



## **FOREWORD**

The Key Energy Statistics (KES) presents the country's yearly designated energy statistics on energy supply and demand. The KES is published to provide the public with a timely, accurate, and complete representation of the country's energy sector awareness and appreciation of the developments therein as we hope that this KES will provide valuable inputs to energy research and studies for policy and decision making.

The KES is the product of the DOE, energy data users and producers' collaboration.

The Policy Formulation and Research Division (PFRD) of the EPPB is the focal division that handles the preparation of this KES, with data inputs from other DOE bureaus.

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# **Energy and Economy**

## **Energy and Economic Indicators**

	2020	2021	GR
GDP (in billion pesos: at constant 2018 prices)	17,537.8	18,538.1	5.7%
Total Final Energy Consumption (in MTOE)	32.6	35.1	7.8%
Total Primary Energy Supply (in MTOE)	56.6	59.2	4.7%
Population (in million)	109.0	110.2	1.1%
Forex (in Pesos/USD)	48.0	51.3	6.7%
Average Crude Price (in USD / barrel)	49.8	69.2	39.0%

#### Sources:

Gross Domestic Product (GDP), Population -National Accounts, Philippine Statistics Authority (Rebased 2018) Foreign Exchange Rate - Bangko Sentral ng Pilipinas (BSP)

Energy Supply - Policy Formulation and Research Division (PFRD), DOE Crude Oil Price - Oil Industry Management Bureau (OIMB), DOE

## **Energy and Economic Indicators**

Indicator	2020	2021	GR
Intensity			
Energy to GDP <sup>+</sup> (TOE/Php 1M)	3.3	3.2	-0.6%
Oil to GDP (BBL/Php 100,000)	0.8	0.8	3.0%
Electricity to GDP (Wh/Php)	5.8	5.7	-1.3%
Elasticity			
Energy to GDP	0.6	0.9	41.6%
Oil to GDP	1.5	1.6	5.1%
Electricity to GDP	0.4	0.8	76.9%
Energy Per Capita (TOE/person)	0.5	0.5	3.7%

<sup>\*</sup> GDP Rebased 2018 @ constant price

# **Energy and Environment**

## **GHG Emission by Sector and Activity**

 $MtCO_2e^{(1)}$ 

Sector and Activity	2020	2021	GR
Industry	11.32	12.50	10.4%
Transport	28.16	31.54	12.0%
Others <sup>(2)</sup>	11.35	12.13	6.8%
Electricity Generation	70.95	73.88	4.1%
Energy <sup>(3)</sup>	0.79	0.40	-49.2%
Total	122.6	130.4	6.4%

#### Notes:

- (1) Million tons of CO2 Equivalent (MTCO2e)
- (2) includes Households, Services and Agriculture Sectors
- $\widehat{\mbox{(3)}}$  includes Oil refining, Electricity and other Energy sector own use and losses

# GHG Emission by Fuel Type

# MtCO<sub>2</sub>e

Fuel type	2020	2021	GR
Liquid Fossils (Oil)	46.26	49.81	7.7%
Solid Fossils (Coal)	68.63	74.05	7.9%
Gaseous Fossil (Natural Gas)	7.69	6.60	-14.2%
Total	122.6	130.4	6.4%

## **Energy and Environment**

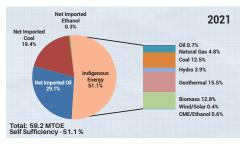
#### **Environmental Emission Indicators**

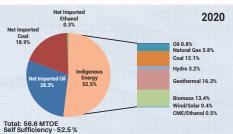
GHG emission is expressed in carbon dioxide equivalent  $(CO_2e)$  which accounts for the global warming potential (GWP) of CH<sub>4</sub> and N<sub>2</sub>O, as prescribed by the Intergovernmental Panel on Climate Change (IPCC). GWP is the ratio of the warming resulting from the emission of one kilogram of a greenhouse gas to that of one kilogram emission of  $CO_2$  over the time period (2015-2021) (i.e. CH<sub>4</sub> and N<sub>2</sub>O GWP is 28 times and 265 times the  $CO_2$  emission, respectively)

Indicator	2020	2021	GR
GHG emission-to-GDP ratio (tCO <sub>2</sub> e/PhP 100K, 2000=100)	0.70	0.70	0.7%
GHG emission per capita (tCO <sub>2</sub> e/person)	1.12	1.18	5.3%
GHG emission per Electricity Generation (tCO <sub>2</sub> e/MWh)	0.70	0.70	-0.1%
GHG emission per Oil consumption (tCO <sub>2</sub> e/TOE)	2.71	2.75	1.3%
GHG emission per TPES (tCO <sub>2</sub> e/TOE)	2.17	2.20	1.6%

## **Energy Mix**

### **Total Primary Energy Supply Mix**





# Total Energy and Self-Sufficiency Level

## In kTOE

	2020	2021	GR
Indigenous Energy	29,676	30,301	2.1%
Oil	456	392	-14.2%
Natural Gas	3,288	2,820	-14.2%
Coal	6,836	7,414	8.5%
Hydro	1,790	2,287	27.7%
Geothermal	9,249	9,184	-0.7%
Biomass	7,563	7,611	0.6%
Wind	88	109	23.7%
Solara	118	126	7.1%
Biodiesel	131	157	19.2%
Bioethanol	155	200	29.3%
Imported Energy	26,902	28,943	7.6%
Oil	15,997	17,261	7.9%
Coal	10,710	11,499	7.4%
Bioethanol	194	183	-6.2%
Total Energy	56,577	59,243	4.7%
Renewable Energy (RE)	19,290	19,857	2.9%
Clean Energy (RE + Natural Gas)	22,578	22,677	0.4%
Self Sufficiency (%)	52.5	51.1	

## **Energy Consumption**

Total Final Energy Consumption, by Sector and Fuel Type

In kTOE

	2020	2021	GR
Industry	6,336	6,819	7.6%
Coal	1,629	1,950	19.7%
Natural Gas	37	0.35	-99.1%
Oil	1,553	1,555	0.2%
Biomass <sup>(a)</sup>	905	923	2.0%
Biodiesel	13	15	17.4%
Electricity	2,198	2,375	8.0%
Transport	9,809	10,983	12.0%
Natural Gas	-	-	-
Oil	9,381	10,505	12.0%
Biodiesel	97	101	4.0%
Bioethanol	324	369	13.8%
Electricity	7	8	28.0%
Households	10,028	10,179	1.5%
Oil	1,238	1,266	2.3%
Biomass <sup>(b)</sup>	5,842	5,904	1.1%
Electricity	2,949	3,008	2.0%

## Total Final Energy Consumption, by Sector and Fuel Type

#### In kTOE

	2020	2021	GR
Services	4,611	4,848	5.1%
Oil	2,467	2,662	7.9%
Biomass <sup>(c)</sup>	325	330	1.4%
Biodiesel	37	40	8.0%
Electricity	1,782	1,816	1.9%
Agriculture	437	661	51.3%
Oil	211	243	15.4%
Biodiesel	4	4	13.6%
Electricity	222	413	86.1%
Non-Energy Use	1,372	1,642	19.7%
Oil	1,160	1,430	23.3%
Coal	212	213	0.2%
Total	32,593	35,132	7.8%

<sup>\*</sup> does not include energy for power application

<sup>(</sup>a) includes ricehull, fuelwood, bagasse, agriwaste and animal waste

<sup>(</sup>b) includes charcoal, fuelwood, and agriwaste

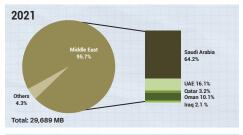
<sup>(</sup>c) includes ricehull, charcoal, and fuelwood

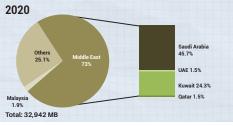
## Oil and Gas

## Oil and Gas Production, by Source

	2020	2021	GR
In MB			
Total Oil	700.12	632.29	-9.7%
Galoc	695.25	630.25	-9.3%
Alegria	4.87	2.04	-58.2%
Total Condensate	3,469.45	2,936.44	-15.4%
Malampaya Condensate	3,469.45	2,936.44	-15.4%
in MMSCF			
Total Gas	141,191	121,089	-14.2%
Malampaya Gas	141,191	121,089	-14.2%

## Crude Oil Importation, by Country of Source



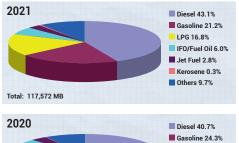


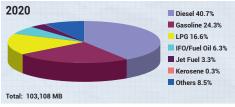
# Crude Oil Importation, by Country of Source In MB

Source	2020	2021	GR
Middle East	24,040	28,411	18.2%
Saudi Arabia	15,044	19,059	26.7%
Iraq		630	-
Kuwait	7,991	-	-
UAE	506	4,769	842.7%
Qatar	498	952	90.9%
Oman	-	3,002	-
Malaysia	629	-	-
Others	8,273	1,277	-84.6%
Total	32,942	29,689	-9.9%

'Others include Singapore, Brunei, Russia, Vietnam, Korea, Australia and Other Asia and Pacific Region

## Oil Products Importation, by Fuel Type





# Oil Products Importation, by Fuel Type MB

Fuel	2019	2020	GR
Diesel	41,977	50,655	20.7%
IFO/Fuel Oil	25,038	24,927	-0.4%
Jet Fuel	17,109	19,723	15.3%
Gasoline	6,481	7,097	9.5%
Kerosene	3,408	3,331	-2.3%
LPG	304	398	31.0%
Others	8,791	11,442	30.1%
Total	103,108	117,572	14.0%

Others include asphalt, solvents, naphtha/reformate, condensate

# Oil Products Importation, by Country of Source

### MB

Source	2020	2021	GR
Middle East	8,492.1	7,694.7	-9.4%
Bahrain	-	4	
KSA	1,407.2	2,437.9	
Kuwait	1,384	1,001	
Qatar	1,868	1,202	
UAE	3,833	3,049	
ASEAN	34,651	43,833	26.5%
Brunei	4,293	5,660	
Indonesia	1,738	-	
Malaysia	9,338	13,429	
Singapore	18,188	20,361	
Thailand	409	3,647	
Vietnam	685	736	

# Oil Products Importation, by Country of Source

#### MB

Source	2020	2021	GR
OTHER ASIA	55,327	61,344	10.9%
China	32,247	35,279	
Hong Kong	20	0	
India	4,409	4,950	
Japan	518	2,323	
Russia	512	-	
South Korea	16,045	15,267	
Taiwan	1,575	3,525	
OTHERS	4,638	4,701	1.4%
Total	103,108	117,572	14.0%

<sup>\*\*</sup>Others include countries from Africa, Asia and Pacific, Europe and North America

## Oil Products Exportation, by Country of Destination

MB

Destination	2020	2021	GR
MIDDLE EAST	-	298	
Iraq	-	298	
ASEAN	5,911	3,729	-36.9%
Brunei	-	324	
Indonesia	-	95	
Malaysia	2,571	627	
Singapore	2,753	640	
Thailand	476	1,902	
Vietnam	111	141	
OTHER ASIA	1,994	2,876	44%
China	903	1,259	
Hong Kong	306	-	
India	36	146	
Japan	130	-	
South Korea	21	789	
Taiwan	598	682	
OTHERS	0.47	77	16392%
Total	7,905	6,980	-11.7%

Others include Australia, Belgium, Guam, Egypt, Saipan and USA

# Oil Products Consumption, by Sector and Fuel Type

MB

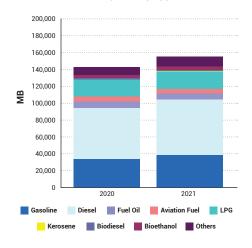
	2020	2021	GR
Industry	11,982	12,134	1.3%
Kerosene	131	157	19.8%
LPG	1,934	2,165	11.9%
Diesel	6,163	6,593	7.0%
Fuel Oil	3,653	3,100	-15.1%
Biodiesel	101	118	17.4%
Transport	82,106	88,719	8.1%
Gasoline	33,609	38,224	13.7%
Diesel	36,625	38,221	4.4%
Fuel Oil	1,248	1,581	26.6%
Aviation Fuel	6,188	5,741	-7.2%
LPG	48	30	-36.0%
Bioethanol	3,643	4,147	13.8%
Biodiesel	745	775	4.0%
Households	13,272	13,583	2.3%
LPG	12,870	13,178	2.4%
Kerosene	402	405	0.8%

# Oil Products Consumption, by Sector and Fuel Type

MB

	2020	2021	GR
Services	20,121	21,638	7.5%
LPG	5,028	5,208	3.6%
Diesel	13,934	15,052	8.0%
Fuel Oil	874	1,071	22.6%
Biodiesel	284	307	8.0%
Agriculture	1,602	1,851	15.5%
Gasoline	80	126	57.7%
Kerosene	4	4	-8.2%
Diesel	1,473	1,676	13.8%
Fuel Oil	15	12	-22.7%
Biodiesel	30	34	13.6%
Power Generation	3,704	5,110	38.0%
Diesel	2,149	3,752	74.6%
Fuel Oil	1,512	1,282	-15.2%
Biodiesel	44	76	72.9%
Non-Energy Use	9,228	11,387	23.4%
Total	142,017	154,422	8.7%

## Oil Products Consumption, by Type



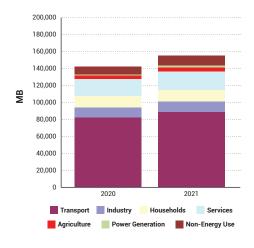
# Oil Products Consumption, by Type

MB

	2020	2021	GR
Gasoline	33,688	38,349	13.8%
Diesel	60,345	65,294	8.2%
Fuel Oil	7,303	7,047	-3.5%
Aviation Fuel	6,188	5,741	-7.2%
LPG	19,881	20,582	3.5%
Kerosene	537	565	5.3%
Biodiesel	1,204	1,310	8.8%
Bioethanol	3,643	4,147	13.8%
Others	9,228	11,387	23.4%
Total	142,017	154,422	8.7%

Others include asphalts, solvents, naphtha/reformate, condensate

## Oil Products Consumption, by Sector



# Oil Products Consumption, by Sector MB

	2020	2021	GR
Transport	82,106	88,719	8.1%
Industry	11,982	12,134	1.3%
Households	13,272	13,583	2.3%
Services	20,121	21,638	7.5%
Agriculture	1,602	1,851	15.5%
Power Generation	3,704	5,110	38.0%
Non-Energy Use	9,228	11,387	23.4%
Total	142,017	154,422	8.7%

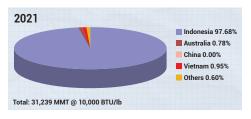
## Coal

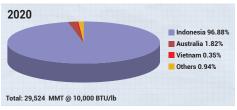
# Coal Production, by Source

### in MMT at 10,000 BTU/lb

	2020	2021	GR
Semirara	12,880	13,957	8.4%
Cebu	2	1	-56.7%
Albay, Bicol	13	8	-36.2%
Negros	0.29	0.03	-90.3%
Small-scale Mines	57	82	44.6%
Total Production	12,951	14,048	8.5%
Run of Mine (MMT)	13,257	14,378	8.5%

## Coal Importation, by Country of Source





## Coal Importation, by Country of Source

### in MMT at 10,000 BTU/lb

Country	2020	2021	GR
Indonesia	28,604	30,514	6.7%
Australia	538	242	-55.0%
China	-	0.05	
Vietnam	103	297	188.9%
Others	279	186	-33.3%
Total	29,524	31,239	5.8%

Others - Imports from Russia, Taiwan, South Korea, South Africa and USA

## Coal Exportation, by Country of Destination

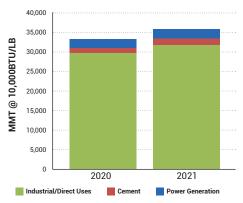


# Coal Exportation, by Country of Destination in MMT at 10,000 BTU/lb

Country	2020	2021	GR
China	7,247	8,809	21.6%
India	50	-	
Thailand	116	-	
S. Korea	76	379	401.2%
Others	36	110	202.3%
Total	7,525	9,298	23.6%

<sup>\*\*</sup>Others include Cambodia, Papua New Guinea, and Vietnam

## Coal Consumption, by Major Type of User



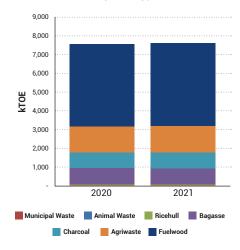
in MMT at 10,000 BTU/lb

	2020	2021	GR
Power Generation	29,755	31,787	6.8%
Cement	1,312	1,697	29.3%
Industrial/Direct Uses*	2,177	2,400	10.2%
TOTAL	33,244	35,884	7.9%

\*non-energy use as raw materials

## **Renewable Energy**

## Biomass Production, by Fuel Type



## Biomass Production, by Fuel Type

### in kTOE

	2020	2021	GR
Fuelwood	4,421	4,439	0.4%
Charcoal	1,364	1,420	4.1%
Agriwaste	836	837	0.2%
Bagasse	877	851	-3.0%
Ricehull	43	44	2.0%
Animal Waste	16	17	2.1%
Municipal Waste	5	3	-41.2%
Total	7,563	7,611	0.6%

### Geothermal

	2018	2019	2020	2021
Installed Generating Capacity (MW)	1,944	1,928	1,928	1,928
Dependable Generating Capacity (MW)	1,770	1,792	1,753	1,753
Electricity Generation (GWh)	10,435	10,691	10,757	10,681

## Hydropower

	2018	2019	2020	2021
Installed Generating Capacity (MW)	3,701	3,760	3,779	3,752
Dependable Generating Capacity (MW)	3,473	3,508	3,527	3,500
Electricity Generation (GWh)	9,384	8,025	7,192	9,293

### Wind

	2018	2019	2020	2021
Installed Generating Capacity (MW)	427	427	443	427
Dependable Generating Capacity (MW)	427	427	443	427
Electricity Generation (GWh)	1,153	1,042	1,026	1,279

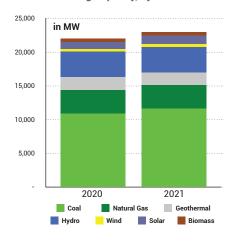
### Solar

	2018	2019	2020	2021
Installed Generating Capacity (MW)	896	921	1,019	1,317
Dependable Generating Capacity (MW)	740	737	817	1,034
Electricity Generation (GWh)	1,249	1,246	1,373	1,470

## **Biomass**

	2018	2019	2020	2021
Installed Generating Capacity (MW)	258	363	483	489
Dependable Generating Capacity (MW)	182	227	285	291
Electricity Generation (GWh)	1,105	1,040	1,261	1,165

Power
Installed Generating Capacity, by Source



# Installed Generating Capacity, by Source in MW

	2020	2021	GR
Total Installed Capacity	26,250	26,882	2%
Coal	10,944	11,669	7%
Oil	4,237	3,847	-9%
Natural Gas	3,453	3,453	0%
Renewable Energy	7,617	7,914	4%
Geothermal	1,928	1,928	0%
Hydro	3,779	3,752	-1%
Wind	443	427	-4%
Solar	1,019	1,317	29%
Biomass	447	489	9%

## Power Generation, by Source and Grid in GWh

Luzon	2020	2021	GR
Coal	40,576	43,133	6%
Oil	1,804	996	-45%
Natural Gas	19,497	18,675	-4%
Renewable Energy	10,542	12,438	18%
Geothermal	3,808	4,503	18%
Hydro	4,510	5,412	20%
Biomass	780	707	-9%
Solar	588	721	23%
Wind	855	1,095	28%
Total	72,419	75,243	4%

# **Power Generation, by Source and Grid** in GWh

Visayas	2020	2021	GR
Coal	7,696	8,999	17%
Oil	298	468	57%
Natural Gas	-	-	-
Renewable Energy	7,491	6,801	-9%
Geothermal	6,205	5,535	-11%
Hydro	65	89	38%
Biomass	374	350	-6%
Solar	676	652	-4%
Wind	171	174	2%
Total	15,485	16,268	5%

## Power Generation, by Source and Grid

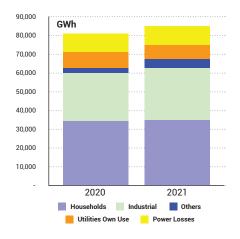
## in GWh

Mindanao	2020	2021	GR
Coal	9,904	9,920	0%
Oil	372	152	-59%
Natural Gas	-	-	-
Renewable Energy	3,576	4,532	27%
Geothermal	744	643	-13%
Hydro	2,617	3,684	41%
Biomass	107	107	0%
Solar	108	97	-11%
Wind	-	-	-
Total	13,852	14,604	5%

## Power Generation, by Source and Grid in GWh

Philippines	2020	2021	GR
Coal	58,176	62,052	7%
Oil	2,474	1,616	-35%
Natural Gas	19,497	18,675	-4%
Renewable Energy	21,609	23,771	10%
Geothermal	10,757	10,681	-1%
Hydro	7,192	9,185	28%
Biomass	1,261	1,165	-8%
Solar	1,373	1,470	7%
Wind	1,026	1,270	24%
Total	101,756	106,115	4%
Self-sufficiency level (%)	47	45	

## **Electricity Consumption, by Sector**



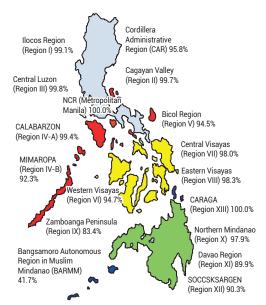
## Electricity Consumption, by Sector

#### in GWh

	2020	2021	GR
Households	34,292	34,981	2%
Services	20,727	21,119	2%
Industrial	25,566	27,623	8%
Others	2,658	4,903	84%
Utilities Own Use	8,771	7,521	-14%
Power Losses	9,742	9,968	2%
Total	101,756	106,115	4%

Others include Transport and Agriculture

## Regional Household Electrification Level\*



Region	Potential HH"	Served HH	Unserved HH (actual per DU)	Electrification Level (%)
CAR	395,881	416,019	16,729.00	95.8
1	1,151,629	1,302,954	10,781.00	99.1
II	804,380	912,519	2,761.00	99.7
Ш	2,566,558	3,156,553	5,218.00	99.8
IV-A	3,404,958	4,215,220	21,330.00	99.4
IV-B	682,668	716,775	52,792.00	92.3
V	1,216,421	1,211,604	66,868.00	94.5
NCR	3,095,766	3,597,953	0	100.0
LUZON	13,318,261	15,529,597	176,479	98.7
VI	1,716,637	1,785,205	90,603.00	94.7
VII	1,699,148	1,848,931	34,649.00	98.0
VIII	985,913	1,059,718	16,386.00	98.3
VISAYAS	4,401,698	4,693,854	141,638	96.8

Region	Potential HH**	Served HH	Unserved HH (actual per DU)	Electrification Level (%)
IX	799,219	666,247	132,990.00	83.4
Х	1,042,929	1,090,696	22,049.00	97.9
XI	1,177,461	1,076,762	119,038.00	89.9
XII	1,050,680	953,151	102,119.00	90.3
CARAGA	574,338	745,775	0	100.00
ARMM	620,385	260,759	361,409.00	41.74
MINDANAO	5,265,012	4,793,390	737,605	85.99
PHILIPPINES	22,984,971	25,016,841	1,055,722	95.41

<sup>\*</sup> Dec 2021 electrification level report of REAMD-EPIMB as of 2022 June \*\*Based on the PSA 2015 Census of Population

#### Note:

<sup>&</sup>quot;A new formula was adopted for computing the electrification level which is (potential HH - unserved HH)/potential HH

### Transmission Profile

Transmission Lines (Circuit-Kilometers)	2019	2020	2021
Luzon	9,227	9,396	9,499
Visayas	5,299	5,299	5,379
Mindanao	5,553	5,824	5,855
Total Philippines	20,079	20,519	20,732

Substation Capacity (In Million Volt-Amperes)	2019	2020	2021
Luzon	28,021	27,955	29,976
Visayas	4,884	4,487	5,754
Mindanao	3,531	5,331	6,141
Total Philippines	36,436	37,773	41,871

Source: NGCP Transmission Development Plan 2022-2040 Consultation Draft Report as of March 2022

## Glossary

Condensate	Liquid hydrocarbons separated from gas production.
Dependable Capacity	The capacity that can be relied upon to carry system load for a specified time interval and period, provide assumed reserve, and/or meet firm power obligations.
Electrification	Electrification is either done through grid or off-grid connection. When a barangay is provided with electricity through grid connection, it means that the distribution line has reached the barangay proper. It may also mean that almost 50.0 percent of potential households in the barangay are connected to a distribution utility (DU) (i.e. MERALCO) or at least one is connected to other DUs. Off-grid connection pertains to a barangay having about 20 to 30 households availing the connection.
Energy Intensity	Calculated as units of energy (million tons of oil equivalent, MTOE) per unit of GDP (in billion pesos).
Energy Per Capita	Amount of energy used per person. It is calculated as total primary energy demand (in MTOE) over population (in millions).

Energy Self Sufficiency	The ratio of the country's domestic energy supply to total supply; measures the degree at which domestic energy forms can support total energy demand.
Energy to GDP Elasticity	The percentage change in energy supply to achieve one percent change in national GDP. Calculated as the ratio of growth of primary energy demand over GDP growth.
Gas (or Natural Gas)	A naturally occurring mixture of hydrocarbon and non-hydrocarbon gases in porous formations beneath the earth's surface, often in association with petroleum. The principal constituent is methane.
Geothermal Energy	Energy generated by heat stored in the earth, or the collection of absorbed heat derived from underground in the atmosphere and oceans.
Gross Domestic Product (GDP)	Total market value of all final goods and services produced within the country in a given period of time (usually a calendar year), or the sum of value added of all final goods and services produced within a country in a given period of time.
Gross National Product (GNP)	The value of all (final) goods and services produced in a country in one year, plus income earned by its citizens abroad, minus income earned by foreigners in the country.

Hydropower	Also called hydraulic power or water power; derived from the force or energy of moving water, which may be harnessed for useful purposes.
Indigenous Energy	Refers to all energy forms produced/ sourced from within the country's natural resources.
Installed Capacity	The total of the capacities shown on the nameplates of the generating units in a powerplant.
Renewable Energy	Energy generated from natural resources which are naturally replenished. It includes solar power, wind power, hydroelectricity, micro hydro, biomass and biofuels.
Run of Mine	Coal directly coming from the mine.
Total Final Energy Consumption (TFEC)	The sum of all energy forms consumed/ used by different economic sectors.
Total Primary Energy Demand (TPED)	The sum of total final consumption, power generation, other energy sector (own use and losses).
Total Primary Energy Supply (TPES)	The sum of all energy derived from domestic sources (indigeneous, renewable), imported from outside the country, stock change (+/-) and export (-).

## **Units of Measurement**

BCF Billion Cubic Feet

BTu British Thermal Units

Ckt-Km Circuit-Kilometer

GWh Gigawatt-Hour

KWh Kilowatt-hour

kTOE Thousand tonnes of oil equivalent

Lb Pound

MB Thousand Barrels

MMMT Million Metric Tons

MMSCF Million Standard Cubic Feet

MMT Thousand Metric Tons

MVA Megavolt Ampere

MW Megawatt

Php Philippine Peso

ROM Run of Mine

USD US Dollar

## **Conversion Table**

Fuels	to KTOE
Coal (MT@10,000 btu/lb.)	0.000528
Natural Gas (MMSCF)	0.023290
Crude (MB)	0.134400
Condensate (NGL) (MB)	0.104400
Premium Gasoline (MB)	0.124500
Regular Gasoline (MB)	0.122300
Kerosene (MB)	0.127000
Diesel (MB)	0.134700
Fuel Oil (MB)	0.144400
LPG (MB)	0.092200
Jet (MB)	0.127000
Avgas (MB)	0.122400
Naphtha (MB)	0.123800
Asphalts (MB)	0.152100
Lubes & Greases (MB)	0.141200

Fuels	to KTOE
Others (MB)	0.123300
Ricehull (MT)	0.000345
Charcoal (MT)	0.000600
Fuelwood (MT)	0.000329
Bagasse (MT)	0.000426
Agriwaste (MT)	0.000329
Animal Waste (MT)	0.000516
Ethanol (BBL)	0.000089
CME (BBL)	0.000130
Hydro (GWh)	0.086000
Geothermal (GWh)	0.860000
Wind (GWh)	0.860000
Solar (GWh)	0.860000





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