# Vietnam Renewable Energy development project to 2030 with outlook to 2050

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# CONTENTS

- Viewpoints, strategies and development goals
- Development orientation by period
- Development orientation by sub-sectors
- Solutions to strategy implementation

# 1. Viewpoints, strategies and development goals

## Viewpoints on development

- RE development shall be in synergy with the realization of economic, social and environment goals
- RE development and use shall be concerted with an expansion of RE industry
- Focus shall be given to proven technologies in the RE field (including hydropower, wind power, solar power, biomass energy and biogas)
- Incentives/support policies shall be matched with the market mechanism
- Restructuring and state management capacity building shall come together in the RE field.

# 1. Viewpoints, strategies and development goals

## Strategic and development goals

- Encourage/mobilize all resources from the society , develop RE with reasonable prices, gradually increase the RE share in the national energy production and consumption in order to ensure less dependence on fossil sources, and contribute to better energy security, mitigating climate change, environmental protection and sustainable socio-economic development.

- Objectives:

  + Most of households shall have electricity in 2020 and access to modern, sustainable and reliable energy services with reasonable electricity selling/energy prices in 2030.

  + Reduce greenhouse gas emissions: by approx. 5% in 2020; approx. 25% in 2030 and around 45% in 2050.

# 1. Viewpoints, strategies and development goals

## Strategic and development goals

+ Fuel imports to be reduced: by 40 million tons of coal and 3.7 million tons of oil products in 2030;150 million tons of coal and 10.5 million tons of oil products in 2050

+ Increase the proportion of households with solar water-heating devices: from 4.3% in 2015 to 12% in 2020, 26% in 2030 and 50% in 2050.

+ Scale up the application of biogas technologies: from 4 million $m^3$ in 2015 to 8 million $m^3$ in 2020; 60 million $m^3$ in 2030 and 100 million $m^3$ in 2050.

# 1. Viewpoints, strategies and development goals

## Strategic and development goals

+ Increase the percentage of households using advanced/high-performing stoves: by 30% in 2020; 60% in 2025; and approximate 100% in 2030.

+ Increase the production of biofuels: 5%; 13% and 25% of transport sector's fuel demand in 2020, 2030 and 2050.

+ Increase the proportion of domestically-manufactured equipment value in the RE field up to 30% in 2020 and 60% in 2020; and can export in 2050

# 2. Development Orientation by Period

## Present to 2030

- Development and utilization of independent RE sources for achieving rural electrification goal(s)
- Investment in the development of RE-based grid-connected power plants:

+ Encourage the investment in building economically-feasible RE-based grid-connected power plants

+ Support the development, on a pilot and selective basis, of several RE technologies that are currently not economically feasible

- Development and utilization of RE sources for heat supply: Support the investment in the initial period.
- Support the investment in piloted generation-2 and -3 biofuel production projects, in which non-food materials will be used.

# 2. Development Orientation by Period

## Orientations towards 2050

- Exploit maximize RE potentials with the projects bringing high economic, social and environmental efficiencies.
- Strongly develop RE technology market, machinery/equipment manufacturing industry
- Support research, development, transfer and application of new renewable energies.

# 3. Development orientation by sub-sectors

## Common goals:

**Prioritize the development of RE for the production of power, increase the utilization rate of RE from about 7% in 2020 and more than 10% in 2030.**

## Specific goals:

## Small hydro power:

- Priotize development of hydropower, especially multi-purpose projects.

- The total hydropower production shall be increased from 17,000 MW as present to 21,600 MW in 2020; 24,600 MW in 2025 (pumped storage power plants with 1,200 MW); 27,800 MW in 2030 (pumped storage power plants with 2,400 MW).

# 3. Development orientation by sub-sectors

- The share of hydropower in the total electricity production shall increase from 29.5% in 2020; 20.5% in 2025 and 15.5% in 2030.

**Wind power**:

-Total electricity generated from wind sources shall increase from 140 MW as present up to 800 MW in 2020; 2,000 MW in 2025 and 6,000 MW in 2030.

-The share of wind power in total electricity production shall account for 0.8% in 2020, 1% in 2025, 1% in 2030.

**Biomass energy:**

- The share of biomass energy in total electricity production shall account for 1% in 2020, 1.2 % in 2025, 2.1% in 2030.

# 3. Development orientation by sub-sectors

## Solar power:

-The total solar power production shall increase from a negligible level at present up to 850 MW in 2020; 4,000 MW in 2025 and 12,000 MW in 2030.

- The share of solar power in total electricity production shall account for 0.5% in 2020; 1.6% in 2025 and 3.3% in 2030.

# 4. Solutions to strategy implementation

- The Sustainable Energy Promotion Fund shall be established and financed by the state budget, revenue from environmental fee levied on fossil fuels, various sources of funds.

-Policies for electricity tariff and guaranteed investment:

+ The electricity tariff (FIT) applicable to grid-connected power generation projects using renewable energies

+ Power entities shall be responsible for purchasing all electricity produced from grid-connected RE-based power projects.

+ Issue PPA

# 4. Solutions to strategy implementation

+ The electricity purchase cost for power generation projects using RE sources shall be accounted into the power entity's electricity tariff, calculated and fully incorporated into electricity retail tariff structure, and recovered from electricity sale revenues.

+ The power generation projects using RE sources shall be given with prioritized connection to the national power system

+ The connection cost and other associated costs as reasonably incurred in the RE-based electricity purchase by a power grid entity shall be incorporated in such power grid entity's transmission/distribution cost.

- **For the independent power generation projects using RE sources that shall receive support from the the Sustainable Energy Promotion Fund**.

# 4. Solutions to strategy implementation

- Application of RPS mechanism (Renewable Portfolio Standard):

+ For power generation entities that have their installed capacity of larger than 1,000 MW (excluding BOT-invested sources), the proportion of electricity generated from RE sources shall not be less than 3%, 10% and 20% in 2020, 2030 and 2050 respectively.

+For power distribution entities that generate/purchase electricity from RE sources, the proportion shall not be less than 5%, 10% and 20% in 2020, 2030 and 2050 respectively.

- The MoIT shall determine, on annual basis, the minimum proportion of electricity generated from RE sources by power generation/distribution entities.

# 4. Solutions to strategy implementation

- Net-metering mechanism:

+ End-use customers who are purchasing electricity from the national power system and at the same time able to generate electricity from RE sources for self-assumption purpose shall be entitled to net-metering mechanism.

+ Power distribution entities shall be responsible for entering into, on the basis of net-metering principle, power purchase agreements with end-use customers who have power installations using RE sources.

+ The MoIT shall introduce simplified connection processes/procedures, valuation method(s),...

+ The total production of electricity generated from RE sources by end-use customers shall be incorporated into the power distribution/trading entity's RPS.

# 4. Solutions to strategy implementation

- Market formulation and RE technologies :

+ Developm the national RE programme;

+ Establish and develop RE industry;

+ Formulate and expand RE technology market

- Incentives and other supporting mechanisms: tax incentives, preferential treatment for land, policies for environment protection,…

*Thank you!*