

**Viet Nam Energy Partnership Group**  
**TECHNICAL WORKING GROUP 3: ENERGY SECTOR REFORM**  
**REPORT OF THE 2ND MEETING**

**Date:** 21 September 2018  
**Location:** Meeting room 502, ERAV office (D10 Khat Duy Tien, Thanh Xuan, Hanoi)  
**Time:** 9:00 – 11:30

**Key agenda points:**

- Update of members on current implementation process of the wholesale market
- Update and discussion on DirectPPA development (presentation USAID)
- Discussion of and decision on TWG 3 Policy Recommendations

**Chair and Co-Chair:**

- **Mr. Pham Quang Huy**, Deputy Director General of ERAV, Ministry of Industry and Trade (MOIT)
- **Mr. Franz Gerner**, Lead Energy Economist, World Bank in Vietnam

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

**Agenda:** See Annex 1

**Participants:** See Annex 2

**Minutes:** See Annex 3

**Inputs:** See Annex 4 -  
4.1 Policy Recommendations  
4.2 Presentations

## AGREED CONCLUSIONS AND ACTIONS:

Conclusion / Decision	Action
<ul style="list-style-type: none"> <li>The Chairs thanked all TWG 3 participants for joining and for the very active and constructive participation and the inputs and comments to the draft policy paper in particular.</li> <li>The Chairs and the Secretariat will consider all inputs and suggestions for the revision and finalization of the Policy Paper and make sure that all relevant thoughts and inputs from the group will be considered properly. This applies particularly to the inclusion of the DPPA topic based on the discussion during the meeting.</li> <li>The final paper will be sent to members for their information (no further round of agreement) and subsequently be submitted to the Steering Committee for consideration and further preparation for the HLM.</li> <li><i>Note from the Secretariat: Please find the final paper approved by the TWG chairs and the VEPG Steering Committee in Annex 4.1.</i></li> </ul>	Chairs, Secretariat
<ul style="list-style-type: none"> <li>MoIT appreciated all comments from TWG 3 members on the VWEM presentation and will consider them for the further VWM implementation process.</li> </ul>	MoIT/ERAV
<ul style="list-style-type: none"> <li>TWG 3 members discussed and reflected on the USAID presentation on DPPA development and the related pilot project.</li> <li>The Chairs and the Secretariat agreed on following up with this important topic in future meetings of TWG 3 and further inform TWG members on new developments.</li> </ul>	Chairs, Secretariat
<ul style="list-style-type: none"> <li>The Chairs and the Secretariat will consider the date for the next meeting and inform the members as soon as possible. Options would be end of November/early December (to reflect on the HLM outcomes and have further member inputs) or next year (potentially after TET holidays end of February/early March 2019).</li> </ul>	Chairs, Secretariat

## ANNEX 1 - AGENDA

<b>8:30 – 9:00</b>	<b>Registration</b>
<b>9:00 – 9:10</b>	<b>Opening Remarks</b> <ul style="list-style-type: none"> <li>• Mr Pham Quang Huy</li> <li>• Mr Franz Gerner</li> </ul>
<b>9:10 – 9:15</b>	<b>Brief introduction of the new VEPG secretariat</b> <ul style="list-style-type: none"> <li>• Secretariat: Brief presentation and update report</li> </ul>
<b>9:15 – 10:00</b>	<b>Update on the implementation of the wholesale market</b> <ul style="list-style-type: none"> <li>• ERAV representative: Presentation</li> <li>• Q&amp;A and plenary discussion</li> </ul>
<b>10:00 – 10:30</b>	<b>Input: Current status of DirectPPA development</b> <ul style="list-style-type: none"> <li>• ERAV representative: Presentation</li> <li>• Q&amp;A and plenary discussion</li> </ul>
<b>10:30 – 10:45</b>	<b>Coffee break</b>
<b>10:45 – 11:15</b>	<b>Discussion of TWG 3 Key Policy Recommendations</b> <ul style="list-style-type: none"> <li>• TWG chairs: Presentation of “TWG 3 Policy Recommendations”</li> <li>• Plenary discussion and decision on paper finalization/adoption</li> </ul>
<b>11:15 - 11:30</b>	<b>Conclusions, agreements, closing remarks</b> <ul style="list-style-type: none"> <li>• Mr Pham Quang Huy</li> <li>• Mr Franz Gerner</li> </ul>



## **ANNEX 2 - Participants**

### Co-chairs

- **Mr. Phạm Quang Huy**, Deputy Director General of ERAV, Ministry of Industry and Trade (MOIT)
- **Mr. Franz Gerner**, Principal Energy Specialist, World Bank in Vietnam

### Participants

- **Mr. Lê Anh Đức**, Electricity Regulatory Authority of Vietnam (ERAV)
- **Mr. Nguyễn Thế Hữu**, Electricity Regulatory Authority of Vietnam (ERAV)
- **Mr. Lê Văn Dũng**, Electricity Regulatory Authority of Vietnam (ERAV)
- **Mr. Lê Đông Hải**, Electricity Regulatory Authority of Vietnam (ERAV)
- **Mr. Đỗ Đức Tường**, USAID
- **Mr. Gary Zieff**, USAID/V-LEEP
- **Mr. Hà Đăng Sơn**, USAID/V-LEEP
- **Mr. Vũ Quang Đăng**, ADB
- **Mr. Sven Ernedal**, GIZ
- **Mr. Đỗ Trung Nghĩa**, GE

### VEPG Secretariat

- **Mr. Rainer Brohm**, VEPG Secretariat
- **Ms. Nguyễn Phương Thảo**, VEPG Secretariat
- **Ms. Ngô Tố Nhiên**, VEPG Secretariat
- **Ms. Vũ Minh Hiền**, VEPG Secretariat
- **Ms. Đặng Thị Hương Lan**, VEPG Secretariat

### ANNEX 3 - SUMMARY MINUTES

Agenda item	Summary
<b>Opening remarks</b>	The <u>Chair and Co-Chair</u> welcomed participants and encouraged everyone to actively join the discussion on the agenda topics and the policy recommendations of TWG 3 in particular.
<b>Introduction of new VEPG Secretariat</b>	<p><u>The new Secretariat team</u> introduced themselves and outlined the following:</p> <ul style="list-style-type: none"> <li>• Rainer Brohm, the new International Coordinator, started in August and is currently taking over the activities of the former Secretariat team.</li> <li>• Ms. Nguyen Phuong Thao has joined the team beginning of September as a Senior Project Officer. Another Junior Project Officer will join beginning of October (Mr. Do Quang Nhat). (<i>See PPT presentation in Annex 4.2</i>)</li> <li>• Within October the TWG members will be informed about the new VEPG website and contact email address of the Secretariat. Until then TWG members can reach the secretariat under the existing email address (vepg.group@gmail.com).</li> <li>• The Secretariat further outlined that the new VEPG website will feature VEPG partner projects and events in a news section. Thus, all VEPG partners and TWG members are encouraged to inform the Secretariat about new projects or milestones in ongoing projects so they can be featured on the VEPG website in the future.</li> </ul> <p><u>The Secretariat</u> presented the tentative workplan and timeline for the TWGs, Steering Committee and High-Level-Meeting:</p> <ul style="list-style-type: none"> <li>• The Steering Committee (SC) is tentatively scheduled for the first week of October (3.-5. Oct). The High-Level Meeting (HLM) is tentatively scheduled for beginning of November (6.-8. Nov.).</li> <li>• Following this, all TWGs have been asked to hold their second meetings until mid-September. Policy recommendations should be developed by TWGs and submitted to the SC by end of September latest.</li> </ul>
<b>Opening remarks</b>	<ul style="list-style-type: none"> <li>• The <u>Chair and Co-Chair</u> welcomed participants and encouraged everyone to actively join the discussion on the agenda topics and the policy recommendations of TWG 3 in particular.</li> </ul>
<b>Introduction of new VEPG Secretariat</b>	<p><u>The new Secretariat team</u> introduced themselves and outlined the following:</p> <ul style="list-style-type: none"> <li>• Rainer Brohm, the new International Coordinator, started in August and is currently taking over the activities of the former Secretariat team.</li> <li>• Ms. Nguyen Phuong Thao has joined the team beginning of September as a Senior Project Officer. Another Junior Project Officer will join</li> </ul>

	<p>beginning of October (Mr. Do Quang Nhat). (<i>See PPT presentation in Annex 4.2</i>)</p> <ul style="list-style-type: none"> <li>• Within October the TWG members will be informed about the new VEPG website and contact email address of the Secretariat. Until then TWG members can reach the secretariat under the existing email address (vepg.group@gmail.com).</li> <li>• The Secretariat further outlined that the new VEPG website will feature VEPG partner projects and events in a news section. Thus, all VEPG partners and TWG members are encouraged to inform the Secretariat about new projects or milestones in ongoing projects so they can be featured on the VEPG website in the future.</li> </ul> <p><u>The Secretariat</u> presented the tentative workplan and timeline for the TWGs, Steering Committee and High-Level-Meeting:</p> <ul style="list-style-type: none"> <li>• The Steering Committee (SC) is tentatively scheduled for the first week of October (3.-5. Oct). The High-Level Meeting (HLM) is tentatively scheduled for beginning of November (6.-8. Nov.).</li> <li>• Following this, all TWGs have been asked to hold their second meetings until mid-September. Policy recommendations should be developed by TWGs and submitted to the SC by end of September latest.</li> </ul>
<b>Opening remarks</b>	<ul style="list-style-type: none"> <li>• The <u>Chair and Co-Chair</u> welcomed participants and encouraged everyone to actively join the discussion on the agenda topics and the policy recommendations of TWG 3 in particular.</li> </ul>
<b>Update on the implementation of the wholesale market</b>	<p><u>MoIT/ERAV</u> presented the status of the VWEM implementation in a PPT presentation. [<i>PPT presentation of Mr. Le Dong Hai, see Annex 4.2</i>]:</p> <ul style="list-style-type: none"> <li>• Introduction of the implementation plan</li> <li>• Outline of the overall market structure</li> <li>• Introduction of key market participants</li> <li>• Outline of key features of the VWEM</li> <li>• Introduction of the VWEM 2019 with a focus on market participants, spot market features, contract arrangements, ancillary services mechanism, and market settlement.</li> </ul> <p>The presentation further outlined key recommendations for the implementation process of the VWEM (to be discussed in more detail under top “Policy Recommendations”).</p> <p><u>The Chairs</u> concluded this agenda top:</p> <p>The chairs thanked Mr. Hai for the presentation and announced that this topic will also be further discussed in the context of the subsequent discussion of policy recommendations later in the agenda.</p>
<b>Input: Current status of DirectPPA development</b>	<p><u>USAID</u> presented an overview of the DirectPPA (DPPA) project jointly implemented with MoIT/ERAV in a PPT presentation. [<i>PPT presentation of Mr. Gary Zieff, see Annex 4.2</i>]:</p> <ul style="list-style-type: none"> <li>• Mr. Zieff introduced the DPPA project in the context of the USAID V-LEEP approach and outlined the motivation behind the project and</li> </ul>

	<p>related strong interest of the private sector to purchase RE electricity (corporate RE buyers). In that context it was noted that already 13 companies in Vietnam have signed the RE100 corporate initiative. There are ongoing discussions between different business associations (VBF, EuroCham, AmCham) and the VN Government regarding the DPPA topic.</p> <ul style="list-style-type: none"> <li>• He introduced the international experience with the model and selected case studies.</li> <li>• Furthermore, he outlined the current project process, timeline and already conducted activities and achievements. Upcoming milestones are the finalization of the implementation plan for the pilot DPPA, the conclusion of the legal analysis and preparation of draft Decision and the subsequent public consultation.</li> <li>• The presentation furthermore outlined in more detail different DPPA models and the related challenges of implementing the DPPA model and pilot programme. Most prominently the key questions are:             <ul style="list-style-type: none"> <li>○ What is the appropriate model? Also regarding the ability to shift/integrate into the VWEM</li> <li>○ What is the right pilot project size?</li> <li>○ How to select projects?</li> <li>○ Pooling of demand?</li> </ul> </li> <li>• An option could be to open the DPPA for those solar projects that have registered but cannot make COD under the 1<sup>st</sup> FiT (thus, before June 2019)</li> </ul> <p><b><u>Summarized are here the main comments and reflections of TWG Members regarding the DPPA presentation:</u></b></p> <ul style="list-style-type: none"> <li>• The question was discussed whether the pilot DPPA should be included as part of the general VWEM development and implementation to be fully operational by 2020/2021 or as a separate track. Looking at the two timelines of implementing the VWEM and DPPA, they seem to be quite aligned already.</li> <li>• In case of a delay in full operating of the VWEM, a separate DPPA track would make specifically sense regarding the strong interest of corporate buyers and related investment potential to drive the RE capacity development in Vietnam.</li> <li>• The question was addressed, whether a rooftop on-site DPPA (selling solar kWh from the roof to an off-taker in a third-party ownership model) would be possible already or to be included to the DPPA project.</li> <li>• MoIT/ERAV clarified on this that an on-site DPPA for rooftop applications is not problematic and does not require the development of the DPPA regulations (since there is no wheeling/transmission involved).</li> <li>• The question was addressed, if there is enough solar PV supply to meet the procurement demand. Mr. Zieff clarified that until now 11 letters of support have been signed with solar PV projects under development, 4-5 of them are expected to reach COD under the current FiT regime.</li> </ul>
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	<ul style="list-style-type: none"> <li>Furthermore, the question was addressed how many potential investors/buyers could be identified so far. Mr. Zieff clarified on this that based on a survey of 30 companies the project partners assume that around 1,100 companies could be interested in DPPA RE procurement (mostly foreign owned with Sustainability needs). More concrete, 10 investors have been identified representing 1 billion USD of assets and 2.7 GW of solar project opportunities related to this equity (30% equity ratio assumed).</li> </ul> <p><u>The Chairs</u> concluded this agenda top:</p> <ul style="list-style-type: none"> <li>The chairs thanked USAID for the presentation and all TWG participants for the good discussion and valuable inputs.</li> </ul>
<p><b>Discussion of TWG3 Key Policy Recommendations</b></p>	<p><u>MoIT/ERAV</u> presented the draft issue paper on “Key Policy Recommendations for TWG 3” that was developed between Chair and Co-Chair. The recommendations mainly relate to the previously presented key recommendations regarding the further implementation of the VWEM. In addition, the DPPA would be the second main topic to be added to the policy recommendations.</p> <p><b><u>Summarized are here the main comments of TWG Members on the draft:</u></b></p> <ul style="list-style-type: none"> <li>The key recommendations addressing the implementation of the VWEM were approved by TWG members, no further amendments or major comments were discussed.</li> <li>Regarding the DPPA it was addressed that a clear commitment of the MoIT minister to move on with the DPPA model and the pilot would be helpful in the context of the endorsement of the policy recommendations. This could support the further implementation process, e.g. the issuing of a Prime Minister Decision on the DPPA pilot.</li> <li>It was further discussed that the list of tasks and work areas where ERAV needs further support (already discussed in the 1<sup>st</sup> TWG 3 meeting) should also be part of the Policy Recommendations paper.</li> </ul> <p><u>The Chairs</u> concluded this agenda top:</p> <ul style="list-style-type: none"> <li>The Chair and Co-Chair will revise the draft policy recommendations paper according to the above discussed valuable inputs from TWG members and make it concise.</li> <li>In that context a recommendation regarding the DPPA will be included. Further input from USAID was requested to be considered by the Chair and Co-Chair.</li> <li>Further comments can be send to the Secretariat in written form until end of next week (Friday, September 28).</li> <li>The Chairs will then discuss and adopt the revised paper to make sure that all relevant thoughts and inputs from the group have been considered properly.</li> <li>The final paper will be sent to members for their information (no further round of agreement) and subsequently be submitted to the Steering Committee for consideration and further preparation for the</li> </ul>



	HLM ( <i>note from the Secretariat: Please find the final paper approved by the TWG chairs and the VEPG Steering Committee in Annex 4.1</i> ).
<b>Conclusions, agreements, closing remarks</b>	<p><u>The Chairs</u> concluded the meeting with the following remarks:</p> <ul style="list-style-type: none"> <li>• The Chairs thanked everybody for joining and for the very active and constructive participation.</li> <li>• The Chairs and the Secretariat will consider all inputs and suggestions when revising and finalizing the Policy Paper but also for the future development of the work agenda of TWG 3.</li> <li>• The Chairs and the Secretariat will consider the date for the next meeting and inform the members as soon as possible.</li> </ul>

## ANNEX 4.1 – ISSUE PAPER ON POLICY RECOMMENDATIONS

*(The issue paper on recommendation was approved by the Co-chairs of the TWG and the Steering committee at the 3<sup>rd</sup> meeting of the Steering Committee on 05/10/2018)*

VEPG - Technical Working Group No. 3 – Energy Sector Reform

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### Issue Paper on Policy Recommendations

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#### 1 Background

In the Steering Committee Meeting on 11.07.2018, the Chair VM Vuong, and the Co-Chairs Ambassador Angelet and World Bank CD Ousmane Dione asked the TWG Chairs and Co-Chairs to propose specific policy recommendations in time for the next Steering Committee meeting in October 2018. Recommendations would be endorsed by the Steering Committee and presented at the High-Level Meeting tentatively scheduled early November 2018.

The TWG 3 agreed to mainly focus on the development of the Vietnam Wholesale Electricity Market (VWEM) with the following priority topics:

- Market design and market rules: To ensure the efficient operation of the electricity market, it is necessary to have a market design model suitable for Vietnam's electricity sector as well as a clear and transparent legal framework. The Vietnam Wholesale Electricity Market (VWEM) design was promulgated with MoIT Decision No. 8266/QD-BCT from 10 August 2015 and is now being converted into market rules.
- Integration of Renewable Energy (RE) sources into the competitive electricity market: Future compatibility with the Vietnamese Wholesale Power Market: Options should be considered that make it possible to integrate wind and solar energy contractually into the power market.
- Enhancing Electricity Regulatory Authority's capacity in market monitoring and SMO's capacity in market and system operation: following the MoIT Decision No. 14576/QD-BCT dated 3/12/2015.
- Development of smart contract auction (SCA) integrated with financial transmission right (FTR) for PC to manage spot market risks in long-term VWEM: Long-term VWEM will transfer from system marginal pricing to nodal pricing. As a result, following the VWEM design, this requires

developing a FTR arrangement together with smart contract auctioning for Power Companies (PCs) to manage the spot market risk.

- Development of Direct Power Purchase Agreement (DPPA) mechanism in compliance with VWEM.

## 2 Key Challenges for the Implementation of VWEM

**VWEM:** To ensure the efficient operation of the electricity market, it is necessary to have a market design model suitable for Vietnam's electricity sector and a clear and transparent legal framework that requires:

- To **improve the VWEM's detailed design** as well as **market rules** such as: the mechanism for BOT power plants, renewable energy in the power market; financial instruments for managing risks in the spot market (financial contracts, contract exchange, etc ...);
- To ensure that the **electricity market** operates **transparently, efficiently** and with **confidence for investors**, the power sector structure should be restructured in line with the model and development levels of the competitive power market, in which natural monopoly activities (such as: SMO, transmission network owners, etc) should be independent, without the conflict of interest with competing participants in the electricity market.

**Direct Power Purchase Agreement (DPPA):** For a DPPA mechanism to roll out, it may be necessary to start with existing laws and gradually improve the legal framework based on outcomes from the pilot mechanism. Results from current legal reviews show that it is essential to develop a robust legal framework in which DPPA is one of the options for RE generators. This legal framework could follow these contents:

- **Prime Minister's Decision on implementation** of the DPPA is a separate mechanism and operates in parallel with the FIT mechanism so that renewable energy developers can opt for either;
- Consideration and approval of **electricity system infrastructure service fees** (sleeving fee) to carry out DPPA transactions. In which sleeving fee is included: transmission charge, distribution charge, SMO fee and administration and management fees;
- Studying and issuing **specific regulations on licensing** for DPPA-involved generators being active in both generation and retail sales in a single license;
- Tax treatment: **VAT mechanism** of DPPA transactions;
- **Guiding circular provisions** on **grid connection** through publication of the Grid Code, and required financial commitments

## 3 Policy Decisions Required and Critical Areas for VWEM/DPPA Implementation

To be able to fully operate the VWEM in 2021 and then to implement the Vietnam Competitive Retail Market as well as researching and implementing the pilot DPPA mechanism, the following policy decisions by the MOIT need to be made:

**On VWEM:**

- (i) **Cross-subsidy mechanism among Power Corporations through a balancing account (or equivalent mechanism):** replace for existing cross-subsidy mechanism through Bulk Supply Tariff (BST) to ensure the cross-subsidy transparency among Power Corporations participating in the competitive electricity market;
- (ii) **Pricing mechanism for public-utility products and services to supply power to deep-lying, remote, border and island areas:** to separate clearly and transparent the cost of public utility activities with the total cost of electricity business and production.
- (iii) **Mechanism on managing the power system ancillary service (A/S) costs of SMO in both Wholesale Market and Competitive Electricity Retail Market.**

**On DPPA:**

- (iv) **Distribution charge:** legal basis for issuing distribution charge and detailed regulations on methodology and processes for calculating distribution charge. It is one of prerequisites to be able to put the DPPA mechanism which is being researched on and proposed by USAID in to practice, as well as to able to implement the competitive electricity retail market in 2021 as the approved roadmap.

**4 Key Areas where ERAV seeks additional Donor Support to Implement VWEM:**

To be able to solve facing challenges and difficulties in developing and implementing the VWEM, ERAV is seeking for additional supports from Development Partners in specific issues as followings:

- **Research international experience/lessons in managing and operating cross-subsidy fund (or equivalent account) among power utilities:** to design and develop a suitable and feasible cross-subsidy mechanism among Power Corporations in the VWEM.
- **Research electricity pricing mechanism in terms of aligning with the development levels of the electricity market:** particularly in methodology, procedure and timeline for calculating the distribution charge.
- **Research international experience and propose a suitable mechanism for managing the power system ancillary service (A/S) costs of SMO in VWEM;**
- **Monitor and evaluate comprehensively the operation of VWEM:** to be able to improve the VWEM's detailed design as well as market rules in order to ensure VWEM operate stably,

especially in Vietnam power sector's specific mechanisms as: mechanism for BOT power plants, renewable energy and SMHPs in the power market; financial instruments for managing risks in the spot market (financial contracts, contract exchange, etc ...); mechanism to ensure the stability of payment flow in the electricity market.

- **Research international experience to develop Smart Contract Auction (SCA) mechanism integrated with financial transmission right (FTR):** as detailed VWEM design, in long-term VWEM will transfer from system marginal pricing to nodal pricing, its application requires research to develop FTR arrangement along with smart contract auctioning thenceforth. The SCA mechanism integrated with FTR will be one of the important tools for management of market risks by market participants.
- **Capacity building/ training:** MOIT issued the Decision No. 14576/QĐ-BCT dated 3/12/2015 on capacity building plan for market participants in the VWEM; Promoting advanced training program for 2018 and 2019.



## **ANNEX 4.2 – PRESENTATIONS**



## Viet Nam Energy Partnership Group

### Technical Working Group 3 – Energy Market Reform

2<sup>nd</sup> Meeting - 21. September 2018  
 ERAV/MoIT, Hanoi

**Pham Quang Huy**  
 Deputy Director General  
 ERAV/MoIT  
 Chair of Technical Working Group 5

**Franz Gerner**  
 Energy Cluster Leader  
 World Bank in Vietnam  
 Co-Chair of Technical Working Group 5

## Agenda

**VEPG TWG 3**  
 Energy Market Reform

Time	Subject
9.00-9.10	<b>1. Opening remarks, overview of the agenda</b> <ul style="list-style-type: none"> <li>Mr. Pham Quang Huy / Mr. Franz Gerner</li> </ul>
9.10-9.15	<b>2. Introduction of the new VEPG secretariat</b> <ul style="list-style-type: none"> <li>Secretariat: Brief introduction and report of secretariat</li> </ul>
9.15-10.00	<b>3. Update on the implementation of the wholesale market</b> <ul style="list-style-type: none"> <li>ERAV representative: Brief presentation and update report</li> </ul>
10.00-10.30	<b>4. Input: Current status of DirectPPA development</b> <ul style="list-style-type: none"> <li>USAID representative: Presentation</li> <li>Q&amp;A, plenary discussion and feedback from TWG members</li> </ul>
10.30-10.45	<b>Coffee break</b>
10.45-11.15	<b>5. Discussion of TWG 3 Policy Recommendations to the HLM</b> <ul style="list-style-type: none"> <li>TWG-Chairs: Presentation of draft Policy Recommendations</li> <li>Q&amp;A, discussion and decision on key recommendations</li> </ul>
11.15-11.30	<b>6. Conclusions, agreements, outlook on next meeting, closing remarks</b> <ul style="list-style-type: none"> <li>Mr. Pham Quang Huy / Mr. Franz Gerner</li> </ul>

## 1. Opening Remarks

**VEPG TWG 3**  
Energy Market Reform

### **Key objectives of the meeting:**

- Update members on current implementation process of the wholesale market
- Update and discussion on DirectPPA development (presentation USAID)
- Discussion of TWG 3 Policy Recommendations to the HLM
- Agreement on further work process and meeting schedule

## 2. Introduction Secretariat

**VEPG TWG 3**  
Energy Market Reform

### **New secretariat (GIZ team)**

- **Rainer Brohm**, International Coordinator
- **Ms. Ngyuen Phuong Thao**, Project Officer
- **Mr. Do Quang Nhat**, Junior Project Officer (start 1.10.)



### **Contact:**

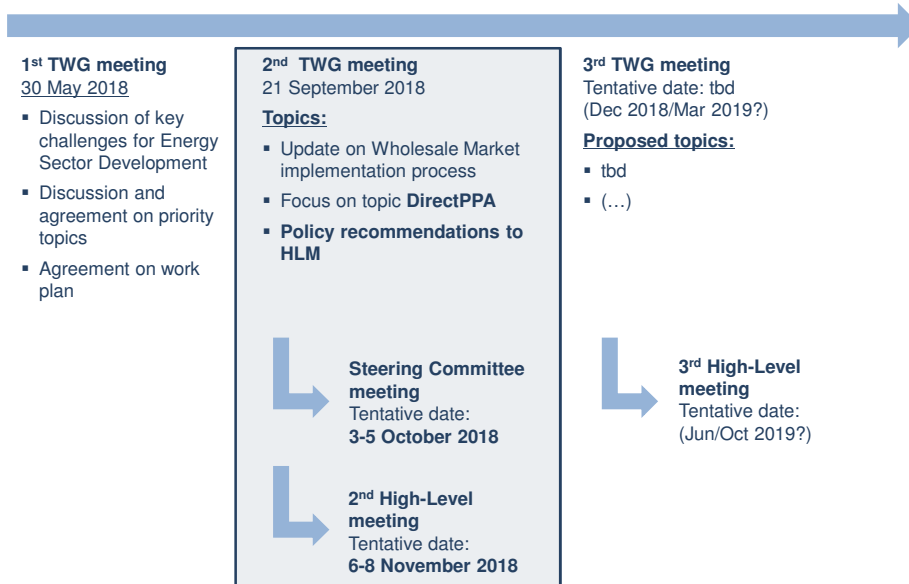
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Website: coming soon...



## 2. Introduction Secretariat – Update on Timeline

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## 3. Update: Wholesale Market Implementation

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### ERAV/MoIT: Update on the implementation of the Wholesale Market

- Presentation, Q&A, discussion

## 4. DirectPPA Development

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### **USAID: Presentation**

- Presentation, Q&A, discussion

**VEPG TWG 3**  
Energy Market Reform

**Coffee/tea break**

## 5. Discussion of TWG 3 Policy Recommendations

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Energy Market Reform

### Key topics / recommendations

#### Background

##### 1. The Wholesale Market Process

- Key Challenges
- Recommendations

##### 2. DirectPPA Development

- Key Challenges
- Recommendations

##### 4. Further topics?

- *To be discussed*

## 5. Discussion of TWG 3 Policy Recommendations

VEPG TWG 3  
Energy Market Reform

#### The Wholesale Market Process

##### 1. Legal Framework

- (i) **VAT Mechanism:** spot market and financial contract transactions (support for separately settle for spot market and CFD contracts);
- (ii) **Cross-Subsidy among PCs:** Development of Balance Account Mechanism (or equivalent mechanism) to replace existing BST (enhance transparency, fairness and effectiveness);
- (iii) **Contract Allocation:** Transfer all existing contract to PCs
- (iv) **VWEM Rules for long term:** Price-based pool, nodal pricing, SMHP, BOT and RE market participation...;
- (v) **Smart Contract Auction/ FTR Mechanism:** SCA: Market Risk Management; and FTR compatible with SCA and nodal pricing in long-term.
- (vi) **Electricity Tariffs Reform:** To compatible with VWEM

## 5. Discussion of TWG 3 Policy Recommendations

VEPG TWG 3  
Energy Market Reform

### The Wholesale Market Process

#### 2. Restructuring

- (i) **To transform the NLDC** into a one-member limited liability company according to the Decision of the Prime Minister's No. 168 /QD-TTg of February 7, 2017 approving the scheme on restructure of the electricity industry in the period of 2016-2020, with orientation to 2025;
- (ii) **To consider and approve the EVN's proposal on ring-fencing and separation** between power corporations' distribution and retail functions; and
- (iii) **To complete the equitization of Gencos** (Genco 1 and 2)

## 5. Discussion of TWG 3 Policy Recommendations

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### The Wholesale Market Process

#### 3. ICT Infrastructure

- To complete the investment and **equip the ICT infrastructure for the electricity market** ( MOIT's Decision No. 2760/QD-BCT dated 30/6/2016 approved VWEM ICT conceptual design).

#### 4. Capacity Building

- Promote **advanced training courses for market participants** (MOIT's Decision No. 14576/QD-BCT dated 31/12/2015).

## 5. Discussion of TWG 3 Policy Recommendations

VEPG TWG 3  
Energy Market Reform

### Further topics....

#### **DirectPPA Development**

- Key Challenges
- Recommendations

#### **Further topics?**

- *To be discussed*

## 5. Discussion of TWG 3 Policy Recommendations

VEPG TWG 3  
Energy Market Reform

### Conclusions

- ...

## 6. VEPPG Timeline – Next Meetings

VEPPG TWG 3  
Energy Market Reform

### 1<sup>st</sup> TWG meeting 30 May 2018

- Discussion of key challenges for Energy Sector Development
- Discussion and agreement on priority topics
- Agreement on work plan

### 2<sup>nd</sup> TWG meeting 21 September 2018

#### Topics:

- Update on Wholesale Market implementation process
- Focus on topic **DirectPPA**
- **Policy recommendations to HLM**



**Steering Committee meeting**  
Tentative date:  
3-5 October 2018



**2<sup>nd</sup> High-Level meeting**  
Tentative date:  
6-8 November 2018

### 3<sup>rd</sup> TWG meeting

Tentative date: **tbd**  
(Dec 2018/Mar 2019?)

#### Proposed topics:

- **tbd**
- (...)



**3<sup>rd</sup> High-Level meeting**  
Tentative date:  
(Jun/Oct 2019?)



*Thank you for your attention  
and participation!*



MINISTRY OF INDUSTRY AND TRADE  
ELECTRICITY REGULATORY AUTHORITY OF VIETNAM

## UPDATE OF VWEM IMPLEMENTATION



Hanoi, September 2018

**ERAV**  
Electricity Regulatory  
Authority of Vietnam

## Contents



**1. Introduction**

**2. VWEM 2019**

**ERAV**  
Electricity Regulatory Authority of Vietnam

**SECTION 1**

# INTRODUCTION

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Electricity Regulatory Authority of Vietnam

## VWEM: Implementation Plan

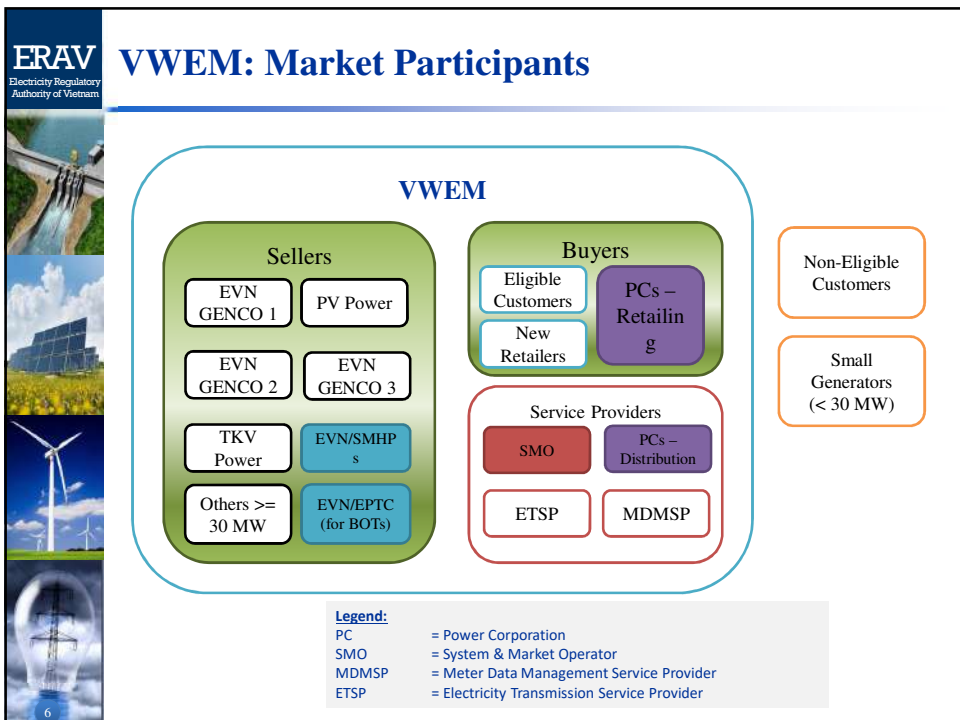
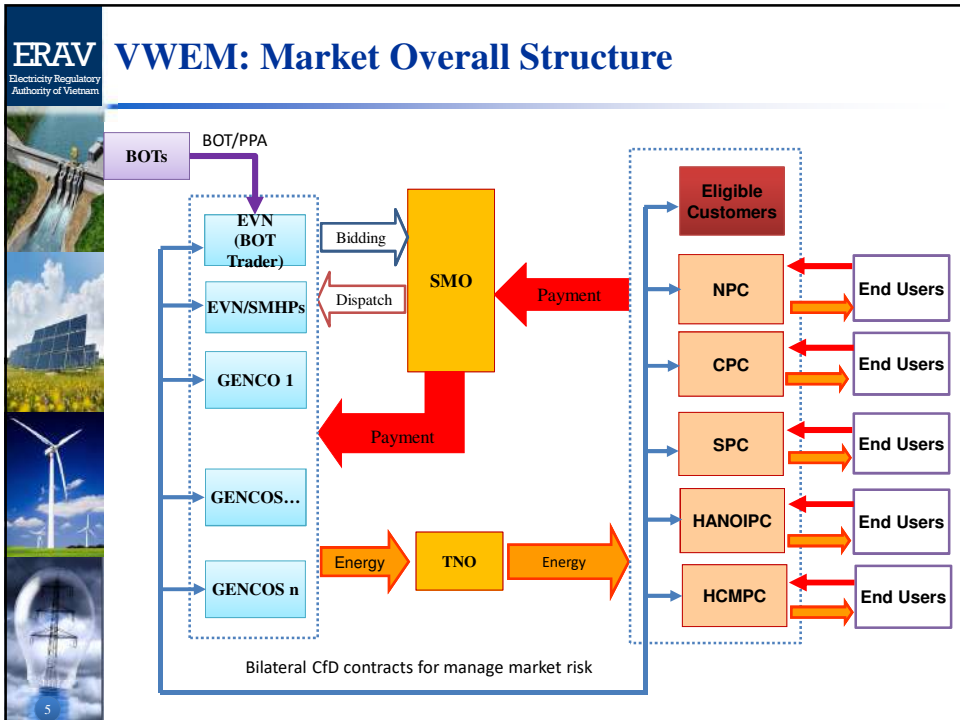
Stages of VWEM implementation:

- 2016: Pilot VWEM Step 1 (Paper Market)
- 2017-18: Pilot VWEM Step 2
- 2019: Full VWEM (MOIT Decision No. 8266)
- 2019 onwards: Long Term VWEM

Preparation	VWEM Pilot Step 1	VWEM Pilot Step 2	Initial / Full VWEM	Long Term VWEM
2015	2016	2017-18	2019	2019 onwards

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## VWEM: Key features


- **Market model: Mandatory Cost-Based Gross Pool**
  - (i) All generators ( $\geq 30$  MW) must directly participate in the market (as sellers) for selling their energy
  - (ii) BOT power plants:
    - Directly participating in the VWEM; or
    - Participating in the VWEM via a BOT Trader (under EVN).
  - (iii) Strategic Multipurpose Hydro Power Plants (SMHPs):
    - Directly participating in the VWEM; or
    - Participating in the VWEM via a SMHP Trader under EVN.
  - (iv) All retailers (05 Power Corporations - PC) must buy energy from the spot market for meeting their customers' demand.
- Gradually transiting from Cost-Based Pool to Price-Based Pool model.



## SECTION 2

## VWEM 2019

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## VWEM 2019


### 1. Market Participant

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- **Seller:**
  - (i) All generators with installed capacity  $\geq 30$  MW; and
  - (ii) The new power plants operate in 2018 and/or are expected to operate in 2019. They will enter the VWEM and sign PPA with PCs including Vinh Tan 4, Thai Binh 1, expanded Vinh Tan 4, expanded Duyen Hai 3.
- **Buyer:**
  - (i) 5 PCs; and
  - (ii) EVN.
- **Service Provider:**
  - (i) SMO;
  - (ii) TNO;
  - (iii) Distributor Provider; and
  - (iv) MDMSP.

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## VWEM 2019

### 2. Spot Market

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- **Interval Trading:** 01 hour (as the condition of infrastructure and others for VWEM are eligible, it will be reduced to 30 minutes).
- **Payment Trading:** 01 month.
- **Generators' bidding and Dispatch:** comply with the VWEM Rules.
- **EVN and PCs will purchase energy on spot market:** comply with the VWEM Rules.
- **Spot market prices which will apply for Generators and Buyer:** defined by the VWEM Rules.

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## VWEM 2019


### 3. *Contract Arrangement*

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- Contract Allocation:** Existing contracts of Phu My 1 and Phu My 4 (Genco 3) will be allocated to PCs in comply with the following rules:
  - (i) The contract prices are kept unchanged; and
  - (ii) The allocated contract quantities are in comply with the VWEM Rules.
- Other existing contracts between EVN and Direct Trading Generators will be continued in effect;**
- Direct contracts between Generators and PCs: newly allowed in VWEM 2019;**
- BST (Bulk Supply Tariff) contract:**
  - Between EVN and PCs for remaining energy demand (after subtraction of spot market purchase quantity from total PC's demand).
  - Contracted BST levels must be in range issued by MOIT.

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## VWEM 2019

### 4. *Ancillary Services Mechanism*

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- For spinning reserve and frequency regulation: procurement and settlement in the spot market (VWEM rules).**
- For other ancillary services including fast start reserve, cold start reserve, reliability must run, voltage control and black start: EVN takes responsibilities to sign contract with Ancillary Services Providers according to other MOIT's Circulars.**

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**5. Market Settlement**



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- **Spot Market Settlement:**
  - (i) SMO has responsibility to calculate, publish market prices and daily and monthly market settlement statement; and
  - (ii) Generator and Buyer have responsibility to check, verify and confirm market settlement statement (daily and monthly).
  - (iii) Buyers pay for generators
- **Contract Payment (CFD form):** in comply with the Contract Agreement between Seller and Buyer.
- **Integration of CFD and spot market payments**

**VWEM 2019 onward: Key recommendations (1)**



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**1. Legal Framework**

- (i) VAT Mechanism: spot market and financial contract transactions (support for separately settle for spot market and CFD contracts);
- (ii) Cross-Subsidy among PCs: Development of Balance Account Mechanism (or equivalent mechanism) to replace existing BST (enhance transparency, fairness and effectiveness);
- (iii) Contract Allocation: Transfer all existing contract to PCs
- (iv) VWEM Rules for long term: Price-based pool, nodal pricing, SMHP, BOT and RE market participation...;
- (v) Smart Contract Auction/ FTR Mechanism: SCA: Market Risk Management; and FTR compatible with SCA and nodal pricing in long-term.
- (vi) Electricity Tariffs Reform: To compatible with VWEM.

## VWEM 2019 onward: Key recommendations (2)



### 2. Restructuring

- (i) To transform the NLDC into a one-member limited liability company according to the Decision of the Prime Minister's No. 168 /QD-TTg of February 7, 2017 approving the scheme on restructure of the electricity industry in the period of 2016-2020, with orientation to 2025;
- (ii) To consider and approve the EVN's proposal on ring-fencing and separation between power corporations' distribution and retail functions; and
- (iii) To complete the equitization of Gencos (Genco 1 and 2)

## VWEM 2019 onward: Key recommendations (3)



### 3. ICT Infrastructure

To complete the investment and equip the ICT infrastructure for the electricity market ( MOIT's Decision No. 2760/QD-BCT dated 30/6/2016 approved VWEM ICT conceptual design).

### 4. Capacity Building

Promote advanced training courses for market participants (MOIT's Decision No. 14576/QD-BCT dated 31/12/2015).



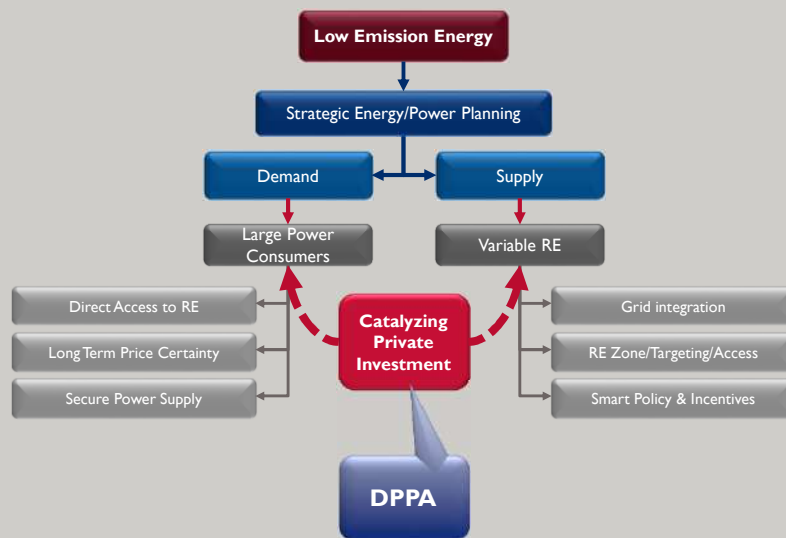
Thank You!



# USAID Vietnam Low Energy Emission Program (V-LEEP); Direct Power Purchase Agreement (DPPA) Update

Viet Nam Energy Partnership Group: 2nd Meeting of Technical Working Group 3 – Energy Sector Reform  
Hanoi, September 21<sup>st</sup> 2018

## V-LEEP Approach to Catalyze Private Investment





## Why DPPA?

### Strong Appeal to Foreign Direct Investors

- Corporate commitments to sustainability
- Alignment with RE100 and other climate frameworks
- Securing long-term cost effective power

### Fiscal Benefits to Vietnam

- RE is financed by Corporate power purchases instead of the FIT
- May enable faster growth of RE

**144 global companies** endorse RE100 across worldwide operations



In Vietnam, DPPA is supported by VBF, AmCham, and EuroCham



## General Rationale: Buyers, Sellers and GVN

### Power Consumers

- Meet Sustainability Commitments
- Hedge against Potential Energy Price Increases
- Low upfront Capital
- Long Term Price Certainty

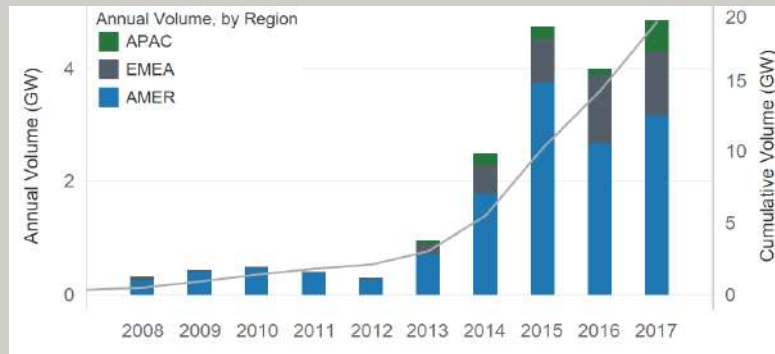
### Power Sellers

- Off-taker Creditworthiness
- Off-taker Reliability (Take-or-Pay)
- Project Bankability
- Reduced Operational Risk

### GVN

- Attracting FDI
- Enable direct RE procurement by Large Energy Consumers
- Support Vietnam's RE development targets
- Reduce fiscal liability of purchasing RE

## Popularity of DPPA Around the World

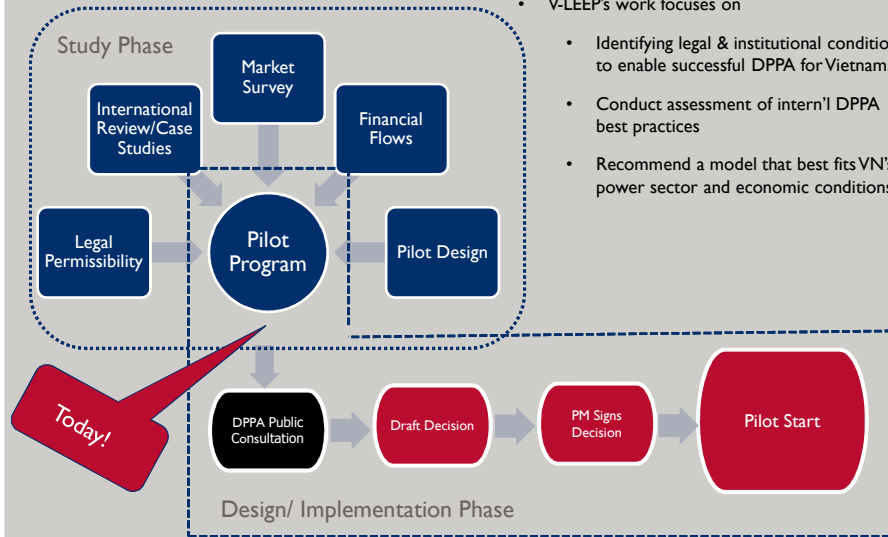


Source: Bloomberg New Energy Finance 2018

## Case Study Selection

Potential Case Studies	Corporate Interest in sourcing RE	Gov't Target For RE	Electricity Market Structure	Types of DPPA Models	# of DPPA projects Transacted or under development
Australia	✓	✓	Liberalized	Sleeved & Synthetic	12 Projects -925 MW
Chile	✓		Liberalized		2 Projects 186 MW
Mexico	✓	✓	Liberalized	Sleeved	5 Projects -237 MW
Netherlands	✓	✓	Liberalized	Sleeved	11 Projects - 385 MW
New Zealand			Liberalized		None
Singapore	✓	✓	Liberalized	Sleeved	At least 5 - 100 MW
Taiwan		✓	Liberalization in process		None
US PJM	✓	✓	Liberalized	Sleeved & Synthetic	224 Projects 3,242 MW
US Virginia	✓	✓	Integrated w/ partial access to wholesale markets	Sleeved	29 Projects - 1,019 MW

## Achievements



- V-LEEP's work focuses on
  - Identifying legal & institutional conditions to enable successful DPPA for Vietnam.
  - Conduct assessment of intern'l DPPA best practices
  - Recommend a model that best fits VN's power sector and economic conditions

## Achievements

- October 2017: Investors/Developers Roundtable
- November 2017: APEC Summit Da Nang, Vietnam
- December 2017: REBA VN 1<sup>st</sup> Working Group
- March 2018: Investors/Developers Roundtable
- April 2018: REBA VN 2<sup>nd</sup> Working Group
- September 2018: REBA VN 3<sup>rd</sup> Working Group
- September 2018 One on one Discussion with private sector Buyers and Sellers

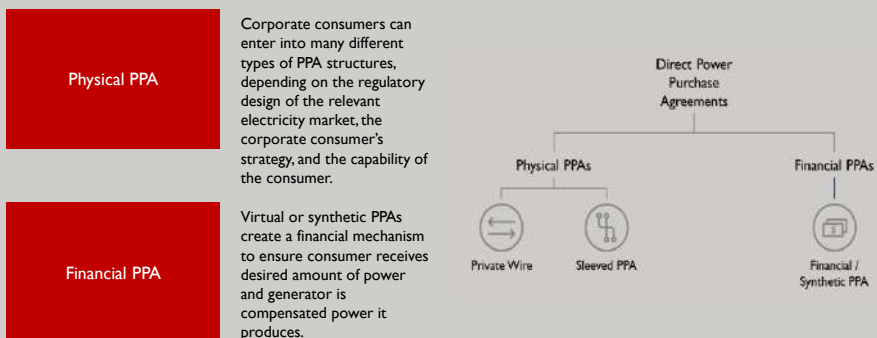


## Achievements - Deliverables

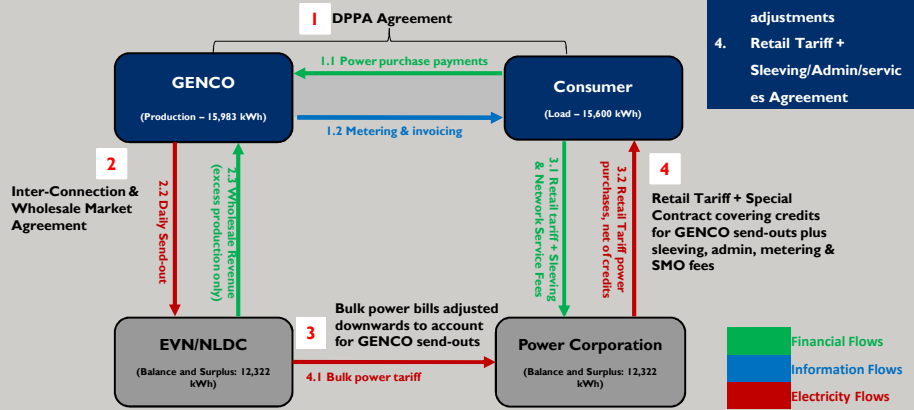
Report	Delivery Date
Legal Permissibility Report	February 2018
International Review	March 2018
Model Selection Report	September 2018
Financial Flows Model	September 2018
Market Assessment / Survey Report	September 2018
Financial Model	September 2018
Implementation Plan	Pending Sept 2018
Legal Analysis and Draft Decision	Pending Sept 2018
Public Consultation	Pending – Oct/Nov 2018

## Overview: DPPA Structures

Corporate consumers can enter into many different types of PPA structures, depending on the regulatory design of the relevant electricity market, the corporate consumer's strategy, and the capability of the consumer.

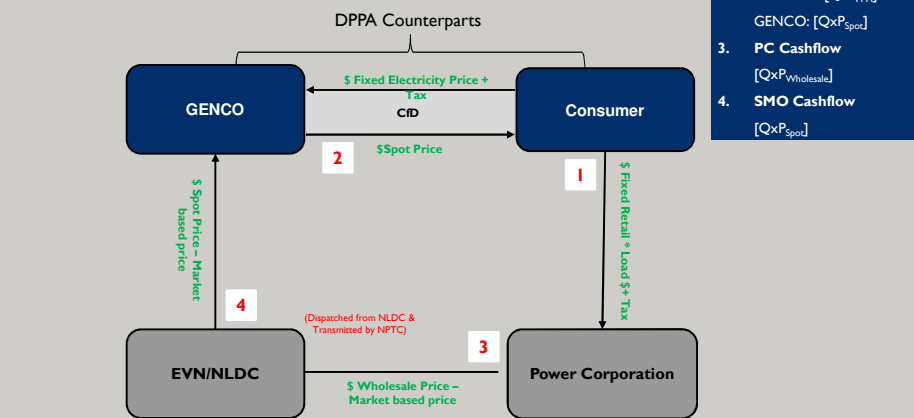


## Sleeved DPPA Model



1. GENCO-Consumer DPPA
2. GENCO-SMO wholesale market transactions
3. Bulk power tariff adjustments
4. Retail Tariff + Sleeving/Admin/Services Agreement

## Synthetic Model



1. Retail Electricity Cashflow  
 $[Q \times (1 + VAT\%) \times P_{Retail}]$
2. CfD Cashflow  
Consumer:  $[Q \times P_{DPPA}]$   
GENCO:  $[Q \times P_{Spot}]$
3. PC Cashflow  
 $[Q \times P_{Wholesale}]$
4. SMO Cashflow  
 $[Q \times P_{Spot}]$

## DPPA Project Design; Challenges

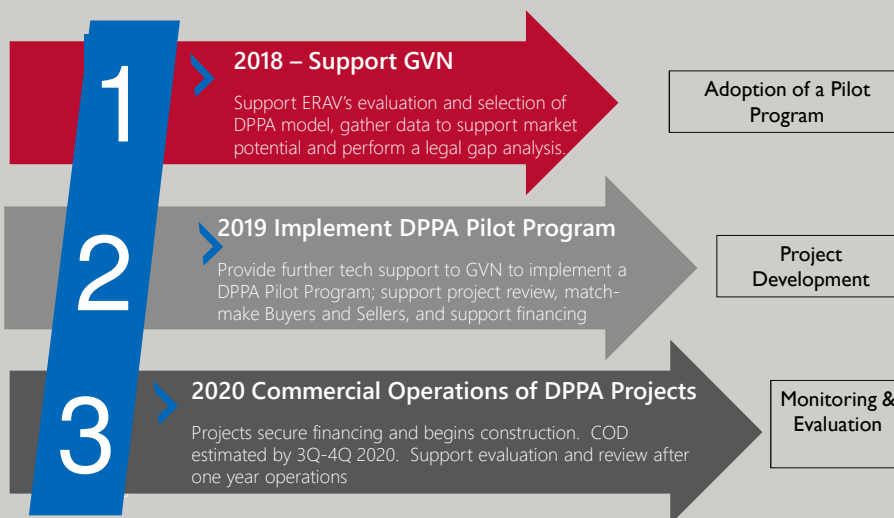
### Design Challenges

1. **Appropriate model selection:** Sleeved model versus synthetic model. Must be attractive to Investors and Buyers, but achievable by operator
2. **Pilot Project Size:** Must be large enough to provide data but small enough to be operationally manageable
3. **Financial Flows Analysis:** Sensitivity analysis to show revenue, taxes and cash flow of the selected DPPA model for all stakeholders
4. **Legal Review:** Strategy for applicable mechanism to "carve out" legal framework for Pilot program to operate in Vietnam
5. **Implementation Plan:** Define how a pilot is managed including operational implementation, project application and criteria for selection. Must also include protections for all stakeholder to feel confident in selection process.

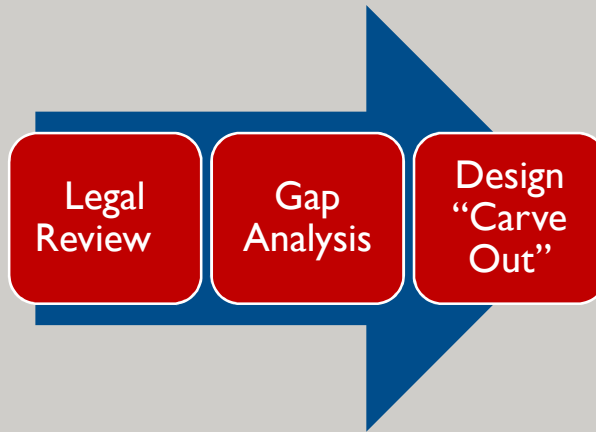
### Pilot Requirements

1. **Enforceability:** DPPA should be defensible and wheeling agreements authorized and fixed
2. **Dispatch and Balance Rules:** Priority Dispatch to prevent commercial default, Consumer balanced power at retail rates
3. **Retail Electricity Market:** pilot participants must qualify as end-users
4. **Retail Price Brackets:** rendered inapplicable by qualifying DPPAs as wholesale transactions
5. **Fees and Costs:** should be exclusively confined to wheeling agreement account for all GVN stakeholder's activities
6. **Wholesale Projects:** should qualify DPPA projects as wholesale pursuant to law (waive size limitation)
7. **Non-Disclosure:** provide delayed discoverability for applicants pursuant to access to information law
8. **Ability to Pool Demand:** Consortia Buyers under a single DPPA specific for apparel industry

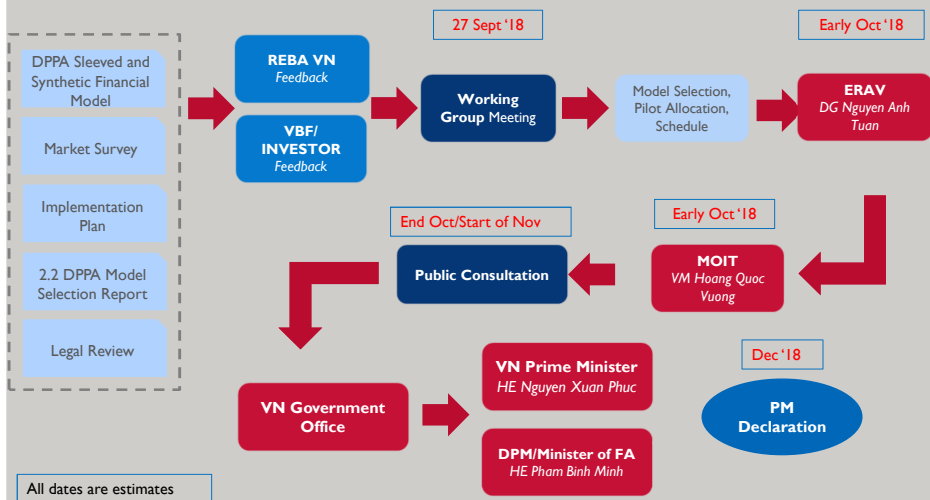
## V-LEEP DPPA Strategy



## Legal Review Strategy



## DPPA 2018 Schedule



Thank you!

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Gary Zieff  
USAID/Vietnam Low Emission Energy  
Program (V-LEEP)

