



MINISTRY OF ENERGY AND MINERAL RESOURCES  
REPUBLIC OF INDONESIA

# ENERGY CONSERVATION INFORMATION SYSTEM (SINERGI)

Directorate General of New, Renewable Energy and  
Energy Conservation

10 June 2025



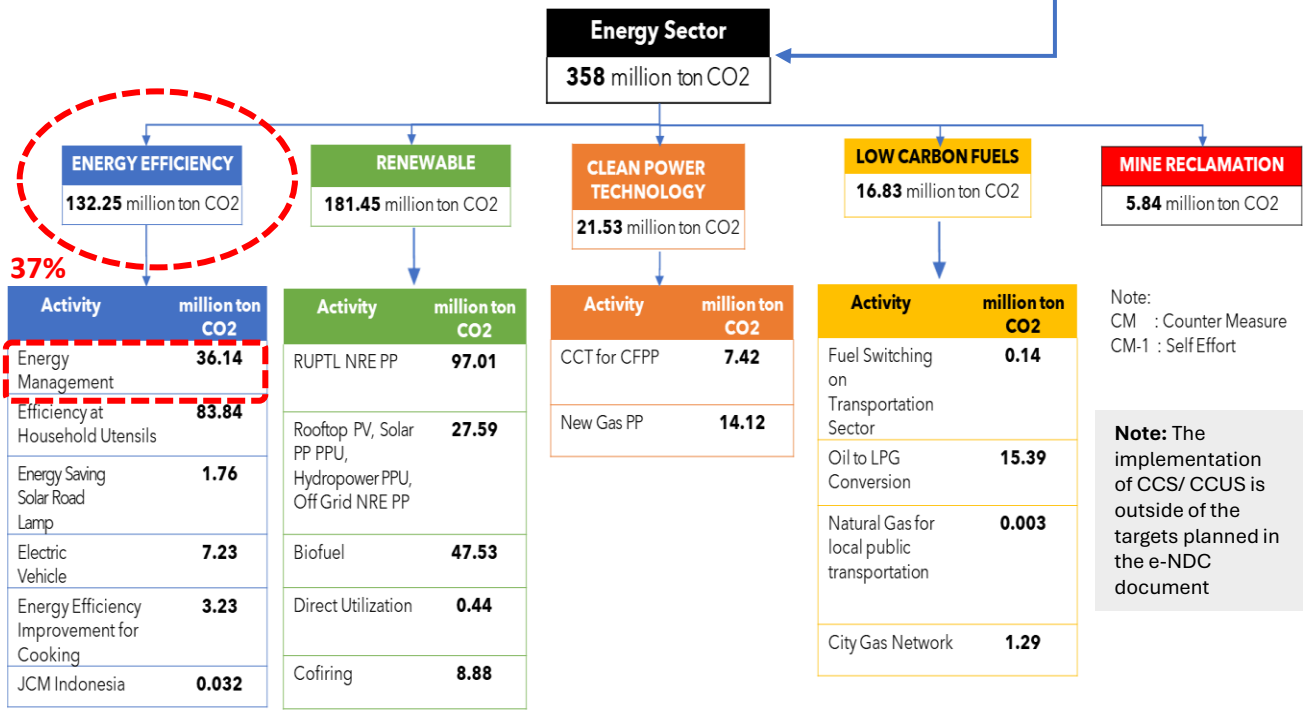
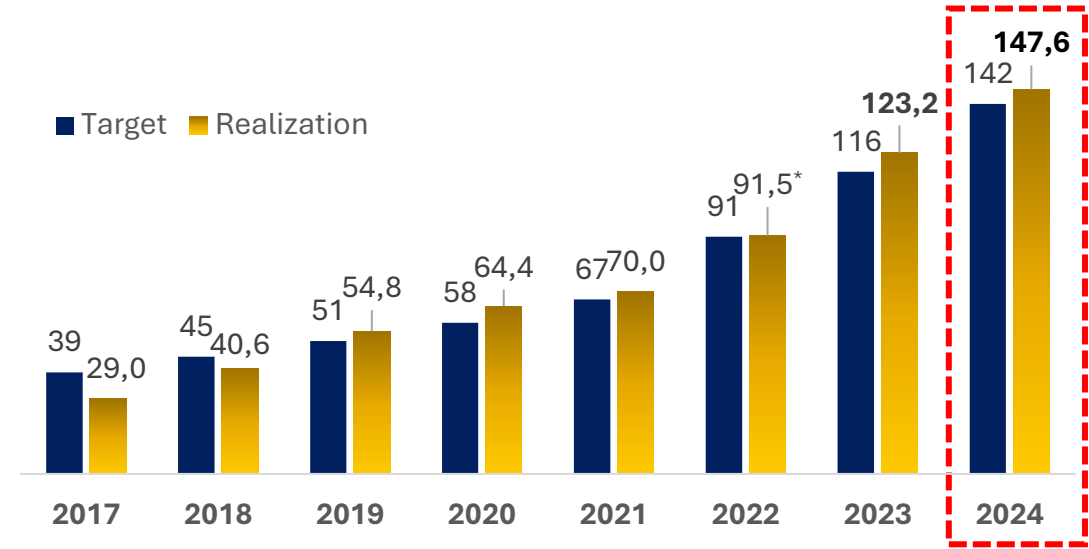


# NATIONAL COMMITMENT TO REDUCE GHG (ENERGY SECTOR)

## Enhanced NDC (E-NDC) 2030

No	Sector	GHG emissions 2010 (Million Ton CO2e)	GHG emissions in 2030			Emission Reduction	
			BaU	CM1	CM2	CM1	CM2
1.	Energy	453,2	1.669	1.311	1.223	358	446
2.	Waste	88	296	256	253	40	45,3
3.	IPPU	36	70	63	61	7	9
4.	Agriculture	111	120	110	108	10	12
5.	Forestry	647	714	217	-15	500	729
<b>TOTAL</b>		<b>1.334</b>	<b>2.869</b>	<b>1.953</b>	<b>1.632</b>	<b>915</b>	<b>1.240</b>

## Realization of GHG Emission Reduction in the Energy Sector




## Unit| MillionTon CO<sub>2</sub>e


No	Mitigation Actions	2024	Target 2030	% Achievement of 2030 Target
1	Energy efficiency	30,25	132,25	23,1%
2	New & Renewable Energy	74,73	181,45	41,1%
3	Low Carbon Fuel	15,18	16,83	90,1%
4	Use of Clean Generation Technology	15,16	21,53	70,4%
5	Other Activities	12,28	5,84	201%
<b>TOTAL</b>		<b>147,61</b>	<b>358,00</b>	<b>41,2%</b>



# REGULATORY FRAMEWORK ON ENERGY CONSERVATION

## Government Regulation (PP) 33/2023 concerning Energy Conservation

 **Energy Conservation:** **systematic, planned** and **integrated** efforts to conserve domestic energy and energy resources and increase the efficiency of their use.

 **Upstream Side Management**  
conservation of energy resources to maintain sustainable supply.

<b>1</b> Prioritization of energy resources	<b>2</b> Restriction and regulation (with certain time/condition)
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*"regulated in accordance with law and regulation"*

**Downstream Side Management**  
energy-saving behavior, and efficient technology to reduce demand.

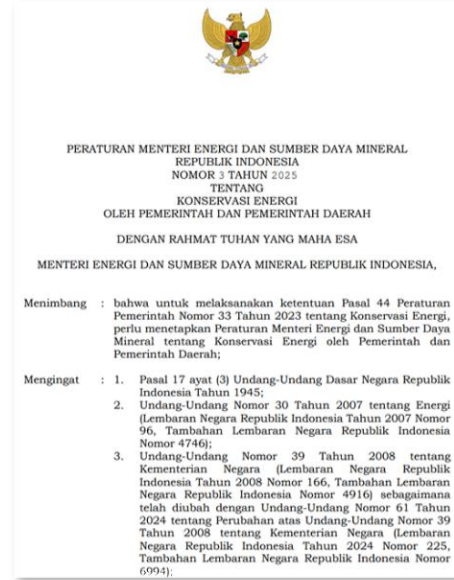
Energy Provider	Users of Energy Resources	Energy Users
<b>1</b> Energy Management	<b>4</b> ESCO	<b>7</b> Research and Innovation
<b>2</b> MEPS & Labelling	<b>5</b> Improving Awareness	<b>8</b> Partnerships & Collaboration
<b>3</b> Funding	<b>6</b> Capacity Building	

*"regulated in Government Regulation (PP) 33/2023"*

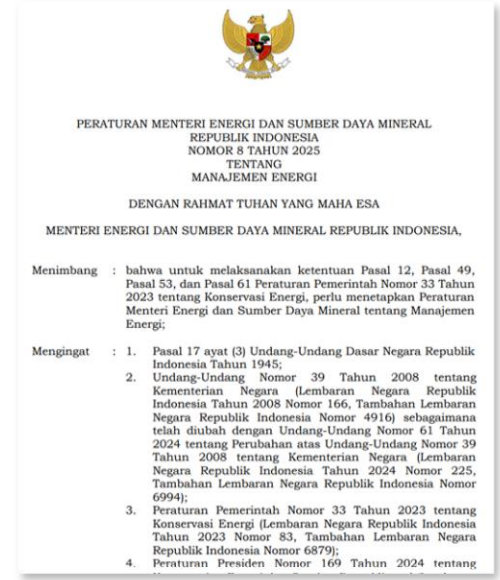
\*MEPS: Minimum Energy Performance Standards; ESCO: Energy Service Company

## MEMR Regulations under the PP 33/2023: Energy Management and Government Efforts

In order to support the implementation of PP 33/2023, in early 2025 the Government have established **two derivative regulations:**



**MEMR Ministerial Regulation No. 3/2025 concerning Energy Conservation in the Government and Regional Governments**




**MEMR Ministerial Regulation No. 8/2025 concerning Energy Management**



Meanwhile, the third derivative regulation: the MEMR Ministerial Regulation on **Energy Service Company (ESCO)** is still being discussed and finalized.

# IMPROVING EFFICIENCY THROUGH ENERGY MANAGEMENT



 Energy Management must be carried out by **Energy Providers, Energy Source Users/Energy Users** if energy consumption in one year exceeds a **certain threshold**.

## New Threshold For Mandatory Energy Management

Energy Suppliers <b>≥ 6000 TOE</b>	Industrial Sectors <b>≥ 4000 TOE</b>	Transport Sectors <b>≥ 4000 TOE</b>
Building Sectors <b>≥ 500 TOE</b>	Government (National & Regional) <b>Mandatory</b>	

TOE = Tonnes Oil Equivalent





## Scope of Energy Management

- 1 Appoint energy manager
- 2 Formulate energy efficiency program
- 3 Implement energy audit periodically
- 4 Implement recommendation from energy audit





Report to MEMR

## Estimating the Energy Savings Potential from the Threshold Changes in PP 33 / 2023




Note: Compared to the initial value in PP 70/2009, namely ≥6000 TOE for all energy users.

Potential Savings (in 2030)	 Energy Provider	 Industry	 Transport	 Buildings	TOTAL
Energy	3,56 Mil. TOE	5,28 Mil. TOE	0,4 Mil. TOE	66 Thousands TOE	<b>9,9 Mil TOE</b>
Cost	602 Mil. USD	1,3 Bil. USD	269 Mil. USD	57 Mil. USD	<b>2,2 Bil. USD</b>

## Realization of Online Reporting of Mandatory Energy Management (2024)

-  **371 Companies** (industries and energy providers) have reported
-  **20.366 GWh** (1.9%) Energy Savings
-  **11,6 Trillion IDR** Energy Cost Savings
-  **5,94 Million tCO2e** Emission Reduction

## Building Sector Energy Management (2024)

-  **49 Buildings** (31 commercial, 18 government) have reported
-  **34,28 GWh** (7.66%) Energy Savings
-  **16.604 tCO2e** Emission Reduction

# SINERGI WEBSITE

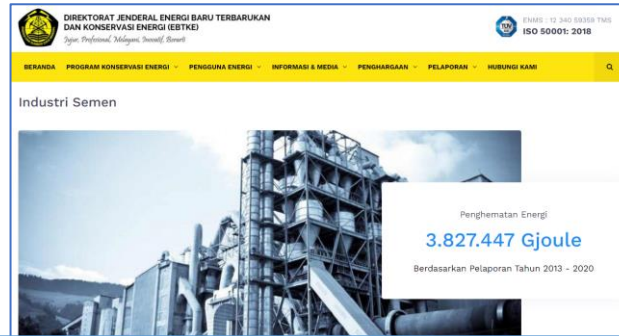
<https://simebtke.esdm.go.id/sinerji/>



## Success Story Cases

Indikator	Capaian 2021	Target 2022	Realisasi 2022
Penurunan Intensitas energi final (SDM/miliar Rp)	1,01	0,90	1,16
Intensitas energi primer (SDM/miliar Rp)	132,9	130,6	160,5
Jumlah peralatan yang disusun SKEM-nya (spesialisi)	2	1	1
Reduksi emisi GRK sektor energi (juta ton)	69,47	91	91,5
Intensitas reduksi emisi GRK sektor energi (konvensional)	0,296	0,329	0,335

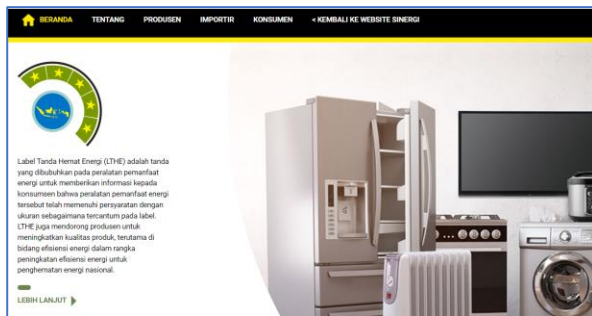
## Government Programs



## Benchmarking



## Vendor/ESCOs Portfolios



## Appliances Database

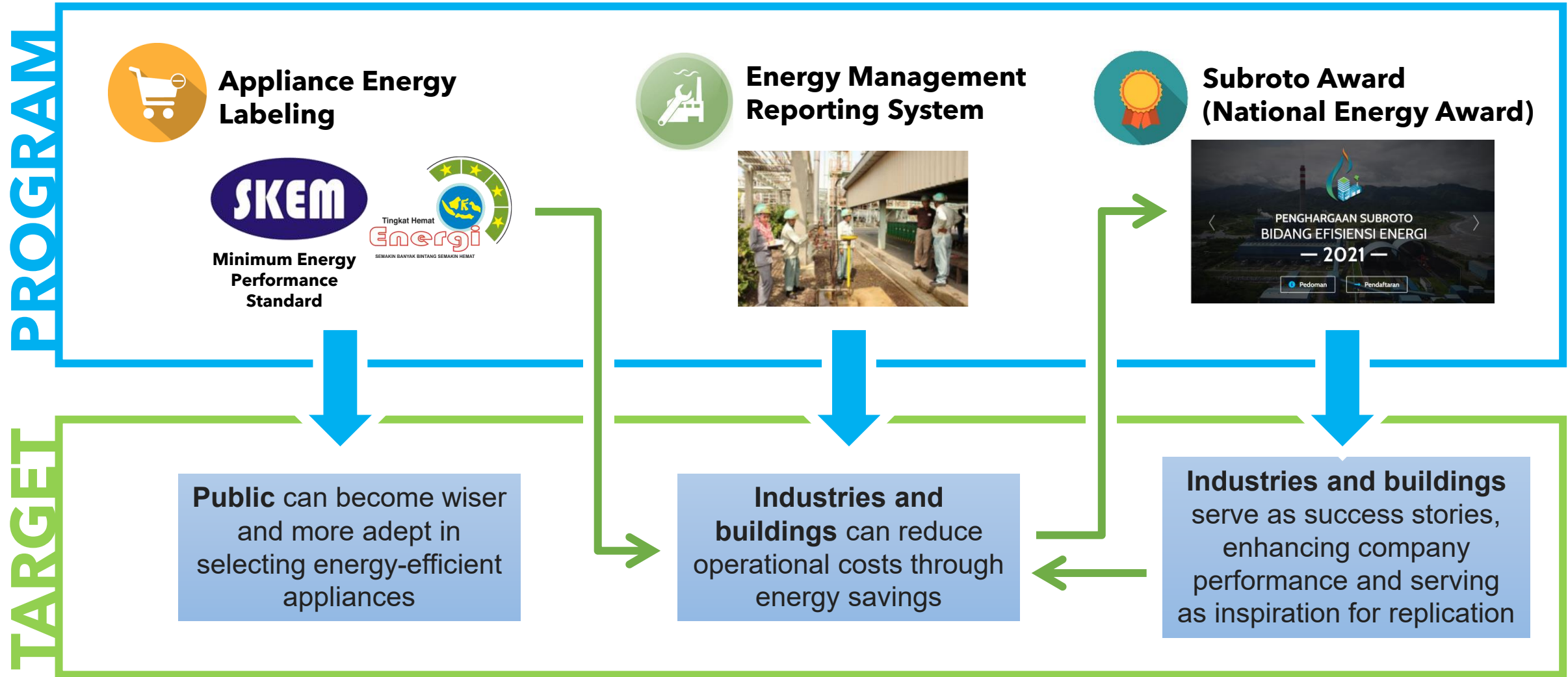
No	Nama	Instansi	Provinsi	Spesialisasi	Tgl. Berlaku	Rating
5	Arif Dwi Nugroho	PT. Sinar Tambang Artha Lestari	Jawa Barat	LSP HAKE	28 Dec 2025	-
6	Fuad Maarif	PT. Sinar Tambang Artha Lestari	Jawa Barat	LSP HAKE	28 Dec 2025	★★★★
7	Agung Nugroho	PT. Kideco Jaya Agung	DKI Jakarta	LSP HAKE	12 Dec 2025	-
8	Syarif Arifin	PT. Agincourt Resources	Sumatera Utara	LSP ENERGI	12 Dec 2025	-
9	Teguh Iman Widdo	PT. OKI Pulp and Paper Mill	Sumatera Selatan	LSP ENERGI	09 Dec 2025	-
10	Ricko Achmad Putra	PT. Indocement Tunggul Prakarsa	Kalimantan Selatan	LSP HAKE	17 Oct 2025	★★★★

## List of EE Certified Persons



## Energy Reporting System

# MAIN PROGRAMS ON SINERGI



# ACCOUNT MANAGEMENT

- Account is divided into **Holding Accounts** and **Site Accounts**
- **Holding Accounts** represents a business entity with the authority to create and oversee Site Accounts
- **Site Accounts** are categorized by sector, and each sector has a different reporting format
- Types of **Site Accounts** includes:
  - Industrial Sector
  - Building Sector
  - Transport Sector

Jujur. Profesional. Melayani.  
Inovatif. Berarti.



DIREKTORAT JENDERAL  
ENERGI BARU TERBARUKAN  
DAN KONSERVASI ENERGI (EBTKE)

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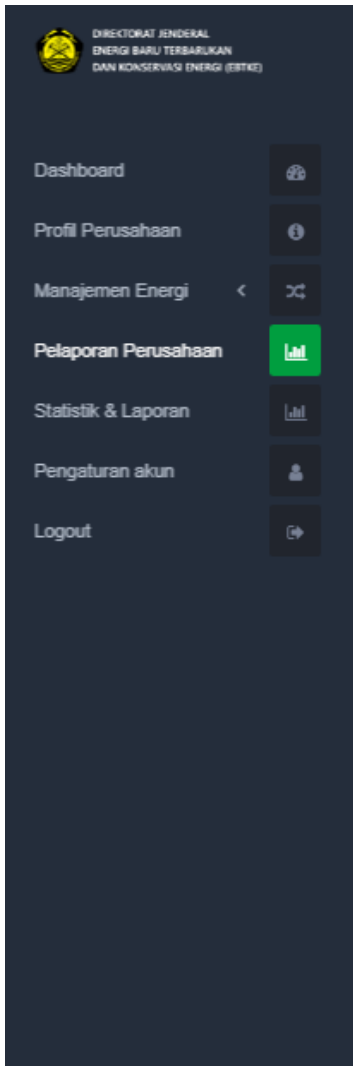


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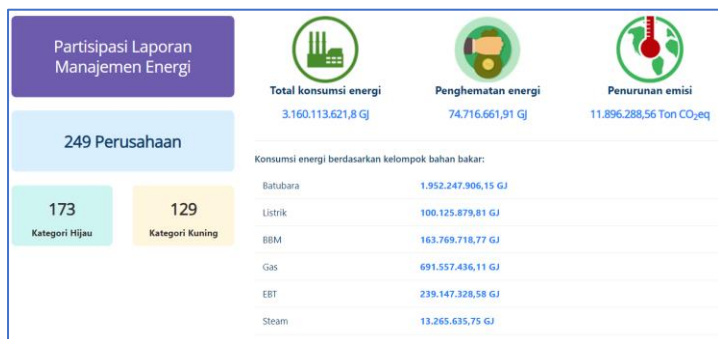
## Pelaporan manajemen Energi

Daftar laporan tahunan manajemen energi perusahaan.

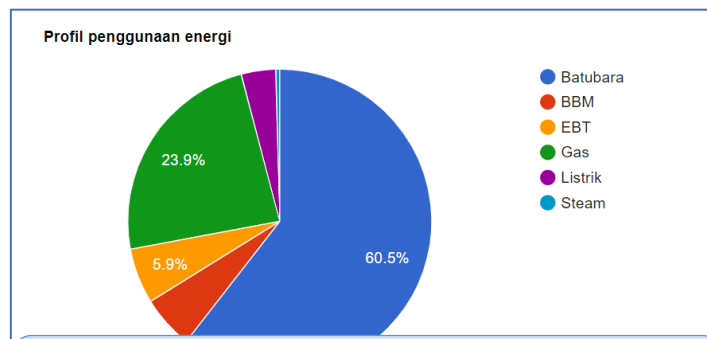
The data that companies need to prepare and report annually include:

- Company Profile and Energy Management System
- Data on Energy-Using Equipment and Energy Transformation
- Energy Sources and Total Consumption
- Production/Baseload Data that serves as Energy Performance Indicators
- Energy Conservation Activities and Energy Audit Implementation

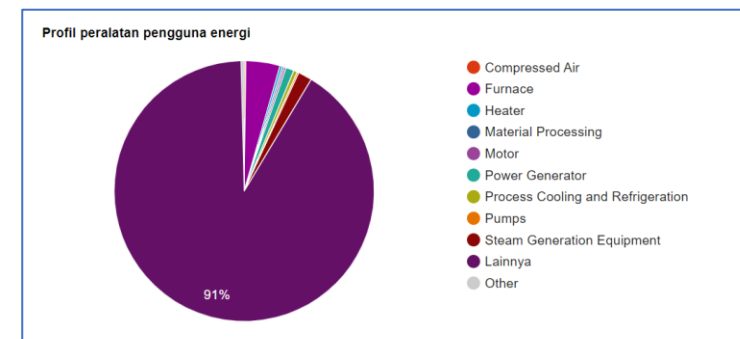
# STATISTICS



Dashboard



Energy Profile



Equipment Profile



Reporting Trends

NAMA PERALATAN	MERK	MODEL/TIPE	KINERJA PERALATAN
CHILLER FOR SUGAR COOLING	-	-	60 %
Chiller	LG	Compression Chiller	70 %
Chiller 1 Mill 1	TRANE CVHG 565	CVHG 057RA220ACR2628 ABEBTFC	80 %
Chiller 10 Mill 5	TRANE CVHG 780	CVHG 078 RA4AOAE026385 HECB	80 %
Chiller 2 Mill 1	TRANE CVHG 780	CVHG078	80 %
Chiller 3 Mill 2	TRANE CVHG 500	CVGF 0500RACU30109005 C1B5C1C23A1A	80 %
Chiller 4 Mill 2	TRANE CVHG 500	CVGF 0500RACU30109005 C1B5C1C23A1A	80 %
Chiller 5 Mill 3	TRANE CVGF 650	CVGF 650RKOC33809307 C187C1C27	80 %


Data Recap

Can be Filtered by:

- Year
- Sub Sector
- Equipment

# CERTIFICATE

- It is generated after the report is approved by the Verification Team
- It can be directly downloaded through the reporting account.



**KEMENTERIAN ENERGI DAN SUMBER DAYA MINERAL**  
DIREKTORAT JENDERAL ENERGI BARU, TERBARUKAN, DAN KONSERVASI ENERGI  
NO. 0059/F0BAD2/IND/DEK/2021

TERIMA KASIH KEPADA  
**PT ABCDEF**

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Atas Laporan dan Komitmen dalam penerapan manajemen energi sesuai dengan Peraturan Pemerintah Nomor 70 Tahun 2009 tentang Konservasi Energi

PERIODE PELAPORAN TAHUN 2021

POIN - POIN PELAKSANAAN MANAJEMEN ENERGI:

1	Menunjuk manager energi bersertifikat	<input checked="" type="checkbox"/>
2	Menyusun program konservasi energi	<input checked="" type="checkbox"/>
3	Melaksanakan audit energi secara berkala oleh auditor bersertifikat	<input checked="" type="checkbox"/>
4	Melaksanakan hasil audit energi	<input checked="" type="checkbox"/>
5	Melaporkan pelaksanaan konservasi energi kepada pemerintah setiap tahun	<input checked="" type="checkbox"/>

KONTRIBUSI PENGHEMATAN ENERGI:  
**1.727,82 GJoule**



# ENERGY EFFICIENCY PROFILE IN INDUSTRIAL SECTOR



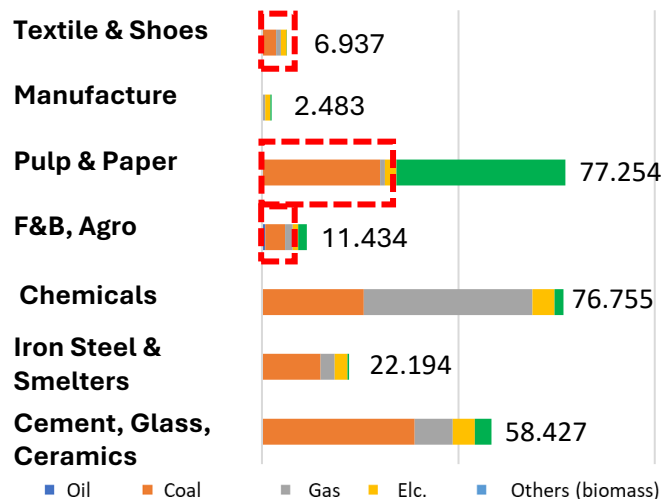
The realization of EE in 2024 was at **1.43%** of total energy consumption.

Energy Conservation activities in industry on **tool modification/maintenance** and operational process settings have the **potential for greater savings and lower costs**.

Subsectors	Energy Consumption (GWh)	Energy Savings (GWh)	% Energy Savings
<b>A. Energy Providers</b>			
Mineral & Coal	52.588	2.343	4,46%
Power	625.892	6.140	0,10%
Oil	105.872	6.442	6,08%
<b>B. Industry</b>			
Chemicals & Petrochemicals	76.755	2.558	3,33%
Cement & Ceramics	58.427	1.586	2,71%
Pulp & Paper	77.254	918	1,19%
F&B, Agro	11.434	75	0,66%
Textile, Shoes	6.397	102	1,59%
Iron & Steel	22.194	164	0,74%
Manufactures	2.483	37	1,49%
<b>Total</b>	<b>1.039.162</b>	<b>20.366</b>	<b>1,43%</b>

GJ = Gigajoule, BOE = Barrel Oil Equivalent

## Energy Consumption (GWh)



**Note Low Pressure Boilers Suitable for electrification**

## Efficiency Potentials from Boiler Electrification

Indicator	Conventional Boiler	Electric Boiler	Heat Pump
Temperature	100-400°C	100-300°C	80-300°C
Efficiency	70-80%	75-95%	2-3 COP
Emission Reduction	- (baseline)	20%	60%

Activities	Investment (Billion Rp)	Savings (GWh)	Investment per Savings (Rp/kWh)	% Efficiency (from Total Potential)
1. SETTING OPERATING PARAMETERS	65	257	254	16.23%
2. TOOL REPLACEMENT	14	22	683	1.37%
3. TOOL MODIFICATION	35	805	44	50.77%
4. EQUIPMENT REPAIR AND MAINTENANCE	13	43	319	2.72%
5. OTHER - fuel switching - change in grinding ball composition - Unmanned Facility Operations	64	458	140	28.91%

Source: Online Reporting Status of Energy Management Platform (POME) of Directorate General of EBTKE December 2024



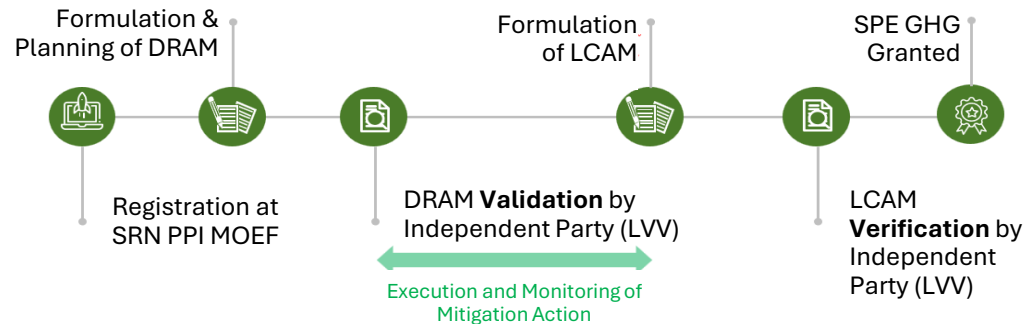
# SPEI to Promote the Decarbonisation of Industrial Sector

## MONETIZING EMISSION REDUCTIONS THROUGH CARBON TRADING PLATFORMS



Volumes of carbon emission traded:  
**1,131 Million tCO<sub>2</sub>e** (approx. 58.8 Billion IDR)  
*(based on IDX Carbon as of 26 September 2023 - 17 January 2025)*

### EMISSION REDUCTION CERTIFICATE (SPEI) SCHEME



DG NREEC provides assistance to 5 companies (7 entities) for the preparation of SPEI Mitigation Action Plans. A total of 10 energy sector projects have been approved and received catalytic funding of **IDR 718 million from BPD LH**, with an estimated emission reduction potential of **5.5 million tCO<sub>2</sub>**.

#### ACCREDITED LVVs:

1. Sucofindo International Certification Services
2. PT TUV NORD
3. PT TUV Rheinland
4. Mutuagung Lestari
5. BBSP Jasa Industri Kulit, Karet, dan Plastik
6. PT Abhipraya Bumi Lestari
7. PT Anindya Wiraputra



**DRAM:** Mitigation Action Plan Document, **LCAM:** Mitigation Action Achievement Report, **SRN PPI:** National Registry System for Climate Change; **BPD LH:** Environmental Fund Management Agency

## ENERGY EFFICIENCY MITIGATION ACTIONS AND POTENTIAL MONETIZATION OF EMISSION REDUCTION

No	Mitigation Action	Emission Reduction (tCO <sub>2</sub> )	Company/ Business Entity
1	Improve Boiler Efficiency	75.482	PT Cheil Jedang Indonesia (Jombang)
2	Renew old turbo chiller	484.839	
3	Condenser Heat Pump to increase Feed Water temp.	73.331	PT Cheil Jedang Indonesia (Pasuruan)
4	Upgrade evaporation and crystallization (1 to 3) effects	113.850	
5	Upgrade evaporation and crystallization (1 to 5) effects	258.609	
6	Energy efficiency at the Amerta Indah Otsuka plant	16.201	PT Amerta Indah
7	Use of biomass boilers in medicinal liquid production	68.616	PT Sidomuncul
8	Conversion from Single Cycle Generator to Combined Cycle (Add On) PLTGU Grati Block 2	4.128.851	PT PLN Indonesia Power
9	Conversion of single cycle generator to combined cycle block 2 PLN NP UP Muara Tawar	167.293	PT PLN Nusantara Power (UP MTW)
10	Operation of New Natural Gas Fueled Power Plant PLTMG Sumbagut 2 Peaker 250 MW	179.212	PT PLN Nusantara Power (UP Arun)
<b>TOTAL</b>		<b>5.566.248</b>	

**Total Monetization for these 10 SPEI Programs under BPD LH amounted to 327,30 billion IDR (20,9 million USD)**

\*Carbon Price IDR 58.800/tonCO<sub>2</sub> (~4 USD/tonCO<sub>2</sub>) based on **IDTBS** IDX as of January 2025

Source: Carbon Price IDX (<https://idxcarbon.co.id/id/data-daily>), **IDTBS**: Indonesia Technology Based Solution (Regular Market); **1 USD = 15.600 IDR**

# THANK YOU

[www.esdm.go.id](http://www.esdm.go.id)



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## Address

Jl. Pegangsaan Timur No.1,  
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