



# RENEWABLE ENERGY DEVELOPMENT IN VIETNAM

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## RE potential and current status

RE source	Current development			Projects in the pipeline
	Potential	2015	%	
Small hydro	7,000	2,152	31%	NA
Wind	7,000	135	2%	~ 6000 MW
Solar PV	20,000	5	0.03%	~ 1500 MW
Biomass	3,000	375	12.5%	NA
Biogas	58	2	3.45%	NA
Geothermal	220	2.4	1.1%	NA
Municipal Waste	340	0	0%	NA
Tidal	200	0	0%	NA
<b>Average</b>	<b>37,818</b>	<b>2,671</b>	<b>7%</b>	

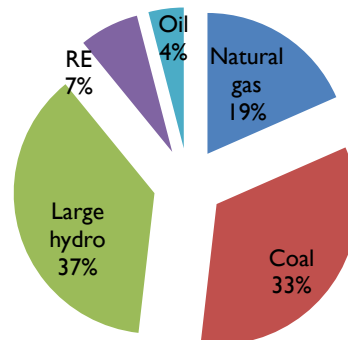
- Grid connected RE projects: ~2,600MW
- Off grid: mini hydro, micro hydro, wind, solar, biogas

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## RE potential and current status

### Installed capacity by 2015

Capacity by fuel	MW
Gas	7,172
Coal	1,3014
Oil	1,576
Large hydro	14,530
Renewable (SHH, wind..)	2,671
<b>Total</b>	<b>38,963</b>



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## Current policy framework on RE

### Key documents on RE targets

- Decision 2068/QĐ-TTg dated 25/11/2015 on development strategy and vision of RE to 2050.
- The Revised PDP VII was approved by PM in Decision 428/QĐ-TTg dated 18/3/2016.



### Various decisions on supporting mechanism:

- Decision No. 37/2011/QĐ-TTg dated 29/6/2011 on support mechanism for wind power projects.
- Circular 32/2014/TT-BCT dated 31/12/2014 on Avoided cost for small Hydro power plants (under 30MW).
- Decision 24/2014/QĐ-TTg dated 24/3/2014 by PM on Incentive mechanism for biomass energy development.
- Decision 31/2014/QĐ-TTg dated 05/5/2014 by PM on Incentive mechanism for solid waste energy development.

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## Current policy framework on RE

### RE targets

Fuel types	2015	2020	2030
Natural gas	7,172	8,940	19,037
Coal	13,014	25,620	55,167
Nuclear		-	4,600
Hydro (large, PSH)	14,530	18,060	21,886
Oil	1,576	-	-
Solar	5	850	12,000
Wind	135	800	6,000
Other (Small HH, biomass, waste to energy, Geothermal..)	2,531	4,290	9,195
Import	500	1,440	1,554
<b>Total</b>	<b>39,463</b>	<b>60,000</b>	<b>129,500</b>

- RE capacity targets: 2020 - 9.9%; 2030 - 21%
- RE electricity targets: 2020 - 6.5%; 2030 - 10.7%

Source: Decision 428/QĐ-TTg dated 18/3/2016

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## Current policy framework on RE

### Price support

RE type	Support mechanism	Price level	Governing legal document
Small hydro (<30 MW)	Avoided Cost Tariff	Annual announcement. Around 5 US cent/kWh	Circular 32/2014/TT-BCT dated 31/12/2014
Wind power	FIT	7.8 US cent/kWh	Decision No. 37/2011/QĐ-TTg dated 29/6/2011
Waste to energy	FIT	<ul style="list-style-type: none"> <li>Land fill gas technology: 7.28 US cent/kWh</li> <li>Incineration technology: 10.05 US cent/kWh</li> </ul>	Decision 31/2014/QĐ-TTg dated 05/5/2014
Biomass	FIT	<ul style="list-style-type: none"> <li>Cogeneration: 5.8 US cent/kWh</li> </ul>	Decision 24/2014/QĐ-TTg dated 24/3/2014

## Current policy framework on RE

### Other supports

#### Project development phase:

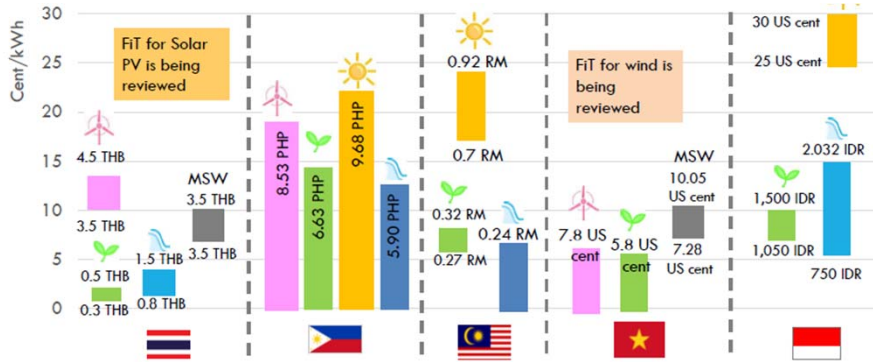
- Import tax: exemption on goods forming fixed assets, which cannot yet be produced locally
- Investment incentive: owner of renewable energy project can obtain loans of up to 70% of the total investment cost from the Vietnam Development Bank (VDB) at an interest rate equivalent to that of a 5-year government bond plus 1% per year

#### Operation phase:

- Corporate income tax:
  - a. Tax rate: 10% for 15 years, possible extension to 30 years
  - b. Tax exemption for first 4 years, 50% tax reduction for next 9 years
- Accelerated depreciation rate
- Land use levy and fee: free
- Environment protection fee: free

## The challenges

- Financial support to RE is still insufficient to incentive investment – FITs are generally regarded as too low to provide potential investors



Source: Badariah Yosiyana, ASEAN Centre for Energy

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## The challenges

- Financial support to RE is still insufficient to incentive investment – FITs are generally regarded as too low to provide potential investors

Technology	Installed capacity before FIT introduction	Installed capacity now (end of 2015)	Remark
Wind Power	8 MW (2010)	135 MW	2 on-grid, one island, however not applying this FIT.
Waste to energy	2.4 MW (2010)	2.4 MW	
Biomass	150 MW (2012)	375 MW	Captive power
Small hydro	350 MW (2009)	2152 MW	Success story

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## The challenges

- Access to financing sources: Achieving targets for wind and solar alone would require 26.5 billion USD
- Lack of local expertise
- Lack of local industry (production of renewable energy technologies)
- Lengthy investment process

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## Planned policy instruments

- FIT for wind is being revised
- Support mechanism for solar PV is being finalized
  - ✓ Ground mounted solar PV: 11.2 US cent/kWh (FIT)
  - ✓ Rooftop solar PV: 15 US cent/kWh (Net metering)

### **New policy instruments were proposed:**

- Renewable Portfolio Standards (RPS) for Generator >1000MW and for Distributor:
  - ✓ By 2020: >3% (>5% for distributor)
  - ✓ By 2030: >10%
  - ✓ By 2050: >20%
- Reverse auction
- Net metering
- Establishment of sustainable Energy Development Fund
- Payment for RE is recovered through increasing electricity tariff.


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## Planned policy instruments

- Financing for Green investments: Pilot green credit e.g. by the state bank 2000 billion VND, interests rate 1-3 % lower than commercial rate....
- Renewable energy master plans

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Thank you!



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