



Federal Ministry
for Economic Affairs
and Energy



MITTELSTAND
GLOBAL
ENERGY SOLUTIONS
MADE IN GERMANY

Solar PV opportunities in Vietnam for German companies

Trang Nguyen
Project Development Programme Southeast Asia



Facilitator:

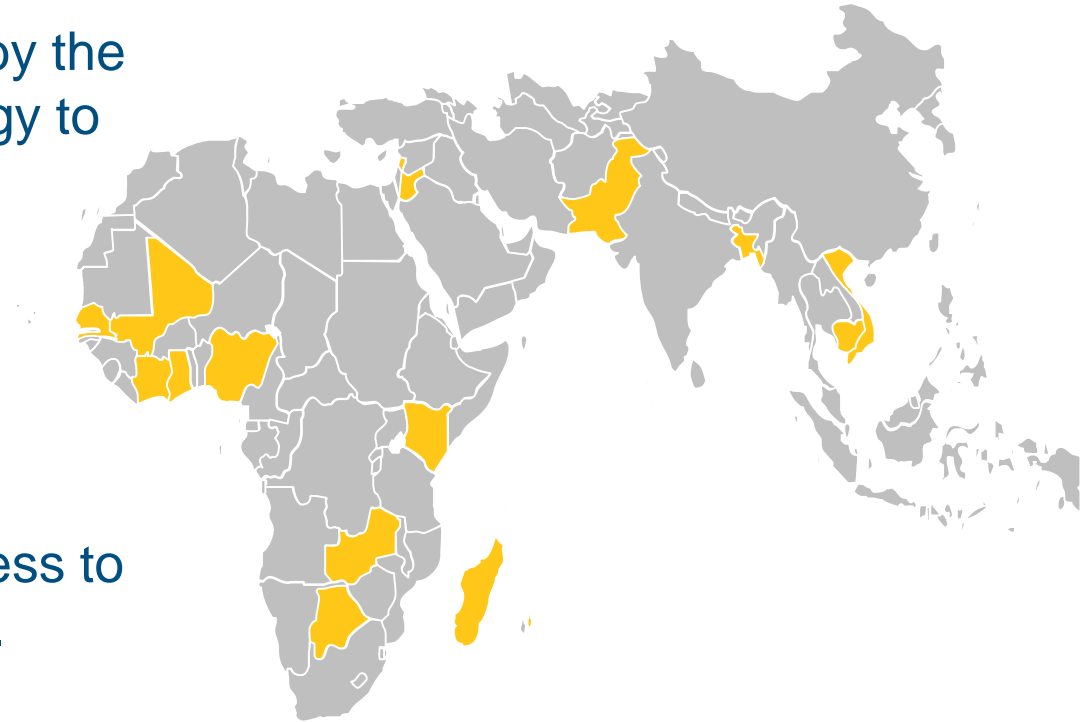
giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

Who is PDP?

The Project Development Programme (PDP) is funded by the German Federal Ministry for Economic Affairs and Energy to promote renewable energy solutions in 16 countries via:

- Business development
- Market development
- **Project development**

→ Support German companies with market insight, access to project opportunities and partnership with local partners.



Map of current PDP focus countries

Legal framework for solar energy & current status

Decision
11/2017/QD-TTg

Feed-in-tariff scheme:

- Both utility and rooftop projects: 9.35 USct/kWh
- PPA 20 years

Effectiveness: Operation before 30/06/2019



Source: TTC Group

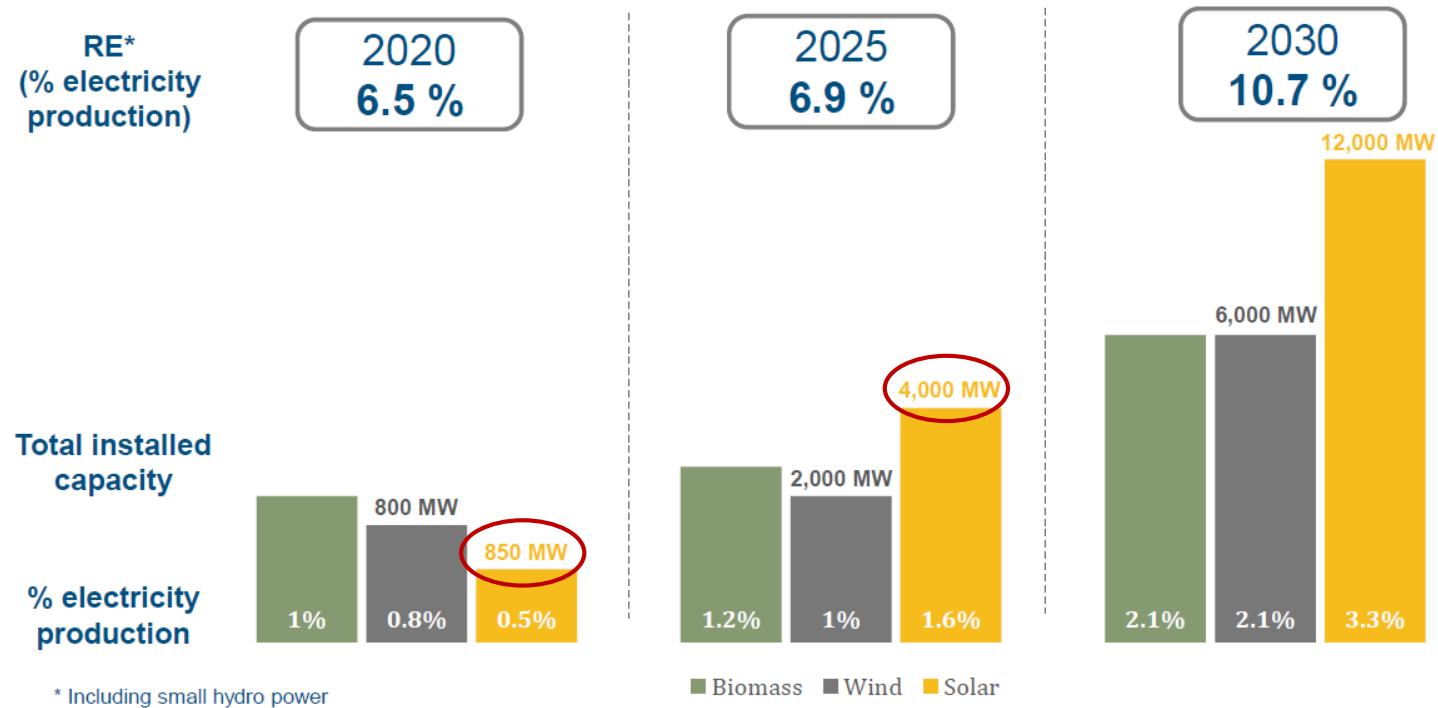


Source: DBW

Utility scale: total 3,770 MW in operation by May 2019

Rooftop solar: 42 MWp installed by May 2019

Solar energy target in Vietnam



Solar target 2020 already surpassed & target 2025 likely to achieve by 2020

DRAFT follow-up solar PV regulation

Draft Follow-up Decision

Feed-in-tariff scheme continues but at lower price levels

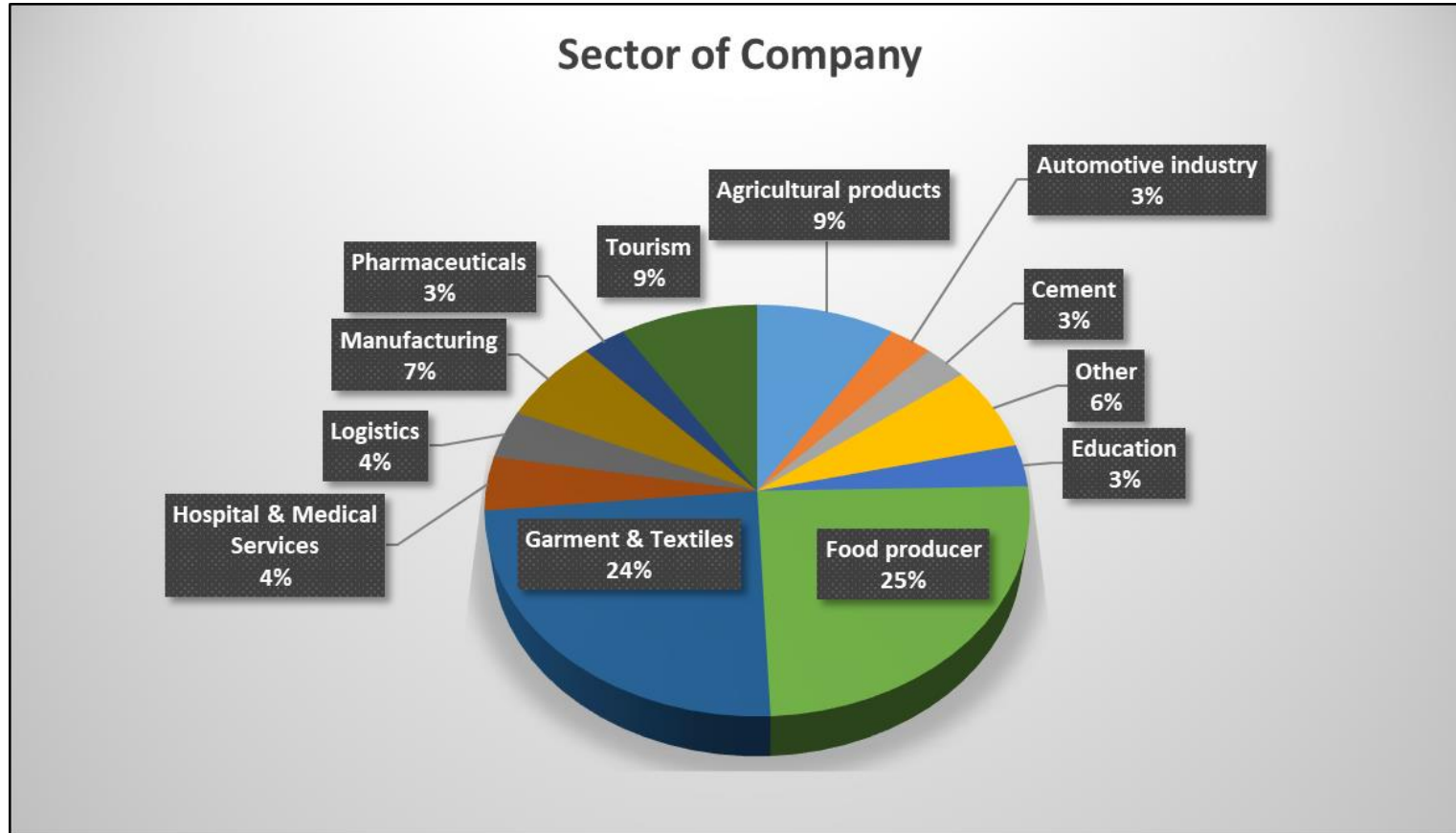
- FiT reduced year-by-year reflecting decrease of investment costs
- Different FiTs depending on: project types and locations

Period	Zone I		Zone II		Zone III		Zone IV	
	VND/kWh	US cent/kWh	VND/kWh	US cent/kWh	VND/kWh	US cent/kWh	VND/kWh	US cent/kWh
Floating solar power projects	2,281	9.98	1,963	8.59	1,758	7.69	1,655	7.24
Ground mounted solar power projects	2,102	9.2	1,809	7.91	1,620	7.09	1,525	6.67
Rooftop solar projects	2,486	10.87	2,139	9.36	1,916	8.38	1,803	7.89

DRAFT Zone classification for solar project FITs

Zone	No	Province	No	Province	No	Province	No	Province
I 28 provinces	1	Hà Giang	8	Lạng Sơn	15	Hà Nội	22	Hà Tĩnh
	2	Bắc Kạn	9	Quảng Ninh	16	Hà Nam	23	Nam Định
	3	Cao Bằng	10	Phú Thọ	17	Bắc Ninh	24	Quảng Bình
	4	Tuyên Quang	11	Vĩnh Phúc	18	Hung Yên	25	Thanh Hóa
	5	Thái Nguyên	12	Bắc Giang	19	Hải Phòng	26	Lai Châu
	6	Lào Cai	13	Hải Dương	20	Ninh Bình	27	Nghệ An
	7	Yên Bái	14	Hòa Bình	21	Thái Bình	28	Sơn La
II 6 provinces	29	Quảng Trị	31	Thừa Thiên Huế	33	Đà Nẵng		
	30	Điện Biên	32	Quảng Nam	34	Quảng Ngãi		
III 23 provinces	35	Kon Tum	41	Sóc Trăng	47	Tiền Giang	53	Bà Rịa – Vũng Tàu
	36	Cà Mau	42	Cần Thơ	48	An Giang	54	Long An
	37	Hậu Giang	43	Vĩnh Long	49	Đắk Nông	55	Bình Dương
	38	Bình Định	44	Trà Vinh	50	TP. Hồ Chí Minh	56	Bình Phước
	39	Bạc Liêu	45	Lâm Đồng	51	Đồng Nai	57	Tây Ninh
	40	Kiên Giang	46	Bến Tre	52	Đồng Tháp		
IV 6 provinces	58	Phú Yên	60	Đắk Lắk	62	Ninh Thuận		
	59	Gia Lai	61	Khánh Hòa	63	Bình Thuận		

PDP focus: Commercial and Industrial clients



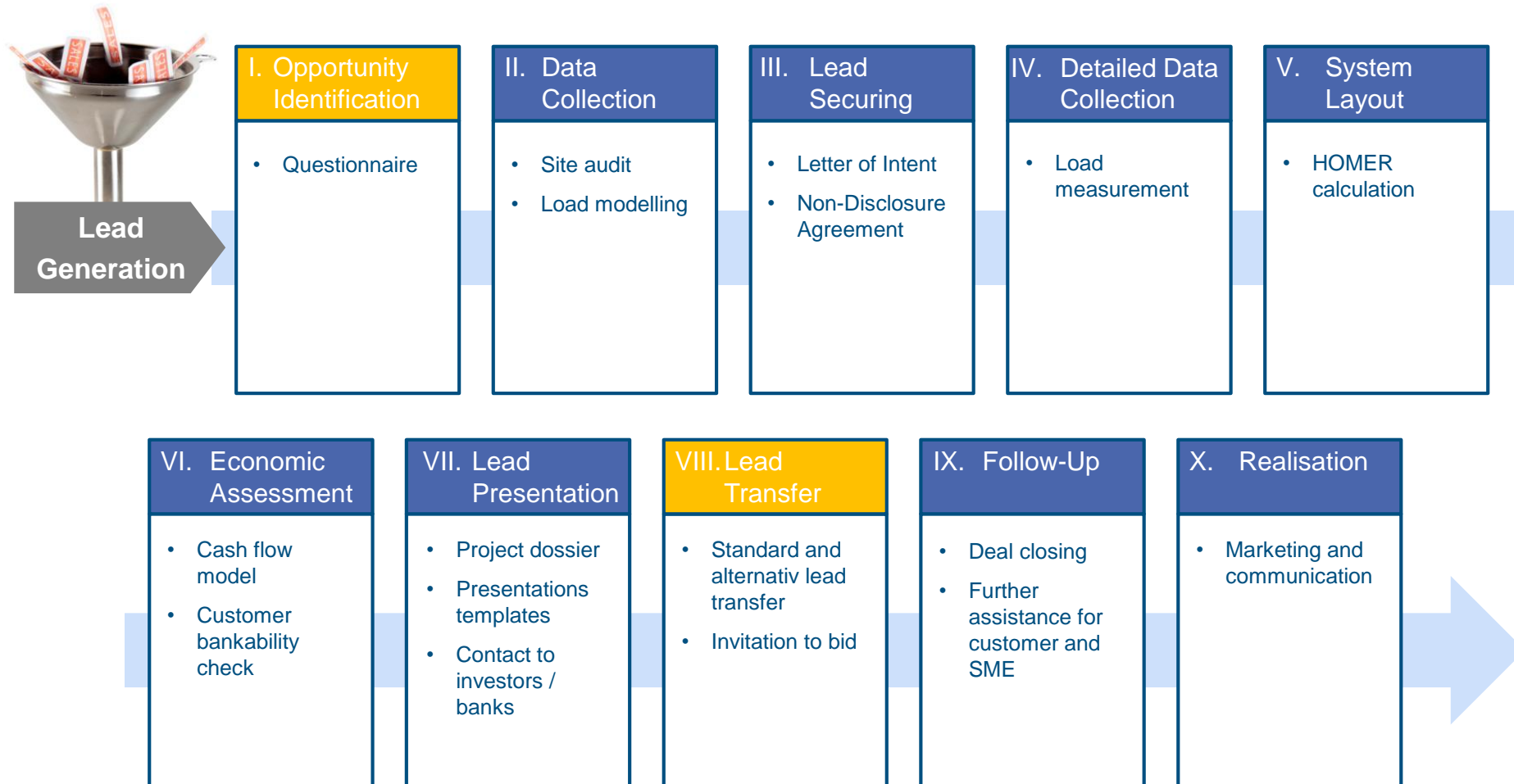
- ❑ Screening potential and bankable projects
 - ❑ Pre-developing projects with the clients
 - ❑ Building pipeline for CapEx and OpEx business models
 - ❑ Transferring leads to German companies
- Looking for interested EPC contractors and PPA/Leasing investors

Leads generation - Approaches

Networking and Cold Calling	Sector Analysis	Sector Approach
Industry Associations	Trade Fairs & Events	GIZ Projects
Supply Chains	Key Accounts	Project Developers
Intermediaries & Distributors	German Companies	



Pipeline development steps



Lead transfer process

Fair and transparent



Criteria by the clients

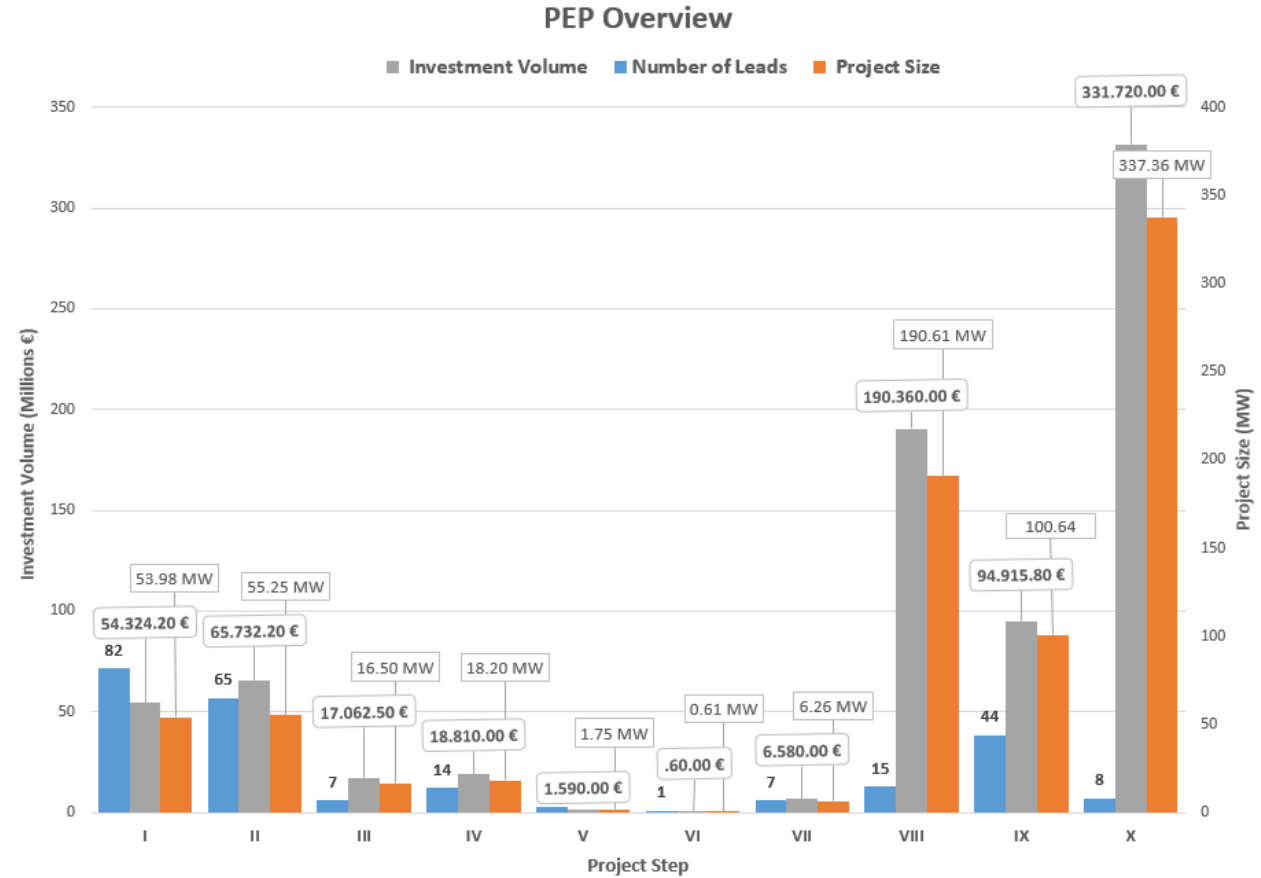
Selection of German companies from database of the Energy Export Initiative

Transfer of Project info and Matchmaking

Pipeline

Filter

Country <ul style="list-style-type: none"> Botswana Cambodia Cote D'Ivoire Ghana Jordan Kenya 	Status <ul style="list-style-type: none"> active not supported
Sector of Compa... <ul style="list-style-type: none"> Agricultural products Aquaculture Automotive industry Cement Chemicals Cold Storage 	On-Grid/Off-Grid <ul style="list-style-type: none"> off-grid on-grid
Lead Generation <ul style="list-style-type: none"> PDP Event Personal Network Sector Network Supply chain networ... Trade Fair & Events (Leer) 	Business Model <ul style="list-style-type: none"> Component EPC EPC/PPA Leasing PPA tbd
	Technology <ul style="list-style-type: none"> Biogas Biomass EnEff Hydro PV PV+Battery



Our support has led to many successful German – local partnership!



Copperbelt Energy Corporation,
Zambia – 1 MWp



Viet Uc Seafood, Vietnam
– 22 kWp



Swissport Kenya Limited,
Kenya – 110 kWp



Emergent cold, Vietnam
– 308 kWp



Star Aire, Thailand – 1 MWp



Travessia Lodge,
Mozambique – 10 kWp

Reference project: Industrial cold storage

308 kW_p rooftop solar system, in operation since 07/2017



Source: Emergent Cold Vietnam

- ❑ Owner: Emergent Cold
- ❑ Leading cold chain service provider in Vietnam, Australia
- ❑ Solar coverage: 15% total demand
- ❑ Motivation: commercial e-tariff, new buildings should obtain recognised building environmental assessment standard (e.g. LEED)

Reference project: 330 MW solar power plant



Source: BIM Group

- ❑ Project owner: BIM Group (Vietnam)
- ❑ Location: Ninh Thuan province
- ❑ German EPC and German owner's engineer consultancy

Thank you for your attention!

Project Development Programme (PDP)

Deutsche Gesellschaft für
Internationale Zusammenarbeit (GIZ) GmbH

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