



# **Regional Workshop on Biotechnology and Renewable Energy Policy and Finance**

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## **VIETNAM DOMESTIC ETHANOL OVERVIEW**

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*International Cooperation Department*

*General Directorate of Energy*

*Ministry of Industry and Trade*

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Policies of Vietnam government on renewable energy

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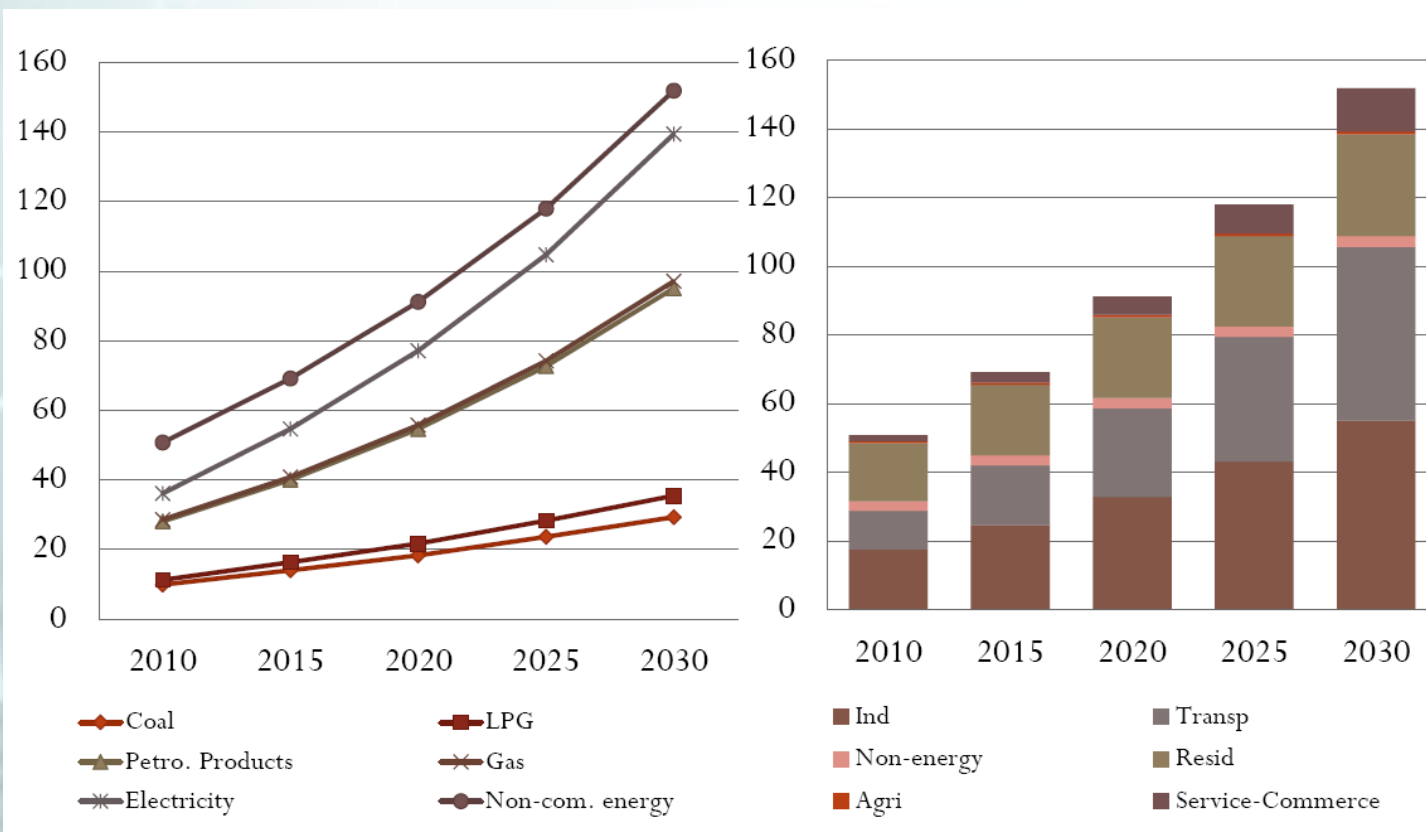
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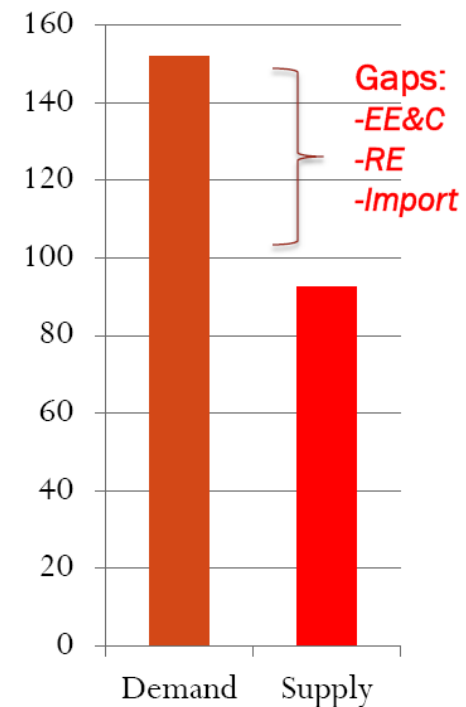
# VIETNAM ENERGY DEMAND PROJECTION BY FUEL TYPE AND BY SECTOR



# VIETNAM ENERGY

## ENERGY BALANCE BY 2030

Resources	Estimated supply capability in physical units/y	Estimated supply capability in MTOE/y
Coal	75 million tons	42 mtoe
Crude oil	20 million tons	20.4 mtoe
Natural gas	9.6 – 13.4 billion m <sup>3</sup>	8.64-12.06 mtoe
Wind energy	6000 MW ~ 22 billion kWh	1.89 mtoe
Hydro power	18,000 – 20,000 MW ~ 75 – 80 billion kWh	6.45 – 6.88 mtoe
Biomass		9.4 mtoe
	<b>Total supply</b>	<b>88.78 – 92.63 mtoe</b>



# **POLICIES OF VIETNAM GOVERNMENT ON ENERGY AND RENEWABLE ENERGY**

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## **ENERGY POLICIES OF VIETNAM**



- Specify to diversify and explore domestic natural resource with
  - *environmental protection*
  - *reduce primary energy export*
  - *sustainable development of energy sector*
  - *ensure energy security for future*

**MAIN SOLUTIONS**



- **RENEWABLE ENERGY**
- **ENERGY EFFICIENCY AND CONSERVATION**

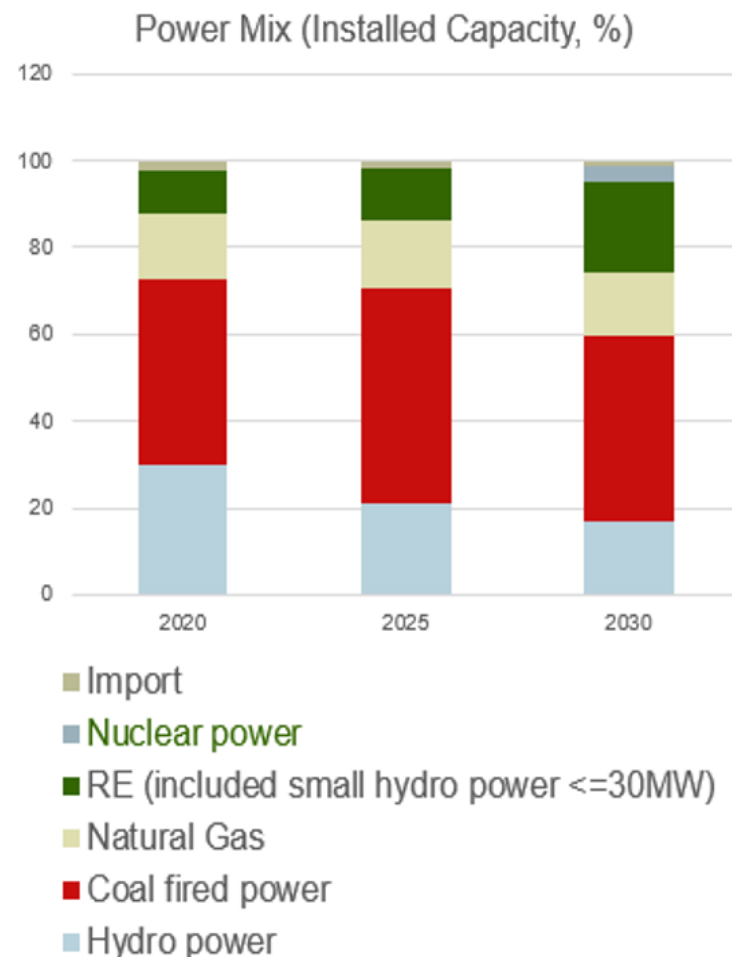


# POLICIES OF VIETNAM GOVERNMENT ON ENERGY AND RENEWABLE ENERGY

## RE development – Targets

(Source: Viet Nam's power development plan up to 2030, with an outlook to 2050, issued 18 Mar 2016)

Power Mix (Installed Capacity, MW)	2020	2025	2030
Hydro power	18,060	20,362	21,886
Coal fired power	25,620	47,575	55,167
Natural Gas	8,940	15,054	19,037
RE (included SHP≤30 MW)	5,940	12,063	27,195
Nuclear power	0	0	4,662
Import	1,440	1,448	1,554
Total installed capacity (MW)	60,000	96,500	129,500

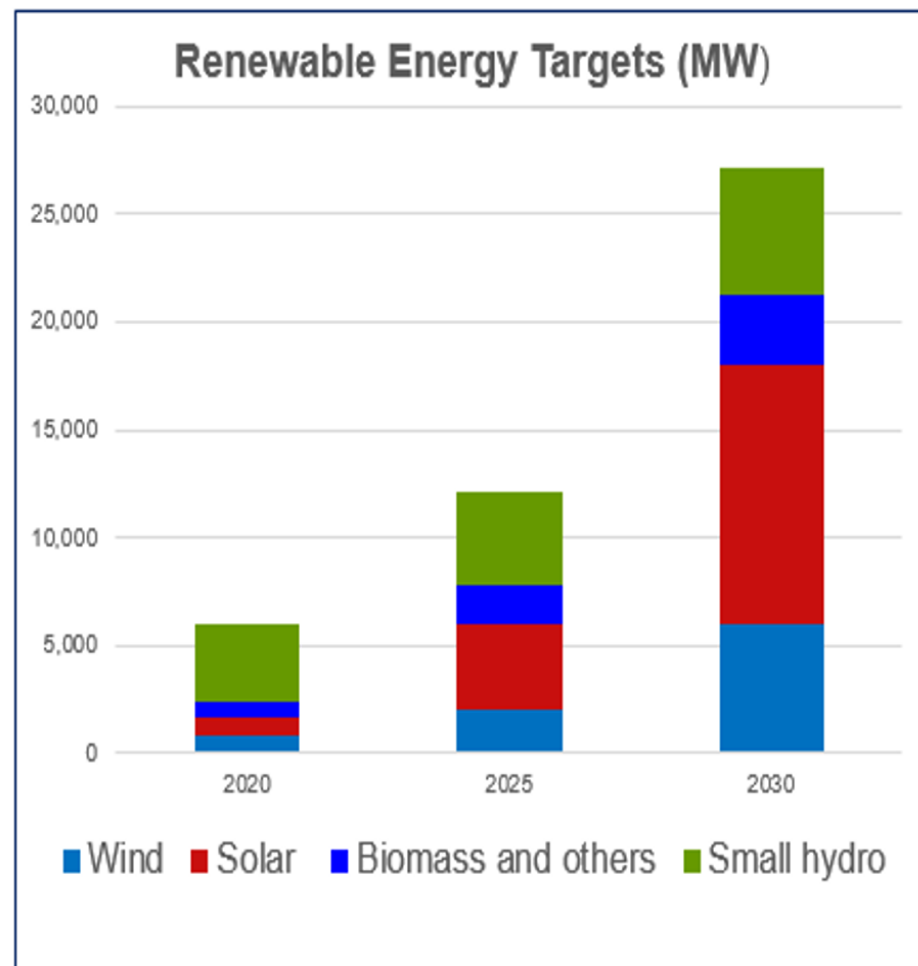


# POLICIES OF VIETNAM GOVERNMENT ON ENERGY AND RENEWABLE ENERGY

## RE development – Targets

(Source: Viet Nam's power development plan up to 2030, with an outlook to 2050, issued 18 Mar 2016)

Renewable Energy (MW)	2020	2025	2030
Wind	800	2,000	6,000
Solar	850	4,000	12,000
Biomass and others	750	1,824	3,281
Small hydro	3,540	4,239	5,915
<b>Total</b>	<b>5,940</b>	<b>12,063</b>	<b>27,195</b>





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# **POLICIES OF VIETNAM GOVERNMENT ON BIO-FUEL DEVELOPMENT**

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## **LEGAL DOCUMENTS**

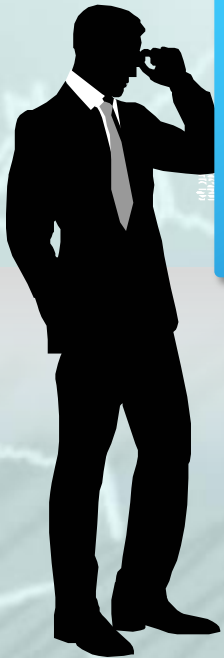
- **Approving the scheme on development of biofuels up to 2015 with a vision to 2025**  
*(Decision No 177/2007/QĐ-TTg of Vietnam Prime Minister)*
- **Planning of ethanol fuel industry**  
*(Decision No 3042/2013/QĐ-BCT of Vietnam Minister of Ministry of Industry and Trade)*
- **Roadmap obligation to use bio-fuels in Vietnam**  
*(Decision No 53/2012/QĐ-TTg of Vietnam Prime Minister)*
- **Tax and fee policies for E5**  
*(Related many legal documents at differences levels)*

# **POLICIES OF VIETNAM GOVERNMENT ON BIO-FUEL DEVELOPMENT**

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**Approving the scheme on  
development of biofuels up to  
2015 with a vision to 2025**

*(Decision No 177/2007/QĐ-TTg of  
Vietnam Prime Minister)*



- Establish policies and systems of legal documents related to the research, production and use of bio-fuels
- Establishing the roadmap required rate of mixing bio-fuels with conventional fuels
- Building technical standards and regulations.
- R&D and pilot activities
- Capacity building activities

# APPROVING THE SCHEME ON DEVELOPMENT OF BIO-FUELS 2015-2025

## POLICIES AND LEGAL DOCUMENTS SYSTEM



Establishing many legal documents at differences level

- *state management of bio-fuels*
- *planning of ethanol fuel industry*
- *roadmap required rate of mixing bio-fuels with conventional fuels*
- *tax and fee for E5*
- *bio-fuels investment policies*

Consumer awareness and attitude

- *Guidline on bio-fuels*
- *Media programs on bio-fuels*



# APPROVING THE SCHEME ON DEVELOPMENT OF BIO-FUELS 2015-2025

## ROADMAP OBLIGATION TO USE BIO-FUELS IN VIETNAM



### E5

- from December 1, 2014, gasoline is produced, processed or busses to use for road motor vehicles sold in 7 large provinces and cities is E5
- from December 1, 2015, gasoline production, blending and trading to be used for road motor vehicles nationwide consumed is E5

### E10

- from December 1, 2016, gasoline is produced, processed or busses to use for road motor vehicles sold in 7 large provinces and cities is E10
- from December 1, 2017, gasoline production, blending and trading to be used for road motor vehicles nationwide consumed is E10





# APPROVING THE SCHEME ON DEVELOPMENT OF BIO-FUELS 2015-2025

## TECHNICAL STANDARDS AND REGULATIONS



- *National technical standards and regulations* → production, storage and distribution, and use of bio-fuels
- Revised National regulation **QCVN 01:2009** → gasoline and bio-fuels quality management

*To ensure meeting the technical requirement when changing from conventional to bio-fuels system*

- QCVN 08:2012
- QCVN 09:2012
- 43/2015/TT-BCT





# RESEARCH AND DEVELOPMENT PILOT PROJECTS

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In the period 2007-2015

- *about 58 R&D and pilot projects*
- *total State budget for implementation of a Biofuel Development Scheme about 11,78 mUSD. The budget is intended for fundamental research and disseminating applications on biofuels*

R&D projects focus on

- *improving the productivity of biomass as raw materials for bio-fuels production*
- *blending technology, additives and catalysts to improve efficiency bio-fuels*
- *Diversify sources of raw materials for bio-fuel production such as agriculture and forestry waste products, biomass of algae...*



# TAX AND FEE POLICIES

## BIO-FUELS AND E5

### ENVIROMENTAL TAX



- **E5:** 12,9 US cent per litter
- **RON 92:** 13,6 US cent per litter  
*0,7 US cent difference*

### EXCISE TAX



- **E5:** 8%
- **RON 92:** 10%  
*2% tax rate difference*

### OIL PRICE STABILIZATION FUND



- **E5:** 0
- **RON 92:** 1,36 US cent  
*1,36 US cent difference*



**E5:** 69,72  
US CENT

*Lower than  
RON 92:*

**3,15**  
US CENT

# TAX AND FEE POLICIES

## BIO-FUELS AND E5

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### OTHER TAXES

Organizations and enterprises investing in biofuel research and production can obtain subsidies from the Government though

- \* *the exemption of corporate income tax with biofuel product sales*
- \* *a 20 year land use tax reduction*
- \* *exemption for raw materials and equipment used for biofuel production*



# **POLICIES OF VIETNAM GOVERNMENT ON BIO-FUEL DEVELOPMENT**

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**The policies and legal documents systems are being completed to meet the actual requirements**

-  **Approving the scheme on development of biofuels up to 2015 with a vision to 2025**  
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# SITUATION OF PRODUCTION E5 IN VIETNAM

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The material of all ethanol plants in Vietnam is from cassava

- cassava cultivation area in year 2013 is estimated 555,700 hectare, the average yield 15.7-17.6 tons per hectare. This value is lower than average value of others countries

There are currently 2 ethanol plants provide the fuel

- *JSC Central biofuels (BRS-BF)*
- *Tung Lam company limited (bioethanol plant in Dong Nai)*

There factories E100 is difficult in general to operate production to ensure market supply E100





# SITUATION OF BUSINESS E5 IN VIETNAM

- The total amount of E5 sold from November 2014 until October 2015 was 229,617 m<sup>3</sup> accounted for about 8,7% of the total volume of petrol RON 92, 6,18% of the total amount of mineral gasoline
- Enterprises with E5 gasoline consumption rate compared to the RON 92 petrol highest mineralization is 15.23%; lowest is 0.15%



- Number of retail stores E5 to October 30, 2015 at 8 pilot provinces are 598 stations in a total of 1,920 stations accounted for 31,15%
- Total countrywide petrol refill stations are 13,500 stations, so there is E5 refill station 4,4% of all

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# **CONCLUSION**

## **BIO-FUELS AND E5 IN VIETNAM**

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1. Vietnam setup policy and roadmap to promote E5 countrywide
2. There is not clearly action plan for demand site promoting. So demand still lower than expectation
3. Price difference of E5 and gasoline RON 92 approximately 3%. The influential level of this difference must be proved among unclear consumer's attitude and acceptance of E5 engine effect.
4. There are financial subsidies to E5 from excise tax reduction, but it isn't clearly impact to consumer decision

# THANK YOU

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