

# Renewable Energy Outlook of the Philippines

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# Outline of Presentation

- I. Government Policy – National Renewable Energy Program (NREP)
- II. Landmark Laws
- III. Status of Renewable Energy Development
  - Renewable Energy Policy Updates
  - Where are we now
- IV. Challenges
- V. Way Forward

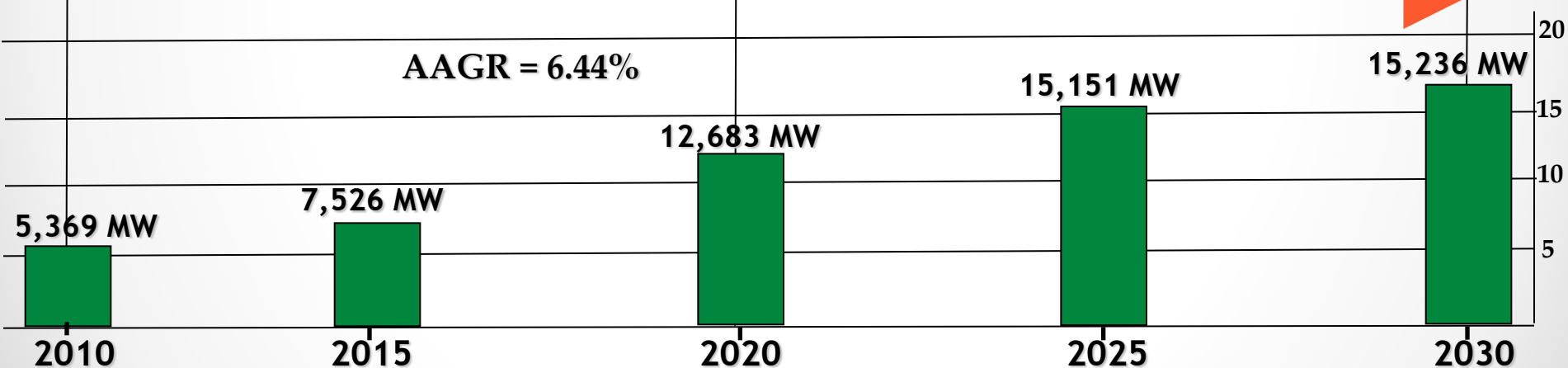
# NREP ROADMAP (2010-2030)

- Target additional RE capacities are reached by:

2015 - Biomass : 277 MW  
 2022 - Wind : 2,345 MW  
 2023 - Hydro : 5,398 MW  
 2025 - Ocean : 75 MW  
 2030 - Solar : 284 MW  
 Geothermal : 1,495 MW

- 2018 - Commissioning of the 1<sup>st</sup> OTEC facility
- 2020 - Solar grid parity is attained
- 2025 - Wind grid parity is attained

## 2010 IMPLEMENTATION OF NREP SECTORAL SUB-PROGRAMS 2030



Note: The National Renewable Energy Program (NREP) is a live document and will be subjected to public consultations. Figures presented may change based on regular updates of the NREP.

Source: Philippine Department of Energy/NREP

# Landmark Laws

## RA 9367: Biofuels Act

- Biodiesel
- Bioethanol



## RA 9513: Renewable Energy Act

- Biomass
- Geothermal



- Other emerging RE technologies



# Policy Mechanisms under the RE Act of 2008

## LOWERING OF INVESTMENT COST (Fiscal Incentives)

- Income Tax Holiday and Low Income Tax Rate
- Reduced Government Share
- Duty-free Importation of Equipment and VAT-zero Rating
- Tax Credit on Domestic Capital Equipment
- Special Realty Tax Rate on Equipment and Machinery
- Cash Incentive for Missionary Electrification
- Exemption from Universal Charge
- Payment of Transmission Charges
- Tax Exemption on Carbon Credits

## ENHANCING COMPETITIVENESS

### MANDATORY UTILIZATION

- Biofuels Mandate
- Renewable Portfolio Standard (RPS)
- Feed-In Tariff (FIT)

Interconnection/Ancillary services/Must Dispatch

### OTHER MARKET OPTIONS

- Net Metering Concept
- Green Energy Option



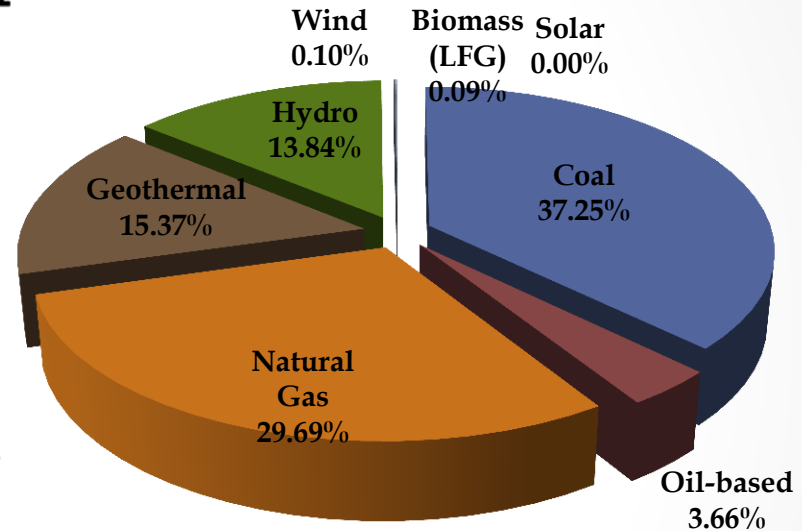
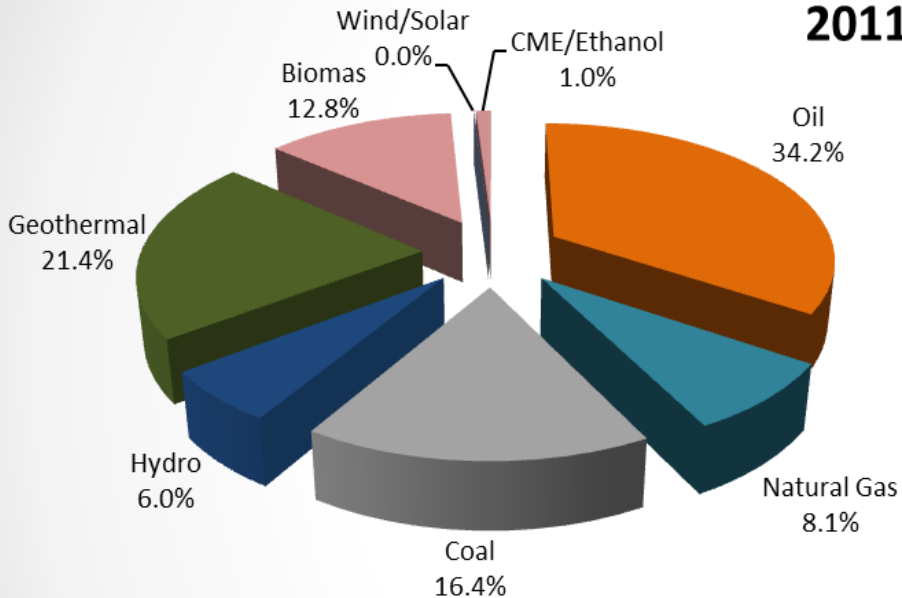
# Status of Renewable Energy Development



# Primary Energy Mix

# Power Generation Mix

2011



**Total Energy: 42.2 MTOE**  
**Self Sufficiency: 63.2%**

**Total Generation = 68,279 GWh**

- 10% of the population does not have access to power
- 71% of generation is from fossil fuels
- Heavily reliant on imports, primarily from fossil fuels, to meet growing energy demand

**Shares:**

<b>Self-sufficiency</b>	<b>= 61.8%</b>
<b>Green (Clean) Energy</b>	<b>= 59.3 %</b>
<b>RE</b>	<b>= 29.4%</b>



# Updates in RE Policy Mechanisms

- Feed-In-Tariff

Rules - 2010

Rate - 2012

Criteria -2013

Resource	ERC-Approved FIT Rates (USD/kWhr)	DOE -Certified Installation Targets (MW)
Run-of-River Hydropower	0.136	250
Biomass	0.153	250
Wind	0.198	200
Solar	0.224	50
Ocean	deferred	10

- Net Metering
- Renewable Portfolio Standards
- Green Energy Options

Rules - 2013





# Where are we now?

RE Projects as of September 2013

## AWARDED PROJECTS UNDER RENEWABLE ENERGY (RE) LAW

RESOURCES	AWARDED PROJECTS		POTENTIAL CAPACITY MW		INSTALLED CAPACITY MW	
	Grid-Use	Own-Use	Grid-Use	Own-Use	Grid-Use	Own-Use
Hydro Power	201	1	2,825.58	1.50	131.22	
Ocean Energy	3		5.00			
Geothermal	39		870.00		1,847.69	
Wind	37	1	1,753.50	0.006	33.00	
Solar	34	4	482.706	1.574		
Biomass	28	23	111.60	32.80	146.35	172.18
<b>Sub-Total</b>	<b>342</b>	<b>29</b>	<b>6,048.386</b>	<b>35.880</b>	<b>2,158.26</b>	<b>172.18</b>
<b>TOTAL</b>	<b>371</b>		<b>6,084.266</b>		<b>2,330.44</b>	

## BIOFUELS REGISTRATION / ACCREDITATION

RESOURCES	No. of Companies	No. of Projects
Bioethanol	7	7
Biodiesel	9	9
<b>Total</b>	<b>16</b>	<b>16</b>



# RE Project Applications under RE Law as of September 2013

## PENDING APPLICATIONS UNDER RE LAW

RESOURCES	PENDING APPLICATIONS		POTENTIAL CAPACITY MW		INSTALLED CAPACITY MW	
	Grid-Use	Own-Use	Grid-Use	Own-Use	Grid-Use	Own-Use
Hydro Power	179		2,331.05		553.60	
Ocean Energy	4		-			
Geothermal	4		60.00		-	
Wind	12		381.00		-	
Solar	30		529.00			
Biomass	13	1	152.90	0.50	8.60	
<b>Sub-Total</b>	<b>242</b>	<b>1</b>	<b>3,453.95</b>	<b>0.50</b>	<b>562.20</b>	<b>-</b>
<b>TOTAL</b>	<b>243</b>		<b>3,454.45</b>		<b>562.20</b>	



# Challenges

- Perception of unrealistically high cost of RE/Invisibility of full cost of electricity from non-RE
- Lack of coordination among government authorities
  - Causing delay in the issuance of rules for remaining RE Policy mechanisms
  - Complexity in obtaining permits
- Lack of experience/trust among banks or investors
  - FIT eligibility policy on first come first serve for 750 MW installation target
- Cost of grid connection/uncertainty of grid access

# The Way Forward

- Intensify information drive for RE by tapping the assistance of:
  - Academe
  - Affiliated Renewable Energy Centers (AREC)
- Enhance coordination among government authorities
  - Conduct Information Education Campaign (IEC) in LGUs
  - Develop regional Philippine Energy Plan (PEP)
- Establish a web-based monitoring system for FIT implementation
- Facilitate issuance of pending RE Policy mechanisms
- Develop policies to enhance application of RE based on scale, location, technology cost, among others.
- Resource Inventory and Establishment of RE Database
- Capacity Building / Information, Education and Communication Campaigns
- Investment Missions / Business Meetings



# Thank you !

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