Ministry of Energy and Mineral Resources
Republic of Indonesia

Energy Efficiency Initiatives to Tackle Climate Change in Indonesia

Presented by:
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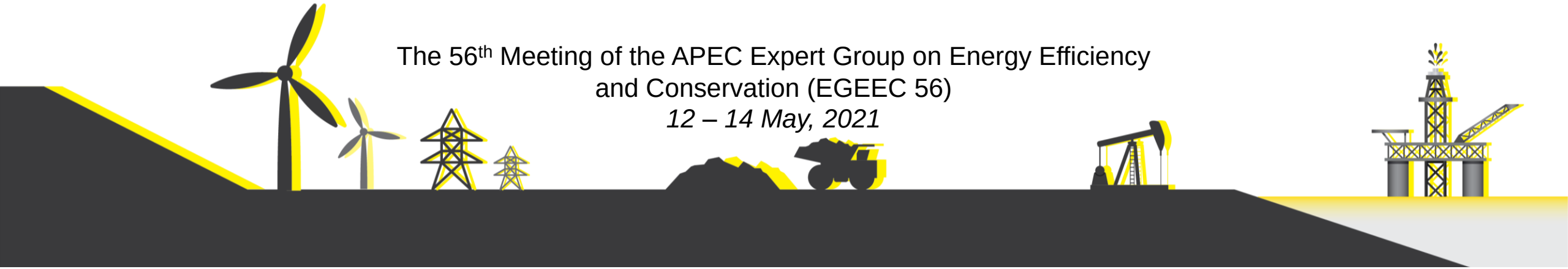
The 56th Meeting of the APEC Expert Group on Energy Efficiency and Conservation (EGEEC 56)
12 – 14 May, 2021



National Commitment to Climate Change Issues

- *Indonesia is committed to reducing GHG emissions by 29% from BaU by 2030 and 41% with international assistance*
- *Indonesia has ratified the Paris Agreement in October 2016 (Law No. 16 of 2016), and submitted it to the UNFCCC on 6 November 2016*

Target Paris Agreement:
Maintain global temperature rise not exceeding 2°C, strive to be 1.5°C

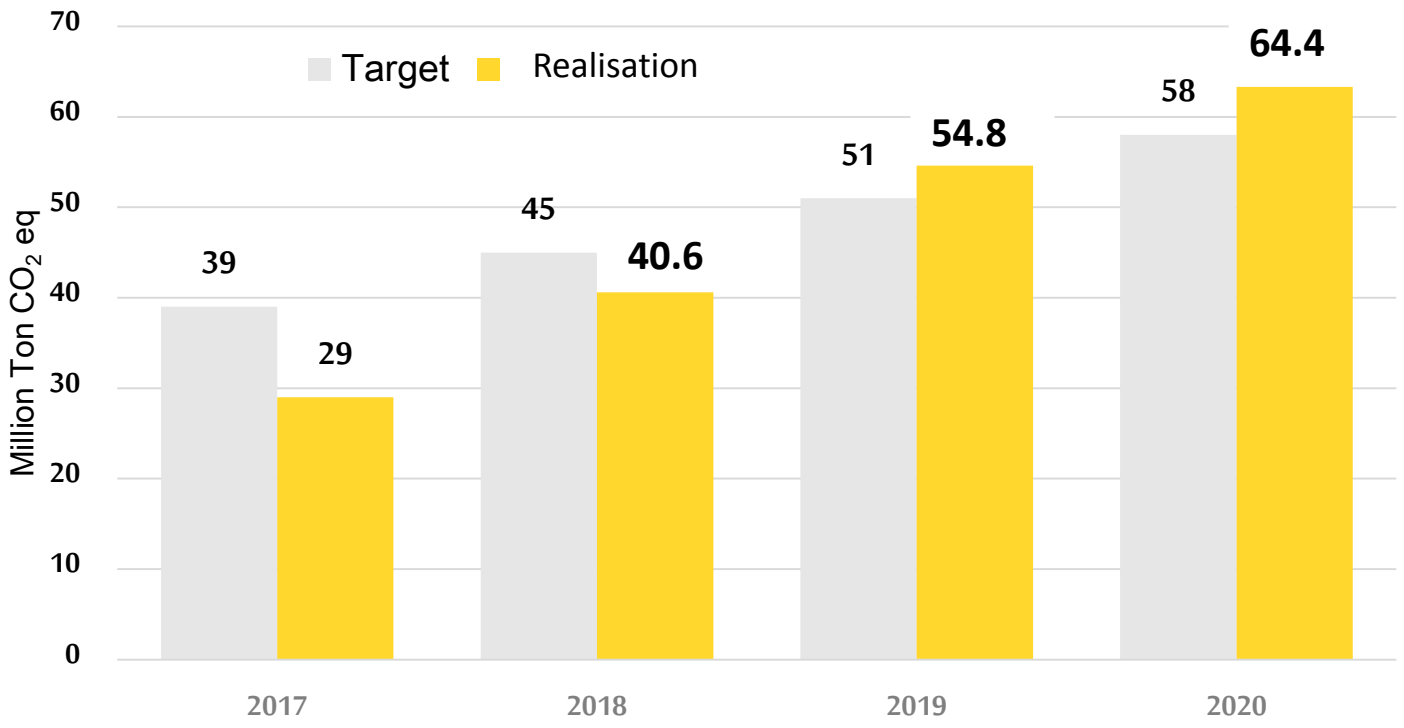
No	Sector	GHG Emission 2010 (Million Ton CO_2e)	GHG Emission in 2030 (Million Ton CO_2e)			Reduction (Million Ton CO_2e)	
			BaU	CM1	CM2	CM1	CM2
1	Energy	453.2	1,669	1,335	1,271	314	398
2	Waste	88	296	285	270	11	26
3	IPPU	36	69.6	66.85	66.35	2.75	3.25
4	Agriculture	110.5	119.66	110.39	115.86	9	4
5	Forest	647	714	217	64	497	650
	Total	**1,334**	**2,869**	**2,034**	**1,787**	**834**	**1,081**

38%

30%

Sub sector	Target of mitigation 2030 (Million Ton CO_2e)
Renewable energy	170,42
Energy efficiency	96,33
Clean power	31,80
Fuel switching	10,02
Post mining reclamation	5,46
Total	**314,03**

Realization of Energy Sector for NDC Indonesia 2020



GHG emissions reduction from energy sector is still on target and will be improved to reach the NDC Target by 2030 (314 Mton CO2)

NO	Mitigation Actions	2020 Emission Reduction (ton CO2e)
I	Energy Efficiency	12,968,198
II	New And Renewable Energy	34,291,037
III	Low Carbon Fuel	8,398,804
IV	Green Power Plant Technology	5,908,594
V	Others	2,790,370
TOTAL		**64,357,004**

The main contribution of mitigation actions are New, Renewable Energy and Energy Efficiency Implementation

Energy Transition Towards Clean Energy

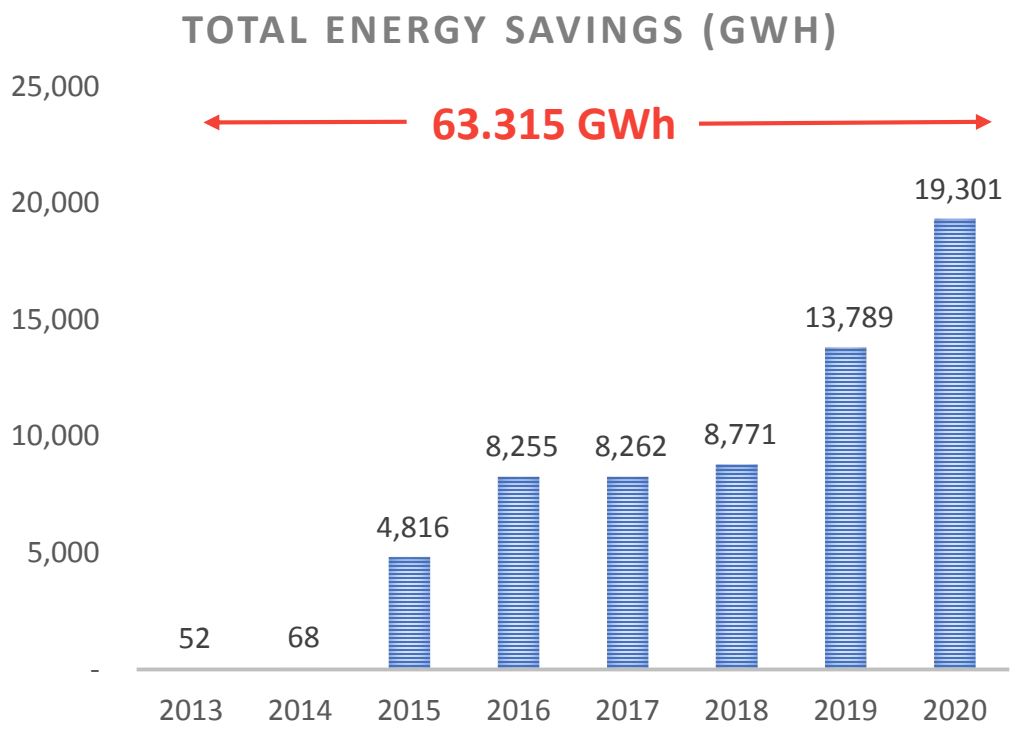
INCREASING SHARE OF RENEWABLE ENERGY

1. Primary Final Energy Substitution, by utilizing the existing technology; B30-B50, co-firing, RDF utilization.
2. Fossil Primary Energy Conversion, converting Diesel PP or Coal Powered PP into NRE PP, biogas, and pellet for cooking.
3. Increasing NRE Capacity, to meet the new demand; focus on the development of Solar PP
4. Utilization of Non-Electric NRE / Non-Biofuel such as briquettes and drying of biogas agricultural products.

IMPLEMENTATION OF ENERGY CONSERVATION

1. **Implementation of Energy Management,** based on ISO 50001 for energy and mineral resources, industry, building and transportation sectors.
2. **Standardization and Labelling of Energy Saving Level,** on energy utilization equipment in households, buildings and industries.
3. **Implementation of Energy Saving Technology and Business,** i.e. utilization of electric vehicles and induction stoves, encouraging the role of ESCO, innovative financing for EE projects
4. **Awareness & Awards,** i.e. socialization of energy saving massively and awarding with more varied categories.

Energy Management Implementation Program



Implementation of Energy Management in 2020

Equivalent to Energy Cost savings **21,6**

Triliun Rupiah**

**Basic Energy Cost Rp 1.119/ kWh

Year 2020

Total Energy Consumption 612.854 GWh	Energy Saving 19.301 GWh

- Coal Consumption **392.048** GWh (64%)
- Gas Consumption **188.973** GWh (31%)
- Renewable Energy Consumption **4.041** GWh (1%)
- Electricity Consumption **17.858** GWh (3%)
- Fuel Consumption **9.935** GWh (2%)

Appliances Standardization and Energy Saving Awareness

THE USE OF ENERGY SAVING APPLIANCES

Swaballast Lamp (applied)*
Air Conditioner (applied)**

2014-2020

2021

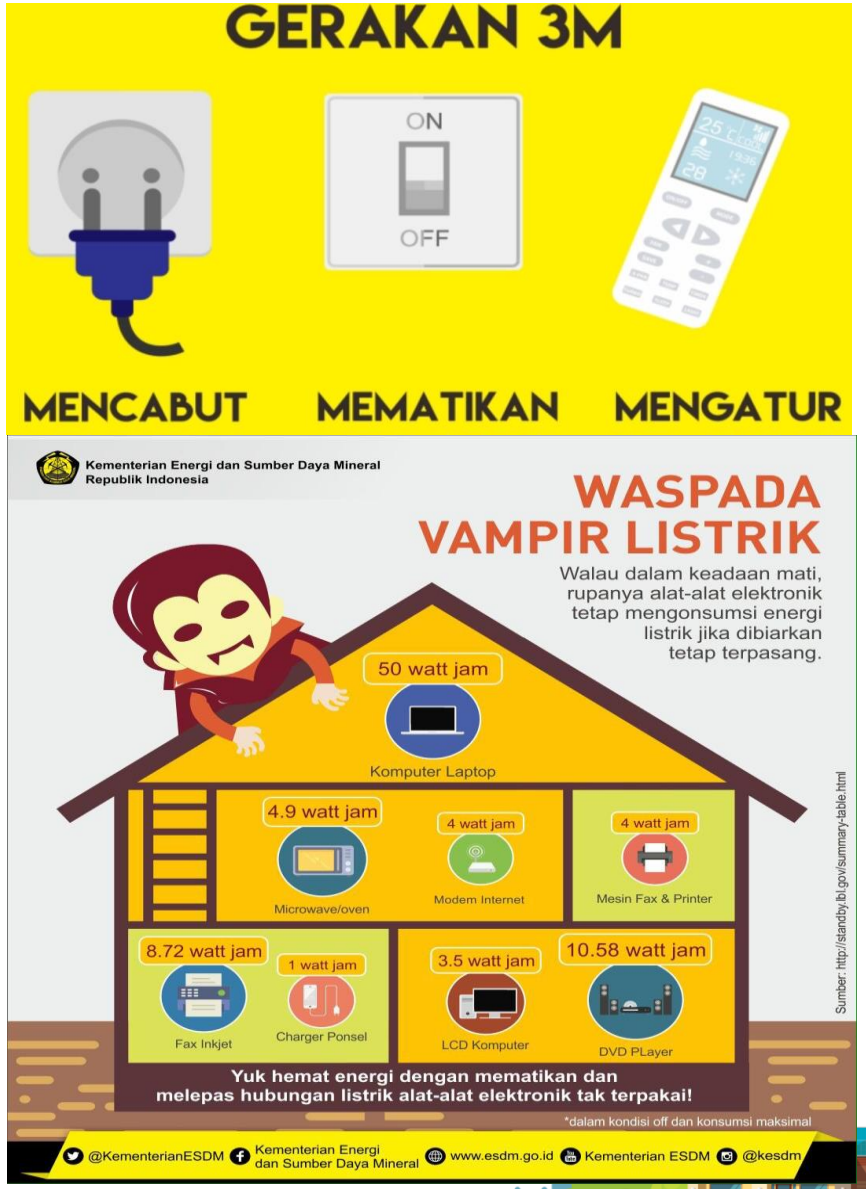
- Refrigerator
- Rice Cooker
- Fan
- The revise of Swaballas Lamp and AC revised

2022-2023

- WaterPump
- Iron
- Television
- Blender
- Washing Machine
- Dispenser

*MEMR Regulation No. 18/2014 concerning Affixing Energy Saving Sign Labels for Self-Ballast Lights
** MEMR Regulation No. 57/2017 concerning Application of SKEM and Inclusion of Energy Saving Labels for Air Conditioning Appliances.

AWARENESS



Subroto Award on Energy Conservation

Penghargaan Subroto Bidang Efisiensi Energi (PSBE) has been launched by Minister in March 2021

CATEGORIES

Energy Efficient Buildings — A

Carbon Trade and Reduction — C

Energy Management — B

1. Building
2. Energy and Mining Industries
3. Manufacture Industries

The Revised of Government Regulation No. 70/2009 : Energy Conservation

2. Mandatory to implement energy conservation through energy management for Energy Users whose energy consumption is ≥ the determined mandatory threshold

3. Minimum Energy Performance Standards (MEPS) and Energy Saving Labels on energy user equipment

4000 TOE/year (proposal) — INDUSTRY SECTOR

Energy Saving Potential (TOE/year)	3,5 Million
Energy Saving Potential (Trilyun Rp/year)	42,69
Reduction of CO2 Emission (Ton/year)	35,03 Million

4000 TOE/year (proposal) — TRANSPORTATION SECTOR

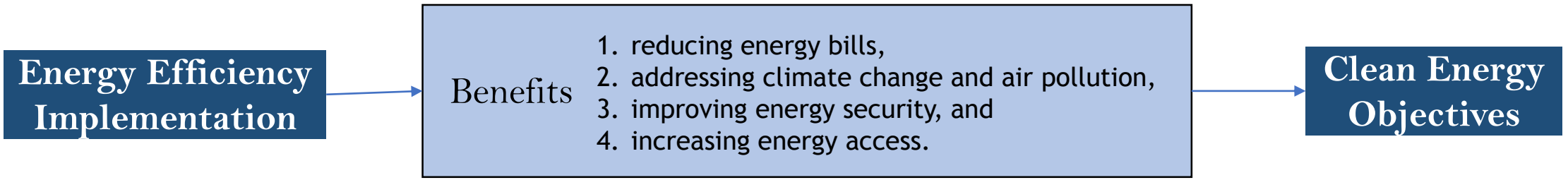
Energy Saving Potential (TOE/year)	1,1 Million
Energy Saving Potential (Trilyun Rp/year)	11,86
Reduction of CO2 Emission (Ton/year)	2,5 Million

500 TOE/year (proposal) — BUILDINGS SEKTOR

Energy Saving Potential (TOE/year)	77,7 Thousand
Energy Saving Potential (Trilyun Rp/year)	1,32
Reduction of CO2 Emission (Ton/year)	767 Thousand

Closing

1. Energy efficiency is one of clean energy transitions activities and the one energy resource that Indonesia possess in abundance in industrial, household, transportation, and building sectors.
2. Strong energy efficiency policies are vital to achieving key energy-policy goals with benefits such as reducing energy bills, addressing climate change and air pollution, improving energy security and increasing energy access.
3. Many EE projects/opportunities untapped and it could be scaled up in industrial, building and power plant sectors.



Thank You

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