



Federal Ministry
for Economic Affairs
and Energy



MITTELSTAND
GLOBAL
ENERGY SOLUTIONS
MADE IN GERMANY

An assessment of Vietnam's new FiT and NEM regulation

Tobias Cossen

Project Development Programme (PDP)

Facilitator

Agenda

Legal framework

- ❑ Decision 11 on support mechanisms for solar power projects
- ❑ Draft Circular on implementation of Decision 11

Project development status in Vietnam

- ❑ Utility scale and rooftop solar projects
- ❑ Overview of investment procedures

Project Development Programme Vietnam – Solar PV activities

Legal framework – Decision 11/2017/QD-TTg

Legal framework

Decision 11

Highlights

Grid connected projects:

- FIT: 9.35 USct/kWh
- PPA: 20 years
- Cell efficiency >16%, module efficiency >15%
- Adjustment of FIT: according to VND/USD exchange rate

Rooftop projects:

- Net-metering mechanism encouraging self-consumption
- Remunerated for surplus: 9.35 USct/kWh at end of year or end of PPA
- Incentives for systems $\leq 50\text{kW}_p$ to be developed by MOF

Effectiveness:

- 1st June 2017 until 30th June 2019: **commercially operational date (COD)!**
- MOIT to develop support schemes after 30/06/2019

To be clarified

- Implementation details?
- SPPA template?
- Thin film technology?

- SPPA? Duration?
- Required licenses? Processes?
- Technical standards (bi-directional meter, grid code, etc.)

- Number of projects can be realized?
- In case of delayed COD?
- Too short period to assess the effectiveness

Legal framework

Regulation

Draft Circular

Highlights

SPPA template:

- SPPA for utility projects: FIT 9.35 USct/kWh, PPA 20 years
- SPPA for rooftop projects: being developed

Offtake obligation, Dispute and Suspension terms:

- EVN only pays for received electricity
- Compensation of suspension: value of 1 year production
- Dispute to be resolved by MOIT

Rooftop projects:

- Systems < 1 MW_p, register with local electricity authority
- Systems ≥ 1 MW_p, apply to be added to provincial power development plan and/or solar development plan

National and provincial solar power development plans

Key issues

- Applicable USD/VND exchange rate?

Bankability:

- Guarantee from the Government?
- Change of law?
- Compensation of outstanding debt? Or in case of no purchase or no offtake capacity?
- Option for offshore arbitration?

- Administrative burden?
- Limit in total installed capacity per local region?

Incentives for solar power projects

Import tax for PV system components: (based on realized rooftop projects)

Component	HS-codes	Germany	China	ASEAN free trade	Other countries with free trade
PV module	85414090	0%	0%	0%	0%
Inverter	85044090	0%	0%	0%	0%
DC cable	85444999	10%	0%	0%	10%
Connectors	85366990	25%	0%	0%	25%
Mounting System	76109090	15%	0%	0%	15%

Recommendations to get free import tax for all components:

- Importing all components in one shipment & declaring as “solar system”
- If importing components in different shipments: declaring as “part of solar system” and how many shipments in total
- Using forwarding companies with experiences in importing solar components

Incentives for solar power projects (cont.)

Corporate income tax (CIT)

- ❑ Wind project practice (& expectedly for solar): CIT exemption for the first 4 years and 50% reduction in the next 9 years

Land use fees:

- ❑ Exempted only if the land is not in use!
- ❑ Transmission lines and transformers connected to the grid must be reduced or exempted from land use charge and rent

Project development status: Rooftop application

- ❑ Installed capacity: appx. 10 MW
- ❑ Motivations:

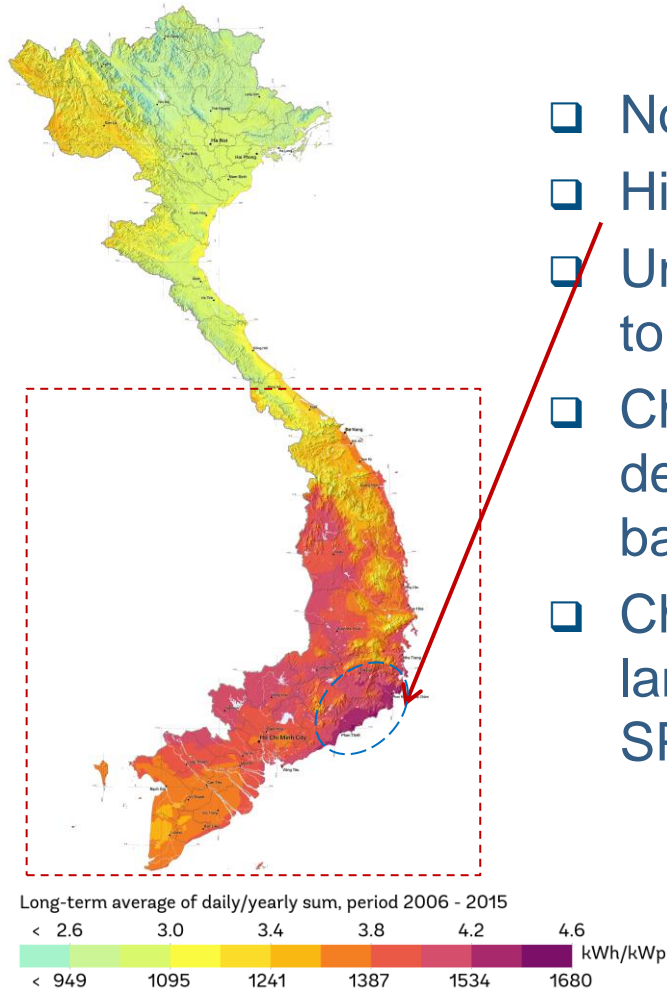


- ❑ Potential segments: export industries, commercial & hospitality operations
- ❑ Business models: CapEx (hesitation from private investors)
OpEx/ PPA/ long term purchase contract (preferred but unclear legal procedures)
- ❑ Challenges: PV knowledge, high CapEx, long pay-back time, lack of local engineering and O&M capacity, buildings not suitable for PV installation
- ❑ Vietnam rooftop PV potential: World Bank study to identify technical & economic potential in Ho Chi Minh and Danang → extrapolated for the rest of the country

Representative rooftop solar systems in Vietnam

Owner	Sao Mai Group	Aeon Mall	Swire Cold Storage
			
Location	Dong Thap province	Ho Chi Minh City	Bac Ninh province
Business	Seafood processing	Shopping mall	Cold Storage
Installed cap.	1.06 MW _p	320 kW _p (carports)	308 kW _p
Start operation	May 2017	2016	July 2017
Investment	Japanese & Vietnamese private investment	Supported by Japanese Gov. via JCM	Private investment (Non-financial support by PDP)
Motivation	Piloting technology Project development experiences	Aeon's sustainable principles	Reduce global footprint Sustainable Building Design Policy

Project development status: Utility scale



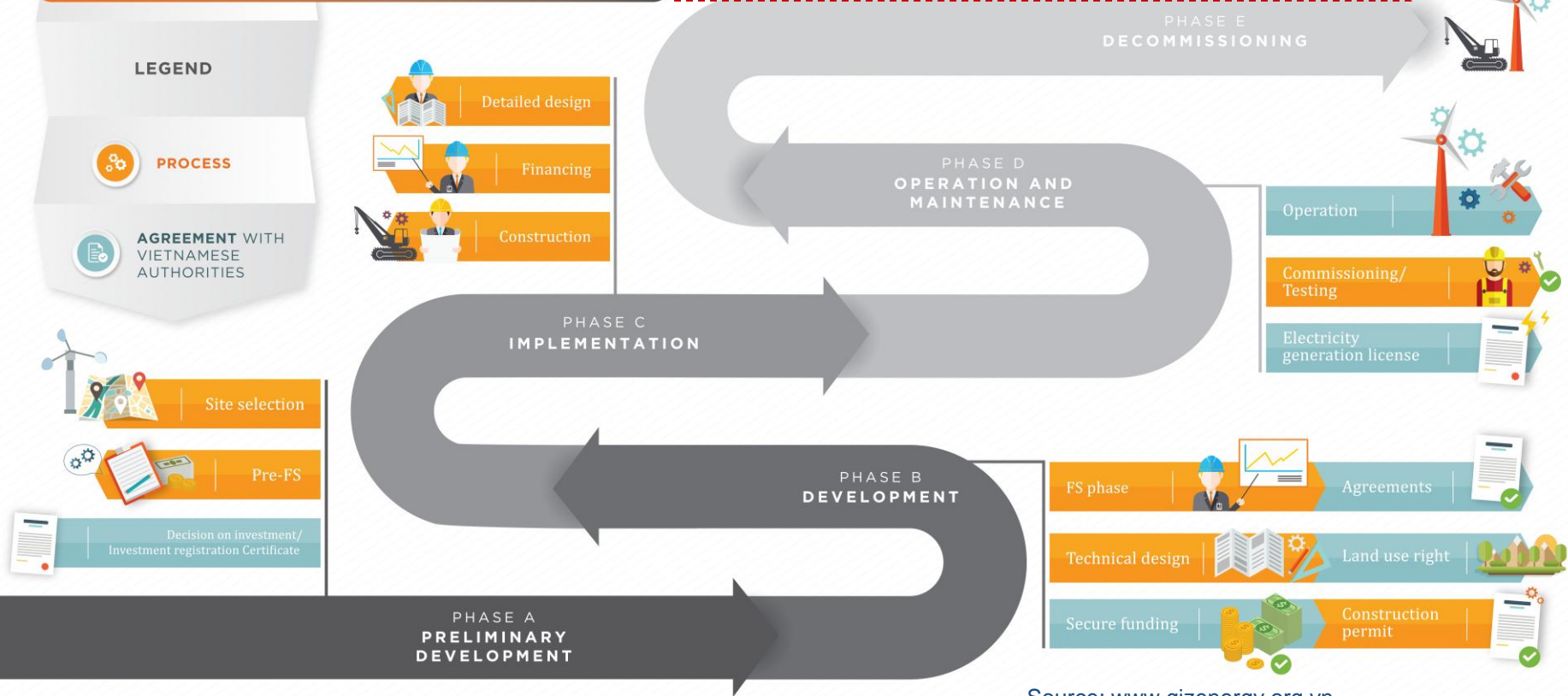
- ❑ No project has been realized
- ❑ Highest irradiation in Ninh Thuan & Binh Thuan
- ❑ Under development: GWs have been registered to be developed (in Central & South of Vietnam)
- ❑ Challenges to project realization by local developers: financing and engineering capacity, bankable SPPA, validity period of the FiT
- ❑ Challenges for international developers: FiT, land acquisition and compensation, bankable SPPA, validity period of the FiT

Source: The World Bank Group

Solar project development & Investment

WIND POWER INVESTMENT GUIDELINES

→ Solar projects: similar processes

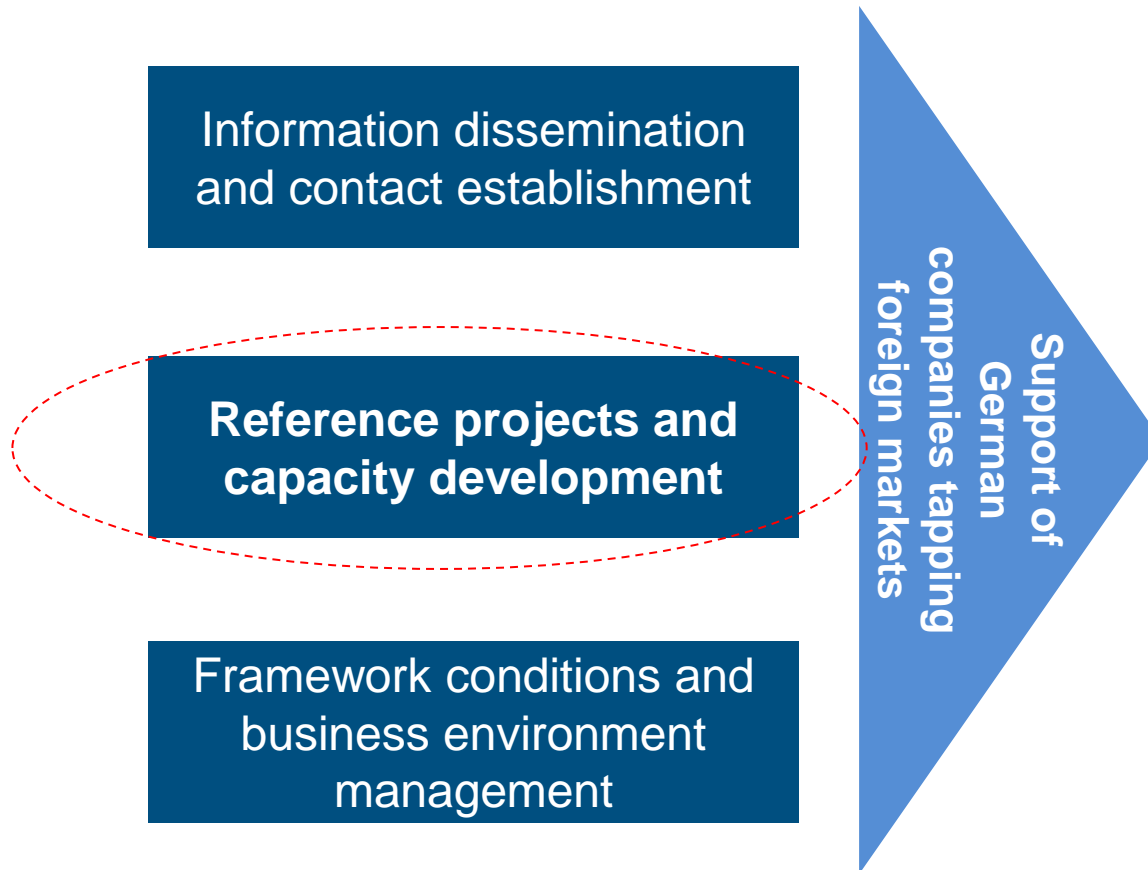


Source: www.gizenergy.org.vn

Major differences:

- 1) Land use right acquisition
- 2) Solar measurement
- 3) Procedures for rooftop projects

Project Development Programme: Modules



Support of Reference Projects

Reference projects

- are scalable renewable energy projects with participation of German companies that have a lighthouse effect for subsequent projects. They serve as a market entry point for the German renewable energy industry.

The Project Development Programme (PDP)

- identifies project opportunities for German and local companies and supports their implementation.

PDP Vietnam activities in solar sector



Sharing
Information &
Business
Partnership

- Solar Business Dinner in Ho Chi Minh City (21/04/2017)
- Information workshop Berlin & B2B meetings: 6-7/07/2017
- AHK Business trip to Vietnam: 25-29/09/2017

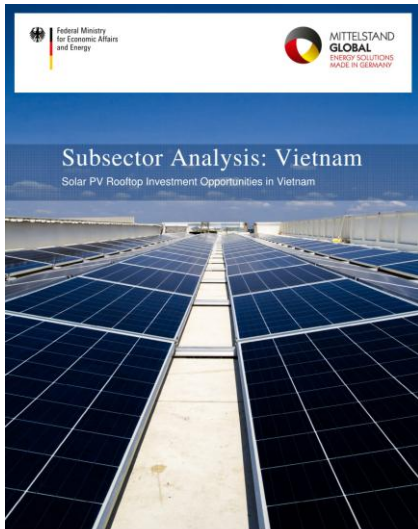


Reference
Projects and
Capacity
Development

- 308 kW_p rooftop project realized at Swire Cold Storage Vietnam
- Developing PV project concept for combined shrimp-PV production
- Supporting garment & textile companies to explore PV application
- German Solar Training Week 18 – 22 September 2017 in Ho Chi Minh City

PDP Vietnam activities in solar sector

Pre-feasibility study for embedded generation PV → On-going!



08 kW_p system being commissioned at Swire Cold Storage



Source: Swire Cold Storage Vietnam

Developing PV project concept for shrimp facility



Source: Viet Uc Group

Conclusion: Vietnam solar PV

A new market with high dynamics!

- ❑ Challenging market (political framework, cultural barriers), but one with high potential
- ❑ High solar PV potential (rooftop and utility scale investments)
- ❑ Framework conditions improving on pace
- ❑ Through BMWi, PDP supports advising GER companies on market entry and local partners – please get in touch!

Kind Invitation! PV in Vietnam

German Solar Training Week: 18-22/09/17

Business trip: 25-29/09/17



- Market Overview
- Frame Conditions
- Market key players

- Company Introduction
- Frame conditions from experts
- Specialized audiences: 120 – 150
- Direct Networking

- 2 – 3 days:
- Individually arranged B2B meetings at company's local base
 - AHK accompaniment



Source: AHK Images Archive Sep. 2016



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Thank you for your attention!

For more information, please contact:

PDP Berlin - Simon Bittner: simon.bittner@giz.de

PDP Vietnam – Tobias Cossen: tobias.cossen@giz.de

PDP Vietnam - Trang Nguyen: trang.nguyen1@giz.de

Facilitator