



**Ministry of Energy and Mineral Resources Republic of Indonesia**  
**Directorate General of New Energy, Renewable and Energy Conservation**



# **Integrating Energy Efficiency and Renewable Energy: Least-cost solutions for a clean energy future**



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# National Energy Development Priorities

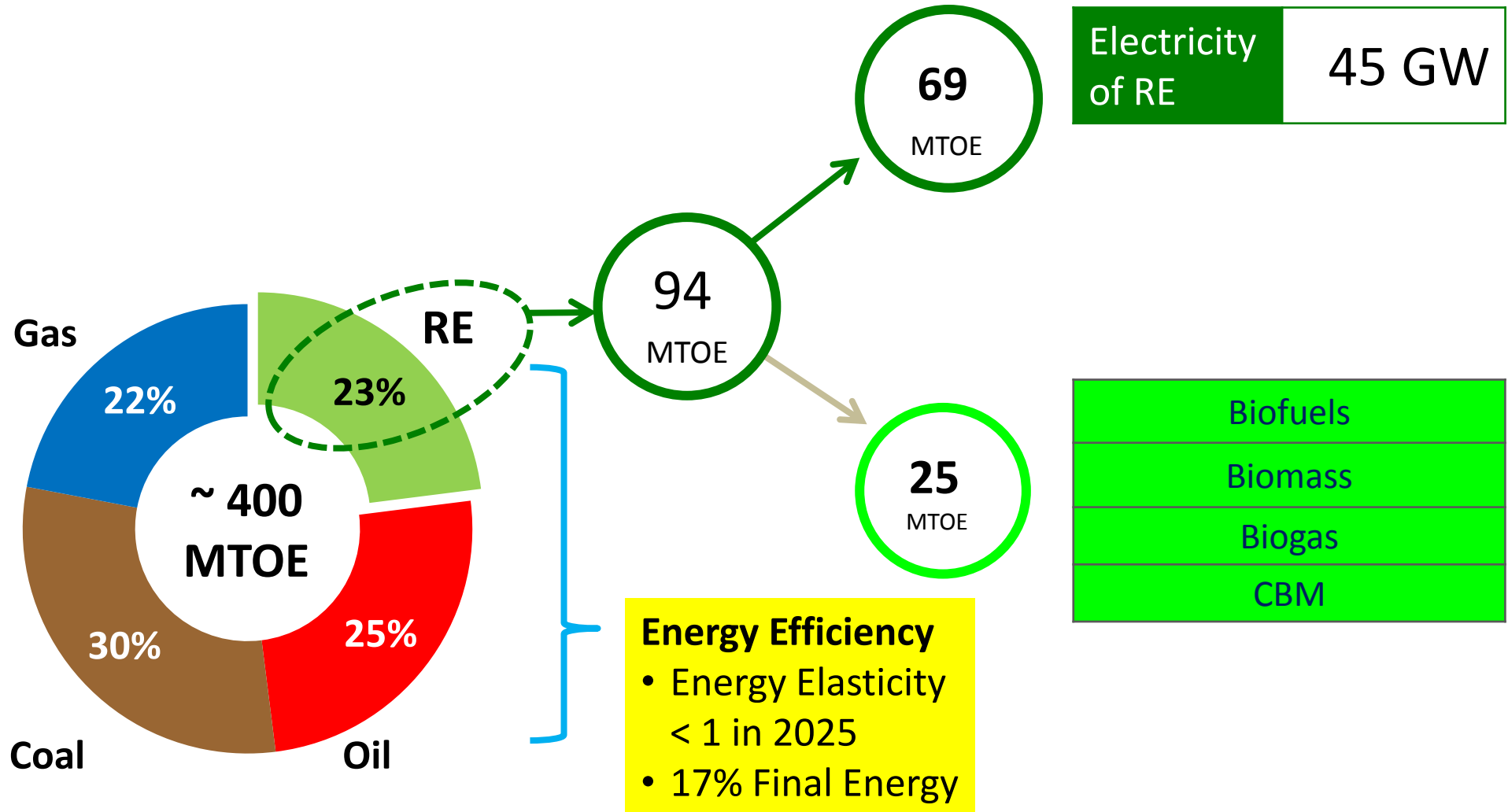
(Government Regulation No. 79 / 2014)

- 1 Maximizing the utilization of renewable energy;
- 2 Minimizing the utilization of crude oil;
- 3 Optimizing the utilization of natural gas and new energy;
- 4 Utilizing coal as the balance of the remain energy supply;
- 5 Harnessing nuclear as the last option.



Paragraph (2): Energy development priority, 11<sup>th</sup> article on Government Regulation No. 79 Year 2014 concerning the National Energy Policy

# Renewable Energy and Energy Conservation Target in 2025



# Renewable Energy Facts in Indonesia (2015)

(MW)

Type	Potential	Installed Capacity	Target (2025)
Solar	206.902	79	6.379
Wind	15.011	7	1.807
Biomass/Biogas	32.654	1740	5.532
Micro hydro	19.385	5024	20.960
Ocean	71.955	0	31.000
Geothermal	29.534	1.439	7.239



# Energy Saving Potential

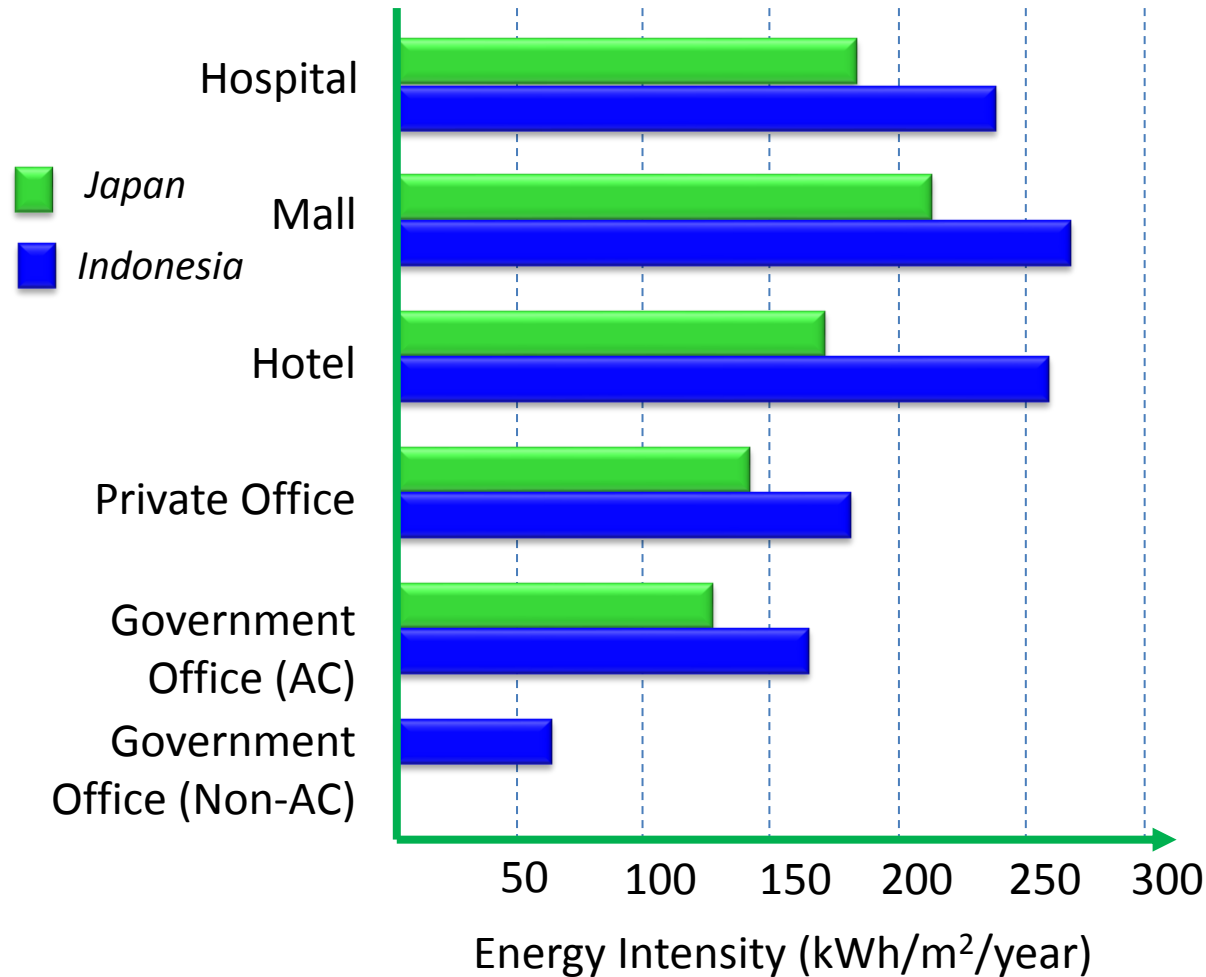
Sector	Energy Saving Potential	Target (2025)
Industry	10 – 30%	17%
Transportation	15 – 35%	20%
Residential	15 – 30%	15%
Commercial Building	10 – 30%	15%

# Energy Intensity Comparison

## Industry

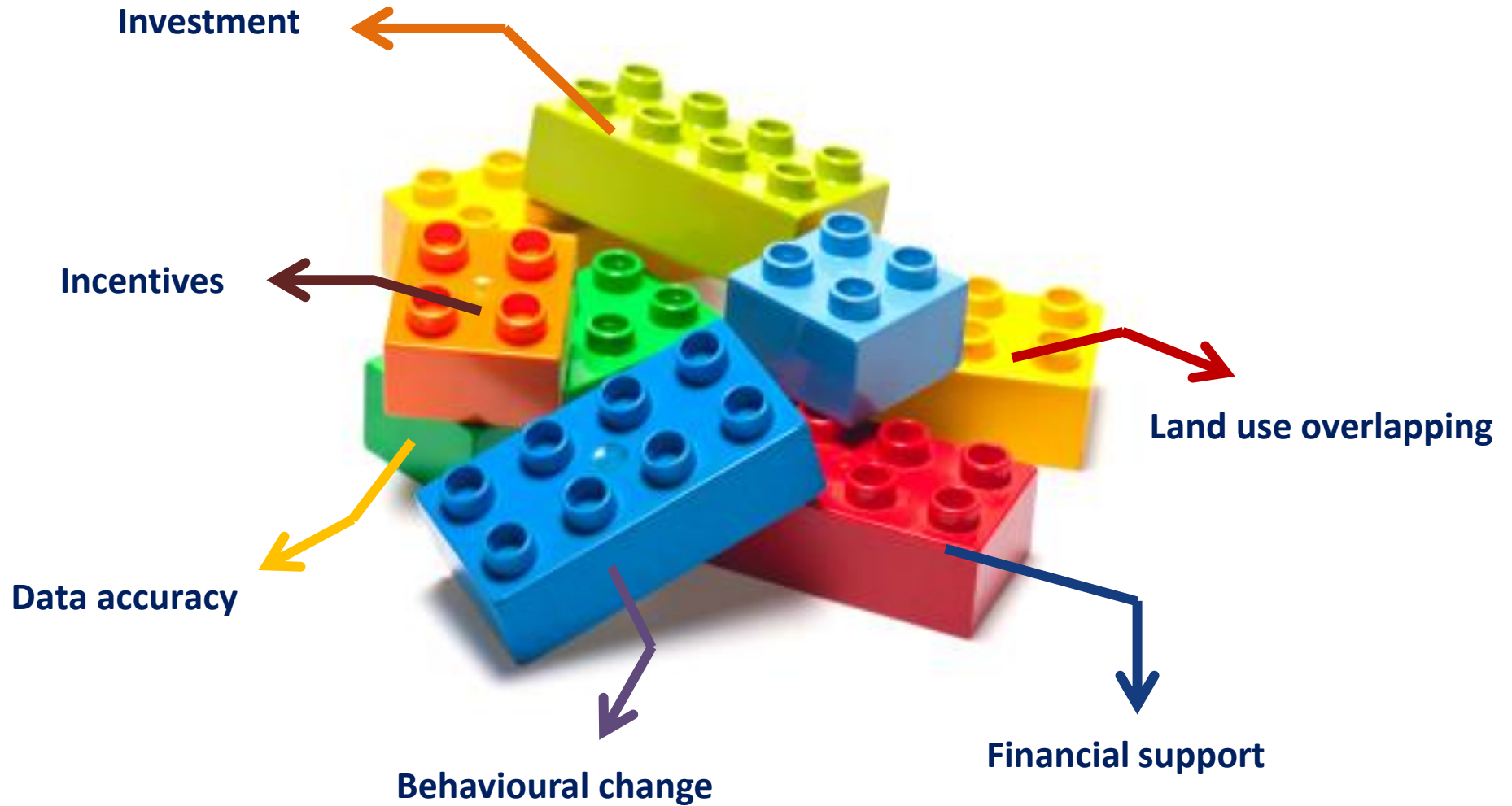
Type of Industry	Country	Energy Intensity
Iron and steel	Indonesia	650 kWh/Ton
	India	600 kWh/Ton
	Japan	350 kWh/Ton
Cement	Indonesia	800 Kcal/kg clinker
	Jepang	773 Kcal/kg clinker
Ceramic	Indonesia	16,6 GJ/Ton
	Vietnam	12,9 GJ/Ton
Glass	Indonesia	12 MJ/ton
	Korea	10 MJ/ton
Textile	Indonesia	Spinning : 9,59 GJ/Ton
		Weaving : 33
	India	Spinning : 3,2
		Weaving : 31

## Buildings



Source : Energy Conservation Partnership Program and JICA Study, 2010

# NREEC Challenges



# Renewable Energy Development Strategy



Improve ease of doing business



Strengthen RE regulation



Simplified permit process



Provide incentive








Enhance data quality



# Energy Efficiency Implementation Strategy

## CURRENT SITUATION & TARGET

- 
**Energy Manager**  
 TARGET 2019: 1000 managers  
 2015: 192 managers
- 
**Energy Auditor**  
 TARGET 2019: 700 people  
 2015: 127 people
- 
**Smart Street Lighting**  
 2016: 90 districts/cities  
 2015: 7 districts/cities
- 
**MEPS and Labelling**  
 TARGET 2016: Refrigerator, Rice cooker, Pump, Electric Motor, and Iron
- 
**Energy Management Mandatory**  
 104 of 224 Industry has been reported to MEMR

## ENERGY EFFICIENCY CAMPAIGN PROGRAM



### Awareness Raising



Mass Media Campaign



### Behavior Change



Incentive & regulation



Stakeholders Involvement



Regional Campaign



Award



### Action



Incentive & regulation



Energy Manager & Auditor



MEPS and Labeling



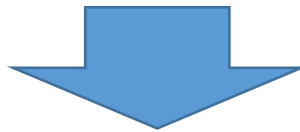
Energy Efficiency Award

# The Integration between RE and EE through Low Carbon Model Town (LCMT) Project

- Mandated on *9th APEC Energy Ministerial Meeting* in Fukui, 2010 :  
*“Low carbon technology in city planning can promote energy efficiency and fossil fuel reduction is important to control the energy consumption in urban area in APEC region”*
- *APEC Low Carbon Model Town* developed under *APEC Energy Working Group* and implemented by *Asia-Pacific Energy Research Centre (APEREC)*
- APEC LCMT consist of 3 main activities:
  - ***Feasibility Study APEC Low Carbon Town Project*** (F/S) for cities that has/will develop low carbon town, conducted by international consultant
  - ***APEC Low Carbon Town Project Guidelines*** development by Study Group A
  - ***Policy Recommendation*** for the cities by Study Group B
- In 2015, Bitung City in North Sulawesi is appointed for Low Carbon Model Town Phase 5

# Policy Recommendation for Low Carbon Town in Bitung City

Focus	Recommendation
Overarching	12
Legal Framework	7
Sustainable Urban Planning	3
Low-carbon Buildings	8
Area energy management systems / Smartgrid	1
Renewable Energy and Untapped Energy Development	4
Transportation Systems	6
Environmental Planning	11
Energy Efficiency	10



Expand LCMT Concept to other cities



**Mandiri Energi  
Melalui Konservasi**



# Thank You

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