

# Draft National Renewable Energy Program Overview

*Gaspar G. Escobar, Jr*  
*Chief, Technical Services Management Division*  
*Renewable Energy Management Bureau*  
*Department of Energy*



# DOE- Renewable Energy Policy Framework (REPF) 2002-2013

The **RE Policy Framework**, is geared towards achieving a RE-based capacity of 100% within 10 years, hence the 100/10. Table 16 is the brief outline of the projection. To list below completes the objectives of the policy:

- To be the number one geothermal energy producer in the world;
- To be the leading wind energy producer in Southeast Asia;
- Double hydropower capacity by 2013;
- Increase non-power contribution of RE to the energy mix by 10 MBFOE in the next ten years;
- To become a regional solar manufacturing export hub; and
- Expand contribution of biomass, solar, micro-hydropower and ocean by 250MW.

## REPF's main RE objectives in 10-year time (in MW)

Resource	Existing Capacity (2002)	Target capacity	Total Capacity (2013)
Geothermal	1,932	1,200	3,132
Hydropower	2,518	2,950	5,468
Wind	0	415	415
Solar, Biomass, Ocean	0	250	250
Total	4,450	4,815	9,265

Source: DOE (2005)



# Challenges and Barriers

---

- High upfront and technology costs
- Non-competitiveness
- Non-viable markets
- Inaccessible Financial Packages
- Social Acceptability

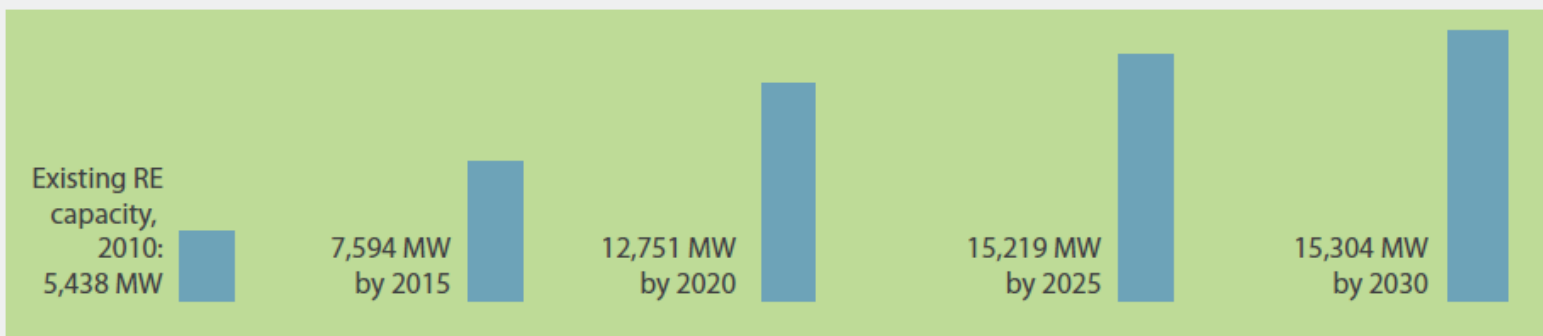


# National Renewable Energy Program (NREP) 2011-2030

## Consolidated Milestones



## Implementation of Sectoral Sub-Programs and the Policy and Program Support Component



Targeted RE-based Installed Capacity



# NREP implementation Milestones

**Enacted the R.A. 9513: Renewable Energy Act of 2008**

• **Published the National Renewable Energy Program (NREP) 2010-2030**

- The ERC approved the FIT Rates (July 2012)
- DOE issued Guidelines for the Selection Process of RE Projects under FIT System and Award of Certificate for FIT Eligibility under Department Circular No. 2013-05-0009 (May 2013)
- Implementation of the Net-Metering Program (July 2013)
- ERC issued FIT Allowance (FIT-ALL) Payment and Collection Guidelines (December 2013)

2008

2009-2010

2011

2012-2013

2014-2018

- Issued the Implementing Rules and Regulations
- Administrative Frameworks for Awarding RE Service Contracts, Accreditations
- Establishment of Renewable Energy Management Bureau (REMB)
- Creation of DOE's RE-Review and Evaluation Committee
- Initial awards of RE Contracts under the RE Law
- Convening of National Renewable Energy Board (NREB)
- ERC Issued Feed-in-Tariff (FIT) Rules (August 2010)

- ERC approved FIT-All Rates 0.0406 Php/kWh (2014-2015), October 2014 and effective January 2015
  - Amendment of DOE's Installation Target
    - April 2014, 50 MW to 500 MW for Solar
    - April 2015, 200 MW to 400 MW for Wind
  - ERC issued new FIT Rates for Solar (March 2015) and Wind (October 2015)
- DC2017-12-0015 Renewable Portfolio Standards for On-Grid Areas (December 22, 2017)
- DOE endorsed to ERC FIT installation target completion for Biomass and Hydropower until EO Dec. 2019
- July 2018, DOE signed the Green Energy Option Program



# RE Capacity Additions under RA 9513

**From 2009 – December 2017**

RESOURCES	2009	2010	2011	2012	2013	2014	2015	2016	2017	Own-Use	Net Metering	Total
	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
Biomass	37.33	35.90	19.00	19.00	0.876	12.00	124.50	40.80	17.14	128.16		434.71
Geothermal	-	-	-	-	-	50.00	10.00			-		60.00
Solar	-	-	-	-	-	22.00	141.77	728.58	-	3.22	8.163	903.73
Hydro Power	-	2.00	2.10	11.80		16.65	14.82	10.00	8.50	-		65.87
Ocean Energy	-	-	-	-	-	-				-		-
Wind	-	-	-	-	-	303.90	90.00			0.006		393.91
<b>TOTAL</b>	<b>37.33</b>	<b>37.90</b>	<b>21.10</b>	<b>30.80</b>	<b>0.88</b>	<b>404.55</b>	<b>381.09</b>	<b>779.38</b>	<b>25.64</b>	<b>131.38</b>	<b>8.16</b>	<b>1,858.20</b>



# Renewable Energy Green Jobs

2009-2017	BIOMASS	SOLAR	WIND	HYDROPOWER	GEOTHERMAL	TOTAL
Additional Capacity	306.55	892.35	393.9	65.87	60.00	
Construction Jobs	12,875	80,312	35,451	4,051	720	133,409
O & M Jobs	1,379	1,606	1,773	474	306	5,539
<b>TOTAL</b>	<b>14,255</b>	<b>81,918</b>	<b>37,224</b>	<b>4,525</b>	<b>1,026</b>	<b>138,947</b>

**138,947 Green Jobs  
Generated (2009-2017)**



# Renewable Energy Cost of Investment

2009-2017	BIOMASS (Billion PhP)	SOLAR (Billion PhP)	WIND (Billion PhP)	HYDROPOWER (Billion PhP)	GEOTHERMAL (Billion PhP)	TOTAL (Billion PhP)
Additional Capacity	306.55	892.35	393.9	65.87	60.00	
Cost of Investment	<b>16.862</b>	<b>1.652</b>	<b>1.130</b>	<b>10.426</b>	<b>3.968</b>	<b>34.039</b>

**PhP34.039 Billion  
Cost of Investments**





# Challenges and Barriers

---

- Delayed Implementation of remaining RE Policy Mechanisms
  - Renewable Portfolio Standards for On-grid and Off-grid
  - Green Energy Option Program
  - Renewable Energy Market
- RE Generation Market



# National Renewable Energy Program 2017-2040

---

- Increase RE installed capacity to at least 20,000 MW
- Pursue the development of Biofuels in compliance with the Biofuels Act of 2006 (R.A. 9367)
- Implementation of the remaining RE Policy Mechanisms
- Enhance the implementation of Distributed RE Generation under Net-Metering Program
- Continue Capacity Building / Information, Education and Communication Campaigns



# RENEWABLE ENERGY ROADMAP

## Short-Term (2017-2018)

- Review and update 2011-2030 NREP
- Monitor and assess RESCs awarded for the conversion of indicative projects to committed
- Finalize rules and implement RPS and REM
- Finalize rules and implement Green Energy Option
- Conduct detailed RE technology and resource assessment
- Review other RE policy mechanisms

## Medium-Term (2019-2022)

- Intensify development in off-grid areas for wider populace access to energy
- Determine realistic RE potential
- Update the NREP 2017 – 2040

## Long-Term (2023-2040)

- Continue and accelerate implementation of RE projects
- Conduct regular updating of RE resource database

### ACCELERATION OF RE POSITIONING

### CREATION OF CONDUCTIVE BUSINESS ENVIRONMENT

### RELIABLE AND EFFICIENT INFRASTRUCTURE

- Streamline administrative processes of RESC applications
- To work on DOE energy projects to be declared as projects of national significance
- Enhance EVOSS for RE projects
- Provide technical assistance to lower investment cost
- Promote and incentivize local technology producers
- Establish RE Information Exchange
- Explore and initiate on the harmonization of LGU and national government related programs and policy

- Strengthen resiliency of RE systems and facilities
- Harmonize transmission Development Plan with RE targets
- Develop geographical installation target
- Enhance local technical capabilities
- Conduct R&D on the efficiency of RE technologies on the Smart Grid System

**INCREASED RE INSTALLED CAPACITY  
TO AT LEAST 20,000 MW**

# RENEWABLE ENERGY ROADMAP

**Short-Term  
(2017-2018)**

**Medium-Term  
(2019-2022)**

**Long-Term  
(2023-2040)**

## PROMOTE AND ENHANCE RD&D AGENDA

- Strengthen the management and operation of ARECS
- Continue conduct of RE technology research and development studies
- Identify viability of new technologies
- Construct Ocean pilot/demo Energy projects
- Implement, monitor and evaluate pilot/demo projects for new RE technologies

## OTHER ACTIVITIES

- Identify parameters to determine the viable Ocean Energy tariff rate
- Continue technical capacity building on RE
- Conduct research and promote low-enthalpy geothermal areas for power generation and direct use/non-power application for development
- Harmonize the DOE related programs with agro-forestry policies for an integrated use of biomass
- Continue the conduct of IEC to attain social acceptability

**INCREASED RE INSTALLED CAPACITY  
TO AT LEAST 20,000 MW**

# BIOFUELS ROADMAP

OVERALL  
OBJECTIVE  
BY 2030

Short-Term  
(2017-2019)

Medium to Long Term  
(2020-2040)

**BIODIESEL**

**B2**

Maintain 2%  
biodiesel blending on  
diesel


**E10**

Review the  
bioethanol mandate

- Revisit blending requirement and available feedstock
- Continuous conduct of research and development on feedstock sources

Pursue the development of Biofuels in compliance  
with the Biofuels Act of 2006 (R.A. 9367)

# Thank You!

 (+632) 479-2900

 [www.doe.gov.ph](http://www.doe.gov.ph)

 //doe.gov.ph

 @doe\_ph

