

Viet Nam Energy Partnership Group
TECHNICAL WORKING GROUP 1: RENEWABLE ENERGY
REPORT OF THE 5TH MEETING

Date: 18 June 2020
Location: MoIT meeting room 101, 25 Ngo Quyen, Hanoi
Time: 15:00 – 16:30

Key agenda points:

- Update on **renewable energy policy and planning**
- Update on **Rooftop Solar Programme**

Chair and Co-Chair:

- **Mr. Nguyễn Ninh Hải**, Director, Division of New and Renewable Energy, Electricity and Renewable Energy Authority, Ministry of Industry and Trade (MOIT)
- **Mr. Sebastian Paust**, First Counsellor, Head of Cooperation and Development - German Embassy

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- EREA/MOIT's Responses on the Comments from Stakeholders on Draft MOIT Circular Stipulating Project Development and Standardized Power Purchasing Agreement for Solar Power Projects

4.2 - Presentations

AGREED CONCLUSIONS AND ACTIONS:

Conclusion/Decision	Action
<ul style="list-style-type: none"> The members of the TWG 1 contributed comments and questions on the Draft MOIT Circular on the Project Development and Standardized Power Purchasing Agreement for Solar Power Project. EREA/MOIT noted the comments and will incorporate the comments into the new circular. Comments and questions from stakeholders and members of the TWG as well as responses from EREA/MOIT are detailed in Annex 4.1 	<p>VEPG Secretariat Members of the TWG</p>
<ul style="list-style-type: none"> Options for solar power auctioning are being developed by the MOIT with support from the World Bank (WB) and the Asian Development Bank (ADB). The options will be reported to the Deputy Prime Minister Mr. Trịnh Đình Dũng for comments and decisions. WB and the Danish Energy Agency (DEA) are working to support the road map for offshore wind power development in Viet Nam. Further details will be presented in workshops in September. The Organization for Economic Cooperation and Development (OECD) is implementing a regional programme: Clean Energy Finance and Investment Mobilisation (CEFIM) Database. The OECD is looking forward to cooperating with stakeholders to implement the programme. 	<p>VEPG Secretariat Members of the TWG</p>
<ul style="list-style-type: none"> Mr. Rainer Brohm announced that he finished his term at the VEPG Secretariat and introduced his successor, Ms. Amber Sharick who will take over the role of the International Coordinator of the VEPG and will arrive in Viet Nam in August 2020. The Chair and Co-chair as well as the members of TWG 4 expressed their sincere thanks to Mr. Rainer Brohm for his commitment and support for the work of VEPG in general and TWG 4 in particular. 	<p>VEPG Secretariat Members of the TWG</p>

ANNEX 1 - AGENDA

15.00-15.05 Log-In & Guidance for Webinar Users

15.00-15.15 Opening. Introduction & Secretariat Report

Mr. Nguyễn Ninh Hải / Mr. Sebastian Paust

- Opening and introduction to the agenda

Mr. Rainer Brohm

- Report of the Secretariat on VEPG planning 2020

15.15-16.15 Updates on Renewable Energy Policy and Planning

- *EREA/MOIT*: Solar FIT 2 consultation process: Q&A on comments and questions from TWG members
- *EREA/MOIT*: Further updates on RE developments, including planning for auctioning
- *WB/Den*: Developing Offshore Wind in Viet Nam – roadmap & activities
- *OECD*: Presentation Clean Energy Finance and Investment Mobilisation (CEFIM) Database (5min intervention)
- *Participants*: Q&A

16.15-16.45 Update on Rooftop Solar Programme

- *EREA/RTS Advisory Board*: Update on RTS Promotion Programme implementation (support activities, monitoring)
- *Participants*: Q&A

16.45-17.00 Closing of the meeting

Mr. Nguyễn Ninh Hải / Mr. Sebastian Paust



ANNEX 2 - Participants

Co-chairs

- **Mr. Nguyễn Ninh Hải**, Director, New and Renewable Energy Division, Electricity and Renewable Energy Authority (EREA), Ministry of Industry and Trade (MOIT)
- **Mr. Sebastian Paust**, First Counsellor, Head of Economic Cooperation and Development - German Embassy

Participants

- **Mr. Martino Melli**, AICS
- **Ms. Margherita Tenedini**, AICS
- **Ms. Nina Seahra**, Canada
- **Ms. Trần Hồng Việt**, Denmark,
- **Mr. Jakob Stenby Lundsager**, Danish Energy Agency
- **Ms. Aisma Vitina**, Danish Energy Agency
- **Mr. Sorensen Storgaar**, Danish Energy Agency
- **Mr. Antoine Van der Elst**, EU
- **Mr. Lê Đại Nghĩa**, Finland
- **Mrs. Fenella Aouane**, GGGI
- **Ms. Lê Thị Mỹ Hạnh**, GGGI
- **Ms. Tạ Thị Thanh Hương**, GGGI
- **Ms. Trần Bảo Minh**, GGGI
- **Ms. Trang Trương**, GIZ
- **Ms. Ha Hương**, GIZ
- **Ms. Hoàng Thúy**, GIZ
- **Ms. Nguyễn Hồng Hạnh**, GIZ
- **Ms. Lê Thị Thoa**, GIZ
- **Ms. Vu Chi Mai**, GIZ
- **Mr. Tobias Cossen**, GIZ
- **Ms. Trần Hải Anh**, Norway
- **Mr. Miguel Moro Aguilar**, Spain
- **Mr. Ivan Boikov**, Russian Trade Representation
- **Ms. Lê Thị Ngọc Bích**, UK
- **Ms. Nguyễn Thị Phương Nam**, UK
- **Mr. Vương Khánh An**, UK
- **Ms. Vũ Thu Hằng**, UNDP
- **Mr. Jaly Mallette**, UNDP
- **Mr. Nguyen Hai Duc**, USAID-VLEEP
- **Mr. Đặng Lê Ngọc**, USAID-VLEEP
- **Mr. Hoàng Trọng Thanh**, Agro-Forestry Association
- **Mr. Lê Tuấn Anh**, Agro-Forestry Association
- **Ms. Nguyễn Thị Phương Anh**, EY
- **Ms. Phạm Phương Hồng**, EY
- **Mr. Phạm Minh Thành**, Wartsila
- **Mr. Jeroen De Watcher**, DEEP-C Clean Energy
- **Mr. Nguyễn Xuân Hòa**, Solar Electric
- **Mr. Liming Qiao**, GWEC
- **Mr. Mark Huchinson**, GWEC
- **Ms. Shuxin Lim**, GWEC
- **Ms. Trịnh Quỳnh Chi**, South East Asia Clean Energy Facility



- **Mr. Nguyễn Đức Tuyên**, Hanoi University of Science and Technology
- **Mr. Vancoppenolle JOO DUK**, Elia Grid international
- **Ms. Trương Ha An**, VIET SE
- **Mr. Pascual Gilles**, EY
- **Mr. Alan Nguyen**, EY
- **Ms. Phạm Trinh**, Infunde Development
- **Mr. Koos Neefjes**, Climate Sense
- **Ms. Phạm Thị Cẩm Nhung**, WWF
- **Mr. Ojasvi Gupta**, Amplus Petronas
- **Mr. Sana Wy**, Amplus Petronas

VEPG Secretariat

- **Mr. Rainer Brohm**, VEPG Secretariat
- **Ms. Nguyễn Phương Thảo**, VEPG Secretariat
- **Mr. Đỗ Quang Nhật**, VEPG Secretariat
- **Ms. Vũ Minh Hiền**, GIZ Support Team

ANNEX 3 - SUMMARY MINUTES

Agenda Item	Note
Introduction & Secretariat Report	<ul style="list-style-type: none"> • <u>Mr. Rainer Bohm, International Coordinator of the VEPG Secretariat</u> welcomed the in-person and online participants to the first hybrid meeting of the VEPG Technical Working Group (TWG) 1 on Renewable Energy (RE) and introduced housekeeping rules for online participants. • <u>Mr. Nguyễn Ninh Hải, EREA/MOIT, Chair of TWG 1</u> welcomed the online and in-person participation from the members of the TWG. The chair 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. • <u>Dr. Sebastian Paust, German Embassy, Co-Chair of TWG 1</u>, also welcomed all participants online and in-persons. The Co-chair also thanked the VEPG Secretariat for their effort in organizing the event which allows all the members of the TWG to discuss the development in the renewable energy sector in Viet Nam as well as the work of the TWG. He highlighted that the hybrid meeting format could be something that can be considered in future meetings. <p>The Co-Chair highlighted important developments in the energy sector in Viet Nam such as the development of the Power Development Plan VIII (PDP VIII) which balances the need for energy security and the need for economic recovery after the COVID-19 pandemic. In addition, solar and wind energy also have seen rapid development. However, there are concerns among developers and investors on the continuation of the positive trend in the promotion of renewable energy such as the policy which will follow the expiration of the second Feed-in-tariffs for Solar Power.</p>
Updates on Renewable Energy Policy and Planning	<ul style="list-style-type: none"> • <u>EREA/MOIT</u>: Draft MOIT Circular consultation process: Q&A on comments and questions from TWG members <p><u>Mr. Nguyễn Ninh Hải, EREA/MOIT, Chair of TWG 1</u> presented the responses on the comments from stakeholders on the draft circular:</p> <ul style="list-style-type: none"> - <u>Decision 13/2020/QĐ-TTg</u> was issued by the Prime Minister on 6 April 2020 stipulated the new FIT for ground-mounted, floating and rooftop solar. - In support of Decision 13/2020/QĐ-TTg, the Ministry of Industry and Trade drafted a Circular to Stipulate the project development process and the standardized power purchase agreement. The circular will try to maintain the small size of application as well as be similar to the previously issued standardized power purchasing agreement as to not affect solar power projects that are being developed since July 2019. - At the request of the EREA/MOIT, the VEPG has collected and compiled the comments from stakeholders and forwarded it to the EREA/MOIT as stakeholders' input to the draft circular. - The EREA/MOIT's responses to the comments by the stakeholders are detailed in Annex 4.1

	<ul style="list-style-type: none"> - The chair thanked all the members and stakeholders on behalf of EREA/MOIT for their valuable comments on the Draft Circular. • <u>EREA/MOIT</u>: Further updates on RE developments, including planning for auctioning <p><u>Mr. Nguyễn Ninh Hải, EREA/MOIT, Chair of TWG 1</u> further elaborated on the plan for solar auctioning which is being supported by WB and ADB. According to the outcomes of the meeting chaired by Vice Prime Minister Mr. Trinh Dinh Dung, there are 3 plans/options for solar power auctioning:</p> <ul style="list-style-type: none"> - Option 1: The RE auctioning will be immediately implemented next year for projects in the Power Development Plan (PDP) as well as those completing the appraisal for addition to the PDP. There are 29 projects in total (8 projects PDP, 21 additional projects which project the total capacity of 1700MW). This also applies to projects which are currently under construction. MOIT will select and report to the Prime Minister on competitive pricing and then include a power purchase agreement with a capacity of 900-1000MW to ensure a certain level of competition. The range of 1000-1700 MW will be selected as the basis for market price competition. The ceiling rate for the FiT price is to be specified in Decision 13. - Option 2: The second option will select a location (lake surface) and apply competitive auctioning for floating PV. If this proposal is approved by the Prime Minister and implemented in 2021, MOIT will proceed to auction for lake locations in 2022. Before that, ADB will conduct a survey on 40 lakes and identify a list of 8 lake locations to submit to the MoIT. Afterward, MOIT will work with the provinces and EVN and report to the Prime Minister for pilot implementation. MoIT will cooperate with WB to develop a bidding mechanism. - WB also proposed substation (above or equal to 110kV) auctioning based on the MoIT power development plan. MoIT and EVN will identify sub-stations with 110 kV and above where there is a surplus of installed capacity. They will open for investors to actively bid and propose connection options. For example, if 300MW is available for auction, investors can find the location and connection point by themselves. The price bidding principle will be from lowest to highest. The bidding agency is the provincial People’s Committee. - Option 3 : Solar Park Auctioning: based on the project location (a lake surface), MOIT will select a site to conduct land clearance and compensation, build transmission lines and connection points. The investors have to bid a competitive price for this single location and the one with the lowest price will be selected. This option is different from substation auctioning in many different locations where many winners can win the bid. Auctioning by the solar park will only allow 1 investor in one location. - Currently, MOIT is waiting for the decision of the Prime Minister before taking further steps. - Responding to a query from the Danish Embassy on permit and risks for the bid-winning investor, the Chair explained that the procedures for the construction permit for the bid-winning investors which include, but are not limited to, investment policy license/approval and the investment registration certificate. A power purchase
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	<p>agreement is a type of license. This is a low-risk process because permits will be granted immediately for the bid-winning investors.</p> <ul style="list-style-type: none"> • <u>WB/Den</u>: Developing Offshore Wind in Viet Nam – roadmap & activities <p><u>Ms. Aisma Vitina, Danish Energy Agency</u> presented the Report on Viet Nam Offshore Wind Potential and Input to Road Map (Annex 4.2). The study looks at offshore wind resource potential and identifies the most promising sites, includes transmission grid integration analysis and will make recommendations to de-risk the investment environment to enable cost-competitive projects. The main outcomes of the study will be presented in their workshop tentatively to be held in September 2020.</p> <p>A representative from World Bank was not available to give the presentation on the Preliminary Findings: Offshore Wind Roadmap for Viet Nam. The full presentation can be found below in Annex 4.2.</p> <ul style="list-style-type: none"> • <u>OECD</u>: Presentation Clean Energy Finance and Investment Mobilisation (CEFIM) Database <p>Ms. Cecilia Tam, Organization for Economic Cooperation and Development (OECD) presented a summary of the new regional programme on Clean Energy Finance and Investment Mobilization (CEFIM) Database (Annex 4.2).</p> <ul style="list-style-type: none"> • <u>Participants</u>: Q&A <p>The members of the TWG discussed more on the topics presented. Below is the summary of the discussion:</p> <ul style="list-style-type: none"> - <u>The extension of the FIT for wind power</u>: the Prime Minister has approved additional 7,000 MW of wind power and has directed the MOIT to review, evaluate and report to the PM on the extension of the Wind FIT. The MOIT, with support from GIZ, will recalculate the Wind FIT in accordance to the existing regulation and report to the Prime Minister.
<p>Update on Rooftop Solar Programme</p>	<ul style="list-style-type: none"> • <u>Mr. Rainer Bohm, International Coordinator of the VEPG</u> presented an update on the Rooftop solar Promotion Programme (Annex 4.2)
<p>Conclusions, agreements, closing remarks</p>	<p>The Chair and Co-chair concluded the meeting with the following remarks:</p> <ul style="list-style-type: none"> • <u>The Chair and Co-chair</u> thanked all members of the TWG 1 on RE for their online and in-person participation. The Chair and Co-chair also expressed their appreciation for the fruitful discussion and their valuable contribution to the MOIT’s Draft Circular. • <u>Mr. Rainer Brohm</u> announced that he finished his term at the VEPG Secretariat and introduced his successor, Ms. Amber Sharick who will take over the role of the International Coordinator of the VEPG and will arrive in Viet Nam in August 2020. • <u>The Chair and Co-chair</u> as well as the members of TWG 1 expressed their sincere thanks to Mr. Rainer Brohm for his commitment and support for the work of VEPG in general and TWG 1 in particular.

Annex 4.1- Consultation Document on

Draft MOIT Circular Stipulating Project Development and Standardized Power Purchasing Agreement for Solar Power Projects

Topics	Comments / Questions from Stakeholders	EREA's Responses
Interpretation of terms		
Rooftop Solar System	<ul style="list-style-type: none"> The Circular should define clearly the term "roof solar PV system" and all components included in the term to ensure proper binding of powers of responsibility in relationships between stakeholders (investors, owners, roof leaser). According to Decision 13/2020/QD-TTg, it is stipulated that to qualify for a "roof solar power system" the system must be put on the roof of construction works. To clarify this concept, an explanation of the term "construction works" or reference to specialized laws (Construction Law) is required to ensure uniformity in application. 	<ul style="list-style-type: none"> The term "construction works" is detailed in Decree No. 46. There is no need to have additional regulations.
Electricity Seller and Electricity Buyer	<ul style="list-style-type: none"> The terms "Electricity buyer" and "Electricity seller" should be further explained in the Circular. Can the electricity seller be the investor or system owner? 	<ul style="list-style-type: none"> The electricity seller can be an investor, owner, etc.
Conversion between units: W and Wp	<ul style="list-style-type: none"> The Circular should explain clearly the conversion between W and Wp 	<ul style="list-style-type: none"> Tentatively, for the rooftop solar system alone, it is possible to consider the limit of "no more than 1.25 MWp".

Development of Grid-Connected Solar Power Projects		
	<ul style="list-style-type: none"> At present, there is no legal framework on licensing the use of water surface of irrigation/hydropower reservoirs for investors in the case that the license for the use of the land area of the reservoir for a limited period was issued to another entity. (For example: In the case of the floating solar power projects on Trị An hydropower reservoir, the investor is now applying for construction permits, but EVN has been granted the license to use the land area of the reservoir. The license for using water surface for a limited period has no legal basis). Will MOIT or another government agency develop a new legal basis for licensing the use of reservoir water surfaces? The requirement of max. 1.2 ha/MW land-use seems not suitable for floating solar power systems but only for ground-mounted solar PV systems. The circular should consider adding an additional area requirement for floating solar power systems (if needed at all, since the requirement was introduced to reduce land-use conflicts which usually do not exist on water surfaces/hydropower reservoirs). In general, the 1.2 ha/MW requirement seems to be too static and limiting the options of project developers e.g. in cases where geography/landscape does only allow projects with a higher ratio but otherwise do not inflict any land-use conflicts. Providing that the minimum 20% equity is inconsistent with higher legal regulations as prescribed in Article 10 of Decree 63/2018 / ND-CP, for the project of over VND 1500 billion, the minimum equity is 10% and according to the provisions of Article 14 of Decree 43/2014 / ND-CP, the equity is required to be at 15% of total investment capital for projects with land use scale of 20 hectares or more. The Circular should provide details on including the grid-connected projects in the power development plan or make clear further regulations on this will be issued. 	<ul style="list-style-type: none"> Licensing regulations are already available. The Ministry of Industry and Trade does not regulate licensing issues. For floating solar projects, it is also necessary to regulate the maximum limit at 1.2ha/MWp to avoid the registration for too many areas to save the water surface for other activities. The draft will be adjusted to remove this content Planning-related issues are in compliance with the Law on Planning. The Ministry of Industry and Trade does not have any regulations on them

Amending Sub-clause 3, Article 3, Circular 36/2018/TT-BCT		
	<ul style="list-style-type: none"> The scope of the Draft Circular does not include the amendment of Circular 36/2018/TT-BCT. Therefore, if the Draft Circular was to amend Circular 36/2018/TT-BCT, the name of the Draft Circular should reflect this. The amendment to this sub-clause 3, Article 3 of Circular 36/2018/TT-BCT is not necessary as the Electricity Regulatory Authority of Viet Nam (ERAV) is developing a similar circular with detailed proposals on electricity licenses and amending Circular 36/2018/TT-BCT The circular should clarify the requirement for “01 location”, especially for large industrial park/zone. Will multiple systems on different buildings within an industrial park/zone be considered as 01 location? a rooftop can be classed as one location or if it can be broken up into separate locations by installing a number of 1MWp systems on the same roof (e.g. on a large factory) provided these have separate inverters and meters? 	<ul style="list-style-type: none"> The revision of Circular No. 36 is expected to be finalized after the Circular on solar power. This content is rewritten to ensure the overall harmonization.
Procedures for Development of Rooftop Solar Power System		
<p>Business models</p>	<ul style="list-style-type: none"> The circular should clearly define different investment models to sell electricity (Investor, owner, roof leasing cases) with different customers such as selling electricity to EVN, selling electricity directly to the third parties, or selling electricity without using EVN's power grid to facilitate the application while developing the appropriate procedures for applying the Circular. For example, in case the Electricity Buyer is not EVN, the application of steps to confirm the ability of the Electricity Buyer to connect, release the capacity or register the connection as prescribed in Clause 2, Article 6 is not suitable. The circular should clearly define who may be the electricity seller to EVN of surplus generated from the system if a PPA has been signed between an 	<ul style="list-style-type: none"> These contents are reviewed and rewritten as follows: "the rooftop solar system is exempted from electricity operation license."

	<p>Electricity Seller and an Electricity Buyer not being EVN, the system owner, or the industrial customer (if not the system owner). Can this be freely agreed upon by the parties to the private PPA?</p> <ul style="list-style-type: none"> The circular should clarify if every electricity seller needs to register the business line [VSIC 3511] of electricity generation. For example, if the electricity seller's main business is not power generation (such as a manufacturer that sells the surplus to EVN) compared with a developer/investor whose main business is the investment in solar rooftop systems and power generation, does such seller need to register the relevant business lines to sell excess electricity to EVN. A number of provinces take the view that for a rooftop solar developer to own a rooftop solar system that is installed on a factory inside an industrial park, the developer (if not already registered in that province) would need to obtain a registration for a local business establishment (such as a branch or business location). For foreign-invested rooftop solar developers, this means having to obtain an investment registration certificate (IRC) in that province. Based on the feedback from a number of industrial park management boards, a developer would only be permitted to register a branch/business location (and, for foreign-invested solar developers, to obtain an IRC) if the developer leases its own factory in the industrial zone. A lease of rooftop space of an existing tenant would be insufficient in the eyes of some of the industrial park management boards. This would severely impact the feasibility of expanding solar rooftop projects and guidance from the MoIT to the industrial park management board in this respect would be crucial to ensure the success of the rooftop solar policies. 	<ul style="list-style-type: none"> If the electricity buyer is not the EVN, the electricity seller and buyer shall conduct self-negotiation with each other. The Ministry of Industry and Trade only provide guidelines on contents related to electricity, not business registration, etc.
<p>Procedures and guidance for the development</p>	<ul style="list-style-type: none"> The Draft Circular should clarify and clearly identify the procedures and requirements for applications for the development of solar power projects, especially for the rooftop solar power project. The procedures and requirements should be agreed with EVN and be unified among PCs. The information for the procedures and requirements should be published and widely disseminated in a transparent manner. 	<ul style="list-style-type: none"> EVN has issued guidelines on procedures for registering the rooftop solar system in an adequate, transparent and clear manner on the website of the EVN and its provincial branches.

<p>Opinions about the ability to connect and release capacity</p>	<ul style="list-style-type: none"> • The Circular should clarify the mechanism of assessment (post-inspection) of the Purchaser's performance of responsibilities. • The Circular should clarify the responsibilities of the buyer and ensure the rights of the seller as the buyer cannot refuse to buy without a valid reason. • The Circular should be clear about procedures for connecting and releasing capacity for different customers such as households, industries, and commercial buildings, which should be clarified because each customer classification has Various installation conditions and sizes. • Power companies need to publicize and update regularly the designed capacity for solar power of each regional substation / electrical system so that customers/investors are known to invest accordingly. 	<ul style="list-style-type: none"> • Currently, due to a large number of substations and 35 kV (or lower) lines, the EVN has not yet updated online the available power for rooftop solar power. The Ministry of Industry and Trade has directed the EVN and will collaborate with donors to realize this task. • Currently, due to the time limit, the Circular has not yet told the difference between household customers and industrial, commercial customers in detail.
<p>Perform Monitoring, testing, and Commission</p>	<ul style="list-style-type: none"> • The Circular should clearly state the separate responsibilities of the parties, including the investor, owner, seller and buyer in this process. 	<ul style="list-style-type: none"> • The Ministry of Industry and Trade does not have any regulations to delineate responsibilities among the investor, owner and others and only takes control over regulations on the power buyer (if it is the EVN) and power seller.
<p>Entry into Force</p>		
<p>Circular 16/2017/TT-BCT and Circular 05/2019/TT-BCT</p>	<ul style="list-style-type: none"> • The Draft Circular once issued will replace Circular 16/2017/TT-BCT, however, the Draft Circular does not mention Circular 05/2019/TT-BCT. Will the Draft Circular will also replace Circular 05/2019/TT-BCT? 	<ul style="list-style-type: none"> • It is applicable to replace Circular No. 05
<p>Power Purchasing Agreement for Grid-Connected Solar Power Projects</p>		

<p>Environmental attribute</p>	<ul style="list-style-type: none"> It would be a positive step forward for the model PPA to include a clause concerning environmental attributes like RECs and to make it clear that these are to be allocated to the project owner. 	<ul style="list-style-type: none"> It is out of the scope of the power purchase agreement. In fact, rooftop solar projects are benefiting from this part.
<p>Article 1, Clause 6 Average inter-bank transaction interest rate</p>	<ul style="list-style-type: none"> The average inter-bank transaction interest rate is the 1-month inter-bank average interest rate announced by the State Bank of Vietnam at the time of payment. 	<ul style="list-style-type: none">
<p>Article 4, Clause 5, Sub-clause b Compound interest</p>	<ul style="list-style-type: none"> The term compound interest (<i>ghép lãi</i>) has no meaning and definition in finance. The dispute is calculated at the interbank interest rate of 1-month using interbank interest rates which is incompatible with financial transaction practices in Vietnam. Loan contracts & financial transactions do not use the interbank interest reference but are often used as the average of deposit interest 12-month individuals of VCB, VietinBank, and BIDV. Interbank interest rates do not reflect the Seller's financial costs/benefits and interbank interest rates are lower than commercial bank deposit rates for the same term about 1.5%. 	<ul style="list-style-type: none">
<p>Article 5 Force Majeure</p>	<ul style="list-style-type: none"> The definition and a list of force majeure events should be included in the PPA. In addition, the force majeure events should not have to be “published by state agencies or other organizations” 	<ul style="list-style-type: none"> Due to the short time, it is only applicable to projects with investment guidelines before November 23rd, 2019, the Ministry of Industry and Trade tries to keep the power purchase agreement the same assigned solar power projects without any major changes.

<p>Article 7, Clause 5 Termination of the Agreement in case of breach</p>	<ul style="list-style-type: none"> In the case in which the Seller is the indemnity holder and decides to terminate the Agreement, Seller's right to indemnification is capped at an inadequate/excessively low level. The indemnity should be calculated in a different method to ensure appropriate indemnity for the sellers (i.e Percentage of the remaining PPA period) 	<ul style="list-style-type: none"> The competitive auctioning mechanism will be considered to be applied in the power purchase agreement.
<p>Article 8 Dispute settlement</p>	<ul style="list-style-type: none"> It would be more comfortable for foreign investors if the PPAs would include international arbitration as an option for dispute resolution 	<ul style="list-style-type: none"> The competitive auctioning mechanism will be considered to be applied in the power purchase agreement.
<p>Article 9, Clause 1</p>	<ul style="list-style-type: none"> It is not clear why in the event of entrustment or transfer of the agreement, the regulations on rights and obligations shall remain effective for the parties' legal representatives or authorized representatives. Commonly, such as security, only the rights under the PPA should be assignable. The seller (as the owner of the power plant) would remain responsible for the obligations under the PPA, however, not the legal representatives or authorized representatives in their individual capacity. Does the Circular allow a concurrent transfer of the agreement (together with a transfer of the project), which would be a welcome development to improve the bankability of the PPA The Regulation on transfer and entrustment of the power purchase agreement must be approved in writing by the buyer. This provision needs more details on the length of time for the Buyer to issue this document when the order is received and the conditions for refusal to issue the document. The Circular should ensure that the electricity buyer should not be allowed to refuse without valid reasons. The phrase "trusted part is approximately equal to the value of the operating equipment, is valid" in this case, is it understood that the entrustment is automatically valid and does not require the buyer's written letter of acceptance? 	<ul style="list-style-type: none"> The competitive auctioning mechanism will be considered to be applied in the power purchase agreement.

	<ul style="list-style-type: none"> The Circular should clarify the method to estimate the approximate value of the device (For example: how much is the difference, the value is the market price, the original cost depreciated, the depreciation method) to avoid the buyer has no basis to issue the letter of acceptance. 	
Change of law	<ul style="list-style-type: none"> The PPA model does not mention what will happen in the case of a change in laws or regulations. This creates a negative perception of the return of the project for possible international investors. We would like to suggest the model PPA should accommodate the change in law provisions under Article 13 of Vietnam Law on Investment 2014. 	<ul style="list-style-type: none"> The competitive auctioning mechanism will be considered to be applied in the power purchase agreement.
End of PPA Period	<ul style="list-style-type: none"> The possible solutions at the end of the PPA period (extension of PPA or new PPA) and are not specified in a way that let the Seller evaluate them in a financial model. The present statement includes two possibilities both subject to negotiation but does not specify the conditions if an agreement is not reached (change of ownership or dismissal of the plant). 	<ul style="list-style-type: none"> The competitive auctioning mechanism will be considered to be applied in the power purchase agreement.





Viet Nam Energy Partnership Group Technical Working Group 1 – Renewable Energy

5th Meeting – 18 June 2020
MOIT, Ha Noi/Online

1

Key Objectives of the Meeting

- **Update and exchange on current developments** in the renewable energy sector – market, policy, planning
 - **Solar FIT 2**
 - **Wind FIT extension**
 - **Bioenergy**
 - **Offshore Wind**
 - **Rooftop Solar**

2

Agenda

Time	Subject
15.00-15.15	1. Opening remarks, overview of the agenda <ul style="list-style-type: none"> Mr. Nguyễn Ninh Hải/ Mr. Sebastian Paust Secretariat updates on VEPG activities
15.15-16.15	2. Updates on Renewable Energy Policy and Planning <ul style="list-style-type: none"> <u>EREA/MOIT, Chair</u>: Solar FIT 2 consultation process, Q&A on comments and questions from TWG members <u>EREA/MOIT, Chair</u>: Further updates on RE development (wind, bioenergy, auctioning) <u>WB/DEN</u>: Offshore Wind in Vietnam – Roadmap development and support activities OECD: Presentation of Clean Energy Finance and Investment Mobilisation (CEFIM) Database <u>Plenary</u>: Q&A and discussion
16.15-16.45	3. Update on Rooftop Solar Development and Support Activities <ul style="list-style-type: none"> <u>VEPG Secretariat/RTS Program Advisory Board</u>: Update on RTS market development and RTS Promotion Program implementation (support activities, monitoring) <u>Plenary</u>: Q&A and discussion
16.45-17.00	4. Conclusions and closing remarks <ul style="list-style-type: none"> Mr. Nguyễn Ninh Hải/ Mr. Sebastian Paust

3

Top 1: Opening and Introduction

TWG 1 Chair:

- *Mr. Nguyễn Ninh Hải, Director of Renewable Energy Division, EREA/MOIT*

TWG 1 Co-Chair:

- *Dr. Sebastian Paust, Head of Development Cooperation, German Embassy Hanoi*

4

Top 1: Secretariat Report on VEPG Activities

VEPG Secretariat:

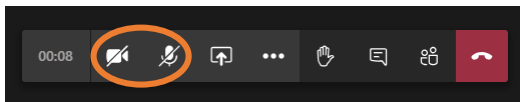
- *Mr. Rainer Brohm, International Coordinator*

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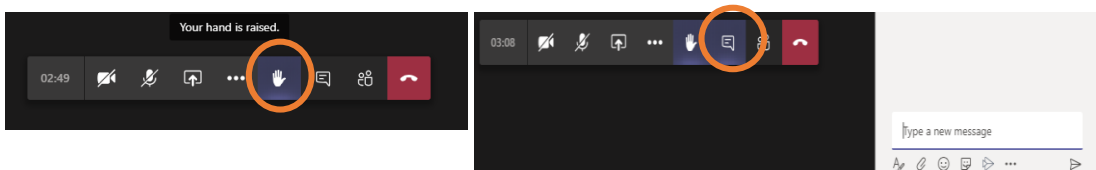
Welcome to the first Live+Virtual TWG Meeting!

Instructions for online participants

- Please keep your **microphone muted** and your **video feed turned off**:



- You can **ask questions** using the **chat box** and/or **raise hand function**. We will unmute you so that you can ask questions



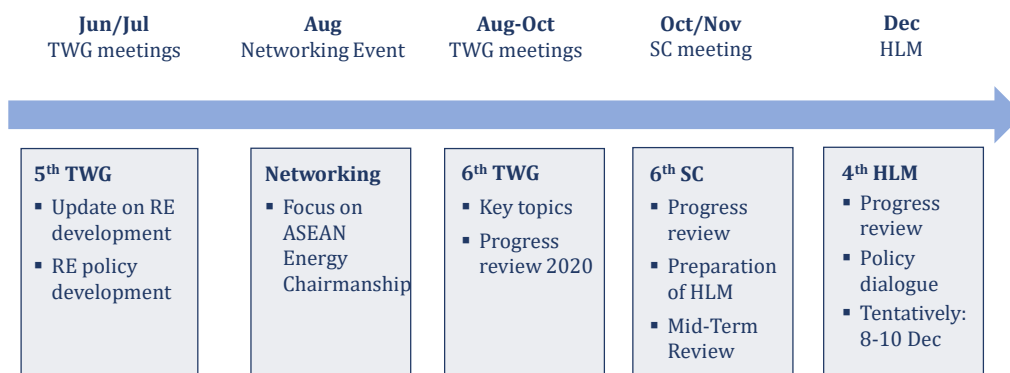
6

Adjusted VEPG Operation in 2020











Due to Corona-Virus restrictions and Secretariat transition:

- **TWGs meet online or in hybrid** form (physical and online participation).
- No (6th) **Steering Committee meeting** in the first half of 2020
- **Mid-Term Review of VEPG** (decision in last Steering Committee meeting) postponed to September 2020.
- **Networking event** planned for August 2020 (focus topic **ASEAN Chairmanship Vietnam**).
- **High-Level Meeting 2020** further planned for December 2020 (half-day meeting with focus on policy dialogue and progress of VEPG work).

VEPG – Timeline for 2020



TWG's 5th Round of Meetings – Overview

TWG	5 th Meeting	Key Topics/Highlights
TWG 1 RE 	 18 June 2020	<ul style="list-style-type: none"> • Updates on current policy processes (Solar FIT 2, on- and offshore wind, RTS program, bioenergy FIT etc.) • Outlook to 2021 (auctioning)
TWG 2 EE 	 24 June 2020	<ul style="list-style-type: none"> • Presentation and discussion on draft National EE Action Plan (NEEAP) 2020-2025 • Focus topic Energy Efficiency Foundation (sub-working group)
TWG 3 ESR 	 Mid-July	<ul style="list-style-type: none"> • Report on first half year of VWEM operation • Update on DirectPPA process and pilot scheme
TWG 4 EA 	 30 June 2020	<ul style="list-style-type: none"> • Progress on implementation of Rural Electrification Program • Discussion of Energy-Agriculture nexus – biogas technologies for rural areas
TWG 5 D&S 	 July/August	<ul style="list-style-type: none"> • Discussion on VEIS implementation • Discussion of PDP 8 progress/ first studies and scenarios

Follow up on 4th TWG 1 meeting (23 Sep 2019)

- **Update on RE market development and policy process** (Solar FIT 2, Biomass FIT consultation, Waste-to-Power, Auctioning).
- Presentation and discussion of **MOIT/EVEF study on Grid integration** in the Southwestern region.
- Discussion of **Progress in TWG 1 work** (Progress Report to be presented at High-Level Meeting 2019).



Transition of VEPG Secretariat Coordination

- VEPG assignment of current International Coordinator ends in June.
- The **new International Coordinator, Ms. Amber Sharick**, will start operation in Hanoi in early July.
- Ms. Sharick will introduce herself in the planned **Networking Event in August** (depending on ASEAN event calendar) or latest in the 6th TWG 1 meeting in autumn.
- The **Secretariat team** with Ms. Thao and Mr. Nhat will **provide continuous support** for VEPG members in the transition time and beyond!



Top 2: Updates on Current RE Developments

[EREA presentation](#)

EREA/MOIT:

- *Mr. Nguyễn Ninh Hải, Director of Renewable Energy Division, EREA/MOIT*

- **Solar FIT 2/ Draft Circular**
- Wind FIT extension
- Bioenergy
- Auctioning

VIET NAM ENERGY PARTNERSHIP GROUP Consultation Document on	
Draft MOIT Circular Stipulating Project Development and Standardized Power Purchasing Agreement for Solar Power Projects	
The following comments and questions from energy sector stakeholders were collected and documented by the VEPG Secretariat during the public consultation period of the Draft Circular stipulating Project Development and Standardized Power Purchasing Agreement for Solar Projects which was published on the VEPG's Website between 4 May 2020 to 12 May 2020. This document was forwarded to the Electricity and Renewable Energy Authority (EREA) as a part of the consultation of the Draft Circular.	
Topics	Comments / Questions from Stakeholders
Interpretation of terms	
Roof-top Solar System	<ul style="list-style-type: none"> • The Circular should define clearly the term "roof solar PV system" and all components included in the term to ensure proper binding of powers of responsibility in relationships between stakeholders (investors, owners, roof leaser). • According to Decision 11/2020/QĐ-TTg, it is stipulated that to qualify for a "roof solar power system" the system must be put on the roof of construction works. To clarify this concept, an explanation of the term "construction works" or reference to specialized laws (Construction Law) is required to ensure uniformity in application.
Electricity Seller and Electricity Buyer	<ul style="list-style-type: none"> • The terms "Electricity buyer" and "Electricity seller" should be further explained in the Circular. Can the electricity seller be the investor or system owner?
Conversion between units: W and Wp	<ul style="list-style-type: none"> • The Circular should explain clearly the conversion between W and Wp
Development of Grid-Connected Solar Power Projects	

Top 2: Updates on Current RE Developments

EREA presentation

EREA/MOIT:

- *Mr. Nguyễn Ninh Hải, Director of Renewable Energy Division, EREA/MOIT*
- Solar FIT 2/ Draft Circular
- **Wind FIT extension**
- **Bioenergy**
- **Auctioning**

Top 2: Updates on Offshore Wind Development

Member presentations

Danish Energy Partnership Programme:

- *Ms. Aisma Vitina, Special Advisor, Centre for Global Cooperation, Danish Energy Agency*

World Bank:

- *Mr. Tran Hong Ky, Senior Energy Specialist*



Top 3: Update on Rooftop Solar Development

VEPG Secretariat on behalf of the RTS Program Advisory Board:

- *Mr. Rainer Brohm, International Coordinator*

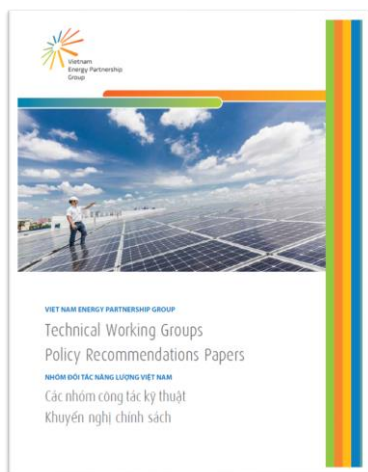


Rooftop Solar Promotion Program

- Launched in **July 2019** with **MOIT Decision 2023/QĐ-BCT**
- **Key objective:** support for **100,000 Rooftop Solar (RTS)** systems **by 2025** (equivalent of **1,000MWp**)
- **Program components:**
 - Policies, regulations, studies on potentials and impacts
 - Standards, guidelines and codes for grid connection, equipment, installation and operation
 - Market support and pilot programmes
 - RTS training and certification programme
 - Information management, communication and awareness raising
- **Program website:** <http://rooftopsolar.com.vn/>



VEPG Support for Rooftop Solar Development



- Key part of **TWG 1 Policy Recommendations**: „Improvement of incentive mechanisms for Rooftop Solar“
- Regular **VEPG member input and MOIT support** (e.g. consultation on Solar FIT 1 and RTS Promotion Program in March 2019)
- **VEPG Secretariat** supports EREA/MOIT in **monitoring the RTS Program**
- Publication of monthly RTS market data (EVN data source) in **VEPG Factsheets**: <http://vepg.vn/resources/knowledge-database/>

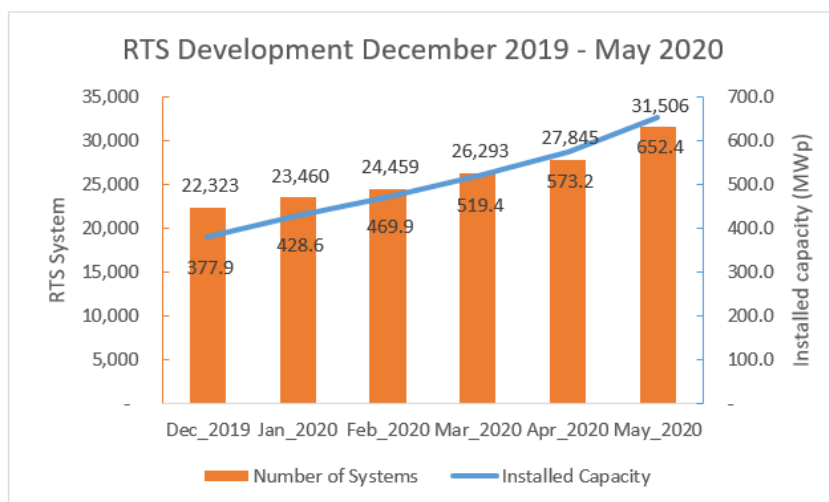
19/09/2019

Vietnam Energy Partnership Group

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17

Rooftop Solar – Market Development 2019-2020



RTS Market May 2020

- **652 MWp**
- **31,500 PV systems**
- **Monthly** installation of **40-50MWp** (1,000-1,800 systems) until May 2020 (even with no FIT in place!)
- **1,000 MWp by end of 2020?**

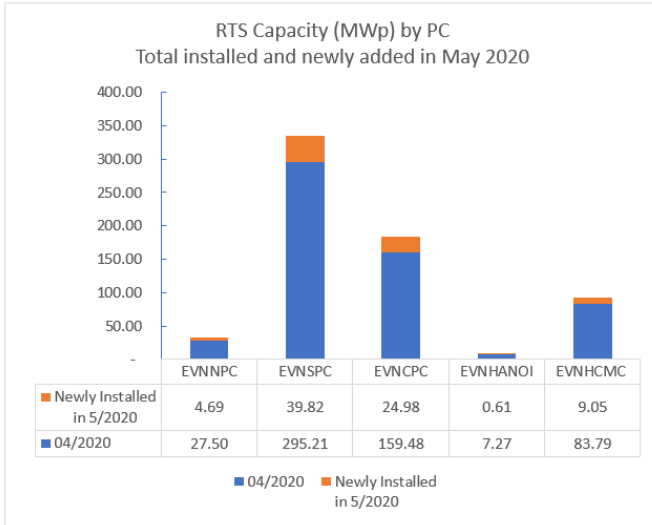
19/09/2019

Vietnam Energy Partnership Group

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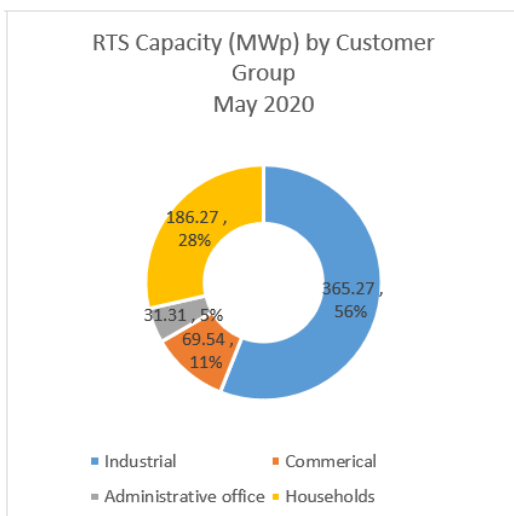
Rooftop Solar – Market Development May 2020



Regional Distribution:

- EVN SPC: 335 MWp (51%)
- EVN CPC: 184 MWp (28%)
- EVN HCMC: 93 MWp (14%)
- EVN NPC: 32 MWp (5%)
- EVN Hanoi: 8 MWp (1.2%)

Rooftop Solar – Market Development May 2020

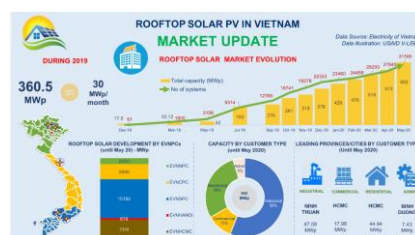


Market Segments:

- Industrial: 356 MWp (56%)
- Commercial: 186 MWp (28%)
- Public Buildings: 70 MWp (11%)
- Households: 31 MWp (5%)

RTS Promotion Program Implementation

- RTS Program **Advisory Board** established in 2019
- Draft **Framework for Monitoring & Evaluation** developed
- **Communication plan** developed
- Official **website** of the RTS Program developed and online: <http://rooftopsolar.com.vn>
- Website includes **Solar Calculator** (NREL cooperation) and further information for investors and developers
- Further content to be added in the coming weeks and months (e.g. **RTS Investment Guidelines and template contracts** for corporate PPA, solar lease, roof lease and O&M)



RTS Promotion Program Implementation

Ongoing Program Activities:

- Development of **Certified Solar Installer Program** in cooperation with selected TVET colleges (EVEF/GIZ activity, started in May 2020)
- Development of **Investment Guidelines** for Commercial-Industrial Rooftop (GIZ activity, publication of Guidelines in July 2020)
- Development of **Solar Quality Passport for RTS systems** in cooperation with EVN (EVEF/GIZ activity, start in July 2020)
- **Stakeholder Consultation meetings** with private sector on barriers and solutions to accelerate RTS development (USAID/V-LEEP activity in collaboration with CEIA/REBA, ongoing)

Closure of the Meeting

Mr. Nguyễn Ninh Hải, Director of Renewable Energy Division, EREA/MOIT

Dr. Sebastian Paust, Head of Development Cooperation, German Embassy Hanoi

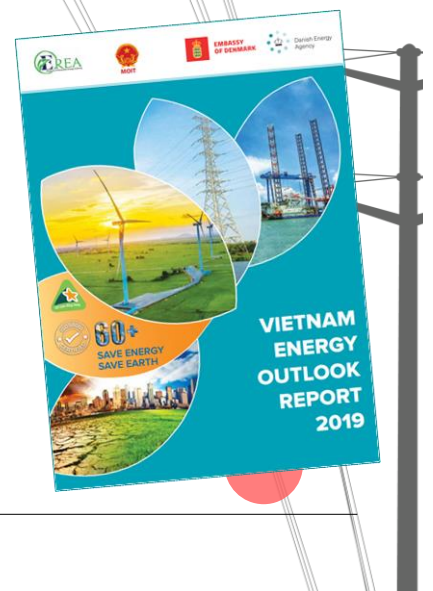




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The Danish Energy Agency is supporting EREA with the development of offshore wind in Vietnam

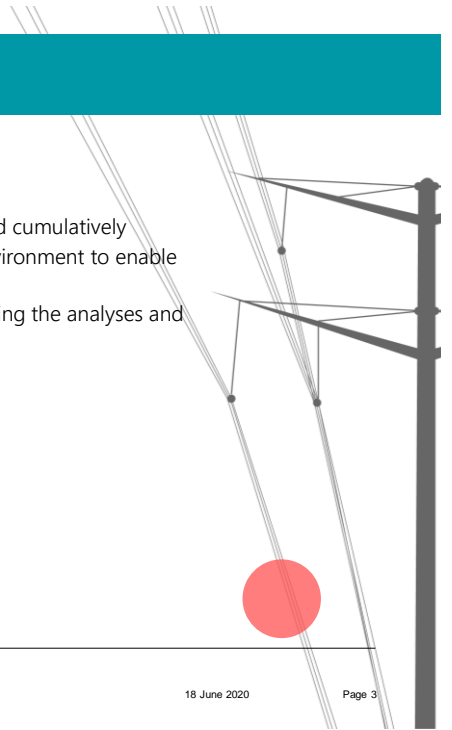
- Government to Government cooperation since 2013 (Comprehensive Partnership Agreement signed)
- Energy Outlook reports published in 2017 and 2019
- Offshore wind added mid-2019 at request of EREA



2

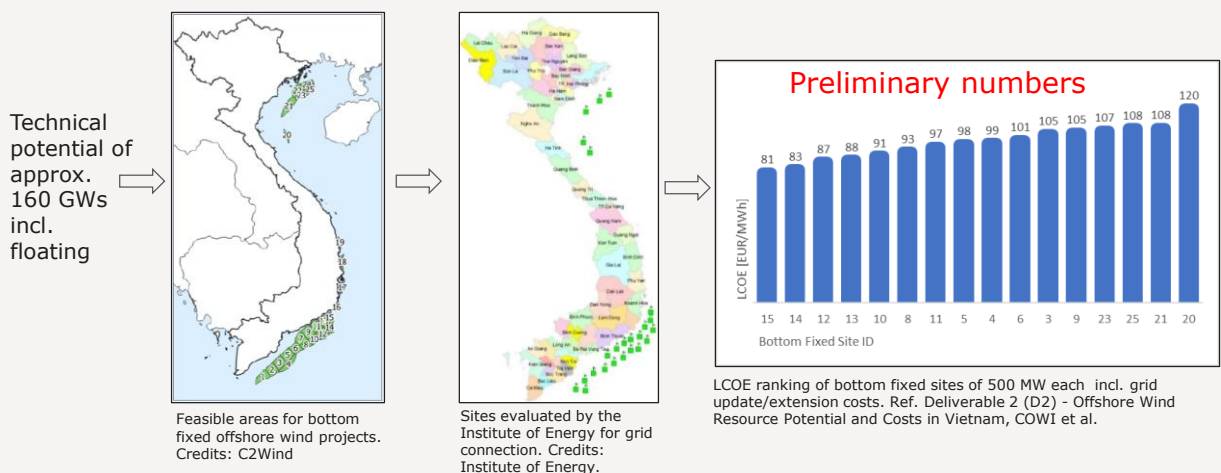
Scope of current EREA-DEA offshore wind study

- GIS study on offshore wind resource potential
- LCOE analysis for identified most promising sites
- Transmission grid integration analysis of the identified sites – individually and cumulatively
- Offshore wind project developer perspectives: de-risking the investment environment to enable cost-competitive projects
- Input for Roadmap on Offshore Wind Development in Vietnam – consolidating the analyses and putting forward recommendations on key issues:
 - Setting a vision and targets
 - Demonstration vs. large-scale
 - FiT vs. competitive auctions
 - Permitting and one-stop-shop
 - Centralized vs. decentralized planning
 - Competence, skill development and supply chain
 - Standards and Certification
 - Cost reduction trajectory



3

Study on Vietnam offshore wind potential and LCOEs

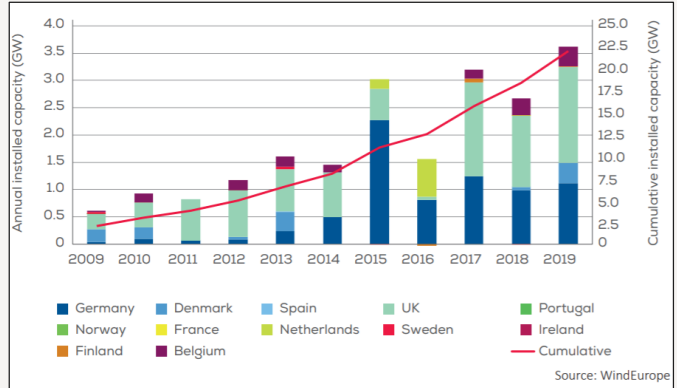


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ROADMAP INPUT

Setting a vision and targets

- > **Clear, long-term and progressive capacity deployment targets are essential** to coordinate policy/framework on a government level and give the industry the confidence that is needed to attract the interest and investments that are required to support offshore wind development in a new market



Annual offshore wind installations in Europe by country (left axis) and cumulative capacity (right axis) in GW. Credits: WindEurope.

5 | 19 05 2020
VIRTUAL MEETING

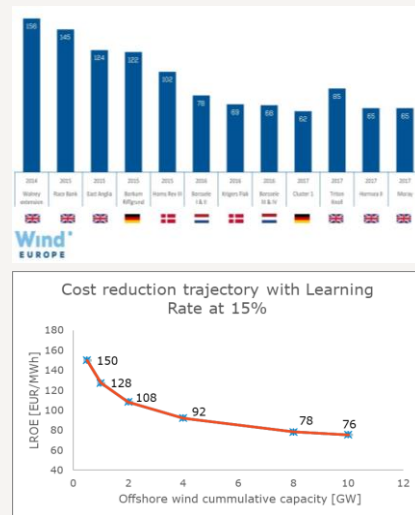
COWI

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ROADMAP INPUT

Cost reduction trajectory

- > Despite the exact starting high cost level, offshore wind is an energy source which typically shows **best cost-benefits in view of a phased long-term project pipeline development**. Take Taiwan as an example, which within a short period of time attracted global players, benefited from substantial cost reductions and emerged as a leading offshore wind market in East Asia. Noting that three key factors contributed to Taiwan success story: clear long-term targets, progressive transition from FiTs to competitive bidding and spatial planning supported by consenting regime



6 | 19 05 2020
VIRTUAL MEETING

COWI

6

ROADMAP INPUT

Overview of recommendations


With a vision of 10 GW of offshore wind in Vietnam by 2030, and building upon the analysis presented in the full report, the below summarizes draft high-level recommendations for the offshore wind sector kick-start and build-out in Vietnam:

- > Set out clear, long-term and progressive targets for offshore wind energy deployment in Vietnam
- > Designate a government lead nodal agency to front the permitting and consent process of offshore wind projects and to act as a one-stop-shop, streamlining the permit and consent process at both national and provincial levels
- > Initiate zoning of areas for offshore wind project development in Vietnam considering e.g. deployment targets, LCOE study, offshore wind spatial requirements, maritime spatial constraints, ports and harbours, grid connection, stakeholders and provincial level consultations
- > Kick-start of the sector through the award of a phased large-scale project. Award the first projects through a stable long-term FIT which should be secured at a sufficient high level to attract market interest. Ensure bankable PPA contract prior to the award of the first project, in consultation with project developers and lenders
- > Assess skill gaps and plan national competence building in view of offshore wind capacity deployment targets. Allow for organic supply chain build-out and sector consolidation, before considering hard local content requirements
- > Integrate to international best practice with respect to wind farm design and certification
- > Draw cost reduction trajectory scenarios, in order to account for long term cost benefit of offshore wind and assess pathways of long-term cost competitiveness of offshore wind against other energy generation technologies

7 | 19 05 2020
VIRTUAL MEETING

COWI

7



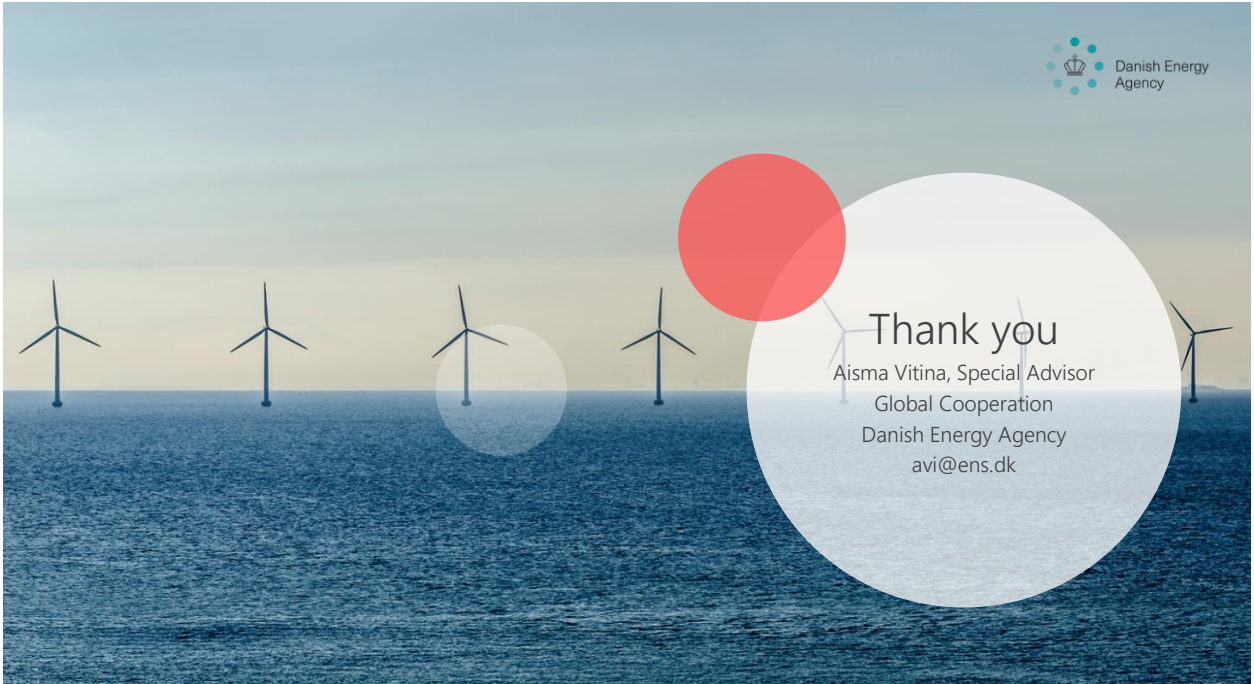
The full report and its recommendations will be presented at a physical workshop in Hanoi on

09 September 2020

(Covid-19 situation allowing)

Danish Energy Agency

8



 Danish Energy Agency

Thank you

Aisma Vitina, Special Advisor
Global Cooperation
Danish Energy Agency
avi@ens.dk

OFFSHORE WIND ROADMAP FOR VIETNAM: PRELIMINARY FINDINGS

JUNE 10, 2020



1

Vietnam Offshore Wind Roadmap Objectives

Team led by BVG Associates was appointed in March 2020

Objectives:

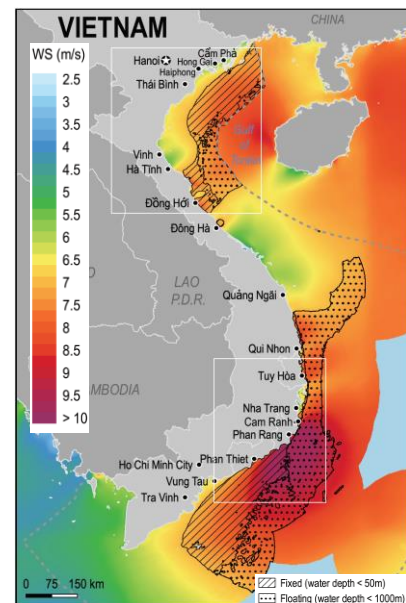
Provide strategic analysis to the Government on the role that offshore wind could play in meeting future power demand, the key opportunities and challenges, and recommendations on next steps in terms of policy formulation, planning and developing a pipeline of bankable projects

Create a vision for offshore wind in Vietnam to 2050 that defines:

- Why Vietnam should pursue offshore wind
- The scale of the opportunity
- The benefits to Vietnam

Prepare a roadmap to deliver the vision by defining:

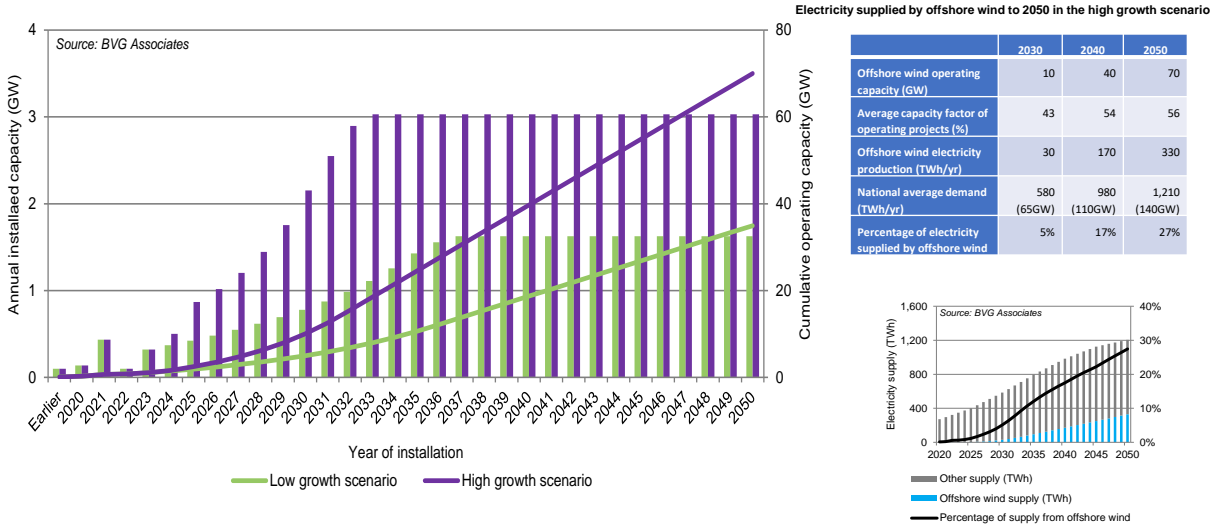
- Enabling frameworks
 - Leasing and permitting
 - Government procurement
 - Health and safety
- Enabling infrastructure
 - Transmission
 - Ports



2

Initial Findings – Offshore Wind Deployment Scenarios

High & low growth scenarios include nearshore, fixed & floating capacity

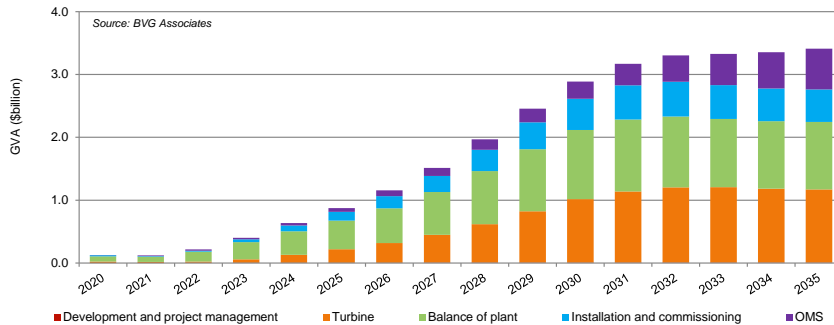


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Initial Findings - Economic Development Potential

- Low growth scenario (5GW by 2030 and 35GW by 2050)
 - Limited local supply chain, fewer exports, slower reduction in LCOE
 - US\$13bn local gross value added between 2020-2035
- High growth scenario (10GW by 2030 and 70GW by 2050)
 - Greater local supply chain capacity, larger proportion of local content, more exports
 - Larger economic benefits to Vietnam: US\$50bn between 2020-2035 (inc. exports)

Vietnamese annual GVA created by all Vietnamese projects in the high growth scenario, split by cost element



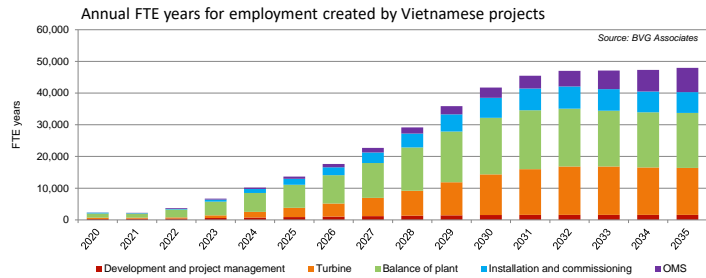
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Initial Findings – Job Creation (high growth scenario)

Excellent potential for Vietnam to supply towers, blades, foundations and cables

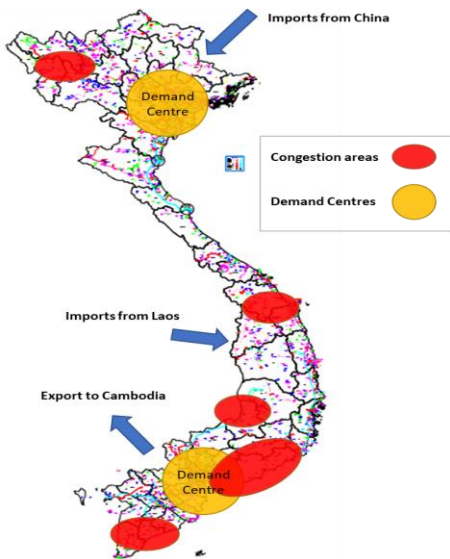
Local market offers huge potential for sustainable job creation

Including potential for exports to other markets, 700,000 FTE years could be created between 2020 and 2035



5

Initial Findings – Transmission Upgrade



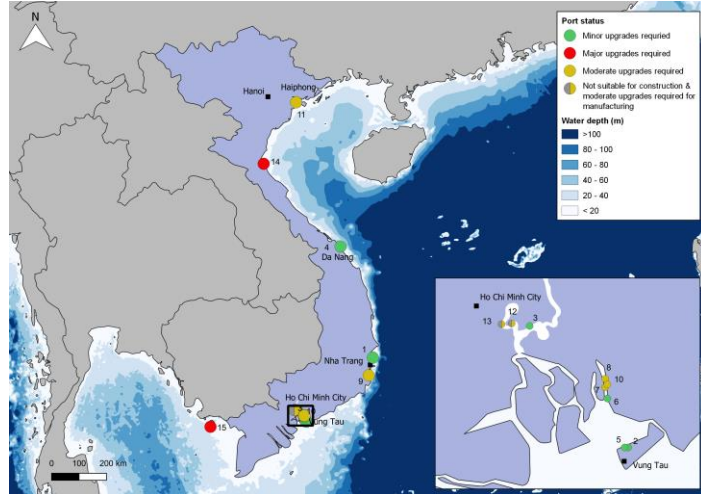
- The PDP 7 transmission planning is not sufficient for the offshore wind scenarios
- The reinforcement would be included in PDP 8
 - Local substations
 - North - South transmission network
 - Reactive compensation requirements
 - Potentially HVDC

6

Initial Findings – Ports & Infrastructure

- Many ports have the space for manufacturing as well as construction – 6 ports only need minor upgrades
- The ports around Ho Chi Minh/Vung Tau could, together, form a cluster

Criteria	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
	Vinh Hai Port	Vietnam Bay	Vietnam Bay	Vietnam Bay	Tan Cang Cat Lai Terminal	Tien An Port	Tan Cang - Chi Mai Terminal	Tu Vu General Port	BTU	Cam Ranh Port	Phu My My Port	Phu My My	WCT	Phu My My	Nghe Tinh	Bong Dong Port
Space - construction port	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3
Space - manufacturing port	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3
Duty length	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3
Quayside UDLbearing capacity	4	4	3	3	4	3	2	2	3	2	3	3	3	3	3	2
Storage area UDLbearing capacity	4	5	4	4	4	3	3	3	4	3	3	3	4	3	3	3
Channel depth	5	3	5	5	3	5	5	5	5	5	5	4	5	4	2	5
Channel width	5	3	5	5	3	5	5	5	5	5	5	4	5	4	2	5
Crane capacity – turbines	4	5	3	2	5	3	3	2	2	3	2	3	2	3	2	1
Crane Capacity – foundations	4	5	3	2	5	3	2	2	2	2	2	3	2	2	2	1
Overhead clearance	5	5	5	5	5	5	5	5	5	5	5	5	1	1	5	5
SPMT	4	5	4	4	5	4	3	4	4	4	4	4	4	4	4	2
Mobile crane	4	5	4	4	5	4	4	4	4	4	4	4	4	4	4	2
Crawler crane	4	5	4	4	5	4	4	4	4	4	4	4	4	4	4	2
Other facilities	5	5	4	4	5	4	4	4	2	4	4	4	4	3	3	1
Construction port rating	42	40	39.6	39.2	39	38.8	37.2	37.2	37.2	36.4	36.2	35.6	29.2	26.2	26.4	26.4
Manufacturing port rating	42	40	39.6	39.2	39	38.8	37.2	37.2	37.2	36.4	36.2	35.6	29.2	26.2	26.4	26.4



7

Conclusions & Next Steps

The potential and benefits are enormous

- Vietnam has a globally significant offshore wind resource
- Vietnam has a capable supply chain and good ports infrastructure
- Offshore wind can deliver significant economic and environmental benefits

For the potential to be delivered, there is much to do

- Long-term vision and clear volume target
- Develop and implement frameworks for leasing, permitting and PPAs
- Strengthening of the transmission system and ports
- Align expectations with industry and Government

Roadmap next steps:

- Consultation – Government (June 2020), industry & stakeholders (July 2020)
- Publish final roadmap in September 2020

8

THANK YOU

KY HONG TRAN, SENIOR ENERGY SPECIALIST, WORLD BANK



VEPG TWG1 5th
Meeting
18.06.2020



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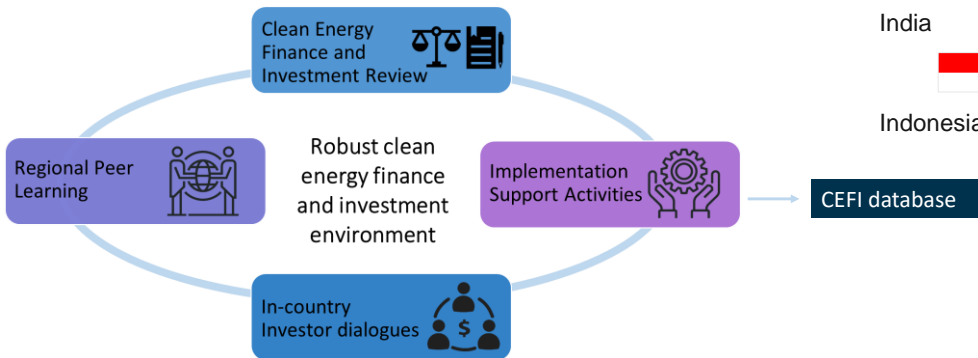
Clean Energy Finance and Investment Mobilisation



New OECD programme funded by the Government of Denmark

Aim: help accelerate clean energy finance and investment by strengthening domestic enabling conditions

Technology scope: grid-scale renewable generation and energy efficiency in buildings and industry

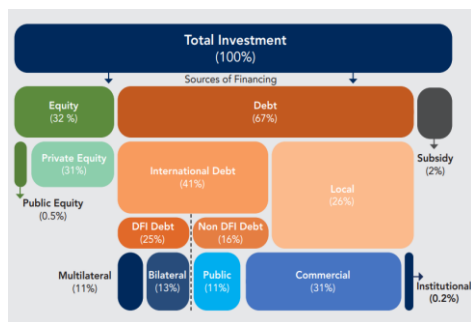


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The CEFI Database: **Scope and Objectives**

The CEFI database aims to provide Government, development partners, and market players with **key insights** into Viet Nam's finance and investment landscape for renewable energy and energy efficiency projects.



Source: World Bank 2019

Investment and finance scope:

- category and region of investors, debt providers, and development partners;
- capital structures, cost of debt and equity;
- de-risking instruments and transaction enablers;
- offtake agreement and contractual periods.

Phase 1: utility-scale solar, wind, hydro and biomass projects in Viet Nam, which have reached financial close, from 2000.

Phase 2: energy efficiency and other technologies.

Example insights: maturity of different technologies, risk perceptions and market confidence, availability of affordable finance, investor profiles, effectiveness and opportunities for de-risking instruments

3



To collaborate on this project, please contact:

Cecilia Tam, CEFIM Team Leader

Cecilia.Tam@oecd.org

Visit our website:

<https://www.oecd.org/environment/cc/cefim/>

4



Viet Nam Energy Partnership Group Technical Working Group 1 – Renewable Energy *Update on Rooftop Solar Promotion Programme*

5th Meeting – 18 June 2020
MOIT, Ha Noi

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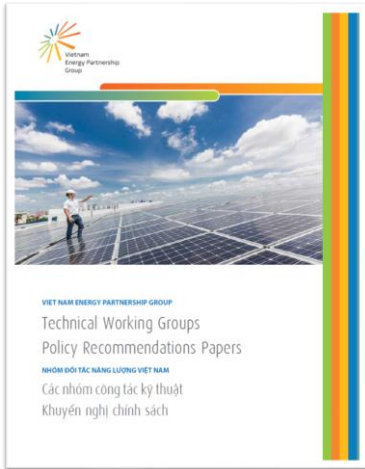
Rooftop Solar Promotion Program

- Launched in **July 2019** with **MOIT Decision 2023/QĐ-BCT**
- **Key objective:** support for **100,000 Rooftop Solar (RTS)** systems **by 2025** (equivalent of **1,000MWp**)
- **Program components:**
 - Policies, regulations, studies on potentials and impacts
 - Standards, guidelines and codes for grid connection, equipment, installation and operation
 - Market support and pilot programmes
 - RTS training and certification programme
 - Information management, communication and awareness raising
- **Program website:** <http://rooftopsolar.com.vn/>

BỘ CÔNG THƯƠNG	CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
	Độc lập - Tự do - Hạnh phúc
Số: 2023/QĐ-BCT	Hà Nội, ngày 05 tháng 7 năm 2019
QUYẾT ĐỊNH	
Phê duyệt Chương trình Thúc đẩy phát triển điện mặt trời mái nhà tại Việt Nam giai đoạn 2019 - 2025	
BỘ TRƯỞNG BỘ CÔNG THƯƠNG	
<p>Căn cứ Nghị định số 98/2017/NĐ-CP ngày 18 tháng 8 năm 2017 của Chính phủ quy định chức năng, nhiệm vụ, quyền hạn và cơ cấu tổ chức của Bộ Công Thương;</p> <p>Căn cứ Quyết định số 2068/QĐ-TTg ngày 25 tháng 11 năm 2015 của Thủ tướng Chính phủ phê duyệt Chiến lược phát triển năng lượng tái tạo của Việt Nam đến năm 2050, tầm nhìn đến năm 2050;</p> <p>Căn cứ Quyết định số 3816/QĐ-BCT ngày 02 tháng 10 năm 2017 của Bộ Công Thương quy định chức năng, nhiệm vụ, quyền hạn và cơ cấu tổ chức của Cục Điện lực và Năng lượng tái tạo;</p> <p>Xét đề nghị của Cục trưởng Cục Điện lực và Năng lượng tái tạo,</p>	
QUYẾT ĐỊNH:	
<p>Điều 1. Phê duyệt Chương trình Thúc đẩy phát triển điện mặt trời mái nhà tại Việt Nam giai đoạn 2019 - 2025 (sau đây gọi tắt là Chương trình), bao gồm các nội dung chính sau đây:</p> <p>1. Tên Chương trình: Chương trình Thúc đẩy phát triển điện mặt trời mái nhà giai đoạn 2019 - 2025.</p> <p>2. Mục tiêu Chương trình:</p> <p>a) Mục tiêu tổng quát: Thực hiện Chiến lược quốc gia về phát triển năng lượng tái tạo thông qua các giải pháp và phát triển thị trường công nghệ điện mặt trời mái nhà.</p> <p>b) Mục tiêu cụ thể: Đến cuối năm 2025, một triệu (100) ngàn bộ thung điện mặt trời mái nhà (hoặc tương đương 1.000MWp) được lắp đặt và vận hành trên toàn quốc.</p> <p>3. Các Hợp phần của Chương trình:</p> <p>3.1 Xây dựng và hoàn thiện chính sách, quy định hỗ trợ phát triển điện mặt trời mái nhà theo hướng ưu tiên chuyển đổi năng lượng địa nhiệt, địa nhiệt.</p> <p>Hợp phần bao gồm các nhiệm vụ định rõ:</p>	

2

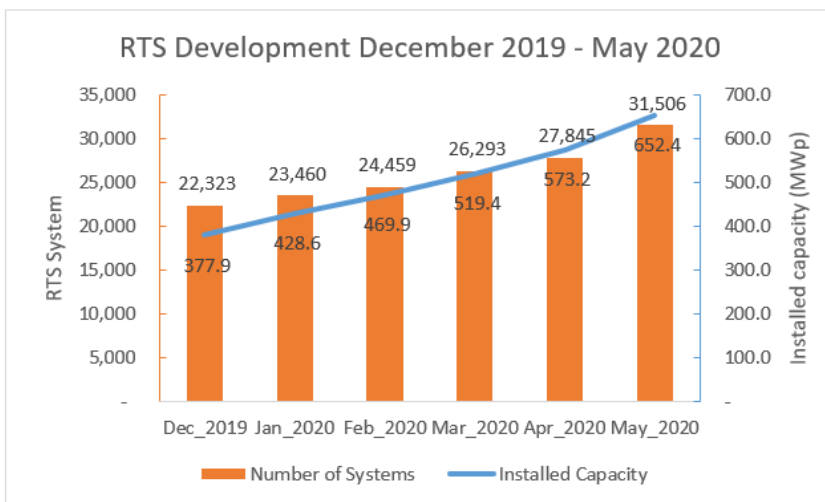
VEPG Support for Rooftop Solar Development



- Key part of **TWG 1 Policy Recommendations**: „Improvement of incentive mechanisms for Rooftop Solar“
- Regular **VEPG member input and MOIT support** (e.g. consultation on Solar FIT 1 and RTS Promotion Program in March 2019)
- **VEPG Secretariat** supports EREA/MOIT in **monitoring the RTS Program**
- Publication of monthly RTS market data (EVN data source) in **VEPG Factsheets**: <http://vepg.vn/resources/knowledge-database/>

3

Rooftop Solar – Market Development 2019-2020

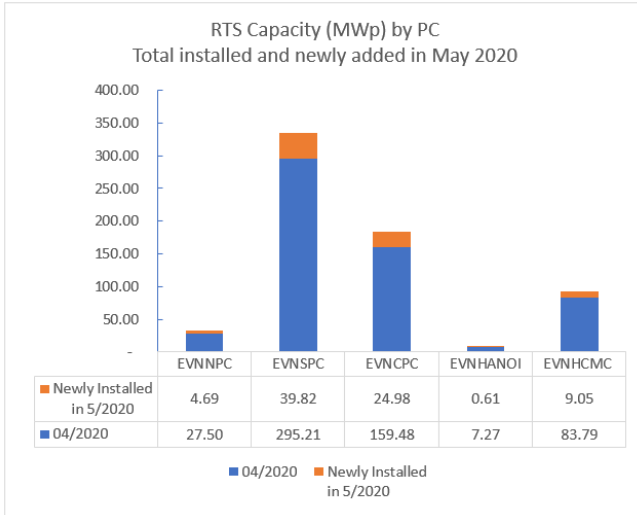


RTS Market May 2020

- **652 MWp**
- **31,500 PV systems**
- **Monthly** installation of **40-50MWp** (1,000-1,800 systems) until May 2020 (even with no FIT in place!)
- **1,000 MWp by end of 2020?**

4

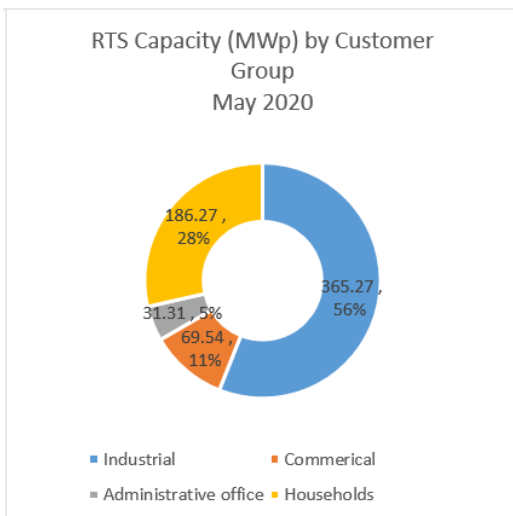
Rooftop Solar – Market Development May 2020



Regional Distribution:

- EVN SPC: 335 MWp (51%)
- EVN CPC: 184 MWp (28%)
- EVN HCMC: 93 MWp (14%)
- EVN NPC: 32 MWp (5%)
- EVN Hanoi: 8 MWp (1.2%)

Rooftop Solar – Market Development May 2020



Market Segments:

- Industrial: 356 MWp (56%)
- Commercial: 186 MWp (28%)
- Public Buildings: 70 MWp (11%)
- Households: 31 MWp (5%)

RTS Promotion Program Implementation

- RTS Program **Advisory Board** established in 2019
- Draft **Framework for Monitoring & Evaluation** developed
- **Communication plan** developed
- Official **website** of the RTS Program developed and online: <http://rooftopsolar.com.vn>
- Website includes **Solar Calculator** (NREL cooperation) and further information for investors and developers (to be further developed in 2020, e.g. with **RTS Investment Guidelines**, **template contracts** for corporate PPA, solar lease, roof lease and O&M)

RTS Promotion Program Implementation

Ongoing Program Activities:

- Development of **Certified Solar Installer Program** in cooperation with selected TVET colleges (EVEF/GIZ activity, started in May 2020)
- Development of **Investment Guidelines** for Commercial-Industrial Rooftop (GIZ activity, publication of Guidelines in July 2020)
- Development of **Solar Quality Passport for RTS systems** in cooperation with EVN (EVEF/GIZ activity, start in July 2020)
- **Stakeholder Consultation meetings** with private sector on barriers and solutions to accelerate RTS development (USAID/V-LEEP activity in collaboration with CEIA/REBA, ongoing)

Thank you!

Contact:

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VEPG Secretariat

c/o EREA / MOIT

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