

## Viet Nam Energy Partnership Group

### TECHNICAL WORKING GROUP 3: ENERGY SECTOR REFORM

### REPORT OF THE 5<sup>TH</sup> MEETING

**Date:** 09 September 2020  
**Location:** Room 501, 5<sup>th</sup> Floor, D10 Khuat Duy Tien, Ha Noi  
**Time:** 10:00 – 12:00

**Key agenda points:**

1. Update on the **wholesale electricity market** and discussion of what's next in Viet Nam's competitive market development
2. Update on **DPPA pilot program development and approval progress**
3. **Stakeholder priorities** in energy sector reform

**Chair and Co-Chair:**

- **Mr. Pham Quang Huy**, Deputy Director General of ERAV, Ministry of Industry and Trade (MOIT)
- **Mr. Rahul Kitchlu**, Energy Sector Coordinator, World Bank Vietnam

**Agreed Conclusions and Actions:** (See next page)

**Agenda:** See Annex 1  
**Participants:** See Annex 2  
**Minutes:** See Annex 3  
**Inputs:** See Annex 4

## AGREED CONCLUSIONS AND ACTIONS:

Conclusion / Decision	Action
<ul style="list-style-type: none"> <li>• <u>Ms. Amber Sharick, the International Coordinator and Technical Advisor of the VEPG Secretariat</u> reported on the previous VEPG's activities as well as the planning for the VEPG until the end of 2020.</li> <li>• <u>Ms. Amber Sharick</u> also informed the members of the TWG that after discussions with stakeholders, it was decided that the High-level Meeting in 2020 will not take place. The VEPG Secretariat will use the budget and resources to support other high-level, content-based interventions including to support MoIT during the ASEAN Ministers on Energy Meeting 38 and planned VEPG cross-cutting networking events. The VEPG will also conduct the annual partners' project survey before the end of 2020 and will reach out to all partners for their inputs.</li> </ul>	VEPG Secretariat
<ul style="list-style-type: none"> <li>• NLDC gave an overview on the legal and regulatory framework for Viet Nam Wholesale Electricity Market and the operational results of the first 6 months with improvement on the capabilities of PCs and market participants and better demand forecast.</li> <li>• ERAV presented to the electricity market development in Viet Nam, specifically the electricity law and the development roadmap with 3 stages: Vietnam Competitive Generation Market (completed); Viet Nam Wholesale Electricity Market (current) and Vietnam Retail Electricity Market. The outlook of the Viet Nam Retail Electricity Market.</li> <li>• The TWG underlined the importance of power sector reform as the heart of the sector which cannot be achieved without participation of the stakeholders through a central platform.</li> <li>• With the support from World Bank, the pilot auctioning will start in the next months. The learning experience from this process will be merged in the market development for solar and wind. The development of regulation, contract and framework will take place step by step.</li> </ul>	Chair and Co-chair of TWG TWG 3 members
<ul style="list-style-type: none"> <li>• The pilot DPPA programme is currently at the Legal Approval State The Programme is anticipating a Q2/Q3/2021 kick off.</li> <li>• ERAV is proposing to have official comments from other ministries. The Pilot DPPA is anticipated to be approved in October.</li> </ul>	Chair and Co-chair of TWG TWG 3 members

## ANNEX 1 – Agenda

### 10.00-10.05 Log-In & Guidance for Webinar Users

### 10.00-10.15 Opening, Introduction & Secretariat Report

- *Mr. Phạm Quang Huy, Mr. Rahul Kitchlu*  
**Opening and introduction to the agenda**
- *Ms. Amber Sharick, International Coordinator, VEPG Secretariat*  
**Report of the VEPG Secretariat**

### 10.15-11.00 Competitive Power Markets

- **Update on the performance of the Wholesale Electricity Market (WEM) and outlook on the Retail Electricity Market (REM).**  
15-minute presentation by a representative of NLDC
- **Roundtable discussion**  
facilitated by chair and co-chair on topics (not limited to):
  - **Key lessons learned and next steps for VWEM**
  - **Pathways for development of the REM**

### 11.00-11.30 Direct Power Purchase Agreements

- **Updated progress of the DPPA pilot program development and approval**  
15-minute presentation by a representative of V-LEEP/USAID
- **Roundtable discussion** facilitated by chair and co-chair on topics (not limited to):
  - **Approval process and implementation timeline**
  - **Integration of long-term contracts within the competitive market**

### 11.30-11.50 Challenges, Opportunities & Next Steps

**Stakeholder discussion near-term and long-term priorities including policy recommendations and potential assistance/cooperation opportunities**

### 11.50-12.00 Wrap-up and Closing Remarks

*Mr. Phạm Quang Huy, Mr. Rahul Kitchlu*

## ANNEX 2 - Participants

### Co-Chairs

- **Mr. Pham Quang Huy**, Deputy Director General of Electricity and Renewable Energy Authority of Viet Nam (ERAV), Ministry of Industry and Trade (MOIT)
- **Mr. Rahul Kitchlu**, Energy Sector Coordinator, World Bank Vietnam

### Participants

- **Mr. Lê Anh Đức**, ERAV/MOIT
- **Mr. Nguyễn Thái Minh**, National Load Dispatch Center (NLDC)
- **Mr. Nguyễn Văn Quang**, National Load Dispatch Center (NLDC)
- **Ms. Trần Thùy Dương**, Delegation of the European Union to Viet Nam (EUD)
- **Ms. Laura Lindoro**, Delegation of the European Union to Viet Nam (EUD)
- **Mr. Phạm Quang Anh**, GIZ
- **Mr. Markus Bissel**, GIZ
- **Mr. Till Bermeier**, GIZ
- **Mr. Dương Mạnh Cường**, GIZ
- **Mr. Trần Tiến Hòa**, GIZ
- **Ms. Anita Demuth**, GIZ
- **Mr. Sven Enerdal**, GIZ
- **Ms. Hoàng Lan Hương**, GIZ
- **Mr. Arne-Kjetil Lian**, Norway
- **Ms. Trần Hải Anh**, Norway
- **Mr. Bùi thành Trung**, Japan International Cooperation Agency (JICA)
- **Mr. Hà Đăng Sơn**, USAID/ Viet Nam Low Emission Energy Programme (V-LEEP)
- **Mr. Ananth Chikkatur**, USAID/V-LEEP
- **Mr. Gary Zieff**, USAID/V-LEEP
- **Mr. Nguyễn Hải Đức**, USAID/V-LEEP
- **Ms. Lê Thị Ngọc Bích**, UK
- **Ms. Vương Khánh An**, UK
- **Ms. Nguyễn Phương Nam**, UK
- **Ms. Đỗ Thị Bích Ngọc**, UK
- **Ms. Gabriel Cunta**, Spain
- **Mr. Luiz Barroso**, World Bank
- **Mr. Chu Bá Thi**, World Bank
- **Ms. Ngô Tố Nhiên**, Viet Nam Initiative for Energy Transition Social Enterprise (VIET SE)
- **Ms. Trương Hà Anh**, VIET SE
- **Ms. Hoàng Hà Quỳnh Giao**, VMW
- **Mr. Nguyễn Quốc Khánh**, Independent Consultant

### VEPG Secretariat

- **Ms. Amber Sharick**, VEPG Secretariat
- **Ms. Nguyễn Phương Thảo**, VEPG Secretariat
- **Mr. Đỗ Quang Nhật**, VEPG Secretariat

## ANNEX 3 - SUMMARY MINUTES

Agenda item	Summary
<b>Opening remarks, overview of the agenda</b>	<ul style="list-style-type: none"> <li>• <u>The VEPG Secretariat</u> introduced housekeeping rules for online participants.</li> <li>• <u>Mr. Le Anh Duc, ERAV/MOIT</u> opened the meeting and welcomed online and in-person participants on the behalf of <u>Mr. Pham Quang Huy, ERAV, Chair of TWG on Energy Sector Reform (ESR)</u>. He thanked the Secretariat of the VEPG for their effort in organizing the meeting despite the long delay due to the on-going COVID-19 Pandemic.</li> <li>• <u>Mr. Rahul Kitchlu, World Bank/Co-chair of TWG</u> underlined the importance of the sector reform as the heart of energy sector engagement in Viet Nam. This topic while viewed as very technical, and therefore only inviting to a limited group of informed stakeholders, is critical for all aspects of planning and development in the sector. The Electricity Regulatory Authority of Viet Nam (ERAV) taking the lead with the support from Development Partners through the TWG 3 will contribute enormously to the market transformation from State monopoly to the commercial competitive energy market in the future.</li> <li>• <u>The Chair and Co-chair</u> introduced Ms. Amber Sharick as the new VEPG International Coordinator.</li> </ul>
<b>Competitive Power Markets</b>	<ul style="list-style-type: none"> <li>• <u>Mr. Nguyễn Thái Minh, National Load Dispatch Center (NLDC)</u> delivered updates on the performance of the Wholesale Electricity Market (Annex 4). The presentation gave an overview on the legal and regulatory framework for Viet Nam Wholesale Electricity Market and the operational results of the first 6 months with improvement on the capabilities of PCs and market participants and better demand forecast.</li> <li>• <u>Representative from ERAV</u> delivered a presentation on the power market development and outlook on the Retail Electricity Market (Annex4). The presentation referred to the electricity development policy, specifically the electricity law and the development roadmap with 3 stages: Vietnam Competitive Generation Market (completed); Viet Nam Wholesale Electricity Market (current) and Vietnam Retail Electricity Market. The outlook of the Viet Nam Retail Electricity Market was also discussed.</li> </ul> <p>The TWG 3 members reflected and discussed the presentations as follows:</p> <ul style="list-style-type: none"> <li>• <u>Mr. Rahul Kitchlu, Co-chair of the TWG</u> underlined the importance of power sector reform as the heart of the sector which cannot be achieved without participation of the stakeholders through a central platform.</li> </ul> <p>On the policy and vision, he indicated a clear direction towards the market policy review with the revision of electricity law and market design based on the reality.</p> <p>He mentioned about the challenges ERAV are facing in moving from a long-term PPA to completely market-based trading and developing an auctioning mechanism. The establishment of a functional platform for energy reform is important.</p>

	<p>Regarding the separation of the NLDC from EVN, he highlighted the need for upgrading the forecasting system and grid absorption ability as well as policy readiness.</p> <ul style="list-style-type: none"> <li>The participants expressed their concerns about opportunities for foreign investment while the future of the support mechanism, be it the continuation of FiT for solar and wind or the auctioning mechanism, is not clear yet.</li> <li><u>The Chair</u> shared that making secure conditions for foreign investors and ensuring to meet the energy demand of the system remain a question. From regulators point of view, ERAV is responsible to open the mechanism to buy electricity at a reasonable price to meet the demand of customers. ERAV's mission is working towards establishing a transparent and fair market system. To this end, the spot market will gradually opened to attract investors.</li> </ul> <p>Solar and Wind FiT remains applicable but will be for a short-term incentive for investor. For long term, he underlined the need for a mechanism and referenced CfD contracts. The Power Development Plan (PDP8) will open up a new mechanism for auctioning.</p> <ul style="list-style-type: none"> <li><u>Mr. Rahul Kitchlu, the Co-chair of the TWG</u> added that with the support from World Bank, the pilot auctioning will start in the next months. The learning experience from this process will be merged in the market development for solar and wind. The development of the framework, for contracts and regulation, will take place step by step.</li> </ul>
<b>Direct Power Purchase Agreements</b>	<p><u>Mr. Gary Zieff, V-LEAP/USAID</u> presented on the updated progress of the DPPA pilot program development. The pilot DPPA programme is currently at the Legal Approval State and invitation to participate. The Programme is anticipating a Q2/Q3/2021 kick off.</p> <p><u>The Chair of the TWG</u> added on the presentation that ERAV is proposing to have official comments from other ministries. The DPPA is anticipated to be signed in October in case MOIT gets PM's approval on the implementation's policy.</p> <p>The TWG 3 members reflected and discussed the presentations.</p> <p>Currently, there is no list of potential consumers who will participate in the pilot as the pilot has not been launched. However, all consumers are welcome to participate through the applicant selection process.</p>
<b>Report of the VEPG Secretariat</b>	<p><u>Ms. Amber Sharick, the International Coordinator and Technical Advisor of the VEPG Secretariat</u> reported on VEPG activities as well as the planning for the VEPG until the end of 2020.</p>
<b>Conclusions, agreements, closing remarks</b>	<ul style="list-style-type: none"> <li><u>The Chair</u> closed the meeting of the TWG. The chair acknowledged that the Technical Working Group had supported key activities including the operation of the Viet Nam competitive electricity market with the Decision 2093/QĐ-BCT on the operation of the Viet Nam Retail Electricity Market and upcoming pilot DPPA program. The Chair also expressed appreciation for the strong technical assistance and support to ERAV in the development of the Viet Nam Wholesale Electricity Market and other processes necessary for Viet Nam's competitive electricity market. The Chair thanked all of the</li> </ul>

	<p>participants online and in-person for their active participations in the meeting.</p> <ul style="list-style-type: none"><li>• <u>The Co-chair</u> thanked all of the participants in person and online for their active participation in the meeting.</li></ul>
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## **ANNEX 4 – PRESENTATIONS**



## Viet Nam Energy Partnership Group Technical Working Group 3 – Energy Sector Reform

5<sup>th</sup> Meeting – 9 September 2020  
Ministry of Industry and Trade, Ha Noi

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### Topic 1. Opening Remarks and Overview of the Agenda

#### **TWG 3 Chair:**

*Mr. Phạm Quang Huy, Deputy Director General, Electricity Regulatory Authority of Viet Nam, Ministry of Industry and Trade*

#### **TWG 3 Co-Chair:**

*Mr. Rahul Kitchlu, Energy Sector Coordinator, World Bank Viet Nam*

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## Key Objectives of the Meeting

- Update on the **wholesale electricity market** and discussion of what’s next in Viet Nam’s competitive market development
- Update on **DPPA pilot program development and approval progress**
- **Stakeholder priorities** in energy sector reform

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## Agenda

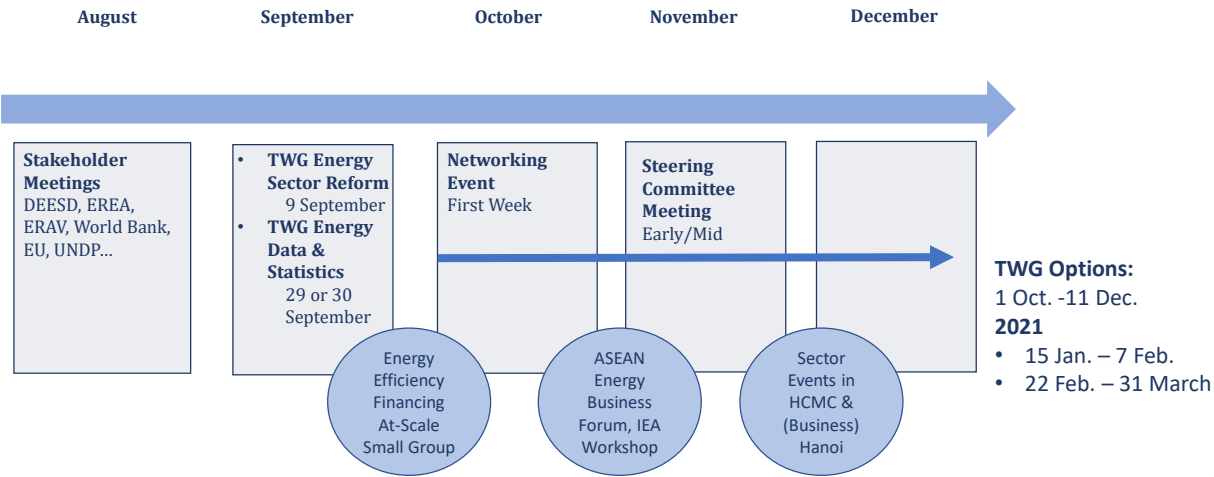
Time	Subject
10.00-10.15	<b>1. Opening remarks &amp; overview of the agenda</b> Mr. Phạm Quang Huy / Mr. Rahul Kitchlu <b>2. Report of the VEPG Secretariat</b> Ms. Amber Sharick
10.15-11.00	<b>3. Competitive Power Markets</b> <ul style="list-style-type: none"><li>• <u>EVN/NLDC</u>: Update on the performance of the Wholesale Electricity Market and outlook on the Retail Electricity Market.</li><li>• <u>Roundtable Discussion</u></li></ul>
11.00-11.30	<b>4. Direct Power Purchase Agreements</b> <ul style="list-style-type: none"><li>• <u>V-LEEP/USAID</u>: Updated progress of the DPPA pilot program development and approval</li><li>• <u>Roundtable Discussion</u></li></ul>
11.30-11.50	<b>5. Challenges, Opportunities &amp; Next Steps</b> <u>Roundtable Discussion</u>
11.50-12.00	<b>6. Conclusions and closing remarks</b> Mr. Phạm Quang Huy / Mr. Rahul Kitchlu

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## Topic 2. VEPG Secretariat Report

**VEPG Secretariat:**  
*Ms. Amber Sharick, International Coordinator*

## VEPG – Timeline through 2020













## High-Level Meeting 2021 – AUGUST



For the rest of 2020 and early 2021, the VEPG Secretariat team will focus on leveraging time and resources to support high-level, content-driven interactions.

The August 2021 High-Level Meeting will be the last before the end of this funding cycle.

## TWG’s 5<sup>th</sup> Round of Meetings – Overview

TWG	5th Meeting	Key Topics/Highlights
<b>TWG 1 RE</b> 	 18 June 2020	<ul style="list-style-type: none"><li>Stakeholder Comments on Draft MOIT Circular on the Project Development and Standardized Power Purchasing Agreement for Solar Power Project incorporated</li><li>Solar Power Auctioning Options developed by GoVN, WB, ADB to be submitted to Deputy Prime Minister</li></ul>
<b>TWG 2 EE</b> 	 24 June 2020	<ul style="list-style-type: none"><li>Updates on implementation of VNEEP3 / National EE Action Plan (NEEAP)</li><li>Focus topic: Exploring the concept of an Energy Efficiency Foundation in Viet Nam</li></ul>
<b>TWG 3 ESR</b> 	 09 Sep. 2020	<ul style="list-style-type: none"><li>Report on <b>Wholesale Electricity Market</b> operation and perspective on developing the Retail Market</li><li>Update on <b>DirectPPA</b> pilot</li><li>Discussion including <b>technical assistance</b> needs, opportunities, challenges &amp; next steps</li></ul>
<b>TWG 4 EA</b> 	 30 June 2020	<ul style="list-style-type: none"><li>Update on Target Programme for Rural Electrification</li><li>Focus Topic Bioenergy for Rural Areas – Agri-Food processing and Waste Management</li></ul>
<b>TWG 5 D&amp;S</b> 	 Sep. 2020	<ul style="list-style-type: none"><li>Focus Topic: the Power Development Plan VIII (<b>PDP 8</b>)</li><li>Focus Topic: Viet Nam Energy Information Systems (VEIS) and Viet Nam Energy Information Centre (VEIC)</li></ul>

# VEPG Partner Support – Development Partners Project Survey



MAPPING OF CURRENT DONOR AND INTERNATIONAL EFFORT IN VIETNAM ENERGY SECTOR

Donor/Agency	Project name	Description/Description of interventions	Type of support	Time frame	Implementing agency	RE	EE	EMR	EA	EDS
ADB	Power Transmission Investment Program- Tranche 1	Australia and the UK are providing funds to a World Bank led project, the Vietnam Climate Innovation Center (VICIC). The project supports entrepreneurs/ SMEs in developing and commercializing innovative solutions in green economic sectors such as energy e	Loan (sovereign)	2011-2017	National Power Transmission Corporation (NPT)				x	
ADB	Power Transmission Investment Program- Tranche 2	The second tranche of the multi-tranche loan facility will finance the expansion of the transmission network, improve the operational effectiveness and efficiency of the National Power Transmission Corporation, and project implementation support.	Loan (sovereign)	2012-2017					x	
ADB	Power Transmission Investment Program- Tranche 3	The Asian Development Bank is working with Viet Nam to improve the transmission network to balance power loads in northern, central, and southern Viet Nam. The project is upgrading 500 kilovolt and 220 kilovolt transmission lines and improving the operational effectiveness and efficiency of the National Power Transmission Corporation.	Loan (sovereign)	2015-2020					x	
ADB	Ha Noi and Ho Chi Minh City Power Transmission Development Sector project	The project's indicative outputs are (i) strengthened institutional capacities of HNPIC and HCMPIC; and (ii) the development and rehabilitation of 220 kV and 110 kV transmission lines and substations of Ha Noi and Ho Chi Minh City. It is co-financed by ADB with Asian Infrastructure Fund (AIF) and US\$100 million from Vietnam Government.	Loan (sovereign)	2014-2018	Hanoi and HCMC Power Corporations				x	
ADB	Renewable Energy Development Network Expansion and Rehabilitation for Remote Communes Sector	The primary objective of the sector Project is to develop rural electrification and renewable energy in Viet Nam to benefit ethnic minority communities inhabiting remote and poorer parts of the country. The Project consists of two investment components: (i) development of mini-hydroelectric plants in mountain provinces, and (ii) network expansion and rehabilitation of distribution networks serving poor provinces. The Project will include an associated technical assistance (TA) grant for capacity building for renewable energy development.	Loan (sovereign)	2009-2017	NPC, CPC, SPC				x	
ADB	Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector Additional Financing		Grant	2015-2017		x				
ADB	Capacity Building of Renewable Energy Development		TA	2009-2017		x				
ADB	Establishing the Wholesale Electricity Market	The impact of the TA is that national electricity growths are met sustainably through deregulation. The activities of the TA include (i) Basic and advanced trainings on generic wholesale market mechanisms; (ii) Recommendation on new functions and critical requirements of Power Corporations and NLDC (SMO) for the WEM; (iii) Review the current ICT infrastructure of Power Corporation and NLDC (SMO); and recommendation for upgrading ICT infrastructure for the WEM.	TA	2015-2018	ERAU			x		
ADB	Rural Electrification	The project preparatory technical assistance (PPTA) will conduct a feasibility study for the Asian Development Bank (ADB)'s supported Rural Electrification (RE) Project in Viet Nam, which should include: (i) rationalization of the rural electrification project; (ii) assessments of the project's costs prepared by the government; (iii) full feasibility study for the selected project sites; and (iv) preparation of all project documents required by ADB for the investment of the project.	TA	2015-2018	MOIT and EVN				x	

- Overview of VEPG partner projects in the energy sector (<http://vepg.vn/resources/vepg-documents/>)
- 80 partner projects with key information included
- New survey update expected by December 2020

Viet Nam Energy Partnership Group

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## VEPG Legal Database

Steering Committee May 2021: Where should this database live long-term?

### RECENT LEGAL DOCUMENTS

**MOIT Circular 05/2019/TT-BCT**  
amending Circular 16/2017/TT-BCT on  
Standardized PPA for Solar Power  
projects

- **Effective date:** 25/04/2019  
- **Legislation type:** Circular  
- **Signer:** MOIT Minister Trần Tuấn Anh

[DOWNLOAD FOR DETAILS >](#)

**EVN Guidelines 1532/EVN-KD** for the  
Implementation of Rooftop Solar  
Projects

- **Effective date:** 27/03/2019  
- **Legislation type:** Guidelines  
- **Signer:** Vice President of EVN Võ Quang Lâm

[DOWNLOAD FOR DETAILS >](#)

**DRAFT Decision on the Mechanisms**  
to Promote Development of Solar  
Power Projects in Viet Nam

- **Effective date:** 15/04/2019  
- **Legislation type:** Decision

[DOWNLOAD FOR DETAILS >](#)

**MOIT Decision 648/QĐ-BCT** on  
Adjustment of Average Electricity  
Retail Price and Regulations on  
Electricity Price

- **Effective date:** 20/03/2019  
- **Legislation type:** Decision  
- **Signer:** MOIT Minister Trần Tuấn Anh

[DOWNLOAD FOR DETAILS >](#)

**Consultation on Draft Decision on the**  
new Solar FIT

- **Effective date:** 15/04/2019

[DOWNLOAD FOR DETAILS >](#)

**PM Decision 280/QĐ-TTg** on the  
Approval of the National Energy  
Efficiency Programme (VNEEP) for the  
period of 2019 -2030

- **Effective date:** 13/03/2019  
- **Legislation type:** Decision  
- **Signer:** Deputy Prime Minister Trinh Đình Dũng

[DOWNLOAD FOR DETAILS >](#)

- online and regularly updated
- legal documents in original Vietnamese and **translated into English**
- **expanding coverage** of standards and regulations (PM Decisions, MOIT documents, Consultation Documents, EVN guidelines, etc.)

➤ [www.vepg.vn](http://www.vepg.vn)

Viet Nam Energy Partnership Group

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# Steering Committee Meetings

- **October 2020:** Present key aspects of the VEPG operational plan through 2021
- **May 2021:** **VEPG Beyond 2021**

## Topic 3. Competitive Power Markets

NLDC presentation

**National Load Dispatch Center (NLDC)/ Viet Nam Electricity Corporation (EVN)**

*Mr. Nguyen Tuan Anh, Deputy Head of Power Market Operation Department*

# Topic 4. Direct Power Purchase Agreements

V-LEEP presentation

**Viet Nam Low Emission Energy Program (V-LEEP), United States Agency for International Development (USAID):**  
*Mr. Gary Zieff, Principal Energy Advisor V-LEEP/Deloitte*

# Topic 5. Discussion: Questions

## Challenges

- Are there technical assistance needs that are unmet?
- What are the regulatory framework issues that still need to be addressed for functioning and effective competitive markets?

## Opportunities

- Where do stakeholder priorities align?
- Which actions are required to advance on common goals?
- What are the upcoming stakeholder activities that might be relevant?

## Next Steps

## Topic 6. Closure of the Meeting

### **TWG 3 Chair:**

*Mr. Phạm Quang Huy, Deputy Director General, Electricity Regulatory Authority of Viet Nam, Ministry of Industry and Trade*

### **TWG 3 Co-Chair:**

*Mr. Rahul Kitchlu, Energy Sector Coordinator, World Bank Viet Nam*








**MINISTRY OF INDUSTRY AND TRADE**  
Electricity Regulatory Authority of Vietnam

# Power market development in Vietnam



September 9, 2020

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## Electricity Market Development Policy

Electricity Law stipulates:

- Diversification in power sector investments, allowing participation of all economic sectors.
- Creation of power market, step-by-step development of competitive generation, wholesale competitive, and retail competitive markets.
- Improving publicity, equality, fair competition with the State's regulation for raising efficiency in electricity activities;
- The State holds monopoly in electricity transmission, national electric system regulation, construction and operation of big power plants of particularly important socio-economic, defense or security significance.

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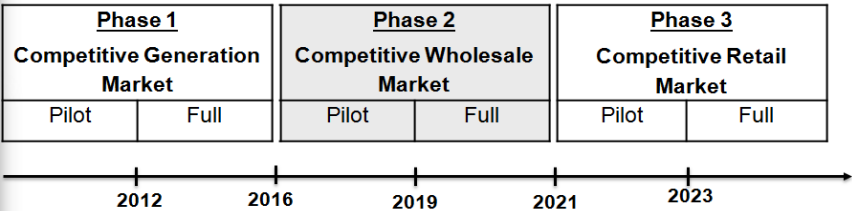


## Development roadmap



The roadmap for the implementation of the competitive electricity market as set out in PM’s Decision No. 63/2013/QD-TTg in 2013. The Roadmap outlines three major stages of reform:

- Vietnam Competitive Generation Market (VCGM) **completed**;
- Vietnam Wholesale Electricity Market (VWEM); and
- Vietnam Retail Electricity Market (VREM).



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## Retail Electricity Market Design (VREM)



On August 7, 2020, the Ministry of Industry and Trade approved the design of the competitive electricity retail market in Decision No. 2093/QD-BCT with main contents included:

- Legal basis (Electric Law, Decision 63/2013/QD-TTg,...);
- International experience in building, developing retail electricity market (Singapore, New Zealand, Australia, Philippine and Brazil);
- Models design;
- Implementation solutions; and
- Implementation plan.

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## VREM's Objective

To ensure:

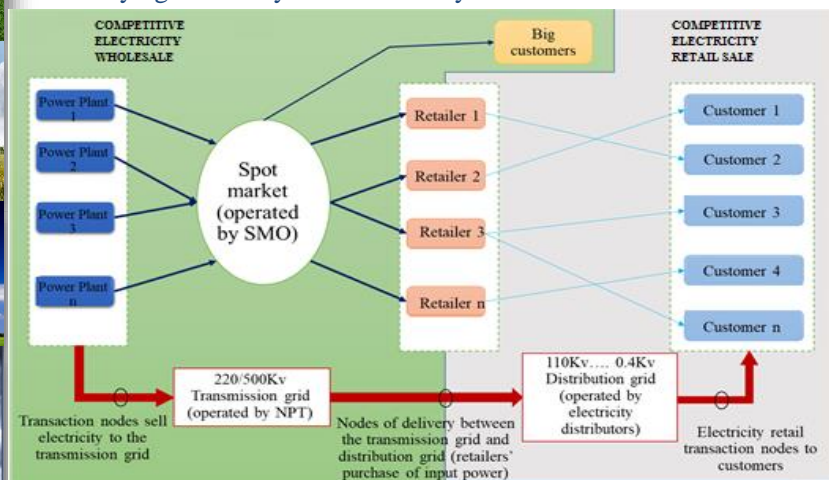
- Stability, continuousness and quality of power supply;
- Customers' ability to switch retailers;
- The ability of the electricity retail price to correctly reflects a reasonable, valid and competitive cost;
- The sustainable development of the electricity industry;
- Attraction of capital investment from all economic sectors participate in electricity activities, gradually reduce State investment in the electricity industry;
- Competitiveness, fairness, equality and transparency in electricity purchase and sale activities and in electricity retail.

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## Full Structure of Electricity Market in Vietnam

Customers have 02 options:

1. Buying electricity from the spot market.
2. Buying electricity from electricity retailers.



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## Market model: customers buying electricity from the spot market



Large customers can participate in the spot market directly or indirectly (through an authorized representative)

Customers/authorized representatives buy electricity in the spot market as the electricity buyer.

Contract mechanism includes:

- Mechanism of swap contracts CfD – Signed with Generators;
- Service contracts includes: SMO, Transmission, Distribution contract.

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## Market model: customers buying electricity from retailers



Transactions between retailers and customers:

- Performed through contracts.
- VREM customers: can sign purchase agreement with retailers, negotiate price & switch retailers.
- Non-VREM customers: signing contracts with default retailers (providers of last resort).

Electricity price mechanism

- VREM customers: based on agreements between customers & retailers.
- Non-VREM customers: based on the tariff set by the state agency.

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## Implementation Solutions



- Completing the system of legal documents in accordance with the development and expansion VREM's stages (amending the Electricity Law and the Price Law)
- Continue to implement electricity price reform according to the roadmap to convert to the electricity retail market
- Perfecting the competitive wholesale electricity market
- Developing a suitable roadmap to gradually bring groups of customers participate in the VREM
- Separating electricity distribution costs and electricity retail business costs in Power Corporation
- Completing the electricity system infrastructure to meet the requirements of safe, reliable, continuous, quality and efficient operation of the electricity retail market.
- Protection customers' right.

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## Implementation plan



Includes 3 stages:

- Stage 1 (2021): Preparatory stage  
Transforming NLDC into an independent organization; Reviewing, amending and completing regulations on operating of wholesale electricity market and pilot the DPPA mechanism.
- Stage 2 (from 2022 to 2024): Completing the pre-requisites, evaluating the results of implementing the DPPA mechanism and officially implementing the model of customers participate in the spot market.
- Stage 3 (after 2024): completing the pre-requisites for expanding customers participate to the VREM.

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# VIETNAM WHOLESALE ELECTRICITY MARKET 2020



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## Content

- 01.** Preparation background
- 02.** Key features of VWEM 2020
- 03.** Operational result of Q1/2020 & Q2/2020
- 04.** VWEM implementation in Q3/2020 & Q4/2020

2



# 01

## PREPARATION BACKGROUND



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### Legal framework

- ❑ Decision 63/2013/QĐ-TTg: Decision on the roadmap, conditions and sector structure for establishment and development of power market grades in Vietnam
- ❑ Decision 8266/QĐ-BCT: Approval of the detailed design of Vietnam's competitive wholesale electricity market
- ❑ Decision No. 122 / QĐ-DTDL dated December 27, 2019 of the Electricity Regulatory Authority of Vietnam on the plan to operate the wholesale electricity market in 2020.
- ❑ Market Rules for VWEM 2019-2020 (Circular 45/2018 and Circular 24/2019)

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## Regulatory framework

### ❑ Cost regulation (cross-subsidizing) between PCs

- ✓ According to Decision 8266/QĐ-BCT: cost regulation (cross-subsidizing) between PCs through a balance account or equivalent mechanism. This appeared to be new mechanism that needs to be researched carefully.
- ✓ In 2020: the cost regulation between the PCs will continue to be implemented through the Bulk Supply Tariff (BST) mechanism of EVN.

### ❑ Contract allocation

- ✓ According to Decision 8266/QĐ-BCT: allocate all existing contracts (CfD) between EVN and Generation company to PCs.
- ✓ In 2020, only a number of contracts will be allocated to PCs due to the absence of a regulatory mechanism between the PCs through the Balance Account.

- ❑ In 2020, EVN will continue to perform the spot electricity payment function until NLDC becomes accounted independently and the mechanism of separating payment of CFD contracts and spot market is established.



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## KEY FEATURES OF VWEM 2020

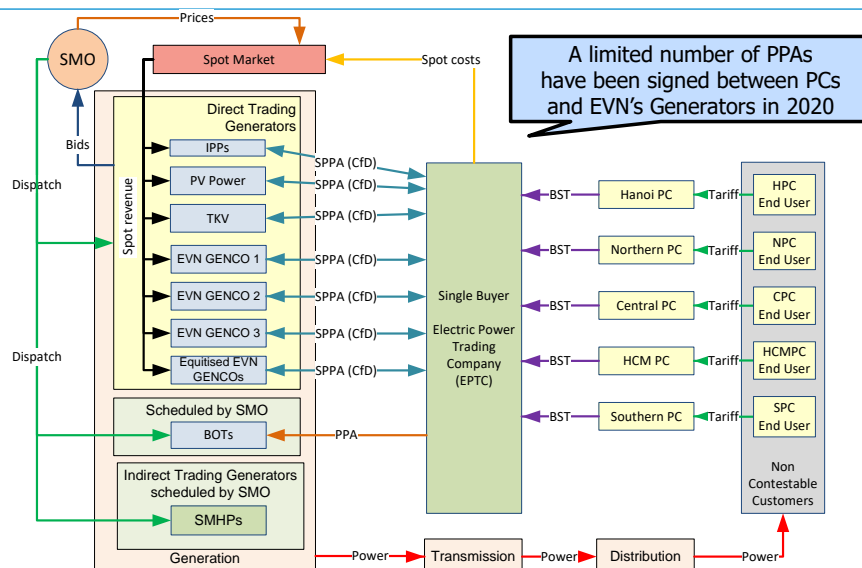


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## The operating mechanism

- ❑ Generators: participate in electricity market similar to the on-going generation market;
- ❑ PCs:
  - ✓ Purchase a part of the electricity consumption (off-take from the grid) on the electricity market. The rest of the electricity consumption is purchased from EVN under the mechanism of BST;
  - ✓ Continue to implement the **back-to-back** contract allocation of Phu My 1 and Phu My 4 power plants;
  - ✓ Directly sign PPAs between 5 PCs and 04 power plants: Thai Binh 1, Vinh Tan 4, Vinh Tan 4 MR, Duyen Hai 3 MR.

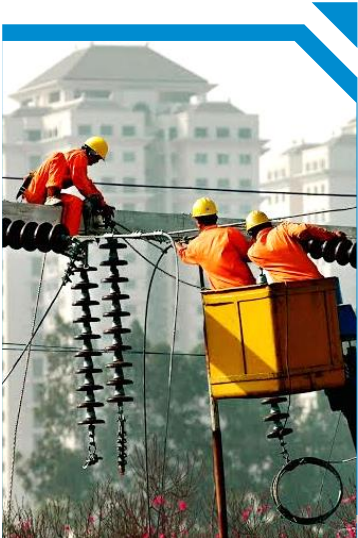
## Current VWEM Arrangements under Circular No. 45 (for 2019) and No.24 (2020)





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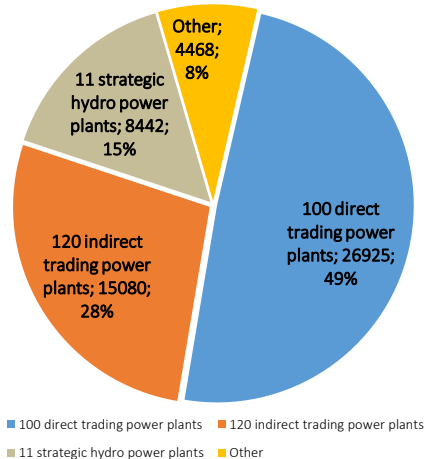
OPERATIONAL RESULTS  
IN THE FIRST 6 MONTHS OF 2020



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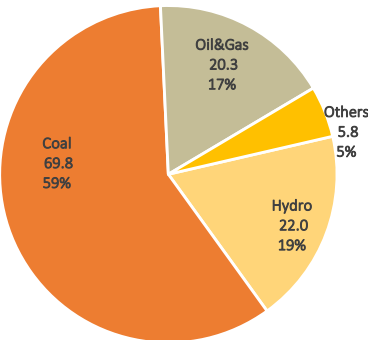
Generation Installed Capacity & Energy Production for First 6 months

Generation Installed Capacity by Market Participation Status  
(number, MW, %)



Category	Energy production (bil. kWh)	(%)
Hydro	22.0	19 %
Coal	69.8	59 %
Oil & Gas	20.3	17 %
Others	5.8	5 %
Total	117.9	100%

Energy production (bil. kWh, %)



## Operational results - System

### □ System Operation difficulty

- ✓ The installation of plants and grid is slow and inconsistent. It does not meet proposed schedule causing overload and electricity shortage on the power system.
- ✓ Uncertainty of hydro power plant with many constraints in operation and irrigation
- ✓ Limited fuel for electricity generation (coal, gas...)
- ✓ Renewable Energy (mostly solar) high penetration:
  - Congestion
  - Power balancing challenge (Large frequency fluctuation and oscillation, Forecast error, Balancing power from conventional plants)
  - System reliability (Capacity firm of RE is inversely proportional to penetration of RE)
  - Power quality (Voltage, Harmonic)



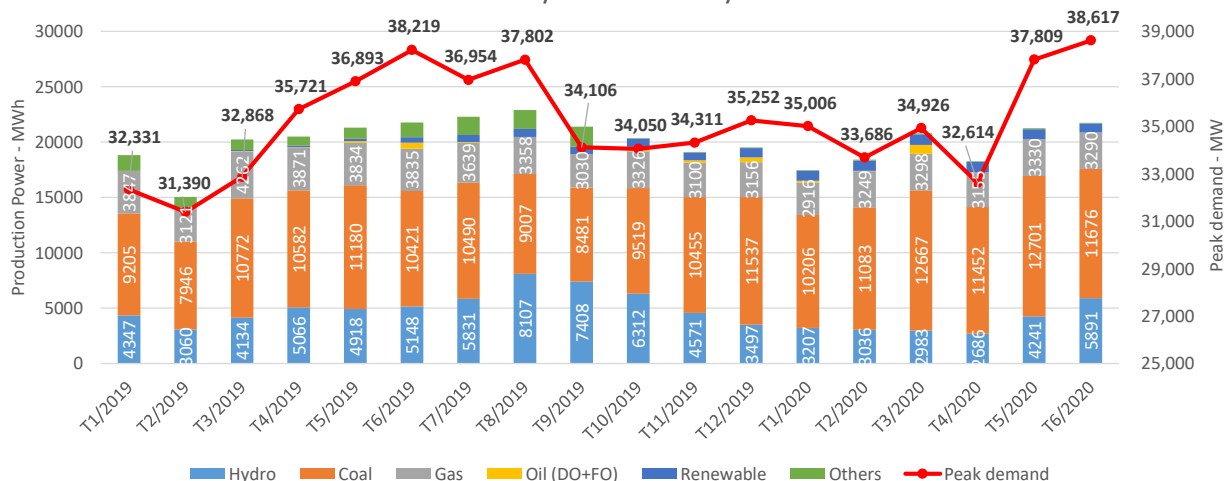
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## Operational results - System

Power generation, production share and peak demand  
from Jan/2019 to June/2020



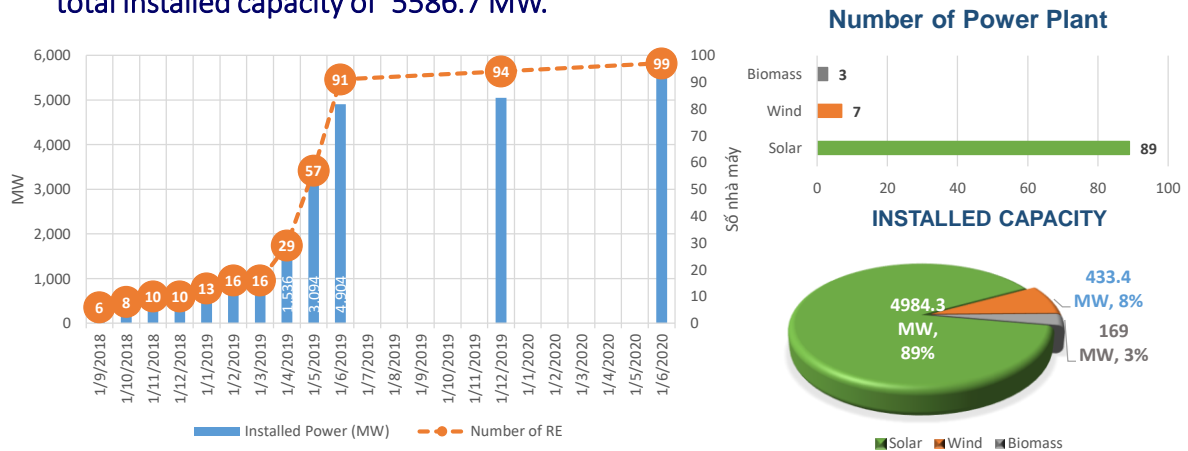
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## Renewable Energy

- By the end of June 2020, the total number of renewable power plants in operation was 99 (including 89 solar power plants, 07 wind power plants and some other biomass) with a total installed capacity of 5586.7 MW.



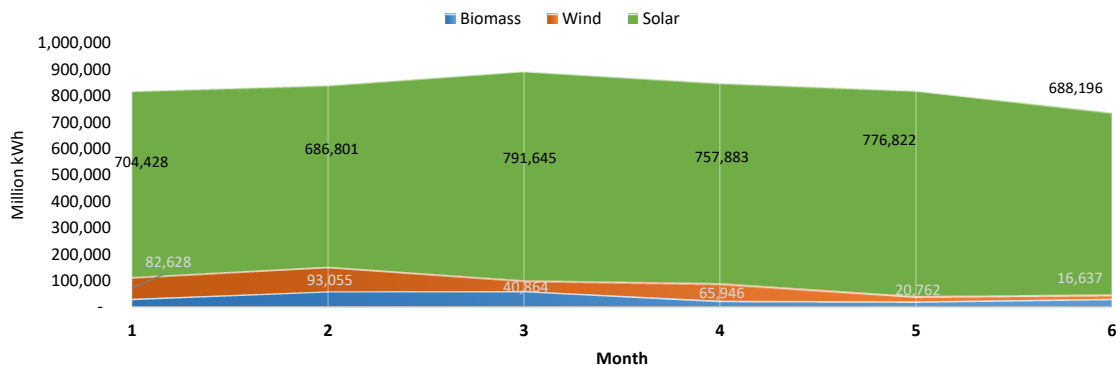
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## Renewable Energy

- The total renewable power production reached about 4952.2 billion kwh (about 27.2 million kwh per day), contributed 4.1 percent of the total power production of national power system.

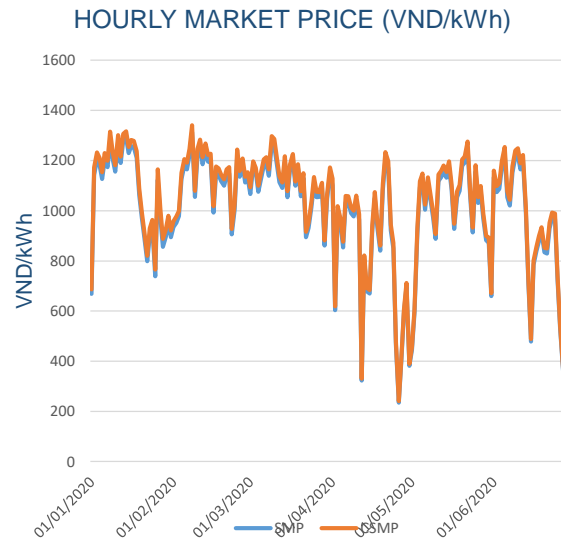


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## Operational results – Market Price

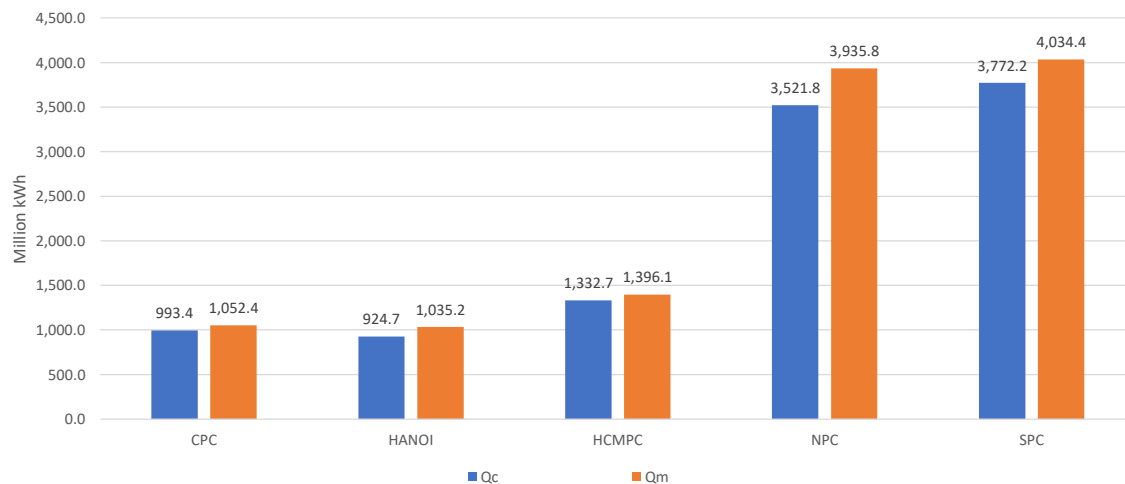


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## Contract Quantity (Qc) versus Metered Quantity (Qm)



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## Operating results

- ❑ The capability of PCs and market participants in the VWEM has been significantly improved
  - ✓ CfD contracts, market settlement mechanism;
  - ✓ Improve knowledge of electrical system operation and skills through training and practical operations.
- ❑ Demand forecasting ability has been developed
  - ✓ The load forecast is noticeably improved, leaving only a few unstable moments due to the large proportion of the residential load, affected by unpredictable factors such as weather, especially in abnormal weather periods.

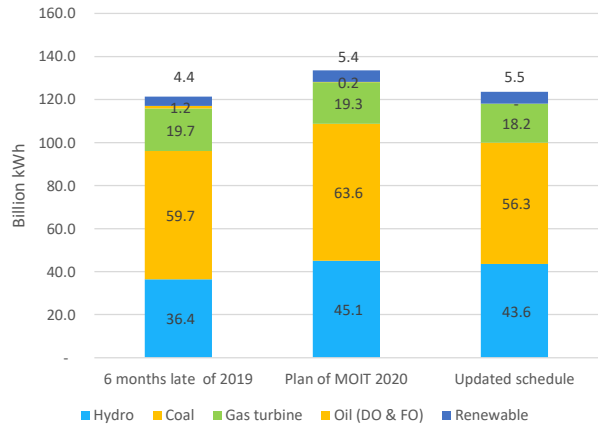
# 04

## VWEM IMPLEMENTATION IN THE NEXT 6 MONTHS OF 2020



## Electricity production for 2<sup>nd</sup> half of 2020

Electricity (bil.kWh)	2 <sup>nd</sup> half of 2019	Plan of MOIT for 2 <sup>nd</sup> half of 2020	Updated Schedule
Hydro	36.4	45.1 (24%)	43.6 (20%)
Coal	59.7	63.6 (6%)	56.3 (-6%)
Gas turbine	19.7	19.3 (-2%)	18.2 (-7%)
Oil (DO & FO)	1.2	0.2 (-80%)	0
Renewable	4.4	5.4 (22%)	5.5 (25%)
<b>Total</b>	<b>122.8</b>	<b>135.4 (10%)</b>	<b>125.1 (2%)</b>

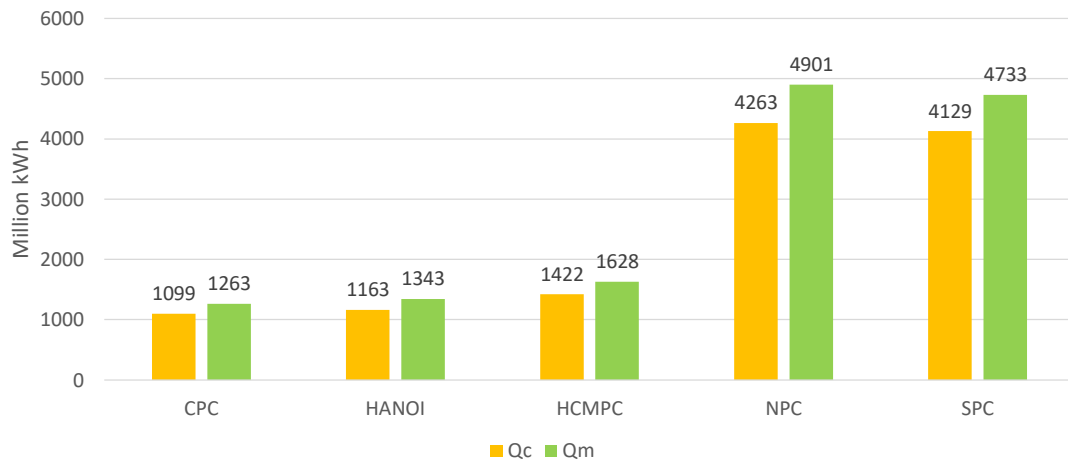


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## Contract Quantity (Qc) versus Expected Metered Quantity (Qm)



□ Since 01/8/2020, Duyen Hai 3 MR TPP has officially entered the VWEM

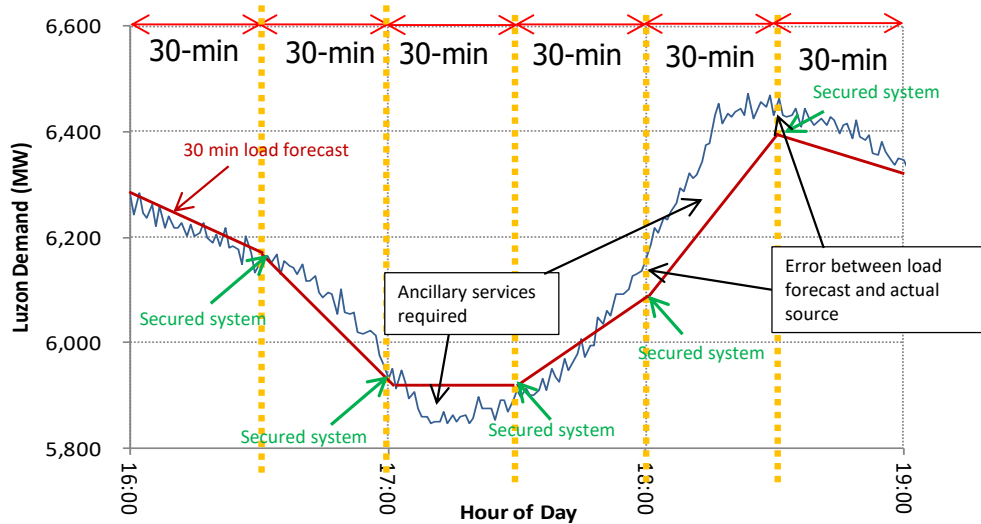


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## Shorten the trading and dispatching interval from 60 min to 30 min



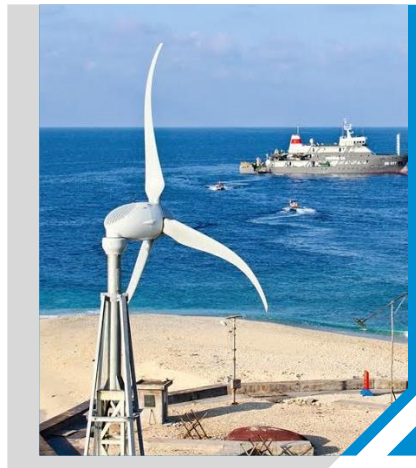
- Since 01/9/2020, the VWEM has officially switched to a 30-minute trading and dispatching cycle



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Thank You!

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## Agenda

- DPPA Pilot Program & Legislation Approval Status
- Contractual Agreements, DPPA Charge, and Operational Gap Analysis
- Applicant Guidelines

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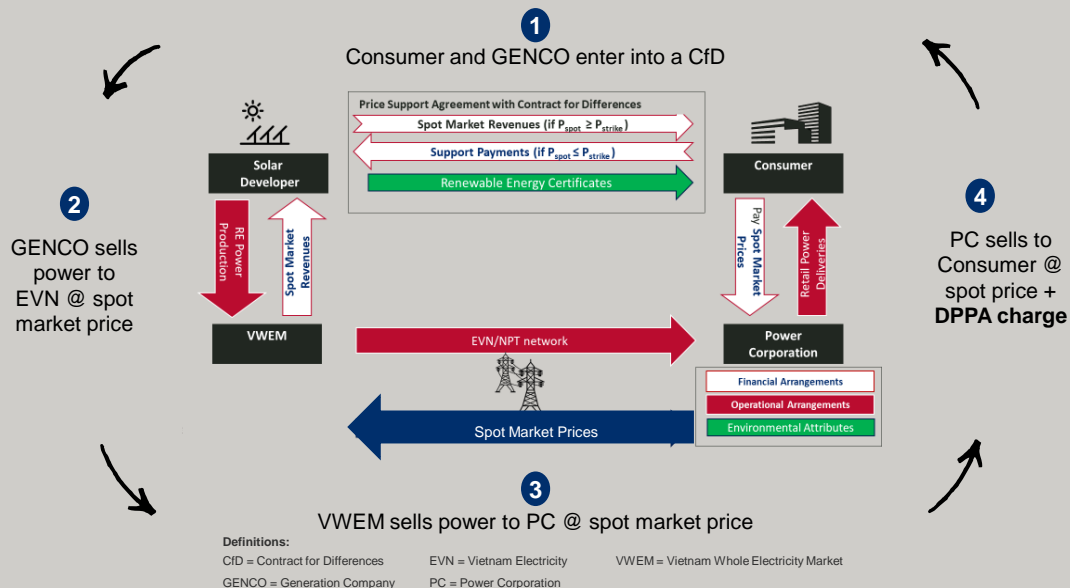
## DPPA Pilot Program & Legislation Approval Status



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## DPPA Mechanism Adopted for Vietnam



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## DPPA Pilot Program Characteristics

### Program Size

- DPPA Pilot Program target allocation is 400-1000 MW
- Individual projects must be above 30MW per Circular 45 Rules

### Transaction Agreements

- Power Purchase Agreement (GENCO-EVN/EPTC): *\*currently under review\**
- Market Buyer Power Supply Agreement (EVN/PC-Consumer): *\*currently under review\**
- Contract for Differences (GENCO-Consumer): commercial agreement written by Project Parties

### Pre-Application Cooperation

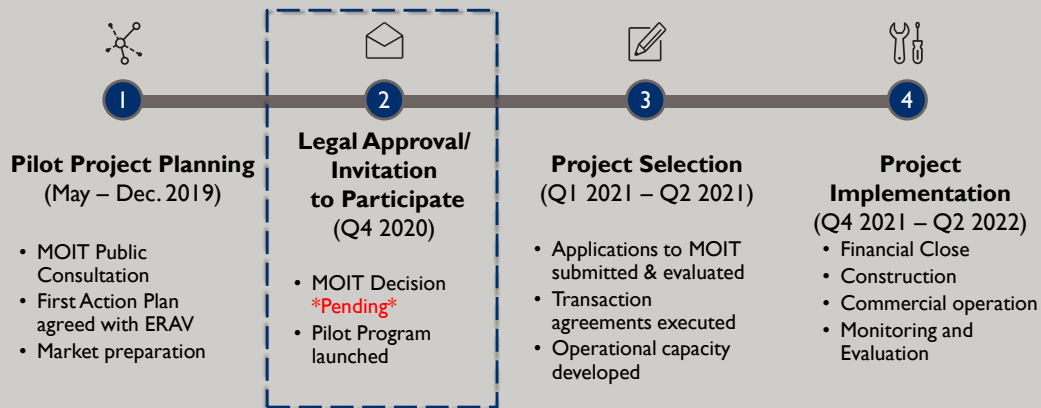
- GENCO and Consumers should negotiate commercial terms
- May arrange a single consumer or multiple consumers

### Evaluation Criteria

- The proposed project must be included in the PDP *\*currently under review\**
- Consumer must have stated sustainability commitments and show progress towards commitments *\*currently under review\**
- Project must be located in areas with sufficient transmission capacity *\*currently under review\**

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## DPPA Pilot Program Timeline



All dates are approximation based on current activities

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## DPPA Pilot Program Status

**Question: What is the current status of the DPPA Pilot Program?**

**Answer: Anticipating a Q2/Q3 Kickoff.**

- MOIT Vice Min. received PM Notice No. 710/TTg-CN on Jun. 11, 2020 directing MOIT to approve and direct the pilot DPPA Program implementation
- V-LEEP continues to collaborate with ERAV, delivering activities per an agreed Work Plan in order to develop an MOIT Decision on the DPPA Pilot Program
- While some delays may be expected given focus on Covid-19 response and resulting procedural constraints, GVN and the PM office has **indicated it will move forward with the Pilot Program** and appears to be considering full second rollout.

**Question: What happens once the MOIT Decision is signed?**

**Answer: V-LEEP is closely coordinating with ERAV to support a sequence of next steps**

- Applicants will have to submit projects within regulated timeframe to be considered for inclusion in the Pilot.
- Pre-Planning is underway for an **Applicant's Conference** and **Launch Event** to support preparation for submission
- Currently under review by GVN:
  - Transaction Agreements, web-based "one stop shop" for all relevant DPPA Pilot Program info and applications

**Question: How big will the pilot program be?**

**Answer: There has been a lot of interest**

- The current allocation for the DPPA Pilot Program is 400 – 1,000 MW.
- We believe that the pilot will **meet or exceed** allocation expectations pending final framework and underlying agreements.

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## Contractual Agreements, DPPA Charge, and Operational Gap Analysis



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### DPPA Transaction Agreements

Instrument	Parties	Agreement Main Elements
CfD Agreement	RE GENCO & Participating Consumer	<ul style="list-style-type: none"> <li>• Ability to transfer contract to new counterparty</li> <li>• Lays out strike price and delivered amount of power</li> <li>• Participating Consumer access to metered power delivery data</li> </ul>
Power Purchase Agreement	RE GENCO & EVN	<ul style="list-style-type: none"> <li>• PPA to be based on Circular 18 Solar FiT2 PPA</li> <li>• EVN is delegated to draft PPA</li> <li>• Additions to be reviewed and considered by EVN</li> </ul>
Market Buyer Power Supply Agreement	Participating Consumer & PC	<ul style="list-style-type: none"> <li>• Provides spot market pricing</li> <li>• Sets the DPPA charge and annual review</li> </ul>

\*Pending final approval by MOIT

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## Why a DPPA charge?

- To ensure that Consumers participating in the DPPA pilot pay their fair share of system-wide costs
- To compensate power sector agencies for incremental operating costs
- To make sure that the DPPA charge is consistent with future evolution of the VVEM

	Retail Tariff	Spot Market	DPPA Charge
Energy costs	✓	✓	
Market operations costs	✓		✓
Reliability (Ancillary) Services	✓		✓
Transmission Costs	✓		✓
Distribution Costs	✓		✓

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## Applicant Guidelines



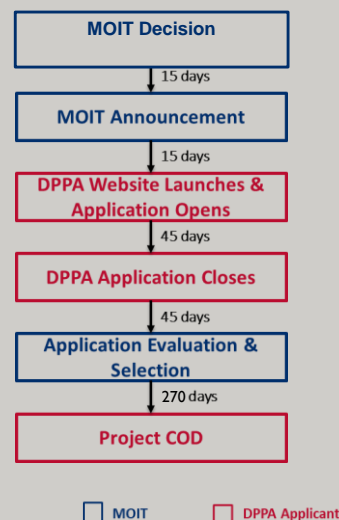
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## DPPA Pilot Application Timeline\*

- **MOIT Decision:** Launches the DPPA Pilot Program;
- **MOIT Announcement:** Within 15 working days of the Decision, MOIT shall announce the pilot DPPA program;
- **Open Applications:** Within 15 working days of the Announcement, MOIT launches a **website with all relevant info** and invites applicants to apply for participation;
- **Application Close:** Within 45 working days of website launch and invitation to apply, applicants should have submitted complete and final application on this website;
- **Evaluation:** Within 45 working days of application and website closing, MOIT shall evaluate and select a roster of selected projects;
- **Commercial Operations:** Within 270 working days from the announcement of the list of selected projects, GENCOs shall put the project into commercial operation

Key:

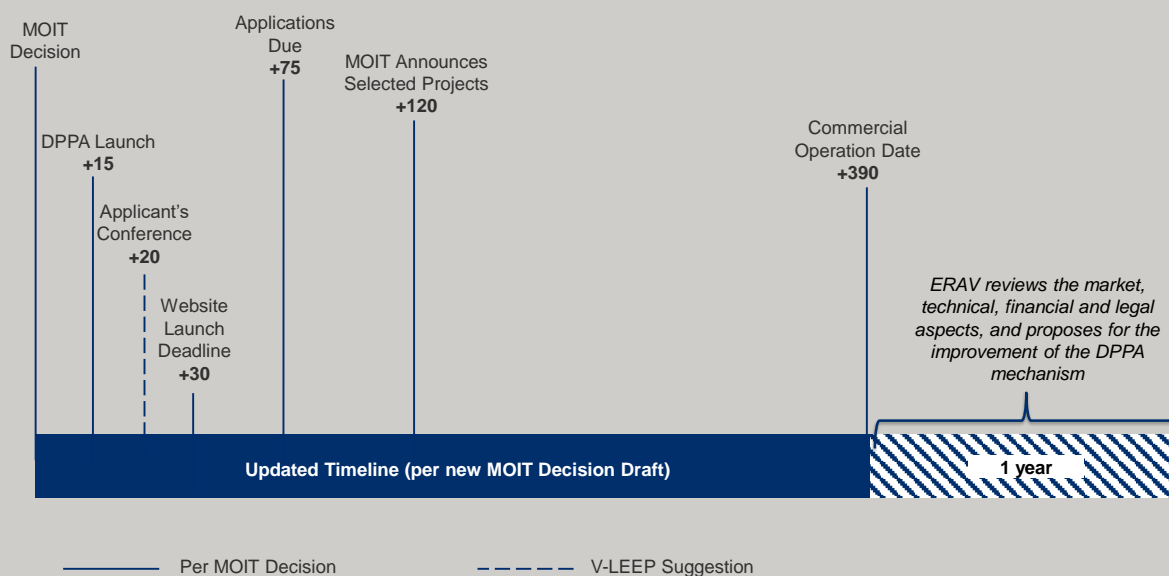


\*All durations are estimated based on currently available information

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## Updated Evaluation Timeline & Process (working days)



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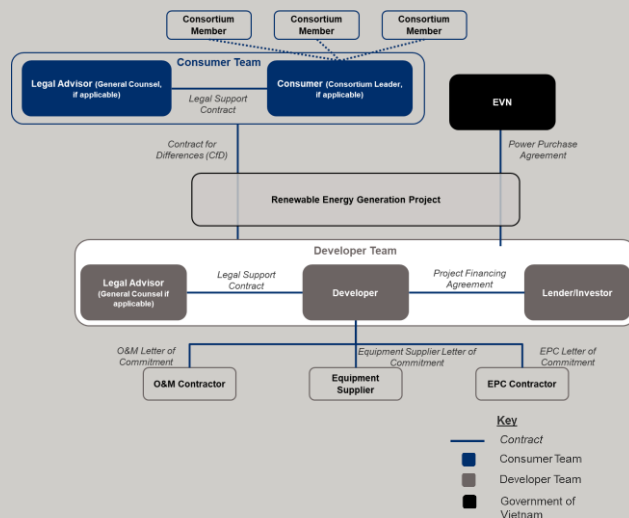
## Eligibility Criteria

### DPPA Pilot Program Eligibility Criteria

- **Tariffed Customer:** Is the Consumer an existing industrial customer taking service at 22 kV or higher voltage?
- **Project Size:** Per Circular 45, individual projects size shall be greater than 30MW
- **Commercial Arrangements:** Project Parties have signed binding term sheets
- **Technology Type:** Wind or Solar PV
- **Power Development Plan:** Project must be included in PDP \*

**Disclaimer:** \*currently under review\*

### Illustrative Project Structure



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## Pilot Program Information and Application Portal

### Home Page

The screenshot shows the home page of the Vietnam Direct Power Purchase Agreement Pilot Program. It features the Ministry of Industry and Trade logo and the ERAV (Electricity Regulatory Authority of Vietnam) logo. The main heading is "Vietnam Direct Power Purchase Agreement Pilot Program". A countdown timer shows "Countdown to Submission Closure" at "46:18:14". Navigation links include "Home", "What is DPPA Pilot Program?", "DPPA Pilot Program Application Info", "Apply Now", and "Contact Us". A large image of wind turbines and solar panels is displayed, with a text box stating: "The development of a Direct Power Purchase Agreement (DPPA) Pilot mechanism will enable large power consumers to access renewable electricity production. This will strengthen Vietnam's energy security, expand the use of renewable energy, improve environmental conditions, and meet requirements of important Vietnam business partners." The URL "https://dppa.web4s.vn/#" is visible at the bottom left.

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## Pilot Program Information and Application Portal

Home / What is DPPA / DPPA Concept

**What is DPPA Pilot Program?**

The purpose of this DPPA Pilot Program is to develop and test the design of a new policy in a controlled manner prior to and in anticipation of full acceptance and rollout. The DPPA Pilot Program has been appropriately designed and developed to provide a platform for testing operational activities, power sector logistics, market demand, the value-add of a new service, and to reveal deficiencies of design prior to spending significant time, energy or resources on a full-scale program. To learn more, click here. [Link to DPPA Pilot Program page]

**Vietnam DPPA Pilot Program Concept**

Direct Power Purchase Agreements (DPPAs) are long-term contracts under which an off-taker, typically a commercial or industrial consumer, purchases electricity directly from a power generation company (GENCO).

DPPA arrangements can be adapted according to the design of the electricity market, the Consumer's power procurement strategy, existing laws and regulations, and the business strategy of the RE project developer.

A well-designed DPPA policy for renewable power can be beneficial to consumers, project developers, and governments alike.

**Virtual PPA**

Power Generation → Transmission → Distribution → Consumer

Source: [Link]

Home / Program Application Info / Eligibility Requirements

**DPPA Pilot Program Application Info**

**Eligibility Requirements**

**Application Package**

**Application and Pilot Timeline**

**Application and Pilot Fees**

**Selection Procedures**

**FAQs**

**Vietnam DPPA Pilot Program Eligibility Requirements**

Any Project Developer and Consumer pairing is eligible to apply for participation in the DPPA Pilot Program provided they meet the criteria outlined below:

Jump to [Consumer Criteria](#)

Jump to [Project Developer Criteria](#)

Jump to [Project Criteria](#)

For single compiled list of required documents, click [here](#) [Link to Application Package Page]

**Consumer Criteria**

[\(back to top\)](#)

1. Tariffed Customer
2. Commitment to Sustainability
  - The Consumer must be an existing customer taking service on an industrial tariff.
  - The Consumer must be committed to internationally recognized sustainability targets or initiatives.
  - Example of organizations include initiatives such as RE 100, RE Source, Science Based Target Initiative, UN Framework Convention on Climate Change or similar.
3. Usage Offset Commitment
  - Avg. annual % of total usage to be offset over a 10-year forecast period
4. Organizational and Technical Competence

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# Thank you!

## USAID Vietnam Low Emission Energy Program

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