



DEPARTMENT  
OF ENERGY

# ENERGY STATISTICS IN THE PHILIPPINES

INTERNATIONAL WORKSHOP ON  
ENERGY STATISTICS AND ENERGY BALANCES  
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# PRESENTATION OUTLINE

**1** The Philippines

**2** Legal Basis and DOE Structure

**3** Policy Thrust and Programs

**4** Energy Profile

**5** Data Collection, Processing & Dissemination



# THE PHILIPPINES



## Selected Macro Economic Indicators

Number of Islands : 7,107 Islands  
Population : 102 Million  
(est. end 2015)  
GDP Growth Rate : 6.1% (2014)

## GDP Shares of Economic Sectors (2014)

Agriculture : 10.0%  
Industry : 30.0%  
Services : 60.0%

**GDP / Capita** : 71.9 K PhP/person  
(2014)

**Energy / Capita** : 0.48 TOE/person (2014)

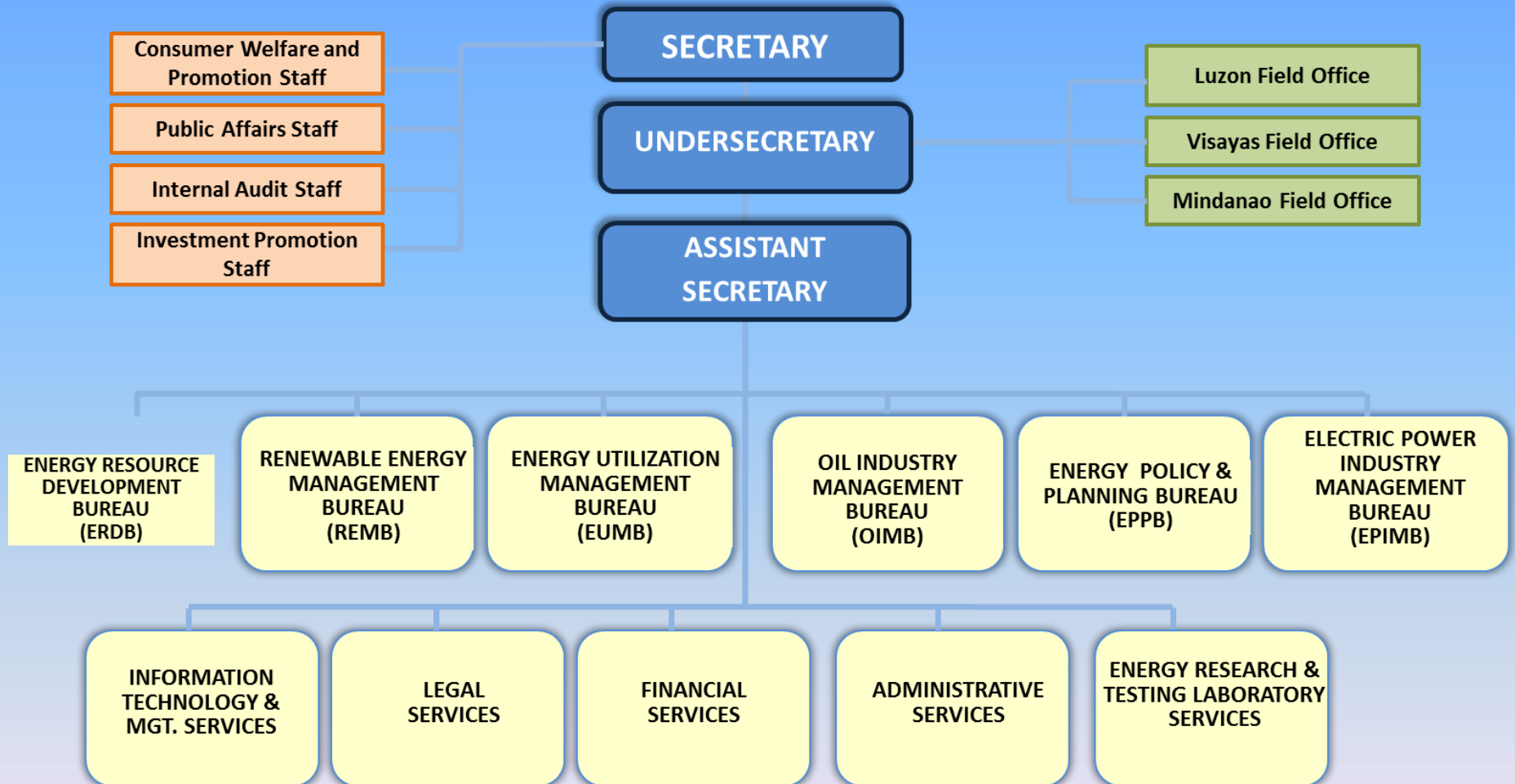


# DOE LEGAL BASIS

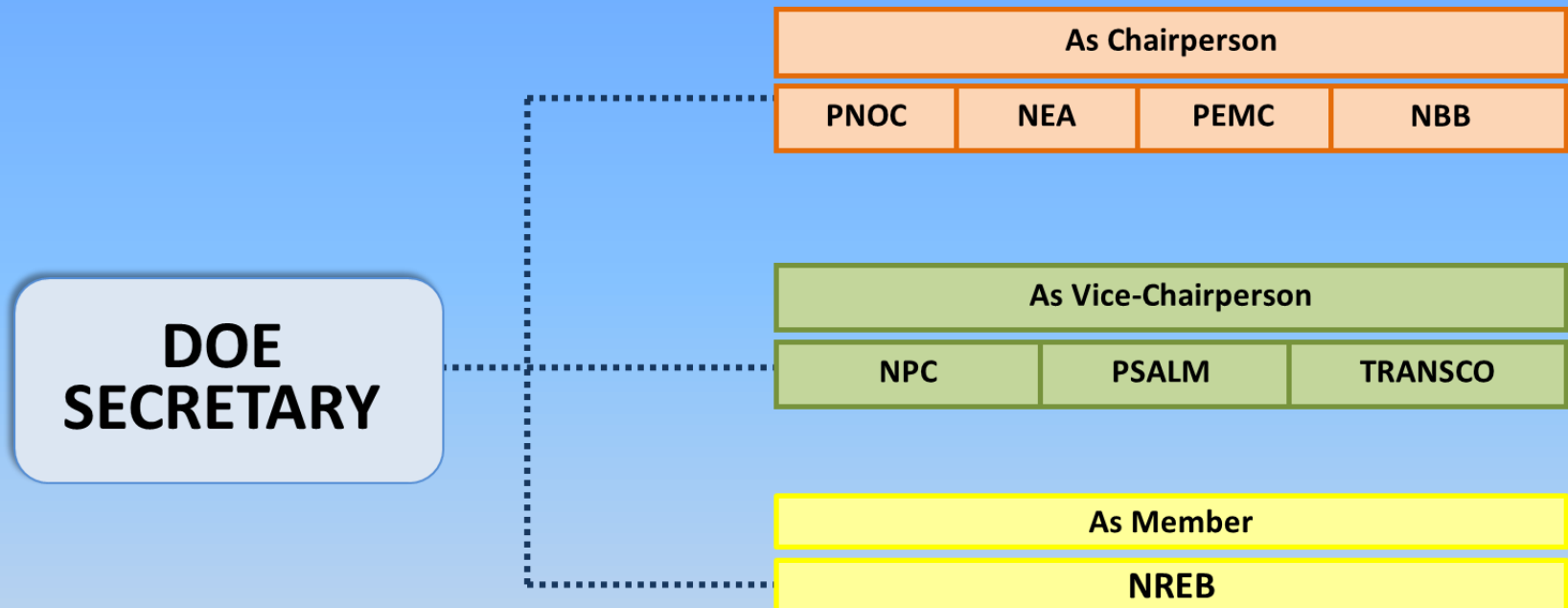
- ❑ RA 7638 (DOE Act of 1992)
- ❑ RA 8479 (DOWNSTREAM OIL INDUSTRY DEREGULATION ACT OF 1998)
- ❑ RA 8749 (CLEANAIR ACT OF 1999)
- ❑ RA 9136 (ELECTRIC POWER INDUSTRY REFORM ACT OF 2001)
- ❑ AO 38 (DOE REORGANIZATION OF 2002)
- ❑ RA 9367 (BIOFUELS ACT OF 2006)
- ❑ RA 9513 (RENEWABLE ENERGY ACT OF 2008)
- ❑ RA 9729 (CLIMATE CHANGE ACT OF 2009)
- ❑ PROCLAMATION NO. 1140 (ADOPTING THE PSDP 2005-2010)



# DOE ORGANIZATIONAL STRUCTURE



# THE ENERGY FAMILY



*Note: The Energy Regulatory Commission (ERC) is an independent quasi-judicial regulatory body and not under the jurisdiction of the DOE.*



# POLICY THRUST

- Ensure Energy Security
  - Expand Energy Access
  - Promote Low-Carbon Future
  - Promote Energy Resiliency
  - Explore Bottom-Up Approach
- Energy Planning
- Evaluate Connection with ASEAN
- Energy Infrastructure



# ENERGY PROGRAMS

- Develop indigenous energy resources
- Promote the use of clean energy fuels (RE and Natural Gas)
- Push sustainable fuels for transport
- Promote “EC Way of Life” (energy efficiency and conservation)
- Expand capacity and coverage of power supply
- Climate-proof energy infrastructure and facilities
- Develop Regional Energy Plans







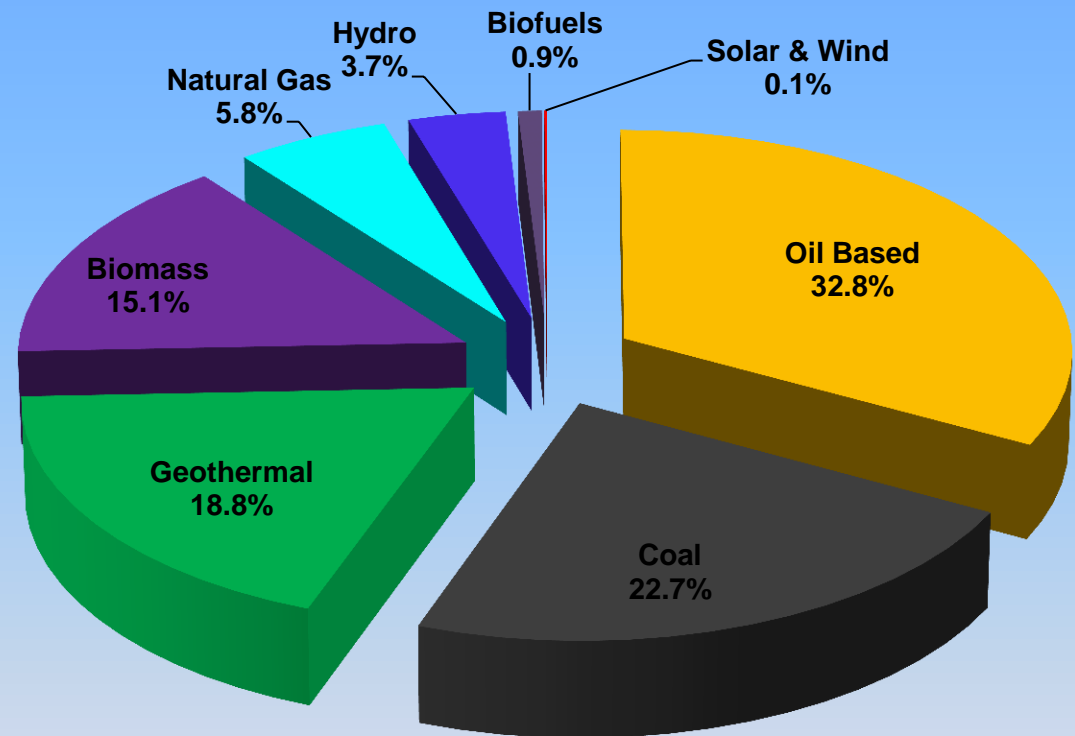
# ENERGY PROFILE



# PRIMARY ENERGY SUPPLY

	2015
Total Energy (MTOE)	49.4
Self-sufficiency (%)	53.4
Shares (%)	
<a href="#">Renewable Energy (RE)</a>	38.6
Green Energy (RE + Natural Gas)	44.4

Note:  
MTOE - Million Tons of Oil Equivalent

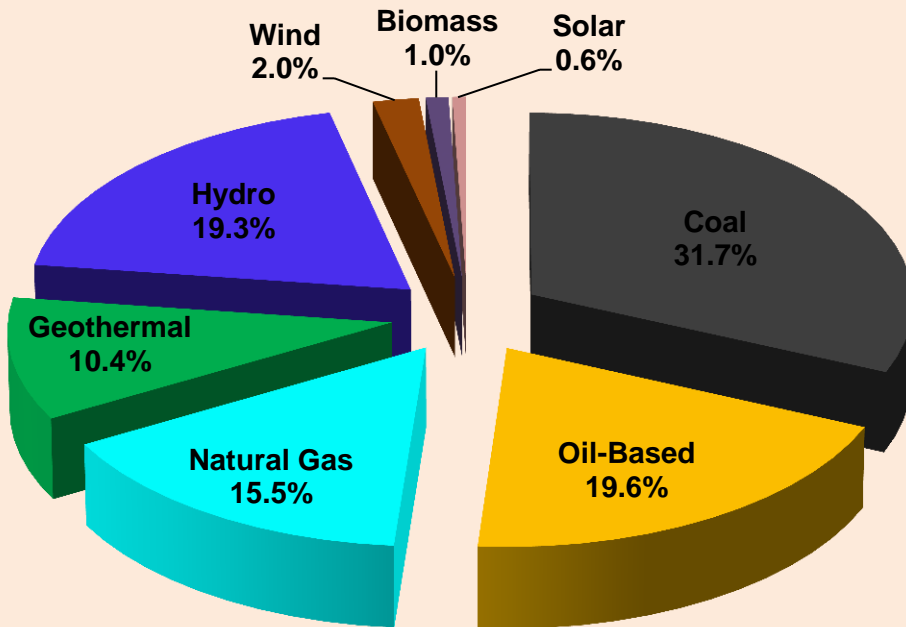


Note: Official 2015 data as of March 2016.



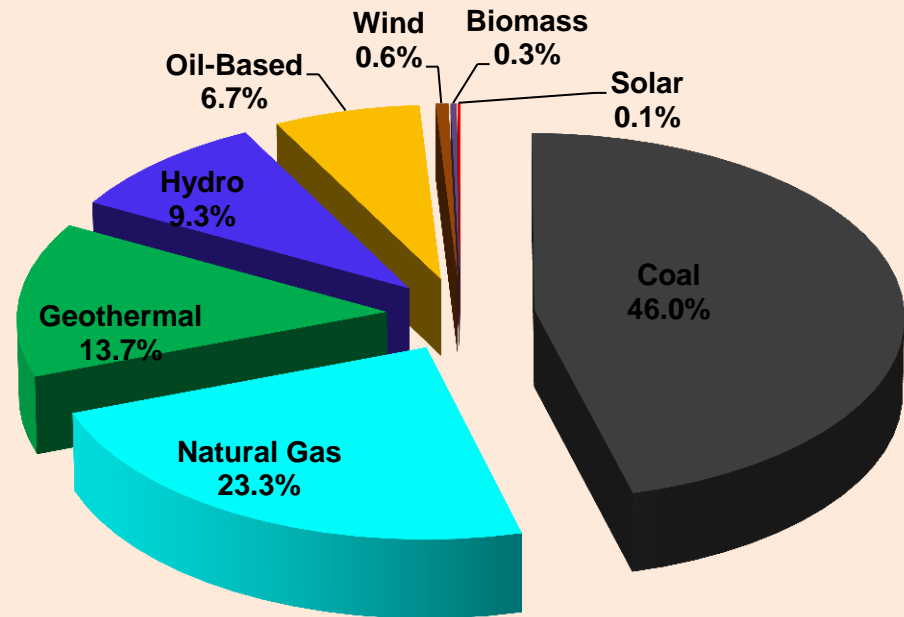
# POWER GENERATION

2015



Installed Capacity (MW) - 18,452.1

2015



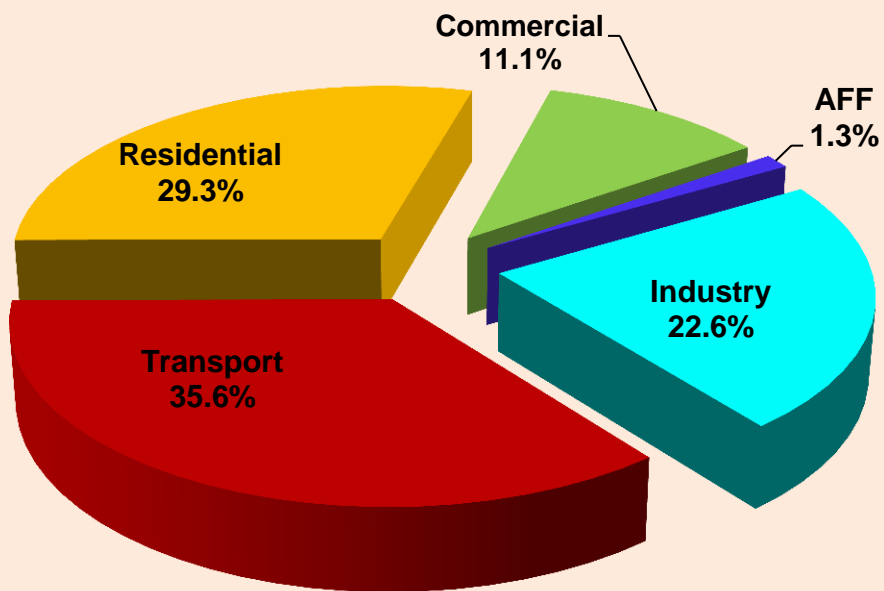
Total Generation (GWh) - 78,897

Note: Official 2015 data as of March 2016.



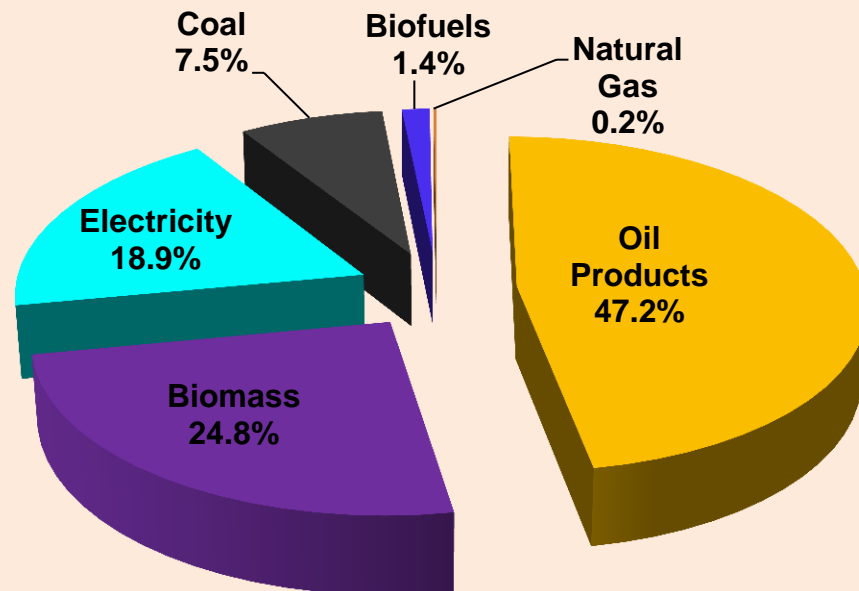
# FINAL ENERGY CONSUMPTION

2015



By Sector

2015



By Fuel

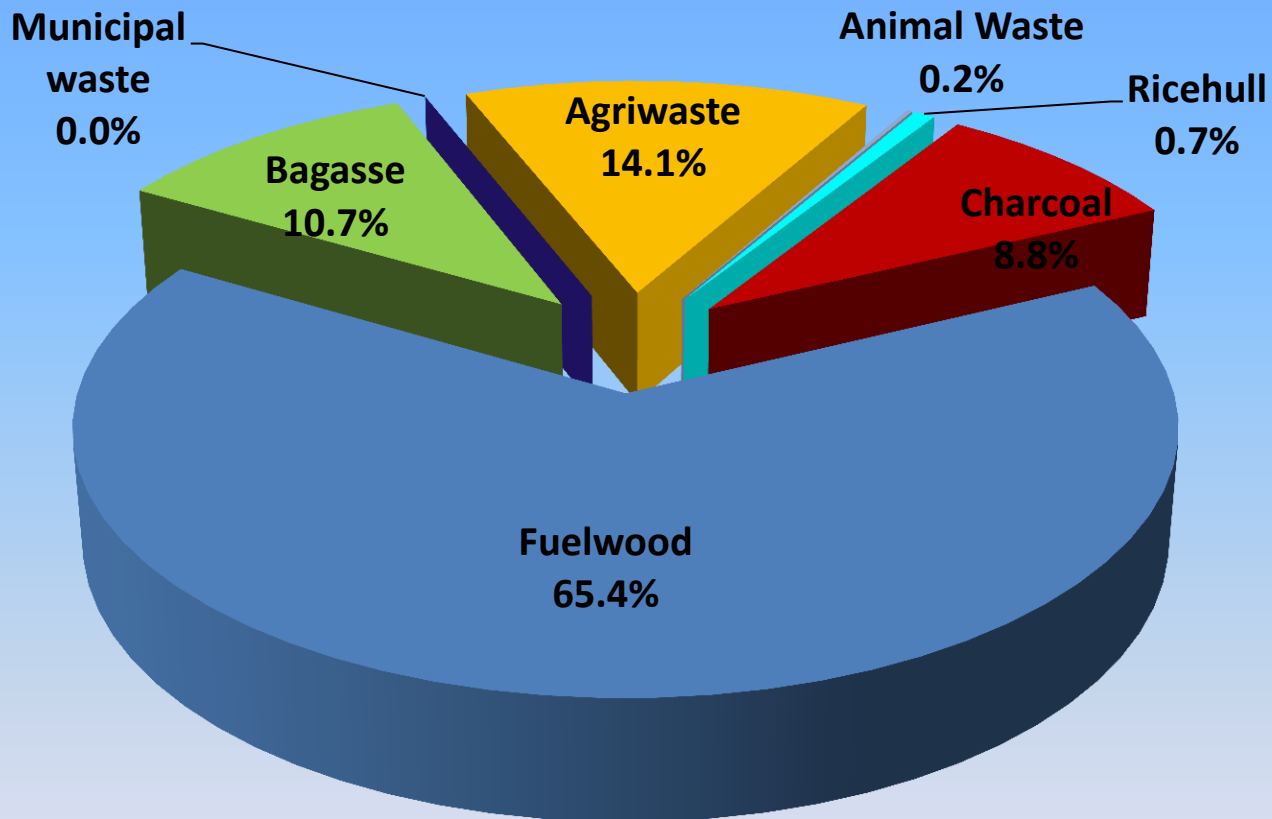
Final Energy Consumption (MTOE) – 29.6

Note: Official 2015 data as of March 2016.



# BIOMASS FINAL ENERGY CONSUMPTION

2015



**Biomass Energy Consumption (MTOE) – 7.4**

*Note: Official 2015 data as of March 2016.*





# **DATA COLLECTION, PROCESSING AND DISSEMINATION**



## SOURCES

- Oil Industry Participants/Players
- End-Users Directly Importing Oil (e.g. Airline Companies, Mining & Fishing Companies)
- International Wire Services (e.g. Mean of Platts Singapore)

- Power Plants
- Gas Fields (e.g. Malampaya Gas Field)
- Cement Industry (e.g. Republic Cement, Taiheiyo Cement)
- Power Industry (e.g. Toledo Power Corp, Sual Power Corp.)
- Local Coal Producers (e.g. Semirara Coal Corp.)

- Power Generators
- Distribution Utilities
- National Grid Corporation of the Philippines (NGCP)

- RE Companies and Facilities (e.g. San Carlos Bioenergy Inc., Leyte Agri Corporation)
- Affiliated Renewable Energy Centers (ARECs former ANECs)
- Other Energy Companies (e.g. PNOC-EDC)
- Other Government Agencies (e.g. NIA, PAG-ASA)

## DOE BUREAUS

**Oil Industry Management Bureau (OIMB)**

**Energy Resource Development Bureau (ERDB) and Natural Gas Office (NGO)**

**Electric Power Industry Management Bureau (EPIMB)**

**Renewable Energy Management Bureau (REMB)**

## OTHER SOURCES

**Department of Transportation and Communication**

**Philippine Statistics Authority (PSA)**

**Energy Policy & Planning Bureau (EPPB)**



**Energy Balance Table**



# ENERGY COMMODITY ACCOUNT (ECA), 20XX

ENERGY COMMODITY	Coal	Natural Gas	Crude	Hydro	Geo	Solar	Wind	Biomass	Biofuels
Unit of Measurement	MT, ROM @ 10,000 BTU	MMSCF	MB	GWH	GWH	GWH	GWH	MT	BBL
Indigenous	7,599,765.0	130,351.2	3,072.0	9,137.3	10,308.1	16.5	152.1	21,928,735.3	1,775,986.8
Imports (+)	15,182,165.2	-	64,862.0	-	-	-	-	-	2,213,539.6
Exports (-)	(5,767,006.1)	-	(2,833.1)	-	-	-	-	-	-
International Marine Bunkers (-)	-	-	-	-	-	-	-	-	-
International Civil Aviation (-)	-	-	-	-	-	-	-	-	-
Stock Change (+/-)	3,148,303.2	-	(4,007.7)	-	-	-	-	-	(171,789.9)
<b>Total Primary Energy Supply</b>	<b>20,163,227.3</b>	<b>130,351.2</b>	<b>61,093.3</b>	<b>9,137.3</b>	<b>10,308.1</b>	<b>16.5</b>	<b>152.1</b>	<b>21,928,735.3</b>	<b>3,817,736.6</b>
Refinery (Crude Run)	-	-	(59,300.8)	-	-	-	-	-	-
Power Generation	-	-	-	-	-	-	-	-	-
Fuel Input (-)	(15,587,493.0)	(122,305.5)	-	(9,137.3)	(10,308.1)	(16.5)	(152.1)	(387,186.8)	(52,338.0)
Electricity Generation	33,053.5	18,690.1	-	9,137.3	10,308.1	16.5	152.1	195.7	-
Transmission/Dist. Loss (-)	-	-	-	-	-	-	-	-	-
Energy Sector Use & Loss (-)	-	(4,740.6)	(2,071.5)	-	-	-	-	-	-
<b>Net Domestic Supply</b>	<b>4,575,734.3</b>	<b>3,305.1</b>	<b>(279.0)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>21,541,548.5</b>	<b>3,765,398.6</b>
<b>Net Domestic Consumption</b>	<b>4,575,734.3</b>	<b>3,305.1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>21,541,548.5</b>	<b>3,765,398.6</b>
INDUSTRY	4,283,575.9	3,301.6	-	-	-	-	-	4,179,359.0	86,193.3
TRANSPORT	-	3.5	-	-	-	-	-	-	3,502,419.5
RESIDENTIAL	-	-	-	-	-	-	-	16,576,272.4	-
COMMERCIAL	-	-	-	-	-	-	-	785,917.1	150,841.3
AGRICULTURE, FORESTRY AND FISHERY	-	-	-	-	-	-	-	-	25,944.5
<b>OTHERS, NON-ENERGY USE</b>	<b>292,158.4</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>





# ENERGY BALANCE TABLE (IN KTOE), 20XX

	Coal	Natgas	Oil and Oil Products	Hydro	Geo	Solar	Wind	Biomass	Biodiesel	Ethanol	Electricity	Total
Indigenous	4,011.2	3,035.9	848.5	2,274.6	8,863.4	1.4	13.1	7,416.3	133.9	66.5	-	26,664.7
Imports (+)	8,013.1	-	17,528.2	-	-	-	-	-	-	196.7	-	25,738.1
Exports (-)	(3,043.8)	-	(1,487.0)	-	-	-	-	-	-	-	-	(4,530.8)
International Marine Bunkers (-)	-	-	(88.9)	-	-	-	-	-	-	-	-	(88.9)
International Civil Aviation (-)	-	-	(1,040.1)	-	-	-	-	-	-	-	-	(1,040.1)
Stock Change (+/-)	1,661.7	-	(719.0)	-	-	-	-	-	3.2	(17.4)	-	928.4
<b>Total Primary Energy Supply</b>	<b>10,642.2</b>	<b>3,035.9</b>	<b>15,041.7</b>	<b>2,274.6</b>	<b>8,863.4</b>	<b>1.4</b>	<b>13.1</b>	<b>7,416.3</b>	<b>137.1</b>	<b>245.7</b>	<b>-</b>	<b>47,671.4</b>
Refinery (Crude Run)	-	-	(249.5)	-	-	-	-	-	-	-	-	(249.5)
Power Generation	-	-	-	-	-	-	-	-	-	-	-	-
Fuel Input (-)	(8,227.1)	(2,848.5)	(1,378.0)	(2,274.6)	(8,863.4)	(1.4)	(13.1)	(70.0)	(6.8)	-	-	(23,683.0)
Electricity Generation	2,842.1	1,607.1	490.8	785.7	886.3	1.4	13.1	16.8	-	-	6,643.2	6,643.3
Transmission/Dist. Loss (-)	-	-	-	-	-	-	-	-	-	-	(625.1)	(625.1)
Energy Sector Use & Loss (-)	-	(110.4)	(278.4)	-	-	-	-	-	-	-	(571.4)	(960.3)
<b>Net Domestic Supply</b>	<b>2,415.1</b>	<b>77.0</b>	<b>13,135.8</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>7,346.3</b>	<b>130.3</b>	<b>245.7</b>	<b>5,446.7</b>	<b>28,796.8</b>
Statistical Difference	-	0.0	231.9	-	-	-	-	-	-	-	-	231.9
% Statistical Difference	-	0.0	1.8	-	-	-	-	-	-	-	-	0.8
<b>Total Final Energy Consumption</b>	<b>2,415.1</b>	<b>77.0</b>	<b>12,903.9</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>7,346.3</b>	<b>130.3</b>	<b>245.7</b>	<b>5,446.7</b>	<b>28,564.9</b>
<b>INDUSTRY</b>	2,260.9	76.9	1,205.3	-	-	-	-	1,131.1	11.2	-	1,842.5	6,527.9
<b>TRANSPORT</b>	-	0.1	8,781.9	-	-	-	-	-	96.0	245.7	9.5	9,133.2
<b>RESIDENTIAL</b>	-	-	863.1	-	-	-	-	5,883.3	-	-	1,803.0	8,549.4
<b>COMMERCIAL</b>	-	-	1,432.4	-	-	-	-	331.9	19.6	-	1,613.1	3,397.1
<b>AGRICULTURE, FORESTRY AND FISHERY</b>	-	-	172.0	-	-	-	-	-	3.4	-	178.5	353.8
<b>OTHERS, NON-ENERGY USE</b>	154.2	-	449.3	-	-	-	-	-	-	-	-	603.5
<b>Self-sufficiency</b>												<b>55.9</b>



# ENERGY DATA DISSEMINATION

- Philippine Energy Plan (PEP)
- Energy Sector Accomplishment Report (ESAR)
- Household Energy Consumption Survey (HECS)
- Philippine Key Energy Statistics
- Survey on Energy Consumption of Establishments (SECE)
- Philippine Statistical Yearbook





# **HOUSEHOLD ENERGY CONSUMPTION SURVEY (HECS)**



# What is Household Energy Consumption Survey?

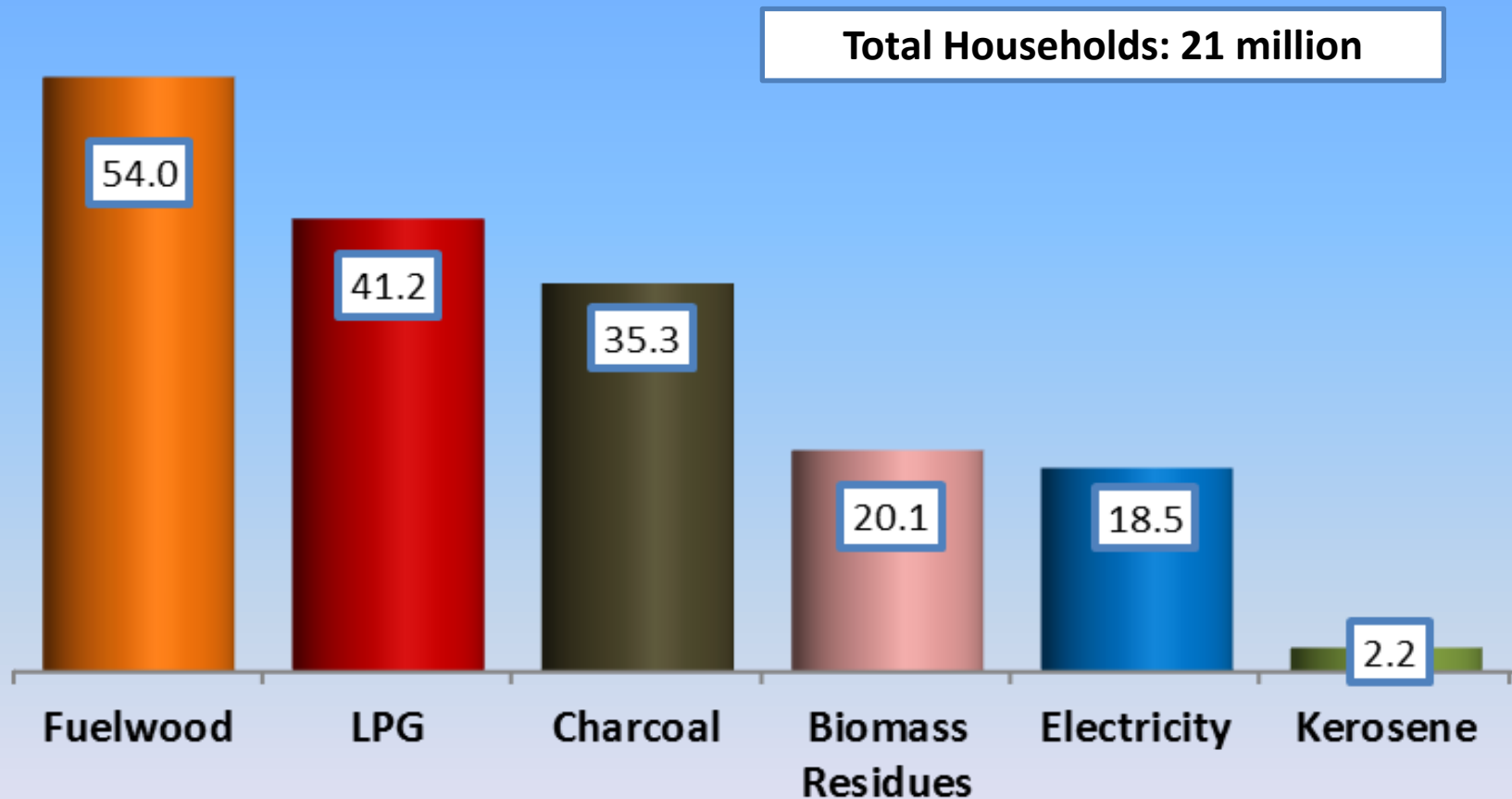
A nationwide survey that gathers information on household utilization of fuels, supply systems and the pattern of energy use

Four rounds of HECS undertaken since 1989:  
1989, 1995, 2004 and 2011

Joint efforts of the Department of Energy and the National Statistics Office

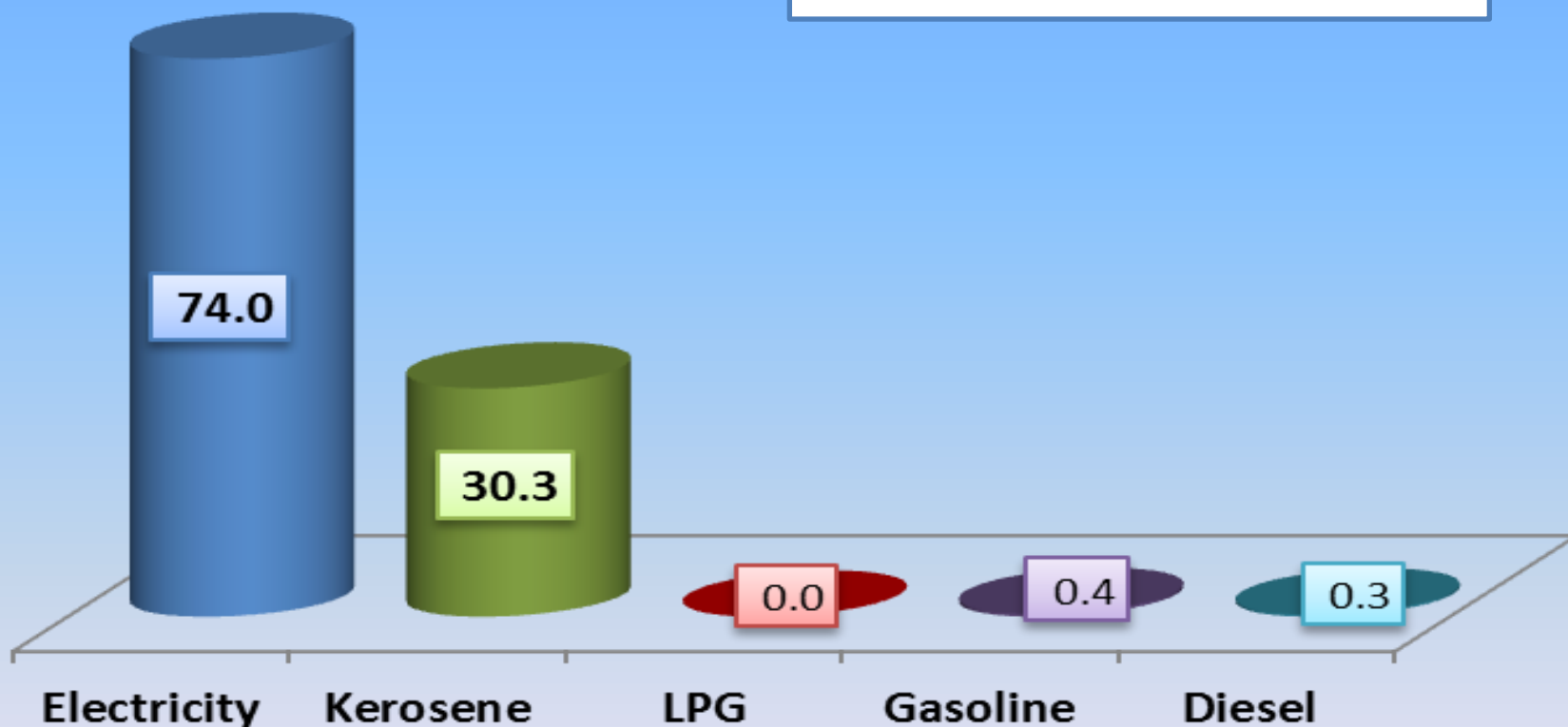


# Proportion of Households by Specific Type of Fuel Used for Cooking, 2011



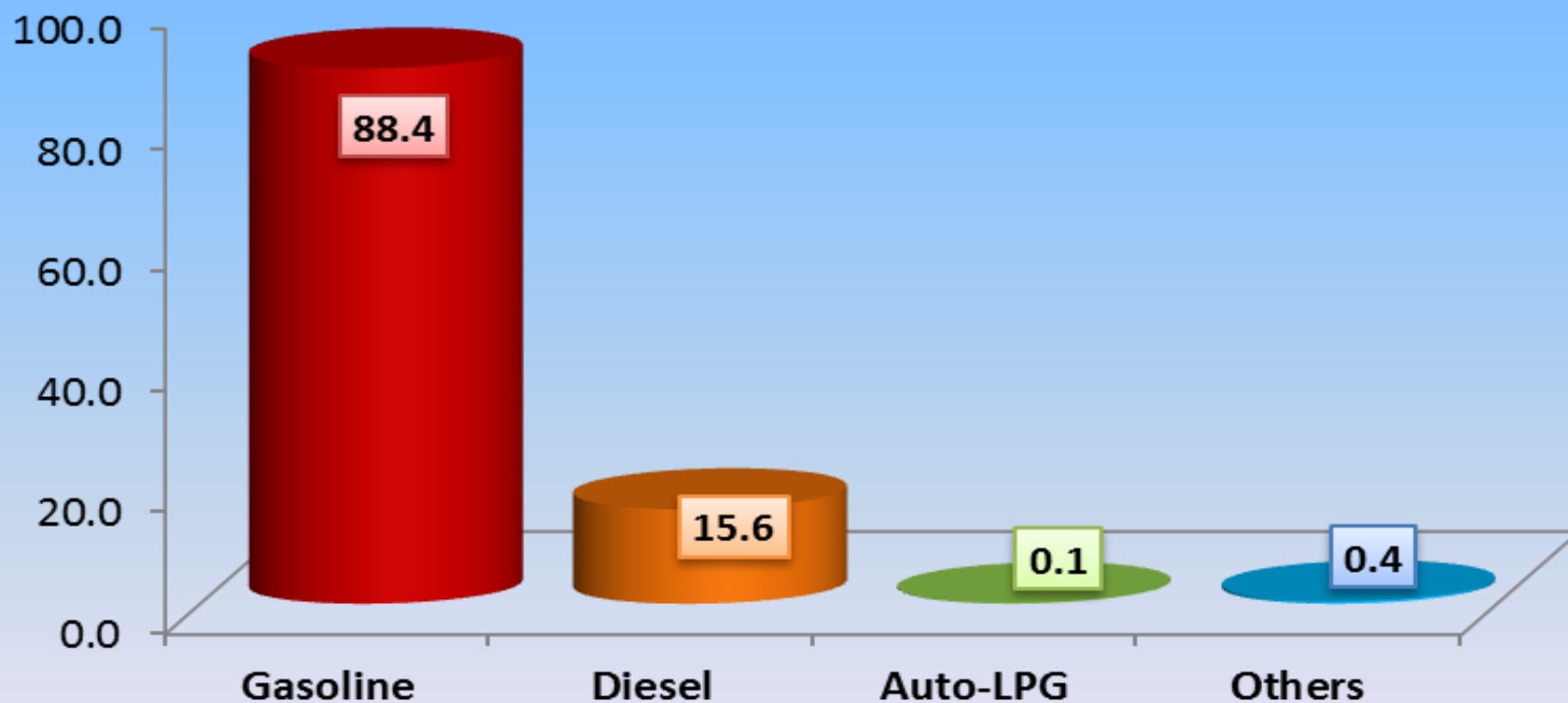
# Proportion of Households by Specific Type of Fuel Used for Lighting, 2011

Total Households: 21 million



# Proportion of Households by Specific Type of Fuel Used for Transportation: 2011

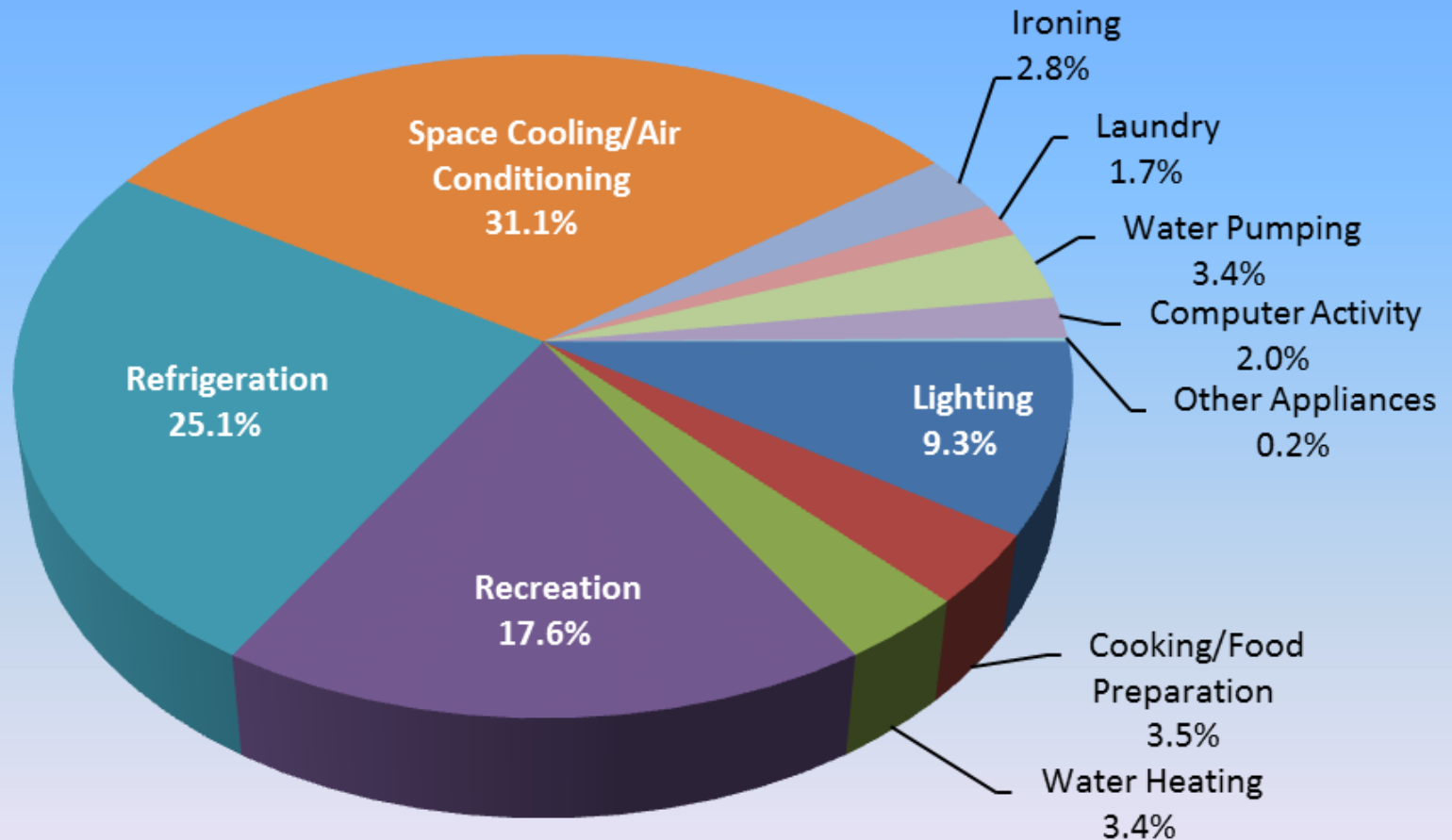
Total Households: 5.5 million\*



*\*households that used any type of vehicle*

*Other types of fuel used by households for their vehicles include alcogas and cocodiesel.*

# Percentage Distribution of Total Household Electricity Consumption, by End-Use: 2011

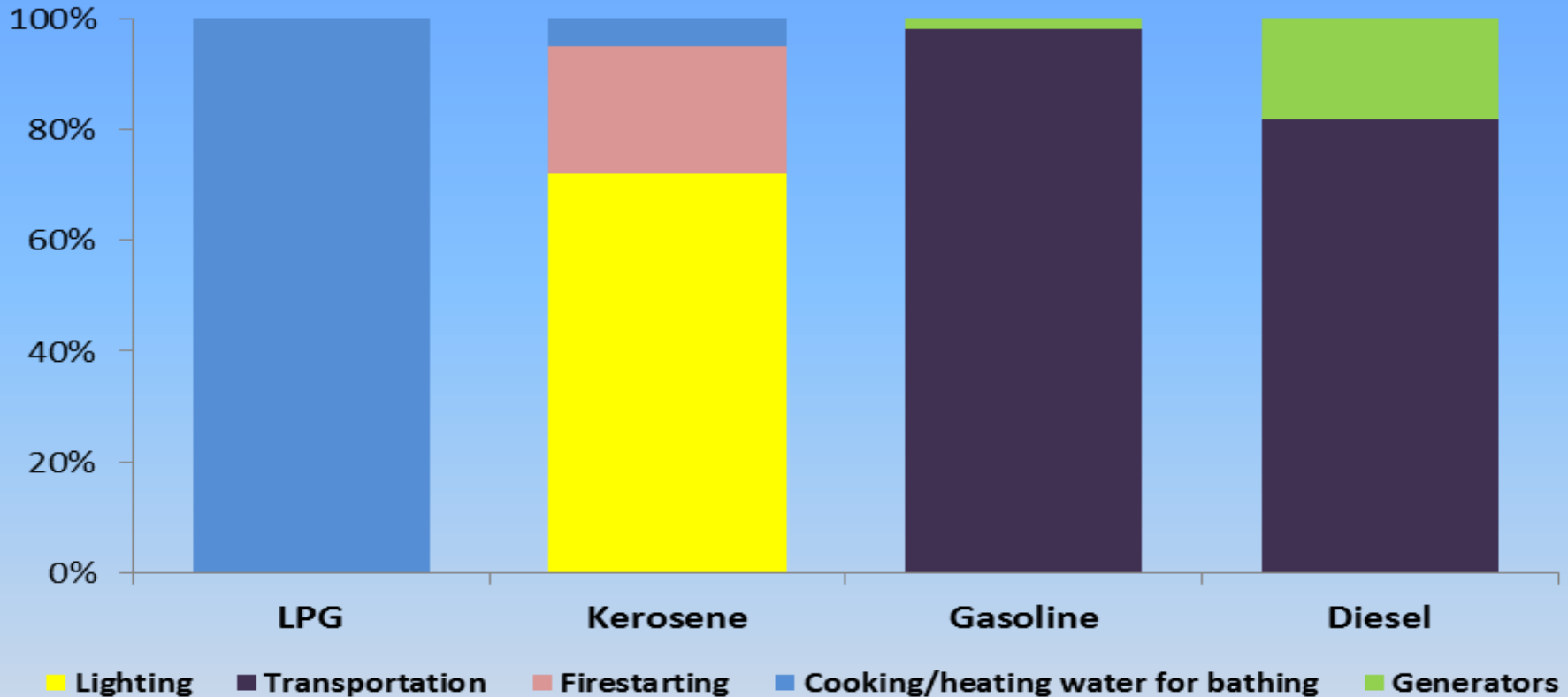




# Average Household Electricity Consumption, by End-Use, 2011

End-use/Activity	Average Consumption (KWh)
Lighting	60
Cooking/Food Preparation	108
Water Heating	484
Recreation	129
Refrigeration	390
Space Cooling/Air Conditioning	277
Ironing	37
Laundry	36
Water Pumping	623
Computer Activity	84
Other Appliances	2

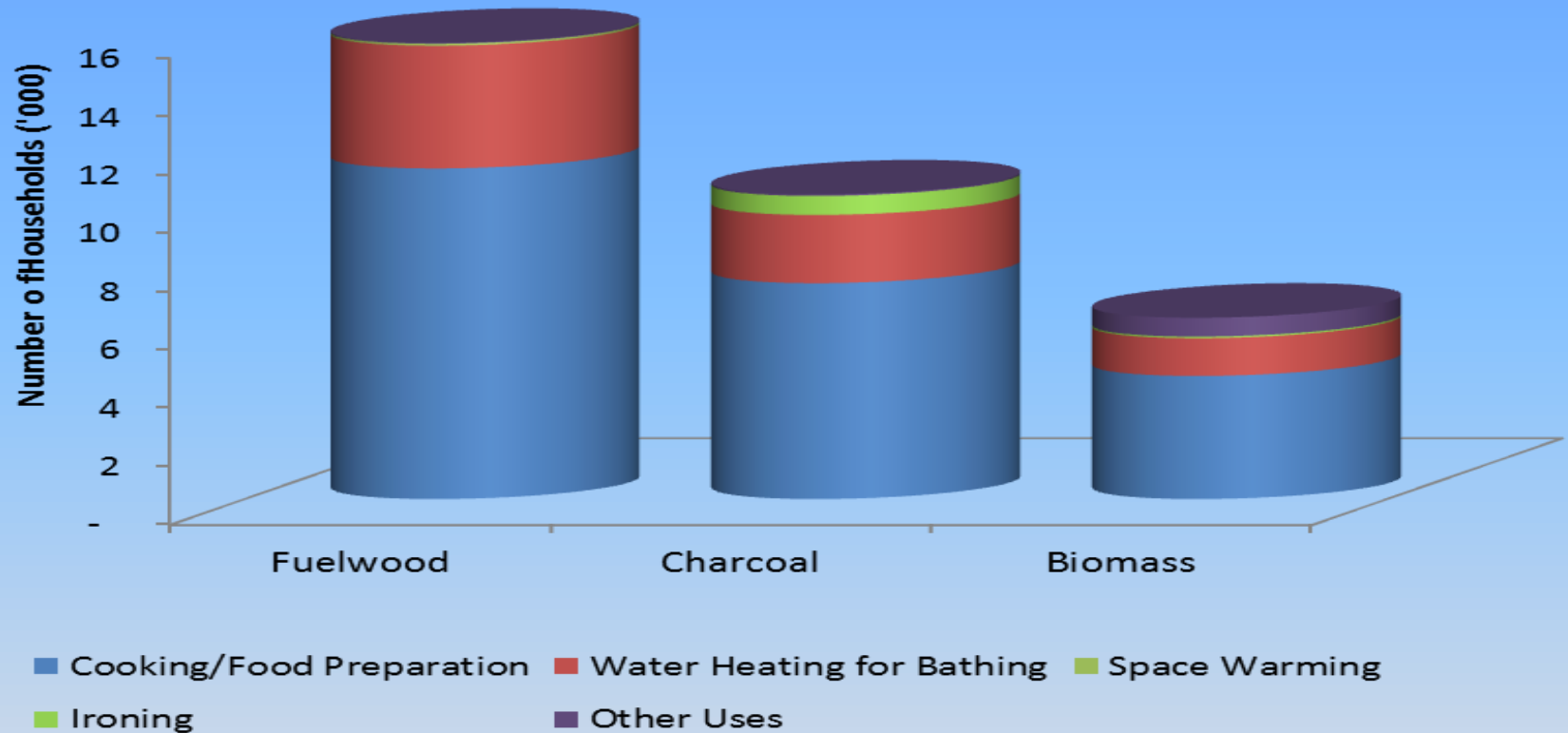
# Percentage of Households Using Petroleum Products, by Type and by End-Use: 2011



Average Consumption Per HH*	LPG	Kerosene	Gasoline	Diesel
	7.8 kgs	2.5 liters	55.1 liters	120.8 liters

\*regardless of end-use, monthly basis

# Number of Households That Used Renewable Energy, by Type and by End-Use: 2011



Average Consumption Per HH*	Fuelwood	Charcoal	Biomass
	183 kgs	29.3 kgs	62.2 kgs

\*regardless of end-use, monthly basis





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# Thank you for listening!

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