operate electricity distribution systems?

See *Question 17*.

### *Distribution charges*

#### 19. How are the charges and conditions for the distribution of electricity regulated?

The charges and conditions for the distribution of electricity are highly regulated by the Vietnamese government. Power generators

and the purchaser may agree upon the electricity generation prices and electricity wholesale prices. However, the agreed-upon prices must be within the brackets of electricity generation prices or electricity wholesale prices issued by the Minister of the Ministry of Industry and Trade.

Electricity retailers are required to formulate electricity selling prices on the basis of the brackets of average electricity retail prices, the mechanism of price adjustment, and the structure of the electricity retail price list as provided by the Prime Minister.

## ELECTRICITY SUPPLY

### *Authorisation and operating requirements*

#### 20. What are the authorisation and the main ongoing requirements to supply electricity to end-consumers?

An electricity retail sale licence from the Electricity Regulatory Authority of Vietnam or the provincial People's Committee must be obtained. In addition to satisfying the requirements mentioned in *Question 10* (for the issuance of electricity general licences), the applicant must also satisfy the technical and personnel conditions as required by the Electricity Laws (for example, the technological infrastructure must meet the market requirements (which are not detailed) and so on). For full details of the requirements, see *Question 12*.

### *Trading between generators and suppliers*

#### 21. How is electricity trading (between generators and suppliers) regulated?

In Vietnam, the Electricity Purchase and Trading Corporation (EPTC) under Vietnam Electricity negotiates and enters into power purchase agreements with all generators. EPTC then sells the electricity to the five power corporations for sale to end-consumers.

### *Electricity price and conditions of sale*

#### 22. How is the price for electricity and conditions of sale regulated at the consumer and wholesale level?

### **Consumer**

The price for electricity at the consumer level is regulated by the Vietnamese government. Periodically the Ministry of Industry and Trade (MOIT) promulgates the retail price of electricity to groups of electricity users and the electricity price for retailers. Currently, the average retail price is VND1,622.01/kWh (approx. 7.2 US cents) (exclusive of VAT).

### **Wholesale**

Wholesale prices are offered by the five power corporations to retailers in provinces and cities to sell to end-consumers. However, the prices must be within the price brackets approved by either the Prime Minister (for remote areas) or by the MOIT.

## TAX ISSUES

#### 23. What are the main tax issues arising on electricity generation, distribution, transmission and supply?

The primary taxes imposed on electricity include:

- Value added tax (VAT) of 10%.
- Corporate income tax of 20%.
- Environmental tax (depending on the sources of power such as coal or hydropower).

VAT is applied to end-consumers.

## REFORM

### 24. What reform proposals are there for the regulation of the electricity sector?

#### Steps to formulate a competitive market

The Vietnam electricity generation market was only formed in 2006 with eight participating power plants. The Vietnamese government has taken certain steps to develop a more competitive market. According to the roadmap provided under Decision No. 63/2013/QĐ-TTg of the Prime Minister dated 8 November 2013, the Vietnam electricity market will be liberalised following the grades as follows:

- **Grade 1: Competitive power generation market.** This stage has been put into operation. Within 2016 the total of electricity companies which directly offer the electricity selling price will aim to increase to 79 companies from 32 companies in 2012.
- **Grade 2: Competitive power wholesale market.** This will be developed from 2015 to 2017 (currently, the Ministry of Industry and Trade (MOIT) is formulating the legal framework for the operation of this market).
- **Grade 3: Competitive retail market.** This will be developed from 2021 until 2023.

#### Gradual increase of the power price

The power retail price in Vietnam has gradually increased in the past ten years, (from VND 781/kWh (about 3.5 US cents) in 2005 to VND 1,622/ kWh (about 7.3 US cents) in 2015). This slow increase of power retail price is one of the reasons that discourages investors from pooling their capital into the sector. However, the power price is planned to increase from 2016 according to the power increase schedule of the Vietnamese government, which aims to ensure capital recovery and reasonable profits for investors. Accordingly, the power retail price may increase to 8 or 9 US cents/kWh by 2020, equivalent to an increase by 18.4% within the next five years.

#### Privatisation of power plants

To mobilise funds, the Vietnamese government has adopted a programme to restructure the power sector. The programme includes the privatisation of Vietnam Electricity's (EVN) main generating facilities and distribution subsidiaries. In fact, EVN has completed privatising several power plants and a distribution company.

According to the plans mentioned in official letter No. 7738/VPCP-DMDN of the Government's Office dated 10 March 2014, EVN's three generation companies will be privatised in 2017 (that is, EVN Genco 1, EVN Genco 2, and EVN Genco 3). Decision 85/QĐ-TTg dated 19 January 2015 of the Prime Minister also sets a plan to privatise Vinacomin Power Holding Corporation. As a result, EVN will own strategic power plants and projects serving several purposes such as flood control or irrigation only.

[Insert box]

## THE REGULATORY AUTHORITIES

### Ministry of Industry and Trade (MOIT)

**Address** 54 Hai Ba Trung Street, Hoan Kiem District, Hanoi, Vietnam T (84) 4. 22 202 222 F (84) 4. 38 264 696; (84) 4. 22 202 525 E  
**moit@gov.vn** **W** [www.moit.gov.vn](http://www.moit.gov.vn)

**Main responsibilities.** The MOIT:

- Prepares the national electricity development plans and submits them to the Prime Minister for approval.
- Publicises, guides, and monitors the implementation of the approved plans.
- Co-ordinates with the Ministry of Finance to prepare the relevant price brackets and adjustments, and submits the same to the Prime Minister for decision.
- Issues relevant licences.

### Electricity Regulatory Authority of Vietnam (ERAV)

**Address** D10 Khuat Duy Tien Street, Thanh Xuan District, Hanoi, Vietnam T (84) 4. 22 147 474 F (84) 4. 35 543 008 **W**  
<http://www.erav.vn> E [DTD@moit.gov.vn](mailto:DTD@moit.gov.vn)

**Main responsibilities.** ERAV is a sub-unit within the MOIT. ERAV:

- Formulates and regulates the electricity market.
- Regulates electricity prices.
- Supervises the balance between supply and demand in electricity.
- Issues relevant licences.
- Inspects the electricity business.

### General Directorate of Energy (GDE)

**Address** 23 Ngo Quyen Street, Hoan Kiem District, Hanoi, Vietnam T (84) 4. 62 786 184 F (84) 4. 62 786 185 **W** <http://tcnl.gov.vn/> E  
[HaiTTH@moit.gov.vn](mailto:HaiTTH@moit.gov.vn)

**Main responsibilities.** The General Directorate of Energy (GDE) is a sub-unit within the MOIT. It advises and assists the Minister of the MOIT in managing the energy industry (which includes electricity, nuclear power, petroleum, coal, new energy, renewable energy, energy saving) in the country. In particular, GDE prepares legislation on the energy industry for the MOIT or another state agency to issue; formulates master plans on the energy industry, national programmes, action programmes, important projects of national defence in the energy industry, and prepares national technical regulations and national standards in the energy industry.

## ONLINE RESOURCES

**W** <http://congbao.chinhphu.vn/>

**Description.** An official website managed by the Government Office. It publishes the electronic "CONG BAO" (*Official Gazette*) of the Socialist Republic of Vietnam on the government e-portal.

**W** [www.moj.gov.vn/vbpq/en/pages/vbpq.aspx](http://www.moj.gov.vn/vbpq/en/pages/vbpq.aspx)

**Description.** This is a free legal database maintained by Vietnam's Ministry of Justice. The translated legislation in this website is for reference only.

## Practical Law Contributor profiles



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**Professional qualifications.** Vietnam, Solicitor, 2011

**Areas of practice.** Banking and finance; commercial transactions and M&A; corporate services; antitrust and competition; government relations; property.

**Non-professional qualifications.** Doctor of Judicial Science, Meiji Gakuin University; LLM, Nagoya University; LLB, Hanoi Law University

#### Recent transactions

- Acting for Shell in relation to a contamination and clean-up issue.
- Advising on greenhouse gas emission targets and carbon trading.

**Languages.** Vietnamese, English, Japanese

**Professional associations/memberships.** Arbitrator with Vietnam International Arbitration Centre; Lecturer at Judicial Academy of Vietnam under the Ministry of Justice

#### Publications.

- *PLC Multi-Jurisdictional Guide to Corporate Real Estate 2013/14 – Vietnam chapter.*
- *Multilaw Enforcement of Foreign Judgments Project – Vietnam chapter.*
- *"Tricks of the Trade: A Guide for M&A in Vietnam" – Asian-MENA Counsel.*