EGNRET46, Taichung, Chinese Taipei
13 April 2016

PRLCE Phase 3 -VIET NAM
(EWG 01 2014A)

Presented by TRAN Thi Lien Phuong
APERC researcher

Presentation outline

❑ APEC PRLCE phase 3 project feature

- Objectives of APEC PRLCE project
- PRLCE phase 3 project: scope, participants & schedule

❑ APEC PRLCE phase 3 preliminary findings

- Overview of Viet Nam RE policy and development prior to 2015
- New Renewable energy development strategy (REDS) for 2015-2030
  - ✓ Goals, targets
  - ✓ Supporting policies

PRLCE phase 3 project features

Hanoi, Viet Nam, Jan 2016

APEC PRLCE objectives

- **Initiated by APEC Energy Ministers' 2010 Fukui Declaration :**

① **Share information** on low carbon energy performance as well as on policies and measures for improving and promoting low carbon energy in APEC respective economies;

② **Provide opportunities for learning from the experiences of other economies** and for broadening the network among low carbon policy experts;

③ **Explore** how **low carbon goals** on an overall and/or sectoral basis and **action plans** could be effectively formulated in each economy under review, taking into account the range of possible strategies that could be used, according to the circumstance of each economy;

④ **Monitor progress** on attaining low carbon energy goals on an overall and/or sectoral basis and implementing action plans, if such goal and action plans have been already formulated at the time of the review; and

⑤ **Provide recommendations for voluntary implementation** on how implementation of action plans could be improved with a view to achieving low carbon energy goals.

PRLCE phase 3 project - Scope & Participants

- **Project code:** EWG 01 2014A ***(The 5th APEC PRLCE)***
- **Budget: 334 350 USD (APEC funding 20%)**
- **Host Economy:** Viet Nam
- **Review Team leader:** Mr. Takato Ojimi (APERC President)

	Peer-review contents	Leading review experts
1	Institutional Context	-Dr. Kazutomo Irie (APERC)
2	Low Carbon Energy Goals, Targets and Strategy	-Ms. Elizabeth Yeaman (NZ)
3	Regulation and Infrastructure	-Dr. Iain MacGill (AUS)
4	Bioenergy	
	Biofuels	-Dr. Karnnalin Theerarattananoon (THA)
	Biomass	-Dr. Steven Hou-Peng Wan (CTP)
5	Wind energy	-Dr. Seokwoo Kim (ROK)
6	Solar PV, Small-Hydro, Geothermal energy	-Mr. Mario C. Marasigan (PHL)
7	Power Supply System	
	Fit-in-Tariff, Smart Grid	-Dr. Iain MacGill (AUS)
	Private participation	-Ms. Elizabeth Yeaman (NZ)
8	Greenhouse Gas Management	-Dr. Naoki Matsuo (JPN)









PRLCE phase 3 - Schedule

January 18-22, 2016

- PRLCE phase 3 **workshop held in Hanoi**, **Viet Nam** (*postpone from July 2015*)

February - March 2016

- The expert team **drafts the PRLCE Phase 3 Final Report**, including Viet Nam's background information (Part 1) and Peer-review report (Part 2)

April 2016

- APERC submits the **1st Draft PRLCE Phase 3 Report** to Viet Nam for comments
- Present PRLCE phase 3 preliminary findings **at EGNRET46 meeting**

May-June 2016

- The expert team finalizes the **Final Draft Report**
- **Viet Nam signs off** the Final Draft Report
- Viet Nam and APERC circulates **to EWG members** for discussion and endorsement.

PRLCE phase 3 – Viet Nam

- **Viet Nam PRLCE workshop in Hanoi (18-22 January 2016)**
  - 8 focus areas of peer-review
  - 10 discussion sessions
  - 1-day site visit to Hoa Binh hydropower (1920 MW)
  - 39 Vietnamese participants from 10 organizations *(DOST-MOIT, GDE-MOIT, ERAV, PMO, IE, MOT, MOF, MONRE, MOST, EVN- Hoa Binh Hydro power)*
  - 90% positive feedback on the workshop/project impacts from participants
- **PRLCE phase 3- First draft report:**
  - **56 recommendations**

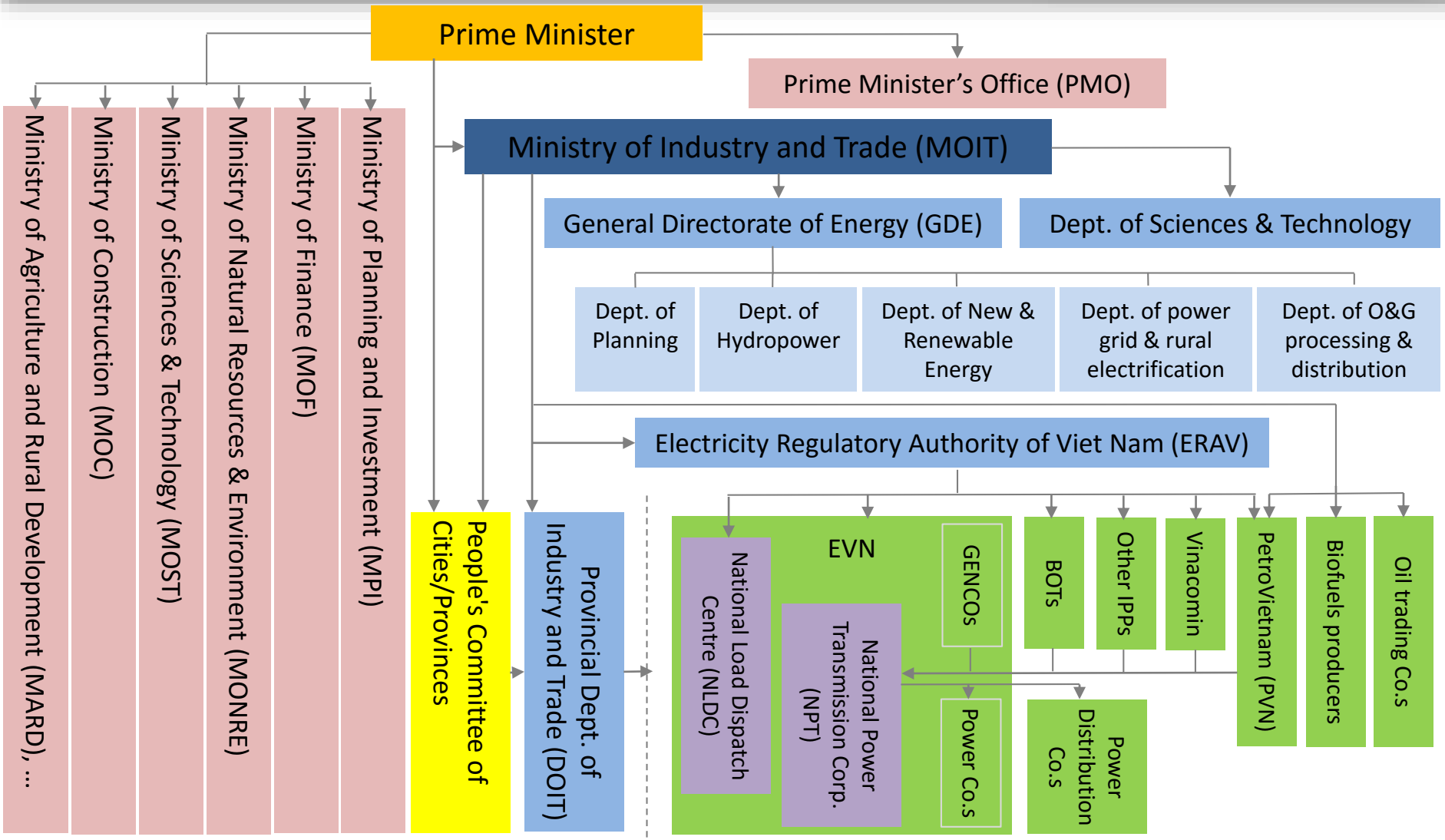
First Draft Peer Review Report

	Peer-review contents	Number of Recommendations
1	Institutional Context	4
2	Low Carbon Energy Goals, Targets and Strategy	7
3	Regulation and Infrastructure	6+3
4	Bioenergy	
	Biofuels	6
	Biomass	6
5	Wind energy	5
6	Solar PV, Small-Hydro, Geothermal energy	4+2+2
7	Power Supply System	
	Fit-in-Tariff, Smart Grid	4+3
	Private participation	1
8	Greenhouse Gas Management	3

PRLCE phase 3 preliminary findings

(Please do not cite prior to release of the endorsed version)

Institutional Organization for RE development



Policy framework for RE development in Viet Nam

Law

- *Constitution*
- *Environmental protection law (2004, revised 2015)*
- *Electricity Law (2004, 2012)*
- *Land law*
- *Investment Law (2005, 2015)*
- *CIT law*
- *Price law*
- *…*

Strategies & programs

- Resolution No. 08/NQ-TW on major orientations and polices for a rapid & sustainable development (2007)
- Socio-economic development plans (5 years & annual)
- National Energy Development Strategy (2007)
- Biofuel development Program to 2015 (2007)
- Power Development Plans (2006, 2011, 2016)
- National Target Programs on poverty reduction, rural electrification (1998, 2013)
- Green growth strategy (2012)
- RE development strategy (2015)
- VNPM Circular No. 23 on biofuels (2015)
- …

Regulations

- Regulations of competitive electricity wholesale market (2015)
- Avoided-cost electricity tariff for small hydropower (2008, 2014)
- Model PPA for RE (2008, 2014)
- FIT for wind power (2011)
- FIT for biomass-power, MSW power (2014)
- Regulations on petroleum product & biofuel prices
- …

RE development strategy in Viet Nam prior to 2015

RE is a field of government's investment incentives

❑ Period up to 2015:

- Implement RE development in **integration with broader objectives of general social-economic developmen**t, industrial and sectoral deployment
  - ✓ with focus on **poverty reduction,** modernization & new rural development, fuel diversification, and implementation of pledge to mitigate GHG emission increase
  - ✓ Tight link to **national major goals, targets, policies and tasks for socio-economic development**

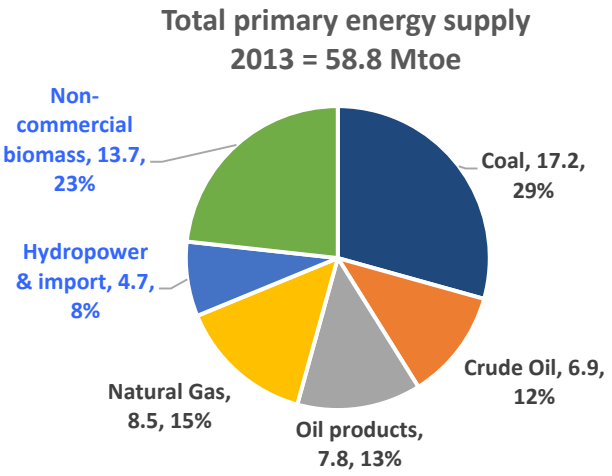
- **Rural electrification is a first priority** in implementation agenda, recognised as a precondition infrastructure for rural development and modernisation

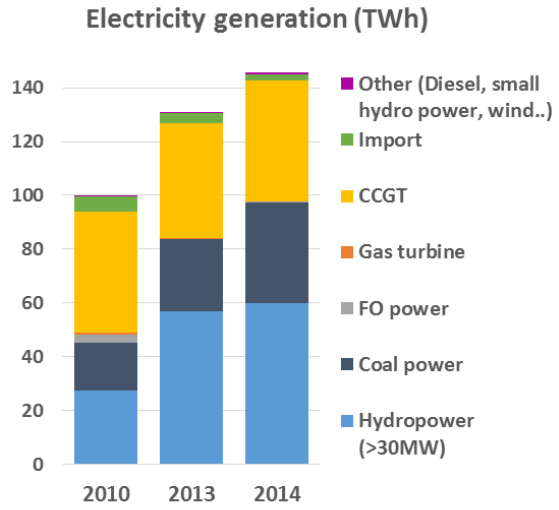
- **Encourage the deployment of all resources from all economic sectors** for RE development; Proactively explore opportunities for **international support**s
  - ✓ EVN's rural grid-connected project: State budget & ODA support maximum 85% total investment

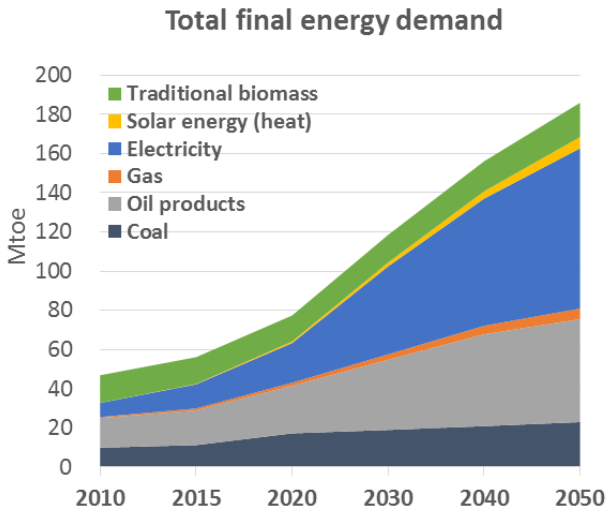
- **Strongly devolve and decentralize decisions to local government** for rural independent (off-grid) RE projects;
  - ✓ Central state budget & ODA support covers 100% equipment purchasing and installation expenses of qualified rural RE projects
- **Encourage biofuel research works, pilot projects; special investment incentives** for biofuel production projects.

Accelerated strategy of RE development and use

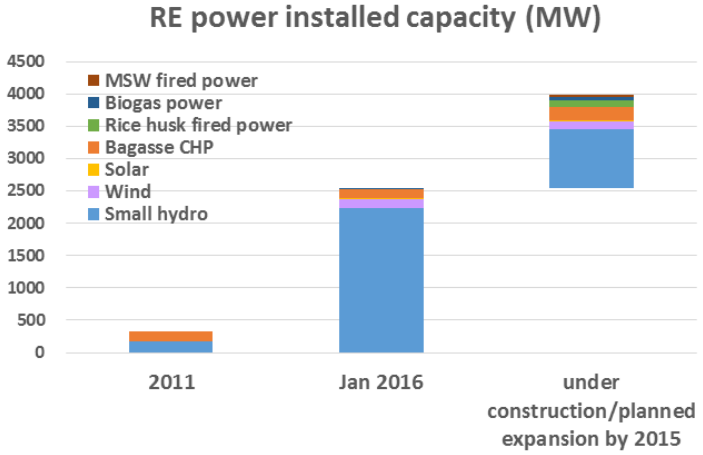
(PMVN Decision No.2068/QD-TTg, Nov 2015 - REDS)

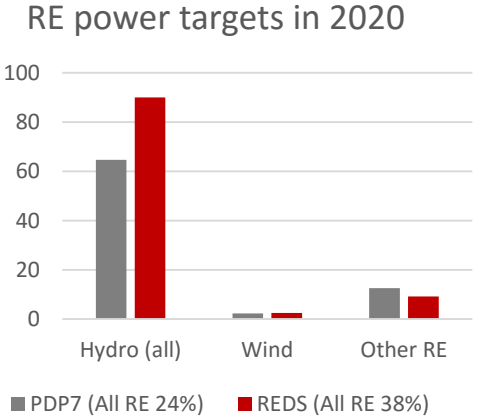


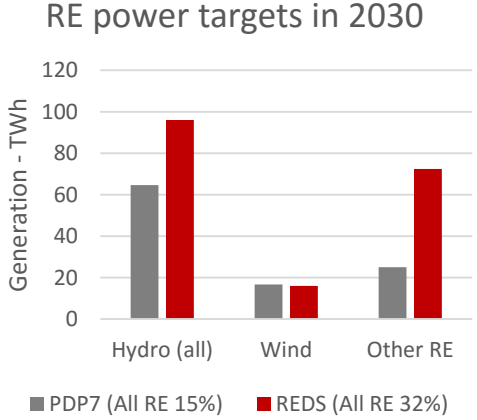




(Capacity: 21.5 / 31.2 / 34.5 GW)





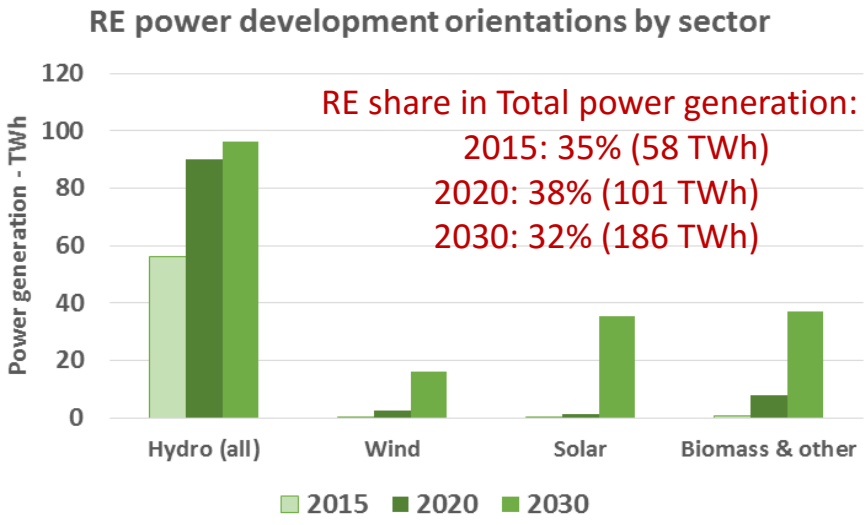


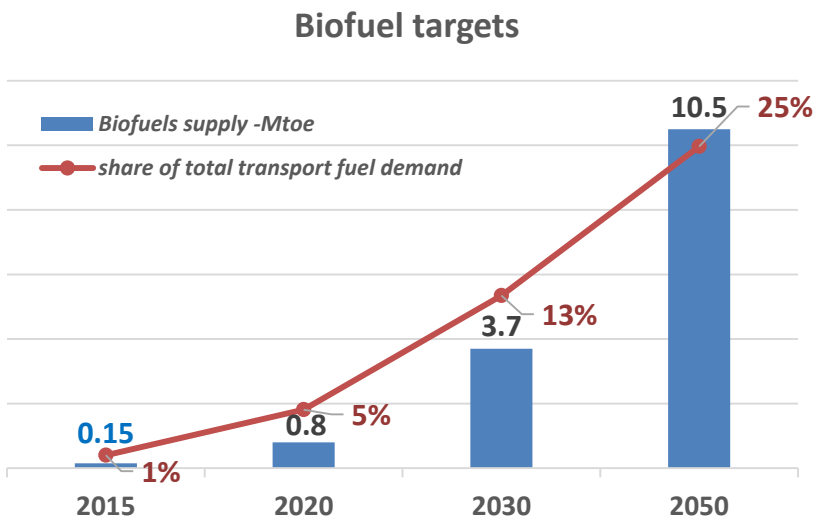
Sources: VNEEP (2015), REDS (2015), MOIT (1/2016), IE (2016)

Accelerated strategy of RE development and use

(PMVN Decision No.2068/QD-TTg, Nov 2015 - REDS)

- RE energy to increase 2.5 folds (25 Mtoe in 2015 → 62 Mtoe in 2030)





RE development is expected **to mitigate**:

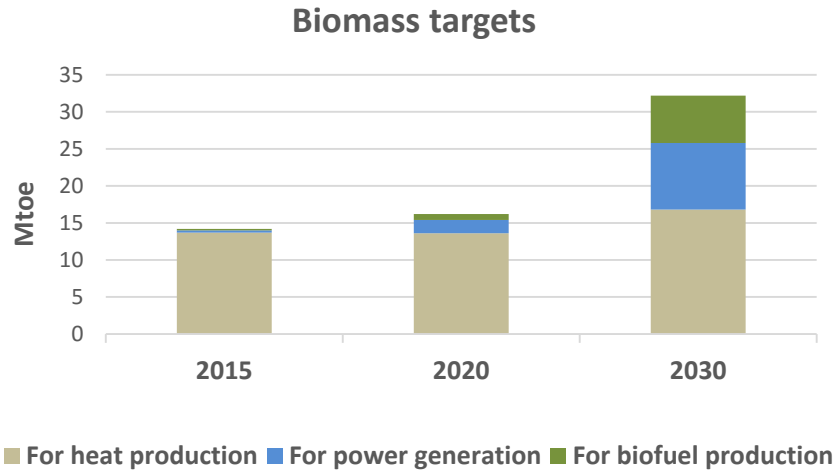
- 5% of GHG emissions in energy activities in 2020, 25% by 2030 vs BAU
- Import need in long term for coal (40 Mt in 2030) and oil products (3.7 Mt in 2030)

Accelerated strategy of RE development and use

(PMVN Decision No.2068/QD-TTg, Nov 2015 - REDS)

BIOMASS FOR ENERGY

	2015	2020	2030	2050
Agricultural and forestry waste used for energy	45%	50%	60%	70%
Livestock waste treatment for biogas	5%	10%	50%	Most treated
City waste treatment for energy	Negligible	30%	70%	Most used
Volume of biogas systems (million m^3)	4	8	60	100



Supporting mechanisms and policies

(PMVN Decision No.2068/QD-TTg, Nov 2015 - REDS)

- Prioritize investment and use of renewable energy in the development of the energy industry with a focus on building Viet Nam's renewable energy market,
- Support new models of ownership to participate in the development and use of renewable energy,
- Various tax incentives within import, corporate income and land taxes and fees (as in law applicable to special preferential/preferential investment projects)
- Approved electricity prices for on-grid renewable energy consistent with the different locations and features of potential renewable energy projects to provide appropriate investment returns to investors,

Supporting mechanisms and policies

(PMVN Decision No.2068/QD-TTg, Nov 2015 - REDS)

❑ RE electricity tariff regulations

RE power project	Avoided-cost tariff	FiT (US cent/kWh)
Small hydro	Yearly approval & varied levels by season; about 5 US cents/kWh	
Wind power		7.8
Biomass - CHP		5.8
Biomass power	Yearly approval, based on generation cost of thermal coal power plants using imported-coal	
MSW power - landfill gas		7.28
MSW power- Direct combustion		10.05
Solar farm		11.2 (draft)
Solar PV - Rooftop		14 (draft)
Biogas power		NA
Geothermal		NA

Supporting mechanisms and policies

(PMVN Decision No.2068/QD-TTg, Nov 2015 - REDS)

- Standardized PPA (20 years) and an obligation for EVN to prioritize renewable energy in grid connection, dispatch and purchase electricity,
- Project specific arrangements for off-grid electricity systems,
- Net-metering for electricity consumers with simplified connection arrangements,
- Environmental fees for organizations utilizing fossil fuels for energy production.

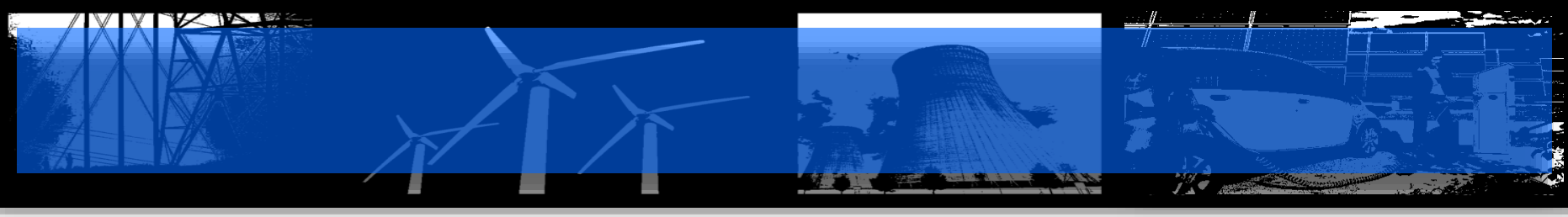
Accelerated strategy of RE development and use

(PMVN Decision No.2068/QD-TTg, Nov 2015 - REDS)

- **Renewable Portfolio Standard (RPS)** obligation upon major electricity generators and traders

RPS obligation	2020	2030	2050
Electricity generation companies greater than 1,000 MW (excluding BOT projects)	RE not lower than 3%	RE not lower than 10%	RE not less than 20%
Electricity distribution companies	RE not lower than 5%	RE not lower than 10%	RE not less than 20%

RPS excludes large hydropower



APERC
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Thank you for your kind attention!

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