

ENERGY COMMISSION OF GHANA



**NATIONAL ENERGY STATISTICS
2009 - 2018**

November, 2019

STRATEGIC PLANNING AND POLICY DIRECTORATE

FOREWORD

THE ENERGY COMMISSION has the mandate to prepare, review and update periodically indicative national plans to ensure that reasonable demands for energy are met in a sustainable manner. In addition, the Energy Commission is mandated to secure and maintain a comprehensive data base for national decision making for the efficient development and utilisation of energy resources available to the nation. In fulfilment of its mandates, the Energy Commission publishes statistics of the Energy Sector annually.

The 2019 National Energy Statistics provides a time series data on Ghana's energy supply and use situation largely from 2009 to 2018. Data for the years before 2009 can be obtained from the Commission.

This publication was prepared with data from the main energy sector institutions, including the Ministry of Energy, Volta River Authority (VRA), Ghana Grid Company (GRIDCo), Ghana National Petroleum Corporation (GNPC), National Petroleum Authority (NPA), Ghana National Gas Company (GNGC), Tema Oil Refinery (TOR), Public Utilities Regulatory Commission (PURC), Electricity Company of Ghana/Power Distribution Services Ltd, Northern Electricity Distribution Company (NEDCo), Enclave Power Company Ltd (EPC), West African Gas Pipeline Company (WAPCo), as well as data from the Bank of Ghana (BoG) and the Ghana Statistical Service (GSS). The cooperation and assistance of all these agencies and entities are gratefully acknowledged.

It is our expectation that, the statistics contained in this publication would be useful to a wide range of users including planners, policy makers, researchers and students.

We are very much appreciative for the feedback received from users. These have been used to correct and improve the data provided in this year's publication. The 2019 National Energy Statistics therefore override those of previous years.

We would appreciate very much any feedback by way of comments and suggestions from readers.

This publication is also available on our website www.energycom.gov.gh

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ABBREVIATIONS

GW	Gigawatt
GWh	Gigawatt-hour
KTOE	Kilotonnes of oil Equivalent
kWh	kilowatt-hour
MMBTU	Thousand thousand (Million) British Thermal Unit
MSCF	Thousand Standard Cubic Feet
MW	Megawatt
MWh	Megawatt-hour
W/kW	Watt/kilowatt
ATK/DPK	Aviation Turbine Kerosene/Dual Purpose Kerosene
ECG	Electricity Company of Ghana
GNGC	Ghana National Gas Company
GNPC	Ghana National Petroleum Corporation
LCO	Light Crude Oil
LPG	Liquefied Petroleum Gas
NEDCo	Northern Electricity Distribution Company
RFO	Residual Fuel Oil
TAPCO	Takoradi Power Company Ltd
TICO	Takoradi International Company
TOE	Tonnes of Oil Equivalent
TOR	Tema Oil Refinery
VALCO	Volta Aluminium Company
VRA	Volta River Authority
WAGP	West African Gas Pipeline
WAGPA	West African Gas Pipeline Authority

CONVERSION FACTORS
Ghana Standard Figures
Petroleum

Crude Oil	1 Tonne	1.01- 1.02 TOE
Gasoline:	1 Tonne	1.05 TOE
Kerosene:	1 Tonne	1.03 TOE
Jet Fuel:	1 Tonne	1.03 TOE
Diesel /Gas Oil:	1 Tonne	1.02 TOE
Residual Fuel Oil:	1 Tonne	0.97 TOE
LPG:	1 Tonne	1.08 TOE
7 barrels of crude Oil	1 Tonne of crude oil	
1 cubic metre of crude oil	6.29 barrels	
1 barrel	36 imperial gallons	163.66 Litres
1 GJ of Natural Gas	1.05 MMBtu	1.07 MSCF
1 MMBtu of Natural Gas	27.096 cubic metres (m ³)	
1 MMBtu of Natural Gas	5.82 bbl of crude oil equivalent	
1,000 m ³ of Natural Gas	36.906 MMBtu	

**Ghana Standard Figures
Electricity**

1000 W	1 kW
1000 kW	1 MW
1000 MW	1 GW
1000 kWh	1 MWh
1000 MWh	1 GWh
1 GWh	86 TOE
1 GWh	3600 GJ
1 TOE	41.86 GJ

Woodfuel

Firewood/fuelwood	1 Tonne	0.30 - 0.36 TOE	
Charcoal	1 Tonne	0.68 - 0.88 TOE	
Sawdust/sawmill residues/wood chips	1 Tonne	0.20 - 0.30 TOE	
<i>Low side reflecting average dry wood and corresponding Charcoal in the forest zones and the high side reflecting average dry wood and corresponding charcoal in the savannah zones of the country.</i>			
<i>Between 4 – 5 mass units of wood are used to produce one mass unit of charcoal in the country</i>			
Charcoal Source	Average Weight (kg) of Charcoal		Moisture Content
	Mini Bag	Maxi Bag	
Sawmill residue	21 – 22	44 - 45	Up to 40%
Savannah wood	30 – 32	55 - 60	Up to 20%
Acacia plant	31 – 32	57 - 63	Up to 20%
All other woods	25 – 27	50 - 55	Up to 25%

GLOSSARY

Average	It is a measure of central tendency. It could be mean, median or mode depending upon the distribution of the data. For a normal distribution set, the mean, median and mode are the same.
Electricity Plants	Refer to power generation plants which are designed to produce electricity only. The electricity captured in this report does not cover off-grid and individual private embedded generation.
Energy Balance	Shows in a consistent accounting framework, the production, transformation and final consumption of all forms of energy for a given country in a given period of time, with quantities expressed in terms of a single accounting unit for purposes of comparison and aggregation. The Energy balance presents an overview of the energy produced and consumed in a system, matching input and output for a specific period of time, usually one year.
Final Energy Consumption	Energy utilised by final user.
Import and export	Import and export comprise quantities having crossed the national territorial boundaries of the country
International Aviation Bunkers	Covers quantities delivered to airplanes that are engaged in international aviation
International Marine Bunkers	Covers those quantities delivered to ships that are engaged in international navigation
Own Use	It is the primary and secondary energy consumed by transformation industries for heating, pumping, lighting and other purposes
Production	It is the production of primary energy, i.e. crude oil, natural gas, hydro, renewable etc. that is extracted.
Statistical differences	It include the sum of the unexplained differences for individual fuels as they appear in the energy statistics
Stock changes	Reflect the differences between opening stock levels on the first day of the year and closing levels on the last day of the year of stocks on national territory held by producers, importers, energy transformation industries and large consumers. A stock build is shown as negative number and a stock draw as a positive.
Total Energy Supply	It is made up of production + import - export + stock changes
Total Primary Energy Supply	It is made up of production + imports – export +/- stock changes

SECTION ONE: ENERGY INDICATORS AND ENERGY BALANCE

Table 1.1: Energy Indicators (2009 – 2018)

Energy Indicator	Unit	2009	2010	2011	2012	2013	2014	2015*	2016*	2017*	2018
Total Primary Energy Supply	KTOE	6,039	6,947	7,610	8,363	8,565	9,148	9,551	9,520	9,622	10,510
Total Final Energy Consumed	KTOE	5,706	5,629	6,174	6,613	6,887	6,983	7,170	7,049	6,991	7,477
Total Electricity Generated	GWh	8,958	10,166	11,200	12,024	12,870	12,963	11,491	13,023	14,067	16,246
Total Electricity Consumed	GWh	7,454	8,317	9,187	9,258	10,583	10,695	9,780	11,518	12,246	13,185
Total Petroleum Products Consumed	KTOE	2,598	2,491	2,827	3,318	3,422	3,377	3,545	3,274	3,115	3,484
Total Biomass Consumed	KTOE	2,493	2,464	2,576	2,589	2,676	2,792	2,785	2,783	2,829	2,794
Population	million	23.4	24.7	25.3	25.9	26.5	27.0	27.7	28.3	29.0	29.6
Exchange rate	C/\$	1.42	1.43	1.51	1.81	1.92	2.94	3.78	3.92	4.36	4.59
GDP current	million US\$	25,773	32,186	39,517	41,656	64,401	52,950	47,767	54,858	58,920	65,556
GDP, PPP (constant 2011 international \$)	million \$	69,502	74,993	85,526	93,474	100,309	103,216	105,464	109,100	117,985	199,070
Energy Intensity (TPES/GDP current million US\$)	TOE/million US\$	234.3	215.8	192.6	200.8	133.0	172.8	199.9	173.5	163.3	160.3
Energy Intensity in PPP (TPES/ GDP in PPP)	TOE/million US\$	86.9	92.6	89.0	89.5	85.4	88.6	90.6	87.3	81.5	52.8
Total Energy Consumed/capita	TOE/capita	0.24	0.23	0.24	0.26	0.26	0.26	0.26	0.25	0.24	0.25
Total Electricity Generated/capita	kWh/capita	382.8	411.6	442.7	464.2	485.7	480.1	414.8	460.2	485.8	548.6
Total Electricity Consumed/capita	kWh/capita	318.5	336.7	363.1	357.4	399.4	396.1	353.1	407.0	422.8	445.2
Total Petroleum Products Consumed/capita	TOE/capita	0.11	0.10	0.11	0.13	0.13	0.13	0.13	0.12	0.11	0.12
Total Biomass Consumed/capita	TOE/capita	0.11	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.09
Total Electricity Consumed/GDP	kWh/US\$ 1,000 of GDP	289.2	258.4	232.5	222.2	164.3	202.0	204.8	210.0	207.8	201.1
Total Primary Energy Supply/GDP	TOE/US\$ 1,000 of GDP	234.3	215.8	192.6	200.8	133.0	172.8	199.9	173.5	163.3	160.3
Total Petroleum Products Consumed/GDP	TOE/US\$ 1,000 of GDP	100.8	77.4	71.5	79.6	53.1	63.8	74.2	59.7	52.9	53.1
Total Primary Energy Supply/capita	TOE/capita	0.26	0.28	0.30	0.32	0.32	0.34	0.34	0.34	0.33	0.35
Grid Emission Factor (wind/solar projects)	tCO ₂ /MWh	0.41	0.35	0.32	0.35	0.35	0.32	0.28	0.39	0.43	0.46
Grid Emission Factor (all other projects)	tCO ₂ /MWh	0.57	0.51	0.44	0.48	0.46	0.36	0.31	0.43	0.47	0.53

*Revised

It is the amount of CO₂ emitted per unit of electricity generated and supplied into the national electricity grid. In simple terms, the grid emission factor measures the carbon intensity of the national electricity grid. Project activities displacing electricity from the grid can use this emission factor to estimate the CO₂ emissions impacts of the project.

NB: Total Electricity Consumed include commercial losses

Source: GDP in current prices and Population data from Ghana Statistical Service; GDP in PPP (constant 2011 international \$) from Worldbank database. 2018 GDP in PPP estimated

Table 1.2: Energy Balance, 2018 (KTOE)

	Crude Oil	Natural Gas	Petroleum Products	Wood	Charcoal	Solar	Hydro	Electricity	Total
Production	9,054.0	820.8	86.0	3,881.3	-	2.8	517.5	-	14,362.4
Imports	200.9	638.0	4,495.5	-	0.0	-	-	12.0	5,346.5
Exports	-9,037.2	-	-158.8	-	-0.3	-	-	-63.6	-9,260.0
International Marine Bunkers	-	-	-10.5	-	-	-	-	-	-10.5
International Aviation Bunkers	-	-	-178.3	-	-	-	-	-	-178.3
Stock changes	198.1	-	-	-	-	-	-	-	198.1
Total energy supply	415.8	1,458.8	4,233.9	3,881.3	-0.3	2.8	517.5	-51.6	10,458.3
<i>Statistical differences</i>	<i>-70.1</i>	<i>60.0</i>	<i>54.8</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.6</i>	<i>45.4</i>
Electricity plants	-1.4	-1,334.0	-918.0	-	-	-2.8	-517.5	1,397.1	-1,376.6
Oil refineries	-412.7	-	312.5	-	-	-	-	-	-100.2
Other transformation	-	-	-	-2,351.8	1,265.3	-	-	-	-1,086.5
Energy industry own use	-23.0	-	-89.9	-	-	-	-	-4.3	-117.3
Losses	-48.7	-	-	-	-	-	-	-206.7	-255.4
Final energy consumption	-	64.8	3,483.7	1,529.5	1,265.0	-	-	1,133.9	7,476.9
Residential	-	-	181.6	1,321.5	1,163.8	-	-	555.0	3,221.9
Industry	-	64.8	341.8	24.5	6.3	-	-	349.4	786.7
Commerce & Service	-	-	16.6	183.5	94.9	-	-	228.6	523.6
Agriculture & Fisheries	-	-	94.8	-	-	-	-	0.3	95.2
Transport	-	-	2,847.2	-	-	-	-	0.7	2,847.9
Non Energy Use	-	-	1.7	-	-	-	-	-	1.7

NB: Electricity consumption include commercial losses

Table 1.3: Energy Balance, 2017 (KTOE)*

	Crude Oil	Natural Gas	Petroleum Products	Wood	Charcoal	Solar	Hydro	Electricity	Total
Production	8,547.3	850.5	123.0	3,903.3	-	2.4	482.9	-	13,909.5
Imports	237.9	295.2	4,378.8	-	0.0	-	-	27.5	4,939.4
Exports	-8,304.2	-	-359.6	-	-0.3	-	-	-23.0	-8,687.2
International Marine Bunkers	-	-	-91.5	-	-	-	-	-	-91.5
International Aviation Bunkers	-	-	-153.0	-	-	-	-	-	-153.0
Stock changes	-311.7	-	26.9	-	-	-	-	-	-284.8
Total energy supply	169.2	1,145.6	3,924.6	3,903.3	-0.3	2.4	482.9	4.5	9,632.3
<i>Statistical differences</i>	-151.2	30.3	6.2	0.0	0.0	0.0	0.0	0.8	-113.8
Electricity plants	-252.3	-1,069.0	-780.1	-	-	-2.4	-482.9	1,209.8	-1,377.0
Oil refineries	-24.4	-	16.5	-	-	-	-	-	-7.9
Other transformation	-	-	-	-2,323.9	1,250.3	-	-	-	-1,073.6
Energy industry own use	-3.6	-	-81.5	-	-	-	-	-6.1	-91.2
Losses	-40.1	-	-	-	-	-	-	-165.1	-205.2
Final energy consumption	-	46.3	3,073.3	1,579.4	1,250.0	-	-	1,042.3	6,991.3
Residential	-	-	176.3	1,369.3	1,137.5	-	-	533.7	3,216.8
Industry	-	46.3	290.2	23.7	5.0	-	-	264.7	629.9
Commerce & Service	-	-	15.4	186.4	107.5	-	-	243.0	552.3
Agriculture & Fisheries	-	-	141.7	-	-	-	-	0.3	142.0
Transport	-	-	2,448.9	-	-	-	-	0.5	2,449.4
Non Energy Use	-	-	0.9	-	-	-	-	-	0.9

*Revised

NB: Electricity consumption include commercial losses

SECTION TWO: PRIMARY ENERGY SUPPLY AND FINAL ENERGY CONSUMPTION

Table 2.1: Primary Energy Supply (KTOE)

	2009	2010	2011	2012	2013	2014	2015	2016	2017*	2018
Oil	2,316	2,744	2,820	3,870	4,011	4,177	4,248	4,746	4,094	4,650
<i>Oil (%)</i>	38.4	39.5	37.1	46.3	46.8	45.7	44.5	49.9	42.5	44.2
Natural Gas	5	394	769	390	292	621	1,182	692	1,146	1,459
<i>Natural Gas (%)</i>	0.1	5.7	10.1	4.7	3.4	6.8	12.4	7.3	11.9	13.9
Hydro	591	602	650	694	708	721	503	478	478	517
<i>Hydro (%)</i>	9.8	8.7	8.5	8.3	8.3	7.9	5.3	5.0	5.0	4.9
Solar	-	-	-	-	0	0	0	2	2	3
<i>Solar (%)</i>	-	-	-	-	0.0	0.0	0.0	0.0	0.0	0.0
Biomass	3,127	3,207	3,371	3,409	3,554	3,629	3,618	3,601	3,902	3,881
<i>Biomass (%)</i>	51.8	46.2	44.3	40.8	41.5	39.7	37.9	37.8	40.5	36.9
Total	6,039	6,947	7,610	8,363	8,565	9,148	9,551	9,520	9,622	10,510

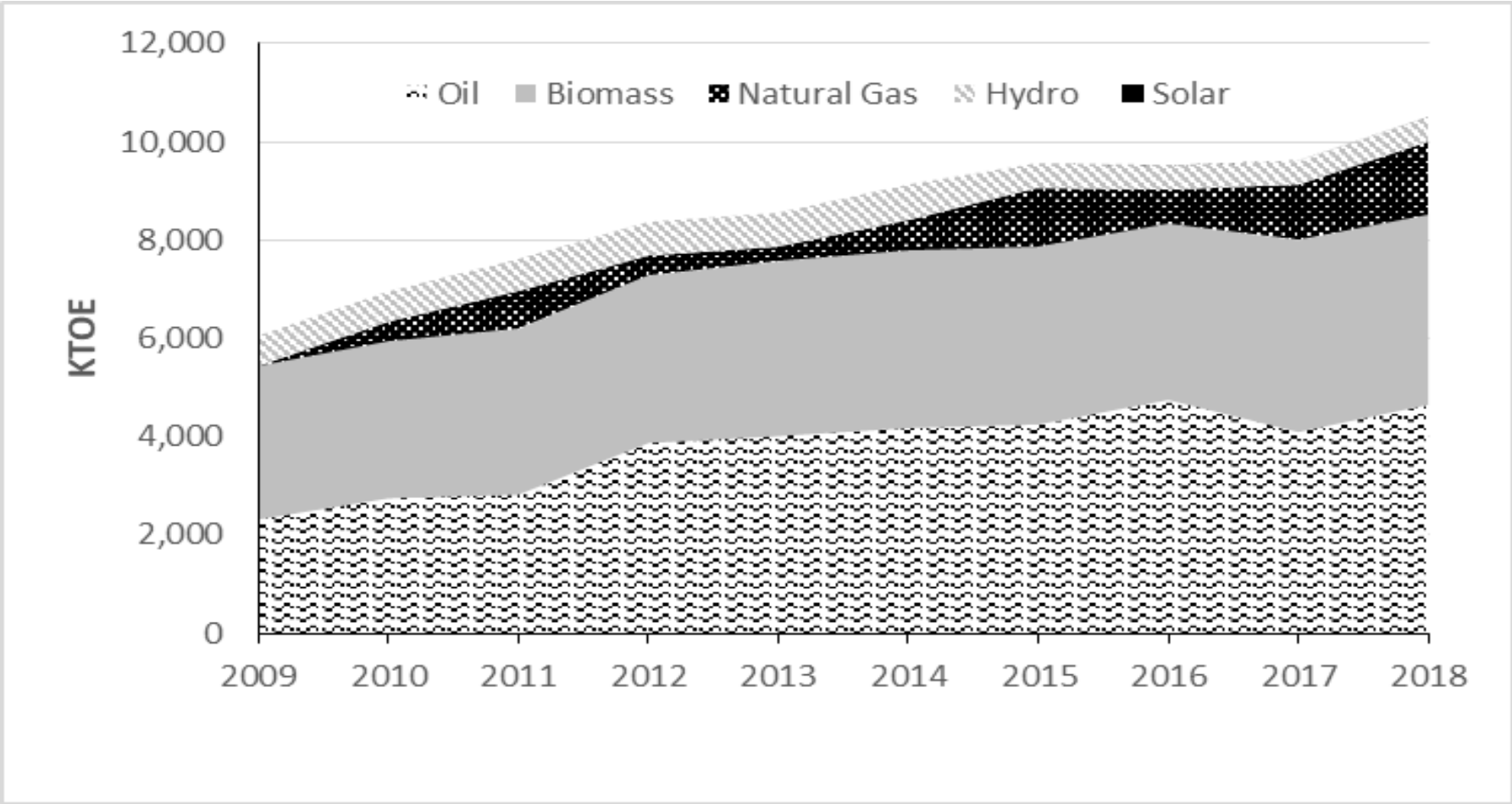
*Revised

- means Not Available.

NB.: There is no information or data on solar (sunlight) used for drying of cash crops, commercial wood and clothing.

*Refer to Table 5.1

Figure 2.1: Trend in Primary Energy Supply



NB: Solar is not showing because it is negligible

Table 2.2 Final Energy Consumed (KTOE)

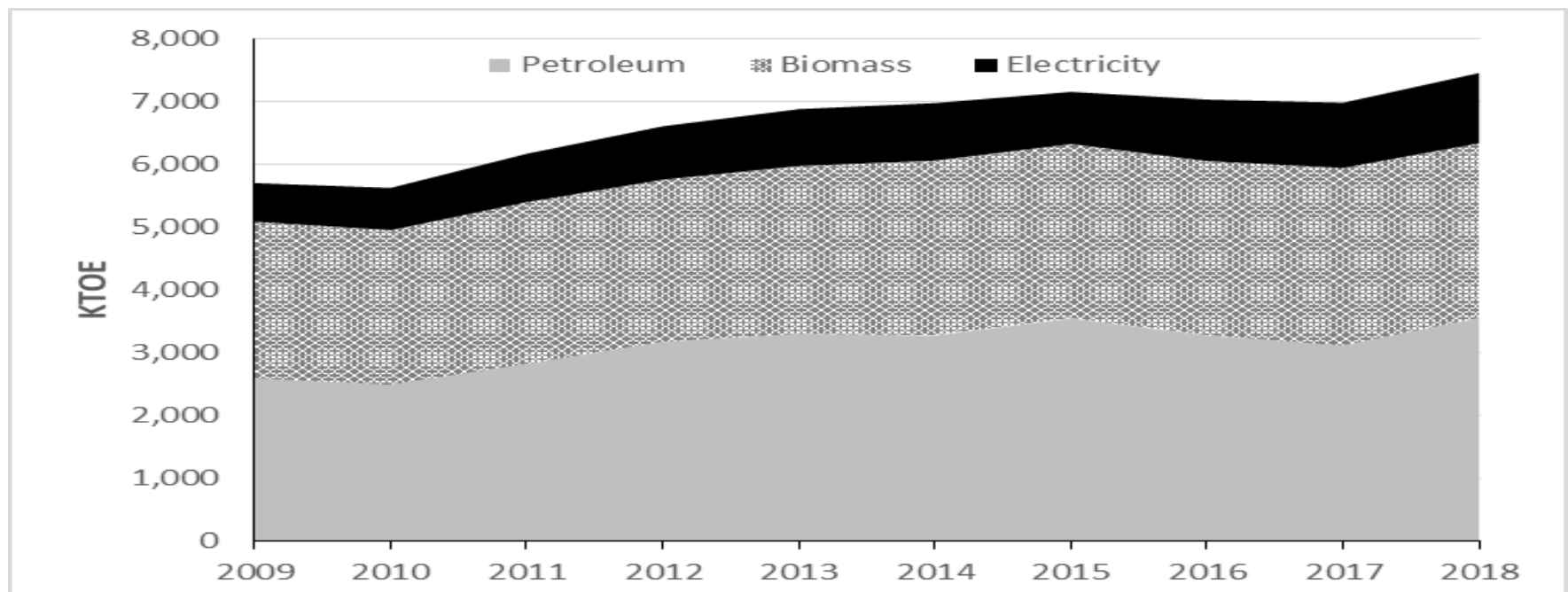
	2009	2010	2011	2012	2013	2014	2015*	2016*	2017*	2018
Electricity	615.4	674.2	772.1	851.9	908.4	919.8	841.0	990.9	1,042.3	1,133.9
<i>Electricity (%)</i>	10.8	12.0	12.5	12.9	13.2	13.2	11.7	14.1	14.9	15.2
Petroleum	2,597.7	2,491.1	2,826.6	3,172.1	3,303.0	3,271.7	3,544.6	3,274.2	3,119.6	3,548.5
<i>Petroleum (%)</i>	45.5	44.3	45.8	48.0	48.0	46.9	49.4	46.5	44.6	47.5
Biomass	2,493.3	2,463.9	2,575.6	2,588.8	2,676.0	2,791.7	2,784.7	2,783.4	2,829.4	2,794.5
<i>Biomass (%)</i>	43.7	43.8	41.7	39.1	38.9	40.0	38.8	39.5	40.5	37.4
Total	5,706.3	5,629.2	6,174.3	6,612.8	6,887.4	6,983.2	7,170.3	7,048.6	6,991.3	7,476.9
Total (%)	100	100	100	100	100	100	100	100	100	100

* Revised

NB: Electricity consumption include commercial losses. There is also no information or data on solar (sunlight) used for drying of cash crops, commercial wood and clothings.

NB: Petroleum products consumed in 2016, 2017 and 2018, include natural gas used in industry

Figure 2.2 Trend in Final Energy Consumed



SECTION THREE: ELECTRICITY

Table 3.1: Installed Grid Electricity Generation Capacity (End of December, 2018)

Plant	Installed Capacity (MW)	Dependable Capacity (MW)
Hydro		
Akosombo	1020	900
Kpong	160	140
Bui	400	360
Total	1580	1400
Thermal		
Takoradi Power Company (TAPCO)	330	300
Takoradi International Company (TICO)	340	320
Tema Thermal 1 Power Plant (TT1PP)	110	100
Cenit Energy Ltd	110	100
Sunon Asogli Power (Ghana) Limited	560	520
Tema Thermal 2 Power Plant (TT2PP)	80	70
Kpone Thermal Power Plant	220	200
Karpowership	470	450
Ameri Plant	250	230
Trojan*	44	40
Genser*	22	18
AKSA	370	350
Cenpower	360	340
Total	3266	3038
Renewables		
Safisana Biogas*	0.1	0.1
VRA Solar*	2.5	2
BXC Solar*	20	16
Mienergy*	20	16
Total	42.6	34.1
Grand Total	4888.6	4472.1

*Connected at the sub-transmission level

Table 3.2: Installed Renewable Electricity Generation Capacity (kW)

Year	Off-grid		On-grid				Mini-Grid		Total Installed
	Solar	Wind	Dist. SPV	Utility Solar	W2E	Hydro	Solar	Wind	
2013	-	-	494.6	2,500.0	-	-	-	-	2,994.6
2014	1,350.0	-	442.8	-	-	-	-	-	1,792.8
2015	4,002.7	20.0	700.1	20,000.0	100.0	4,000.0	256.0	11.0	29,089.8
2016	1,238.3	-	2,626.3	-	-	-	-	-	3,864.6
2017	677.5	-	4,265.9	-	-	-	58.3	-	5,001.7
2018*	4.2	-	8,601.7	20,000.0	-	-	-	-	28,605.8
Total	7,272.7	20.0	17,131.4	42,500.0	100.0	4,000.0	314.3	11.0	71,349.3

*Provisional

NB: Dist. SPV = Distributed Solar PV; W2E = Waste – to – Energy

Source: Ministry of Energy & Energy Commission

Figure 3.1: Share in Total installed Renewable Energy Capacity

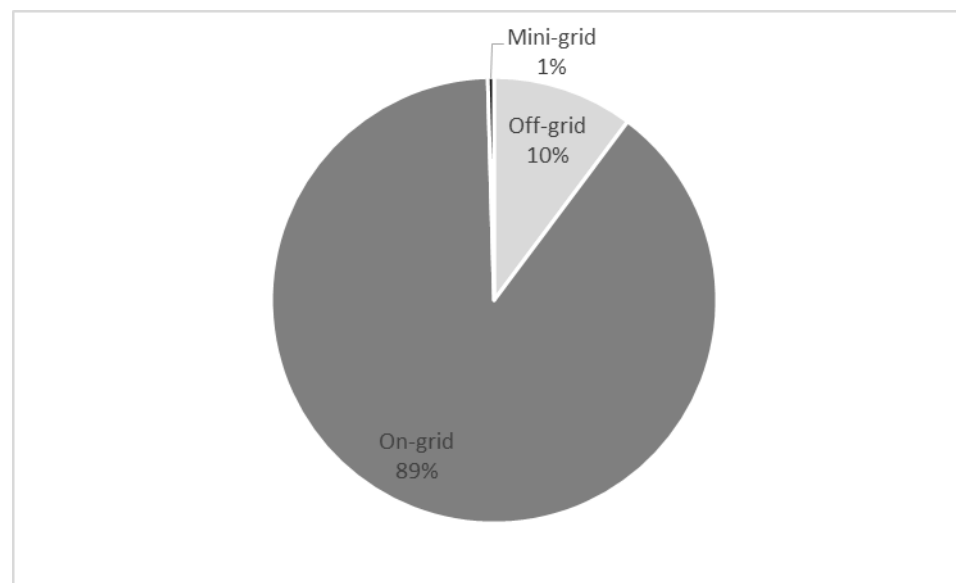
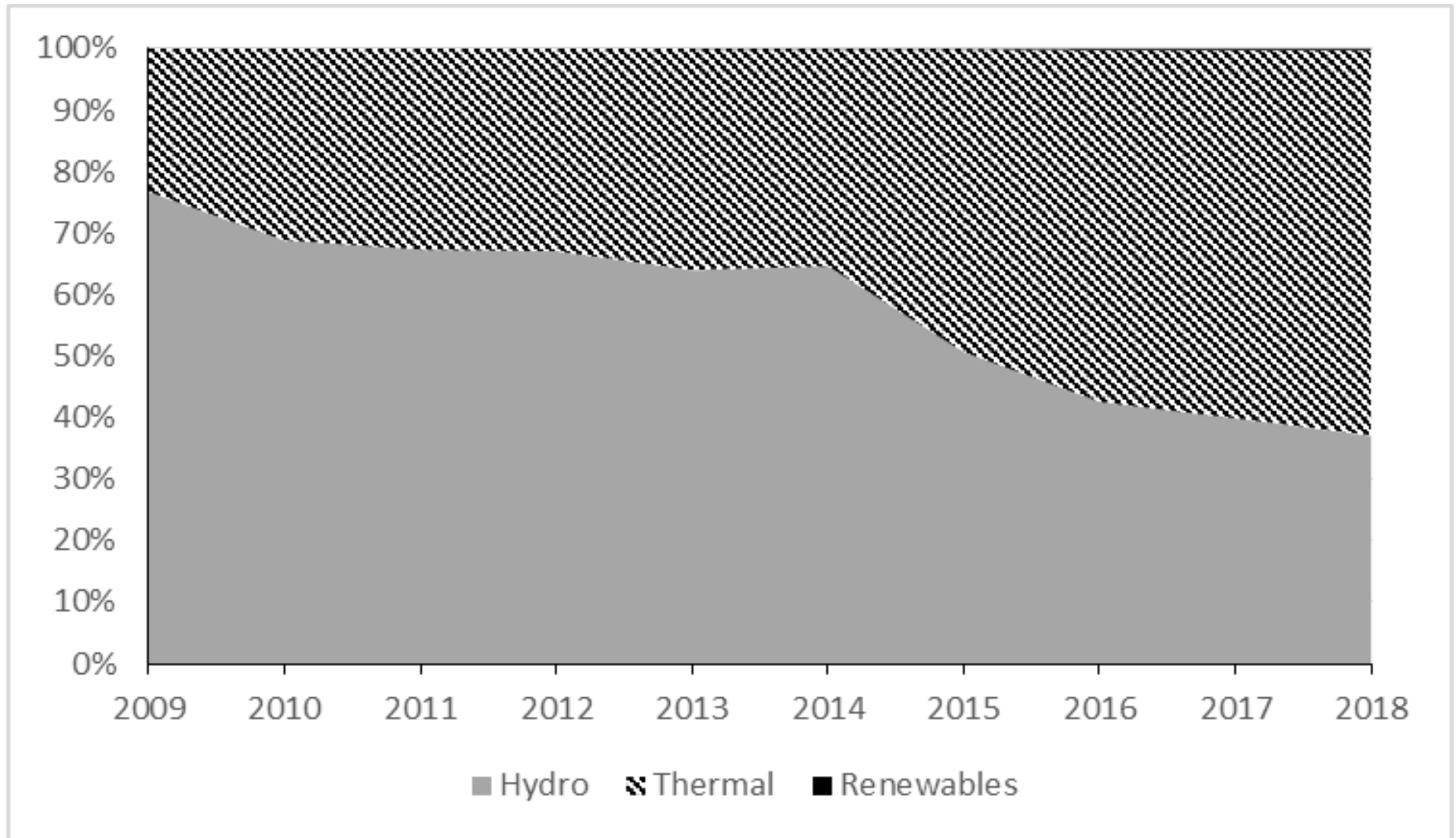


Table 3.3: Grid Electricity Generation by Plant (GWh) and Total Installed Generation Capacity (MW)

Plant	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<i>Hydro Generation</i>										
Akosombo	5,842	5,961	6,494	6,950	6,727	6,509	4,156	3,854	4,282	4,273
Kpong	1,035	1,035	1,067	1,121	1,144	1,148	819	763	752	771
Bui	-	-	-	-	362	730	870	944	582	974
<i>Sub-Total</i>	<i>6,877</i>	<i>6,995</i>	<i>7,561</i>	<i>8,071</i>	<i>8,233</i>	<i>8,387</i>	<i>5,844</i>	<i>5,561</i>	<i>5,616</i>	<i>6,017</i>
<i>Thermal Generation</i>										
Takoradi Power Company (TAPCO)	453	1,234	1,137	1,061	1,783	890	1,784	1,204	686	730
Takoradi International Company (TICO)	1,040	1,160	657	1,168	1,032	712	1,336	1,926	1,880	2,211
Tema Thermal 1 Power Plant (TT1PP)	570	591	559	622	475	697	541	178	365	314
Tema Reserve Power Plant (TRPP)	-	-	-	-	-	-	-	-	-	-
Emergency Reserve Power Plant (ERPP)	-	-	-	-	-	-	-	-	-	-
Kumasi Reserve Power Plant (KRPP)	-	-	-	-	-	-	-	-	-	-
Mines Reserve Plant (MRP)	18	20	13	20	-	195	170	3	-	-
Tema Thermal 2 Power Plant (TT2PP)	-	28	50	141	94	223	216	25	1	3
Sunon Asogli Power (Ghana) Ltd (SAPP)	-	138	1,224	848	694	1,255	1,185	377	1,417	1,970
Cenit Energy Ltd (CEL)	-	-	-	94	454	513	317	413	59	2
Takoradi T3	-	-	-	-	102	87	31	-	-	-
Karpowership	-	-	-	-	-	-	64	1,822	1,814	2,556
Ameri Plant	-	-	-	-	-	-	-	1,233	1,228	873
Trojan*	-	-	-	-	-	-	-	54	51	-
Kpone Thermal Power Plant (KTPP)	-	-	-	-	-	-	-	198	124	317
AKSA Energy Ltd	-	-	-	-	-	-	-	-	799	748
Genser*	-	-	-	-	-	-	-	-	-	392
Cenpower	-	-	-	-	-	-	-	-	-	79
<i>Sub-Total</i>	<i>2,081</i>	<i>3,171</i>	<i>3,639</i>	<i>3,953</i>	<i>4,635</i>	<i>4,572</i>	<i>5,644</i>	<i>7,435</i>	<i>8,424</i>	<i>10,195</i>
<i>Renewables</i>										
Safisana Biogas*	-	-	-	-	-	-	-	-	-	0.32
VRA Solar*	-	-	-	-	3	4	3	3	3	2.5
BXC Solar*	-	-	-	-	-	-	-	24	25	26.6
Meinergy*	-	-	-	-	-	-	-	-	-	3.7
<i>Sub-Total</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>3</i>	<i>4</i>	<i>3</i>	<i>27</i>	<i>28</i>	<i>33</i>
Total Generation	8,958	10,166	11,200	12,024	12,870	12,963	11,491	13,023	14,067	16,246
Installed Capacity (MW)	1970	2165	2170	2280	2831	2831	3656	3795	4398	4889

Source: GRIDCo and ECG/PDS; - means power plant is not available; * connected at the sub-transmission level;

Figure 3.2: Trend in Grid Electricity Generation



NB: Renewables is not showing because it is negligible

Table 3.4: Grid Electricity Import, Export and Net Import (GWh)

	2009	2010	2011	2012	2013	2014	2015	2016*	2017*	2018
Import	198	106	81	128	27	51	223	745	320	140
Export	752	1036	691	667	530	522	587	187	268	740
Net Import	-554	-930	-610	-539	-503	-471	-364	558	52	-600

*Revised

Source: GRIDCo

NB: 'Negative net import' means net export

Figure 3.3: Grid Electricity Import, Export and Net Import

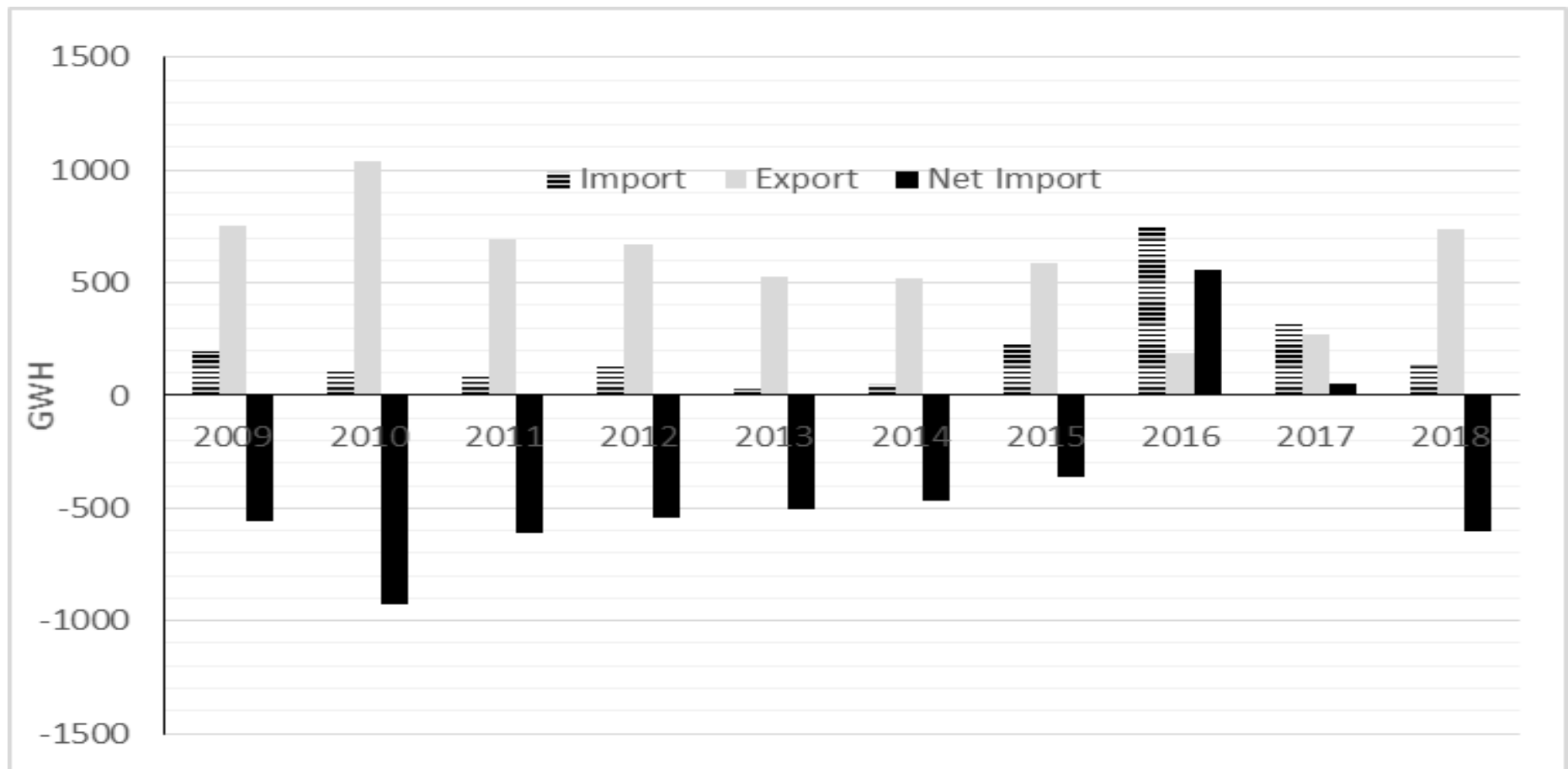


Table 3.5: Grid Installed Capacity, Dependable Capacity and Peak Load (MW)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Installed Capacity	1,970	2,165	2,170	2,280	2,831	2,831	3,656	3,795	4,398	4,889
Dependable Capacity	1,765	1,940	1,945	2,045	2,487	2,569	3,359	3,521	3,966	4,492
Peak Load	1,423	1,506	1,665	1,729	1,943	1,970	1,933	2,078	2,192	2,525

Figure 3.4: Trend in Grid Installed Capacity, Dependable Capacity and Peak Load

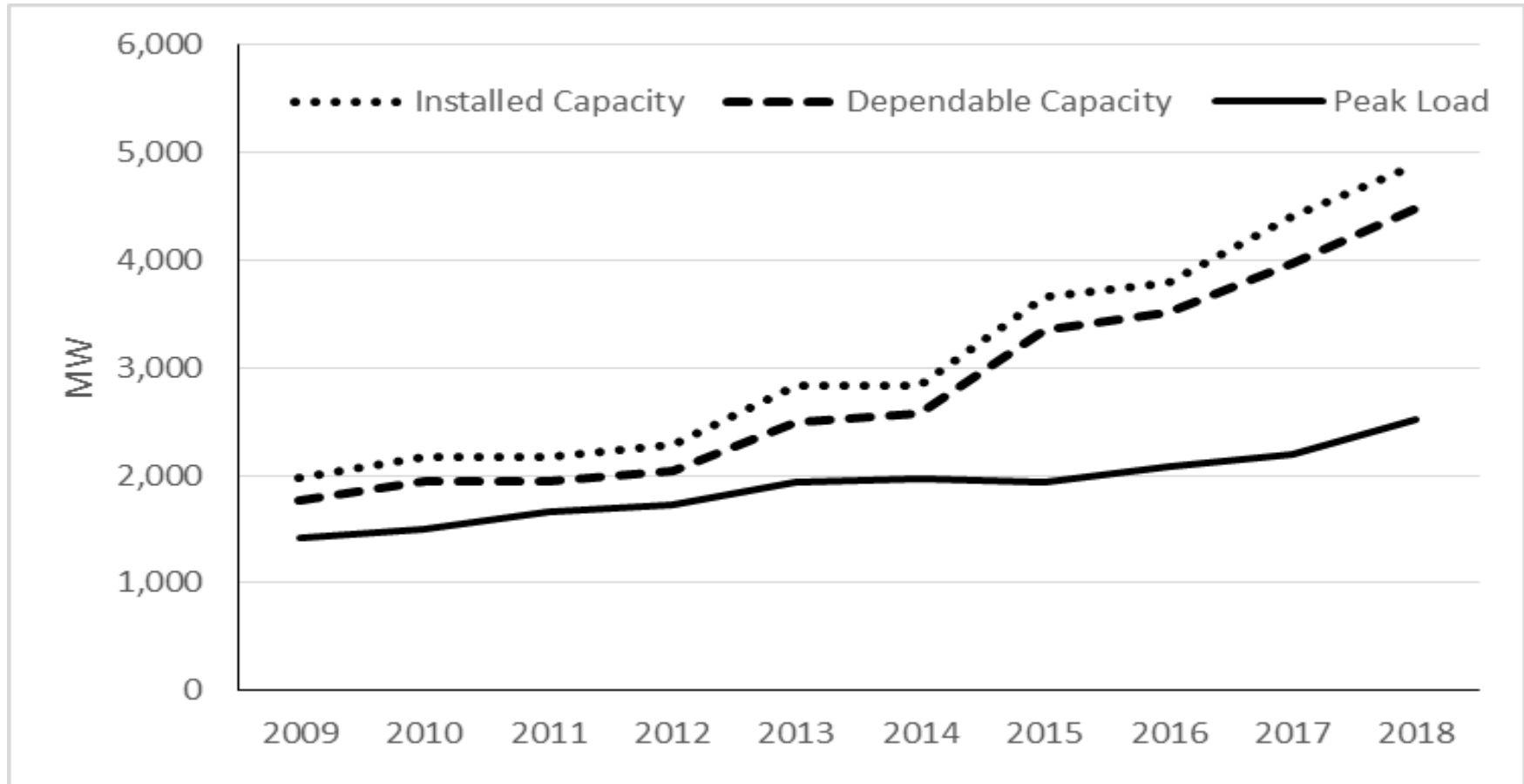


Table 3.6: Peak Load (MW)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
System Peak	1,423	1,506	1,665	1,729	1,943	1,970	1,933	2,078	2,192	2,525
Ghana Load at Peak	1,263	1,391	1,520	1,658	1,791	1,853	1,757	1,997	2,077	2,371

NB: Ghana Load at Peak = Maximum Demand for Ghana (ECG + NEDCo + Direct Customers of VRA + Mines)

System Peak = Ghana Load at Peak + VALCO Load + Export Load

Source: VRA & GRIDCo

Figure 3.5: Trend in Peak Load

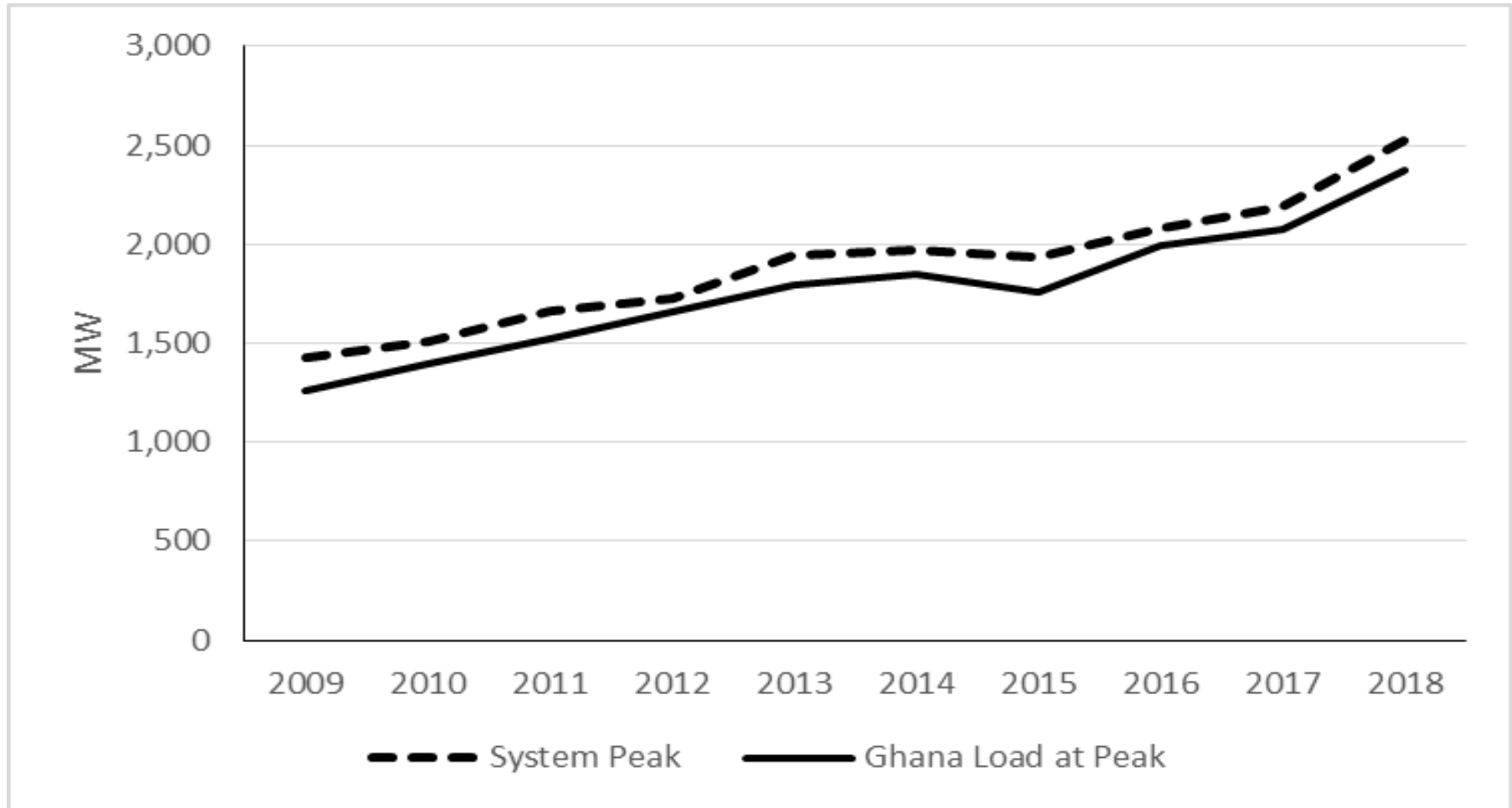


Table 3.7: Electricity Transmitted and Transmission Losses

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Electricity Transmitted (GWh)	9,131	10,232	11,174	12,116	12,927	13,069	11,692	13,700	14,308	15,960
Transmission Losses (GWh)	343	380	531	522	570	565	402	607	540	707
Transmission losses as % of electricity transmitted	3.8	3.7	4.8	4.3	4.4	4.3	3.4	4.4	3.8	4.4

Source: GRIDCo

Figure 3.6: Trend in Transmission Losses

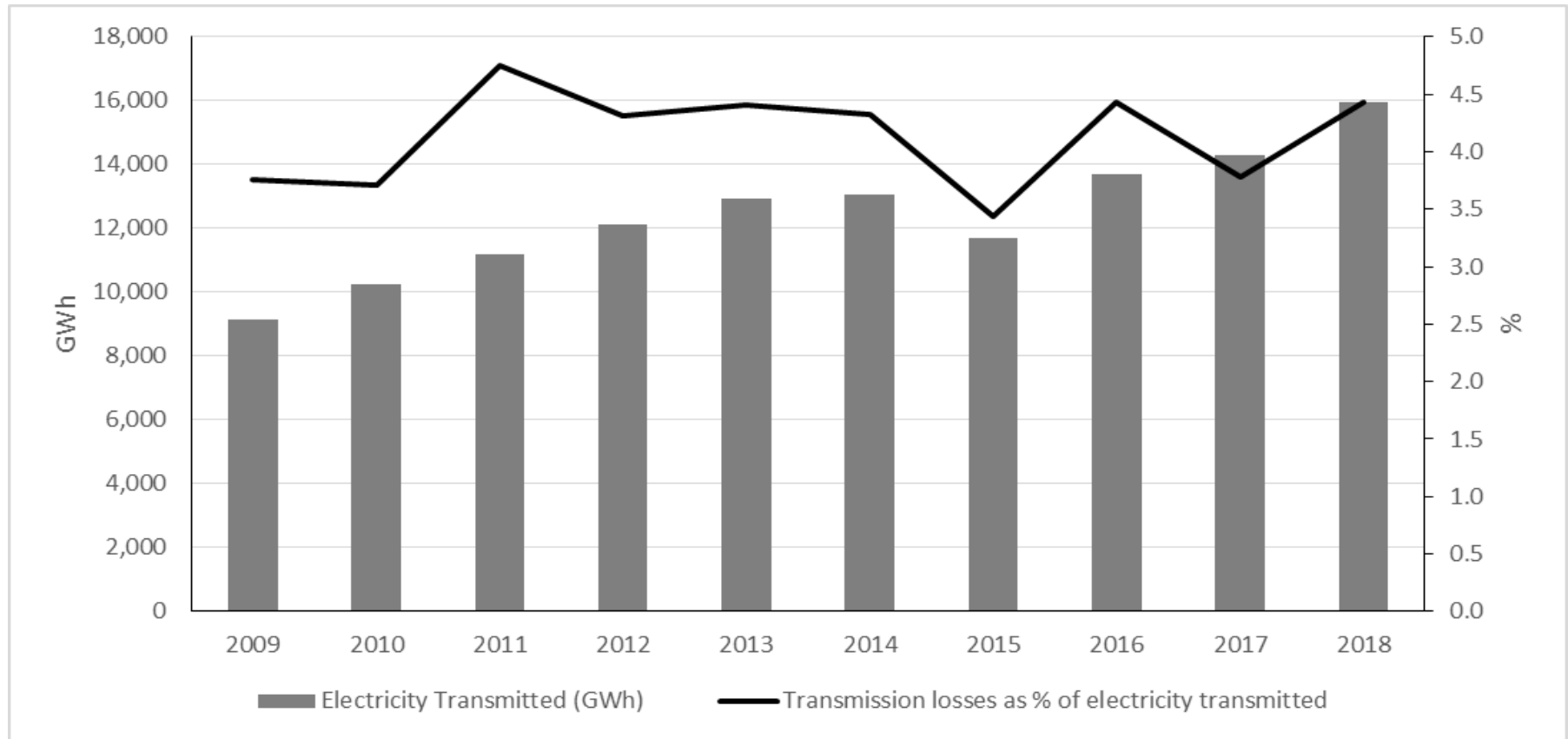


Table 3.8: Akosombo Dam Month End Elevation (feet)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Jan	261.7	266.1	273.8	269.8	266.3	256.1	245.4	241.4	248.8	249.8
Feb	259.9	264.5	272.4	268.0	264.3	254.1	244.0	240.2	246.9	248.2
Mar	258.1	262.6	270.8	265.9	262.2	251.8	242.3	238.9	244.5	247.1
Apr	256.9	260.7	269.1	264.1	260.3	249.5	240.8	237.6	242.3	245.8
May	255.0	259.0	267.4	262.6	258.7	247.6	239.2	236.5	240.7	244.3
Jun	254.0	258.0	266.4	261.4	257.0	245.5	238.4	235.5	240.4	243.0
Jul	254.1	257.7	266.7	263.2	256.2	244.5	237.5	235.9	242.8	244.9
Aug	258.8	259.7	267.6	264.0	255.1	243.3	238.1	240.2	249.5	249.5
Sep	266.3	269.8	271.7	267.6	258.1	247.7	241.8	247.5	252.3	252.3
Oct	270.4	277.0	274.7	270.8	260.8	250.5	244.8	253.0	253.2	253.2
Nov	270.3	276.7	273.7	270.0	259.4	249.1	244.0	252.0	253.1	252.5
Dec	268.2	275.4	271.9	268.4	257.7	247.1	242.7	250.5	252.8	251.3

Source: GRIDCo and VRA

Figure 3.7: Trend in Akosombo Dam Month End Elevation

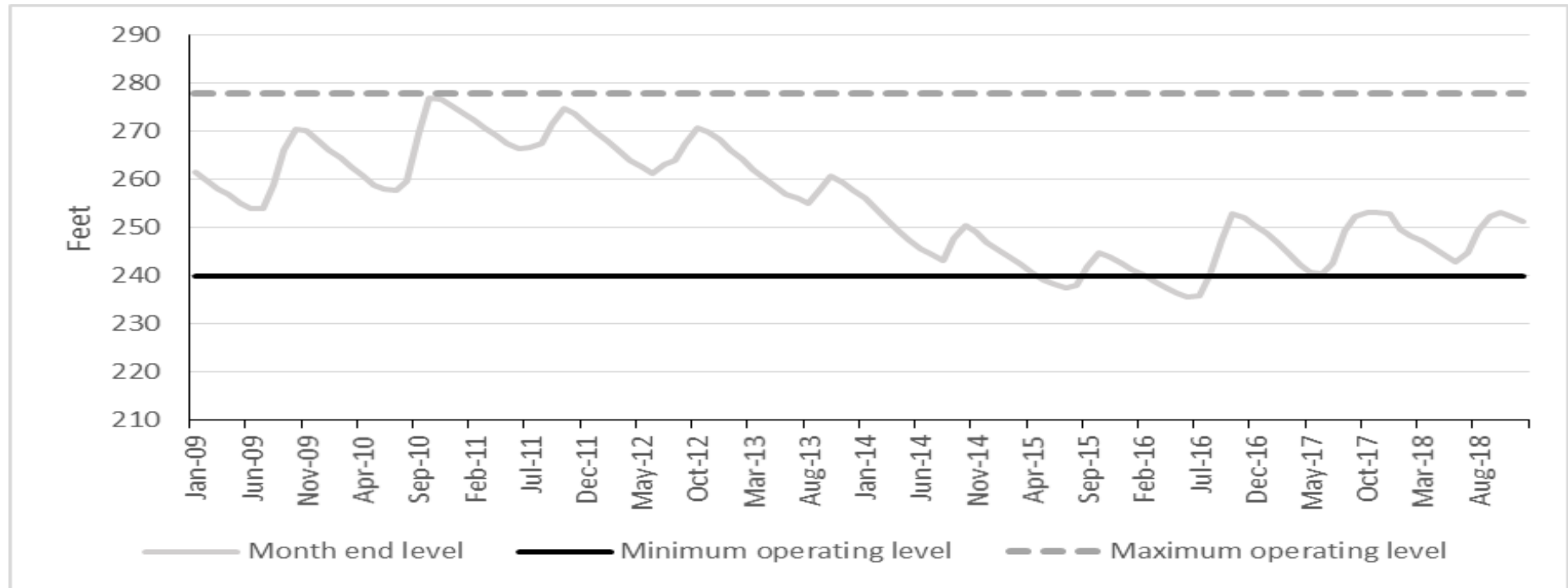


Table 3.9: Bui Dam Month End Elevation (feet)

	2014	2015	2016	2017	2018
Jan	576.2	581.5	585.8	576.9	576.9
Feb	570.5	578.3	580.1	572.8	572.8
Mar	565.0	574.4	574.0	565.2	565.2
Apr	558.8	571.4	565.0	561.5	561.5
May	553.6	567.0	554.4	559.0	559.0
Jun	550.9	562.6	552.2	556.8	556.8
Jul	551.7	557.5	552.3	556.7	556.7
Aug	554.3	555.4	554.0	559.2	559.2
Sep	559.4	560.6	563.2	564.1	564.1
Oct	572.1	574.8	580.7	575.6	575.6
Nov	584.0	591.6	585.2	578.8	578.8
Dec	583.6	590.6	581.0	576.3	576.3

Figure 3.8: Trend in Bui Dam Month End Elevation

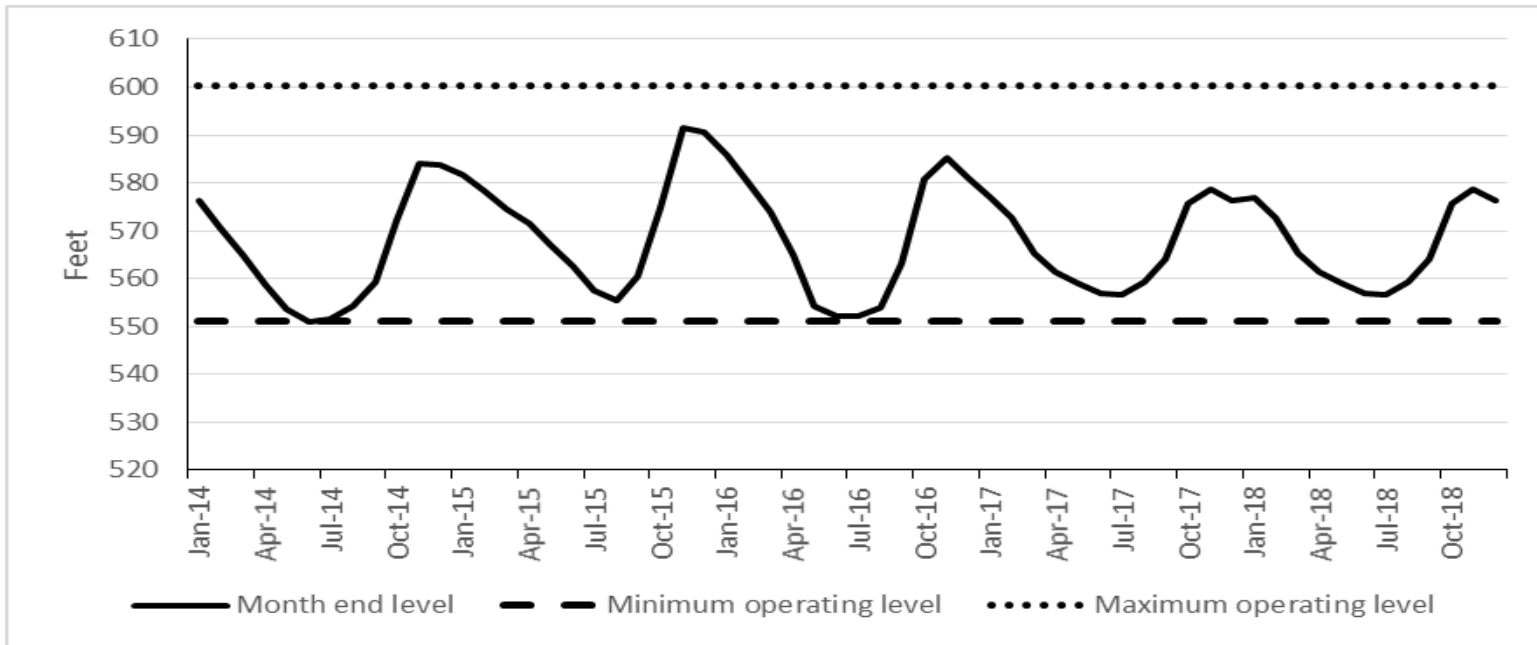


Table 3.10: Grid Electricity Purchases and Sales by ECG (GWh)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Purchases	6,052	6,771	7,259	7,944	8,479	8,370	7,544	9,316	9,783	10,901
Sales	4,482	4,756	5,050	5,823	6,496	6,262	5,831	7,115	7,575	8,251
Losses	1,570	2,015	2,209	2,121	1,983	2,108	1,713	2,201	2,208	2,649
<i>% Losses</i>	25.9	29.8	30.4	26.7	23.4	25.2	22.7	23.6	22.6	24.3

¹Technical and commercial losses
 Source: GRIDCo, VRA and ECG/PDS

Figure 3.9: Trend in Grid Electricity Purchases and Sales by ECG

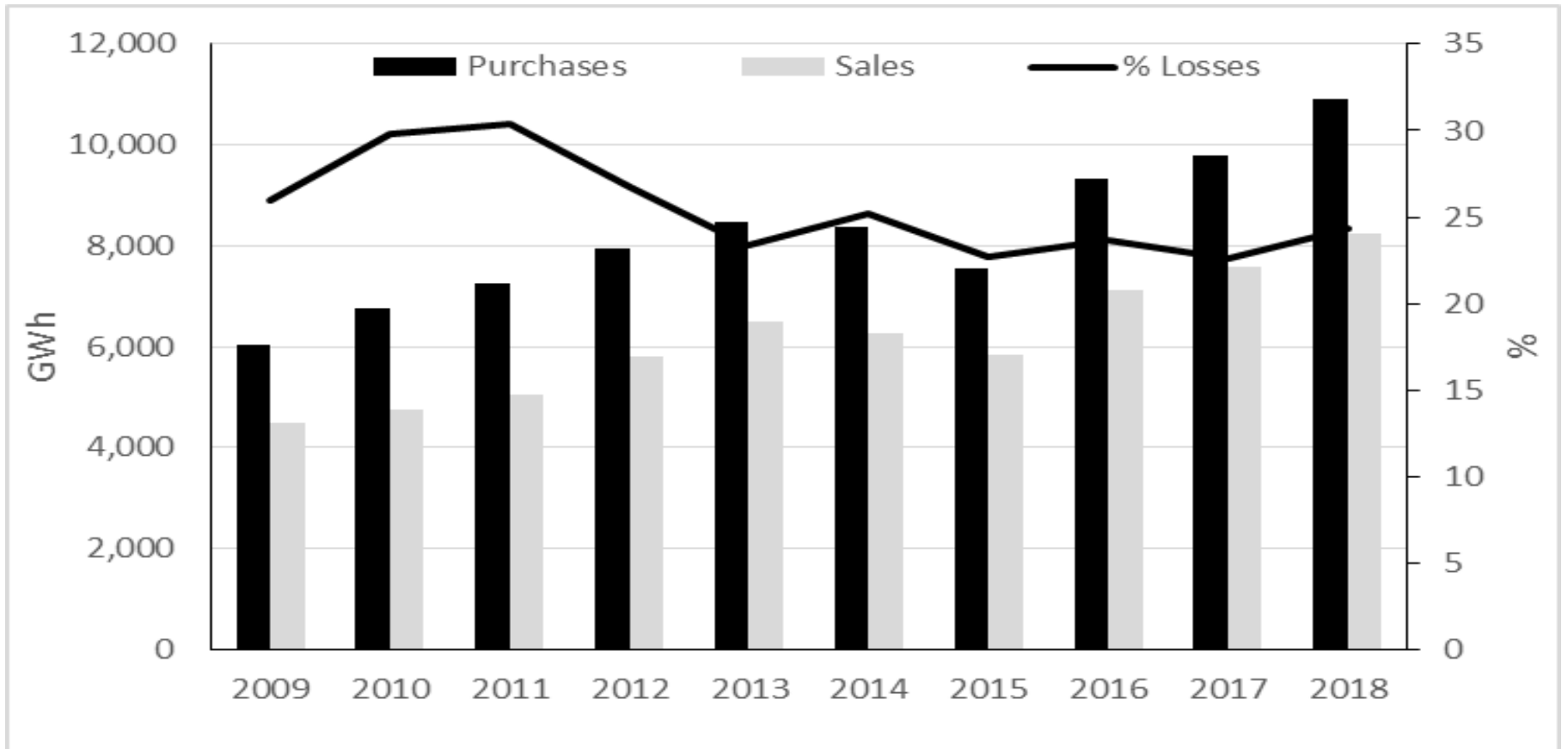


Table 3.11: Grid Electricity Purchases and Sales by NEDCo (GWh)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Purchases	566	635	719	822	937	998	1,013	1,140	1,224	1,318
Sales	413	511	581	658	737	759	719	763	889	910
Losses	153	124	138	165	200	239	294	377	335	408
% Losses	27.1	19.6	19.2	20.0	21.3	24.0	29.0	33.1	27.4	31.0

¹Technical and commercial losses
 Source: GRIDCO, VRA and NEDCo

Figure 3.10: Trend in Grid Electricity Purchases and Sales by NEDCo

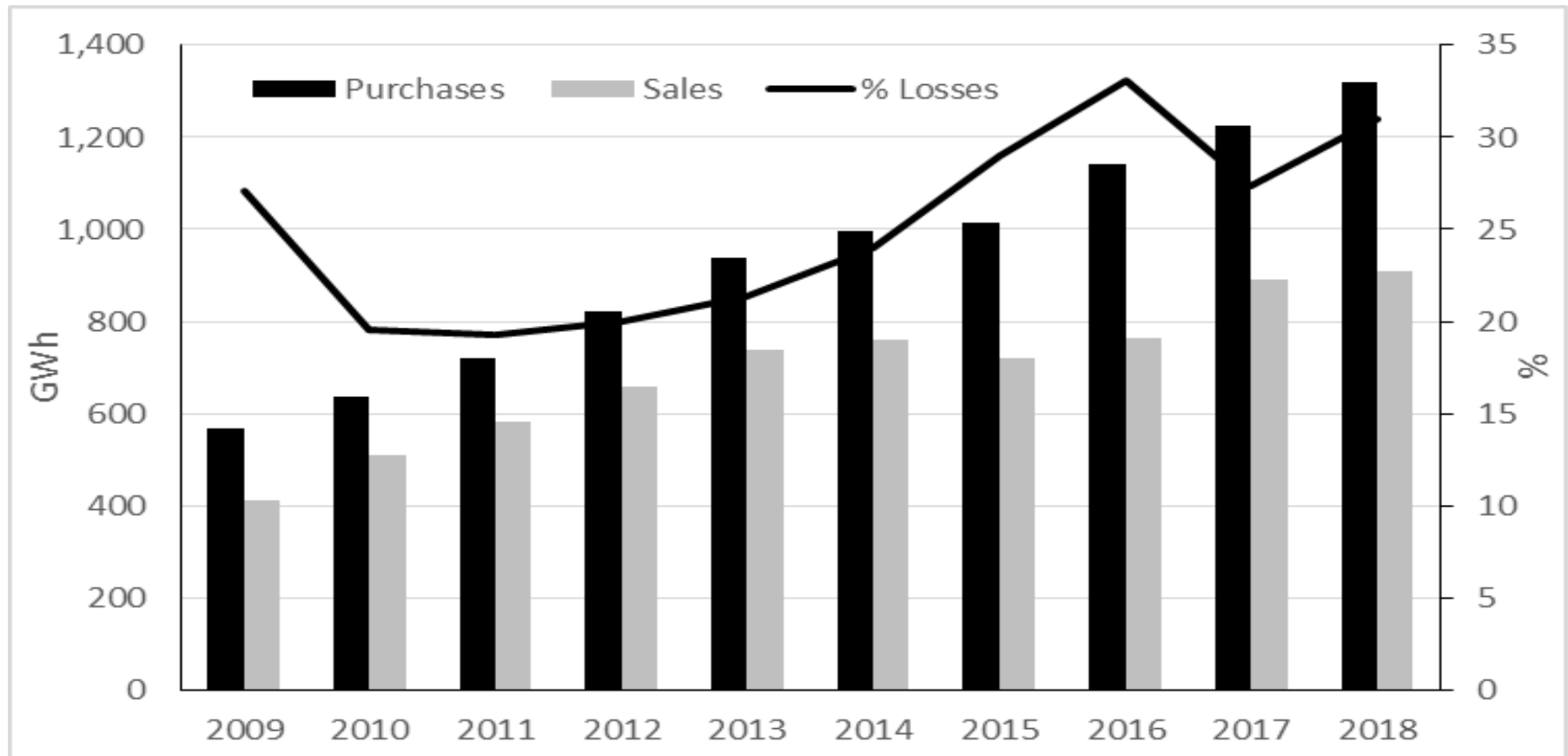


Table 3.12: Grid Electricity Purchases and Sales by ENCLAVE POWER (GWh)

	2015	2016	2017	2018
Purchases	102	108	157	161
Sales	96	100	155	156
Losses*	6.5	7.7	2.8	4.4
<i>% Losses</i>	6.4	7.2	1.8	2.7

*Technical and commercial losses
Source: GRIDCO and ENCLAVE POWER

Figure 3.11: Trend in Grid Electricity Purchases and Sales by ENCLAVE POWER

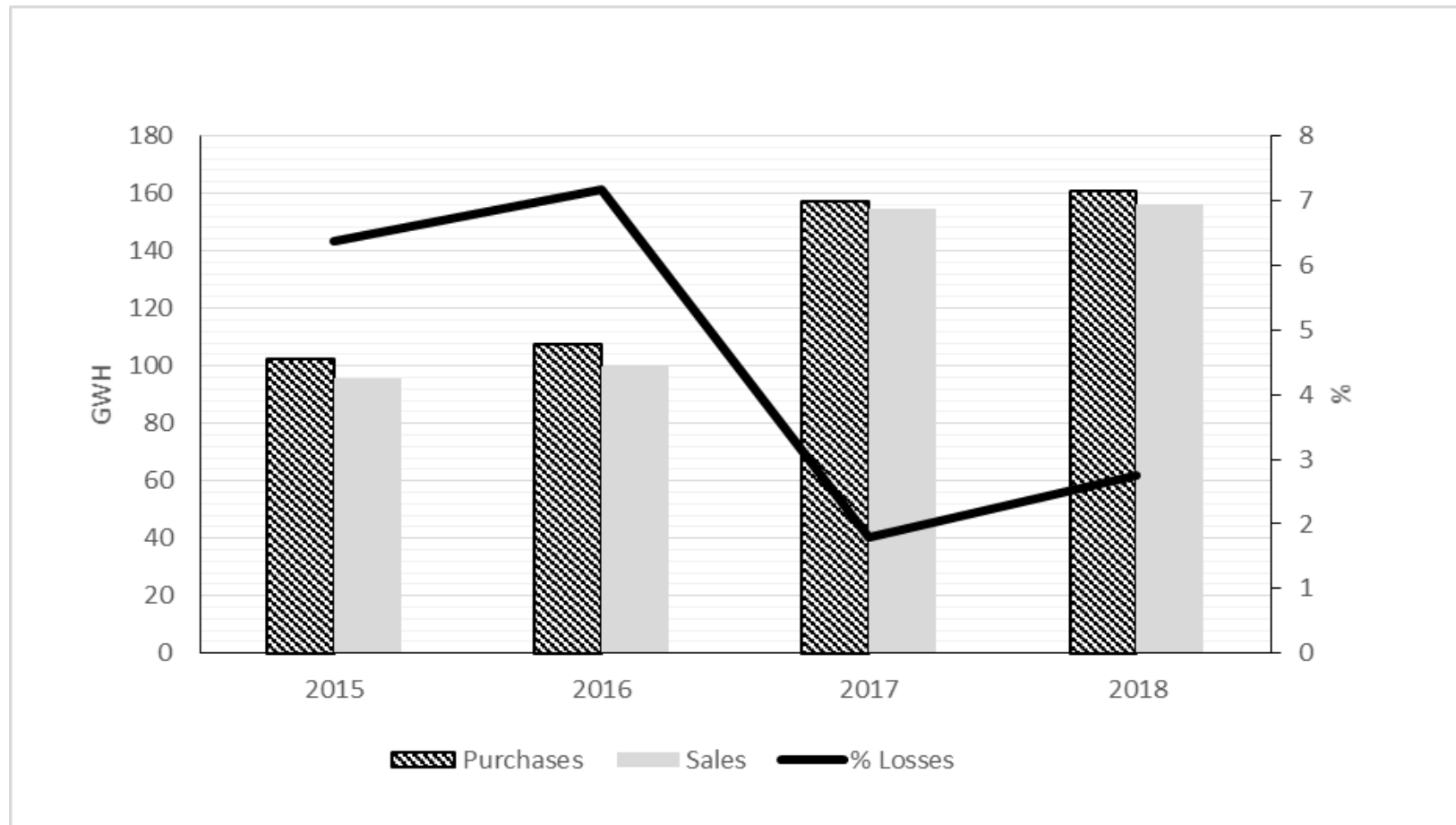


Table 3.13: Grid Electricity Sales by Customer Class (GWh)

	2009	2010	2011	2012	2013	2014	2015*	2016*	2017*	2018
Residential	2,275	2,483	2,527	2,819	3,060	2,772	2,436	3,932	3,931	4,824
Non-residential	924	966	1,199	1,549	1,532	1,529	1,531	1,068	1,356	1,103
Special Load Tariff ¹	2,951	3,174	3,901	4,153	4,435	4,680	4,274	4,626	4,880	5,046
Street Lighting	144	254	296	370	445	540	536	603	679	683
Total	6,294	6,877	7,923	8,891	9,471	9,520	8,776	10,230	10,847	11,656

*Revised

¹Special load tariff customers of ECG/PDS and NEDCo as well as bulk customers of VRA including VALCO.

Data do not include transmission and distribution (*commercial and technical*) losses

Source: ECG/PDS, NEDCo, ENCLAVE POWER, VRA and GRIDCo

Figure 3.12: Trend in Grid Electricity Sales by Customer Class

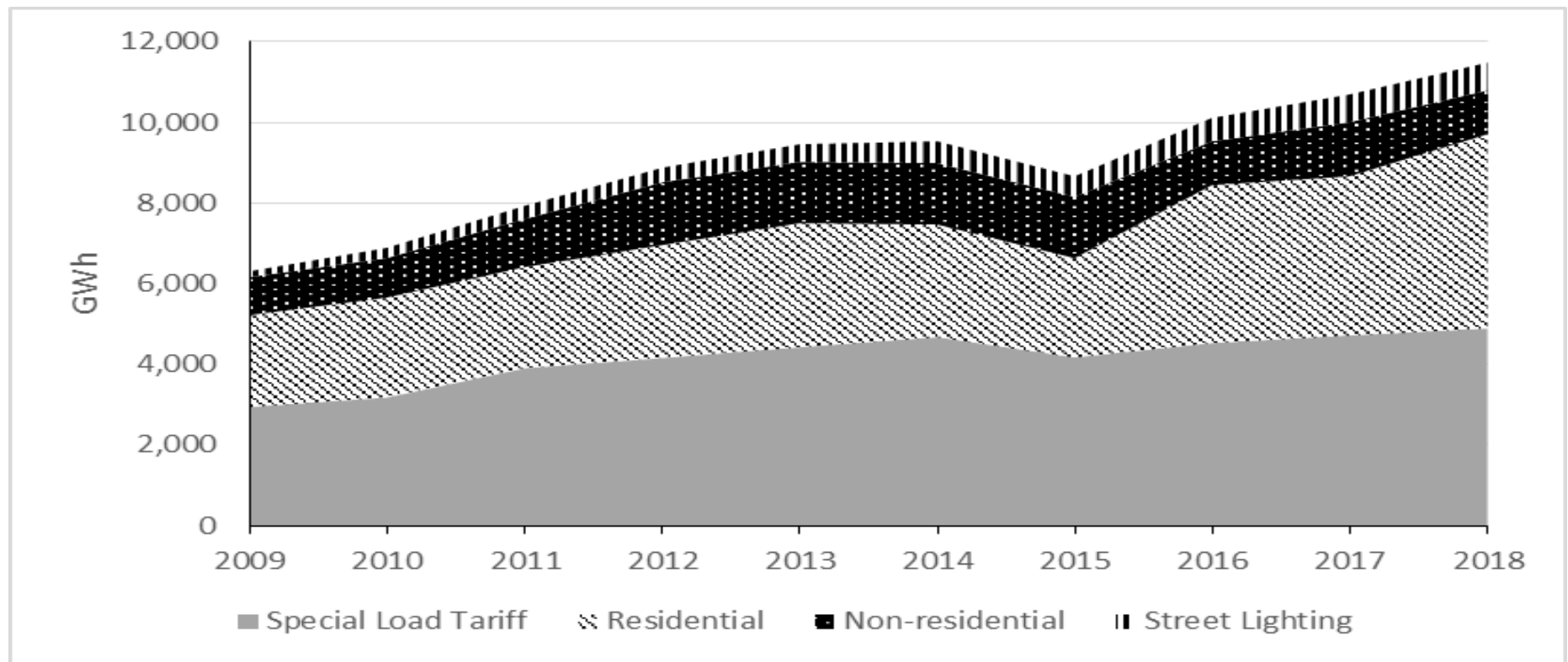


Table 3.14: Grid Electricity Customer Population

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Residential	1,856,962	2,006,972	2,209,957	2,511,208	2,582,294	2,789,913	3,445,423	3,600,185	3,477,300	3,753,138
Non-residential	413,634	454,430	505,447	514,492	545,665	779,780	630,518	568,473	619,255	652,716
Special Load tariff	1,233	1,369	1,481	1,647	1,882	2,034	2,115	1,438	1,494	1,544
Total	2,271,829	2,462,771	2,716,885	3,027,347	3,129,841	3,571,727	4,078,055	4,170,096	4,098,049	4,407,398

Source: ECG/PDS, ENCLAVE POWER & NEDCo;

Figure 3.13: Trend in Grid Electricity Customer Population

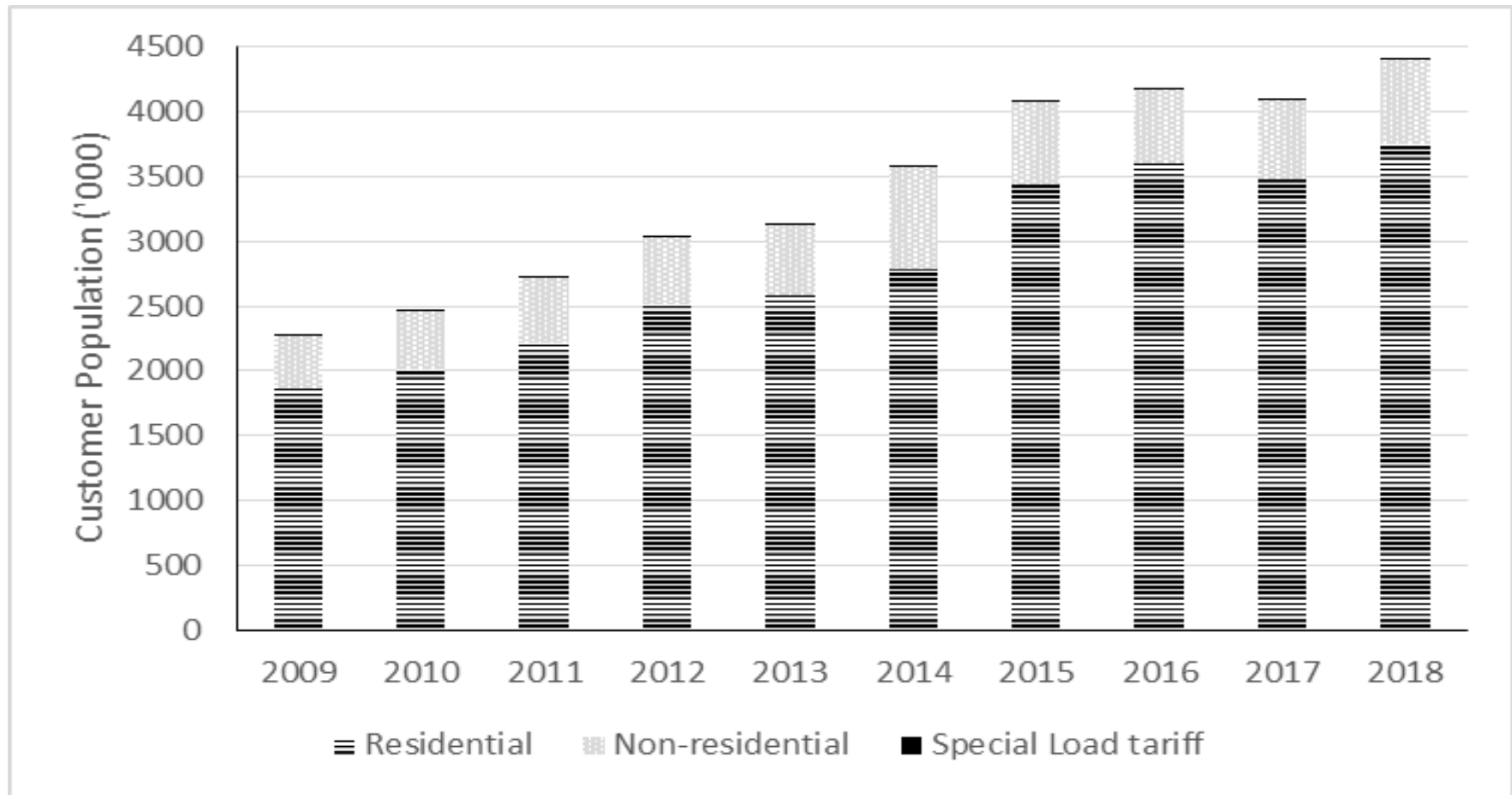


Table 3.15: Grid Electricity Distribution Reliability Indices

RELIABILITY INDEX	OPERATIONAL AREA	REGULATORY BENCHMARK (Per L.I 1935)								
			2015		2016		2017		2018	
			ECG	NEDCo	ECG	NEDCo	ECG	NEDCo	ECG	NEDCo
<p>System Average Interruption Frequency Index</p> $SAIFI \text{ (Interruptions/customer)} = \frac{\text{Sum of all customer interruptions}}{\text{Total number of customers served}}$ <p><i>This is a measure of the number of times that a customer is interrupted during an operational year.</i></p>		Maximum number of outages permitted per year								
	METRO	6	74	N.A	60	42	48	132	28	146
	URBAN	6	74		89		88		57	
	RURAL	6	109		108		104		61	
□										
<p>System Average Interruption Duration Index</p> $SAIDI \text{ (Hours/customer)} = \frac{\text{Sum of all customer interruption durations}}{\text{Total number of customers served}}$ <p><i>This is a measure of the average duration of interruptions recorded for the distribution system during an operational year.</i></p>		Maximum average duration of outage permitted per year								
	METRO	48 Hours	161	N.A	130	41	77	117	44	123
	URBAN	72 Hours	13		146		115		71	
	RURAL	144 Hours	203		156		135		76	
<p>Cumulative Average Interruption Duration Index</p> $CAIDI \text{ (Hours)} = \frac{SAIDI}{SAIFI} = \frac{\text{Sum of all customer interruption duration}}{\text{Total number of customer interruptions}}$ <p><i>This is a measure of the average duration of interruptions for customers interrupted during an operational year.</i></p>		Average duration of outages permitted per year for customers interrupted only								
	METRO	8 Hours	2	N.A	2	1	2	1	2	1
	URBAN	12 Hours	2		2		1		1	
	RURAL	24 Hours	2		2		1		1	

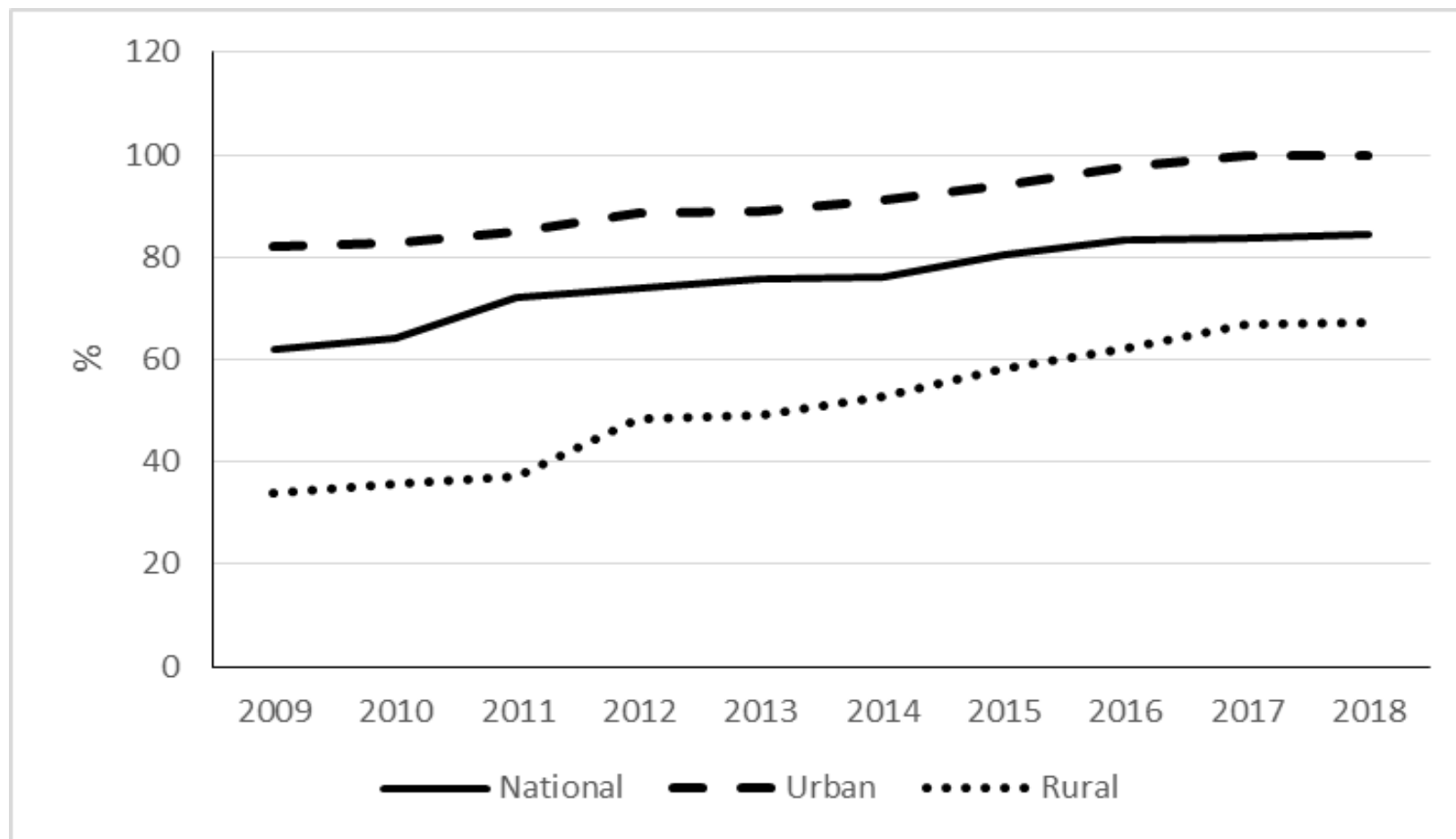
N.A means data not provided; Data provided by ECG and NEDCo; Data rounded to the nearest whole number

Table 3.16: Electricity Access Rate (%)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
National	62.0	64.2	72.0	74.0	75.6	76.0	80.5	83.2	83.6	84.3
Urban	82.0	82.8	85.0	88.6	89.0	91.0	94.0	97.5	100	100
Rural	34.0	35.8	37.0	48.3	49.0	52.7	58.0	62.0	67.0	67.2

Source: Ghana Statistical Services, Ministry of Energy and the Energy Commission.

Figure 3.14: Trend in Electricity Access



SECTION FOUR: PETROLEUM

Table 4.1: Crude Oil Production (bbls)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
From Saltpond Field	173,444	97,642	75,731	105,464	98,289	97,301	46,630			
From Jubilee Field		1,267,700	23,757,695	28,831,136	36,760,348	37,201,691	37,411,661	26,981,640	32,749,975	28,461,755
TEN Field								5,316,140	20,452,577	23,557,361
OCTP (Sankofa fields)									5,455,512	10,116,318
Total	173,444	1,365,342	23,833,426	28,936,600	36,858,637	37,298,992	37,458,291	32,297,780	58,658,064	62,135,434

Source: Petroleum Commission & Ghana National Petroleum Corporation

Figure 4.1: Trend in Crude Oil Production

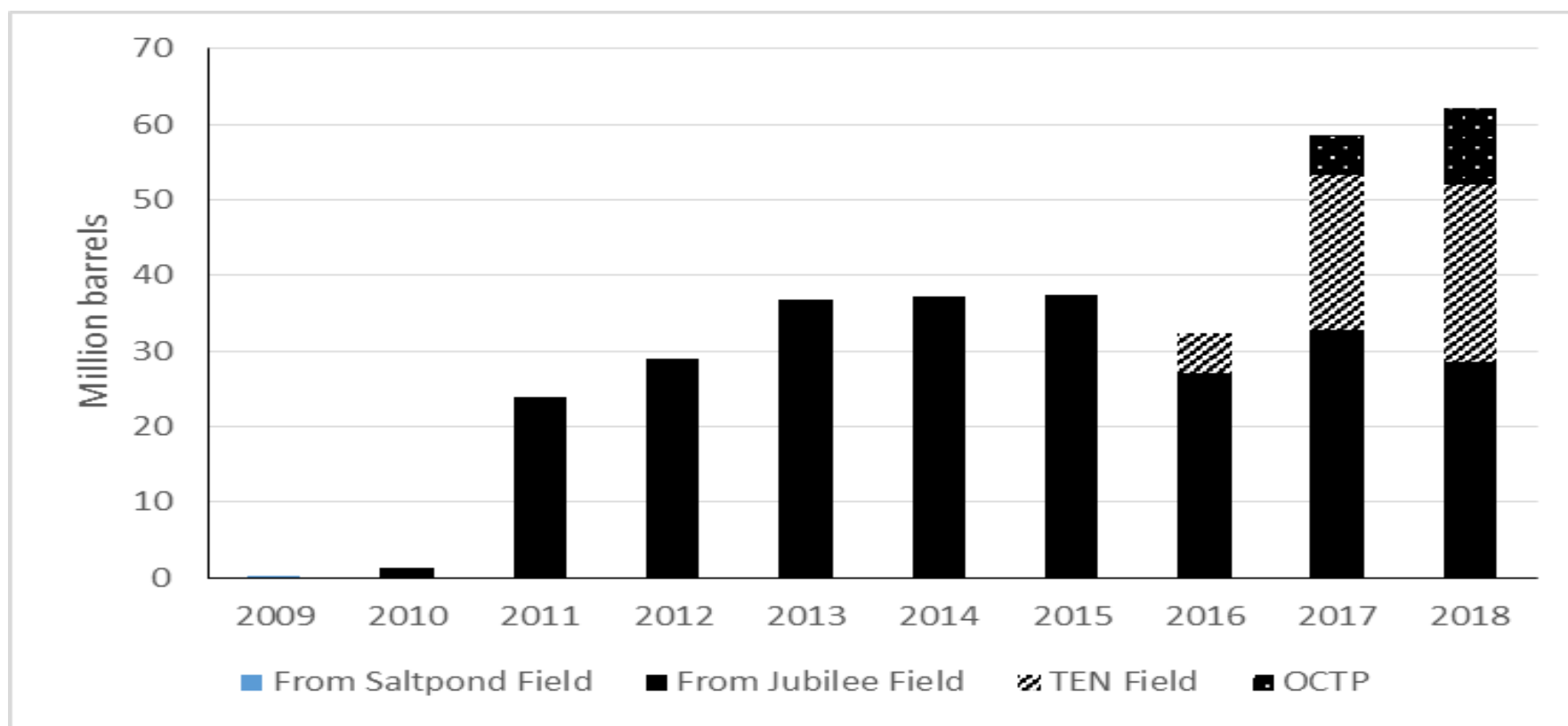


Table 4.2: Crude Oil Export

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Crude Export (bbls)	173,444	97,642	24,731,475	26,430,934	36,048,290	37,702,873	36,459,906	29,904,461	56,989,873	62,020,235

Source: Bank of Ghana & Petroleum Commission

Figure 4.2: Trend in Crude Oil Export

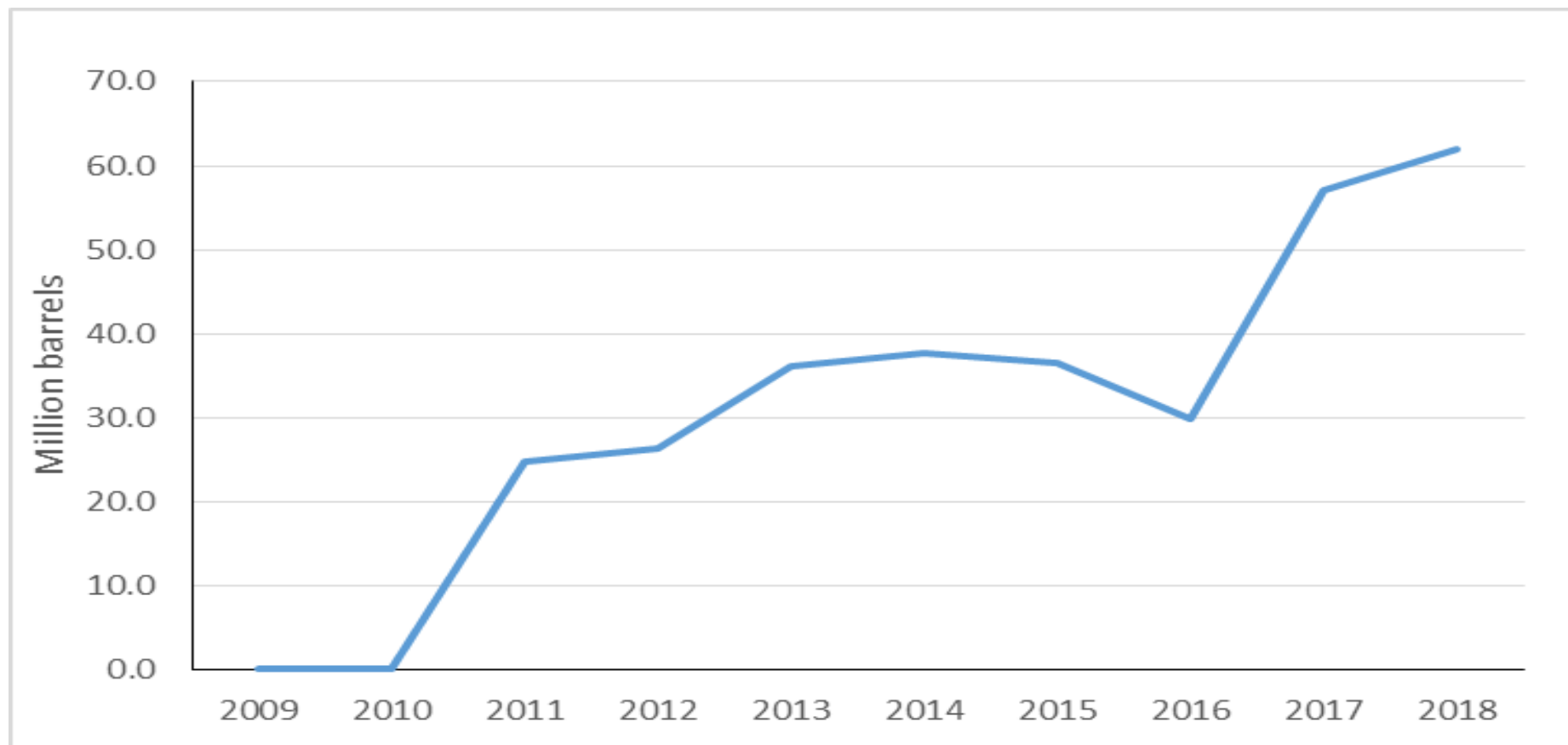


Table 4.3: Crude Oil Import (kilotonnes)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
For refinery	441	961	1,274	506	374	70	62	989	55	141
For electricity generation	541	701	257	704	928	623	249	457	178	56
Total	982	1,663	1,532	1,210	1,302	693	310	1,446	233	197

Source: VRA, TOR & NPA

Figure 4.3: Imported Crude Oil Use

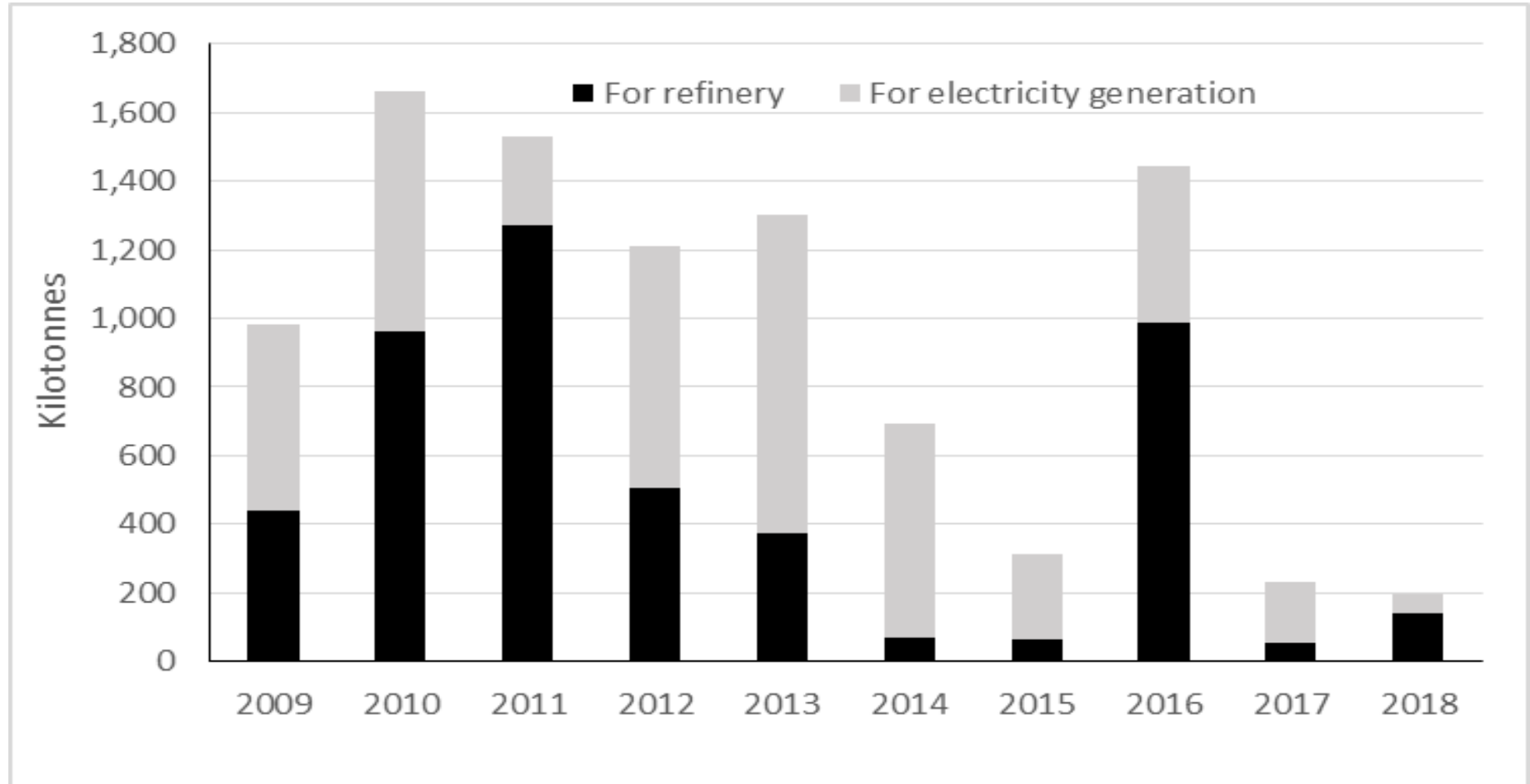


Table 4.4: Natural Gas Supply (mmBtu)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Import	197,977	15,616,648	30,524,558	15,447,347	11,573,011	22,541,001	20,625,394	4,002,683	11,712,897	25,317,632
Production						2,039,837	26,391,238	23,472,907	33,748,920	32,571,643

NB: Import is Natural Gas delivered through the West Africa Gas Pipeline whilst production is natural gas from Ghana National Gas Company (GNGC)

Source: WAGPCo, GNGC & VRA

Figure 4.4: Trend in Natural Gas Supply

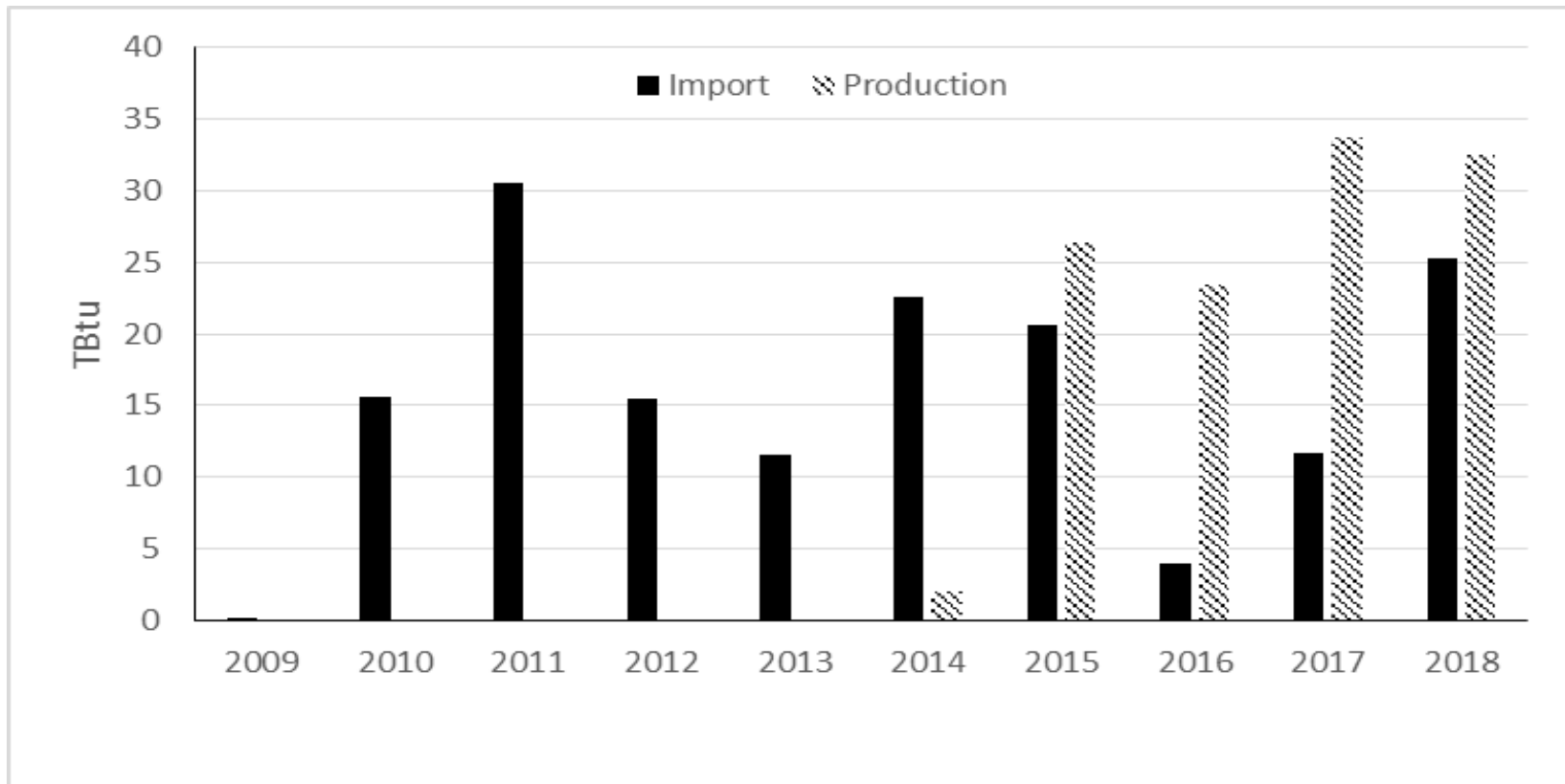


Table 4.5: Petroleum Products Production (kilotonnes)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
LPG	14.0	31.6	44.6	26.8	25.6	3.3	2.0	114.2	114.0	87.9
Gasolines	135.0	337.7	344.3	157.7	167.3	40.4	31.8	244.0	6.5	101.6
Kerosene	48.7	71.0	52.6	21.1	14.6	4.5	0.2	24.5	2.0	33.1
ATK	1.3	116.7	116.1	47.6	59.8	9.4	18.2	37.6	0.1	21.5
Gas Oil	102.8	292.6	309.8	121.5	113.3	27.8	28.0	254.7	6.1	113.0
Fuel Oils	25.3	96.8	90.6	79.2	43.5	43.7	8.9	64.0	1.3	31.5
Total	327.1	946.4	958.0	454.0	424.2	129.2	89.1	739.0	129.9	388.7

Source: Tema Oil Refinery, Ghana National Gas Company & National Petroleum Authority. NB: Besides TOR, data from the two private refineries in the country are also included

Figure 4.5: Trend in Petroleum Products Production

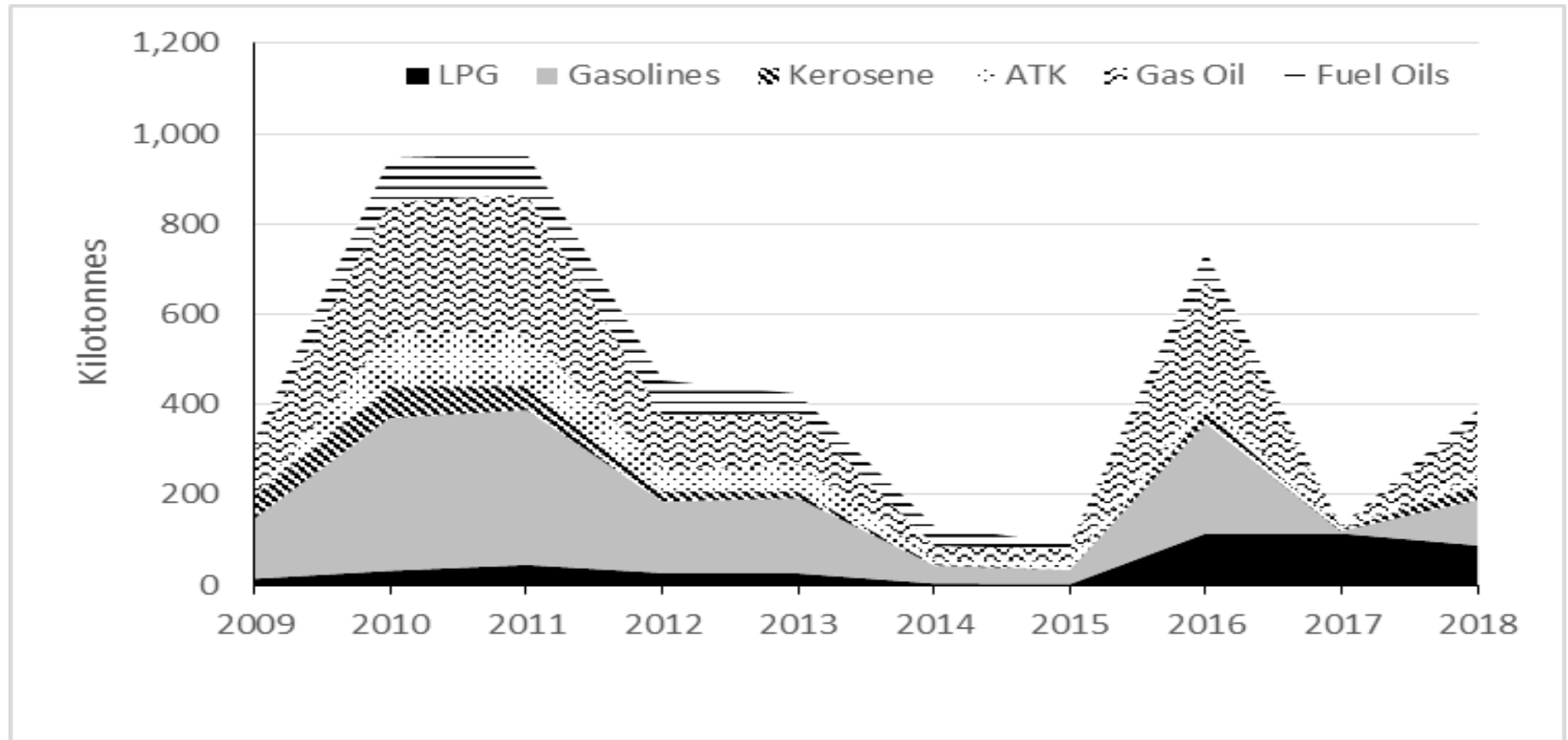


Table 4.6: Petroleum Products Import (kilotonnes)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
LPG	150.6	148.0	177.8	241.6	203.9	236.4	197.7	177.9	202.4	306.2
Gasolines	563.4	570.1	712.8	811.5	1017.4	1254.3	1182.1	1235.7	1304.1	1,325.5
Kerosene	77.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gasoil	969.5	871.7	1200.6	1309.4	1638.7	1742.1	2161.0	1719.8	1780.9	1,752.8
Fuel Oil	0.0	0.0	0.0	0.0	44.3	48.6	0.0	20.6	248.8	111.6
DPK	0.0	0.0	17.5	115.0	0.0	0.0	0.0	0.0	0.0	0.0
ATK	83.5	0.0	0.0	95.7	41.4	112.4	109.1	112.7	181.4	183.9
Total	1844.6	1589.9	2108.7	2573.2	2945.6	3393.8	3649.9	3266.7	3717.6	3680.0

Source: National Petroleum Authority

Figure 4.6: Trend in Petroleum Products Import

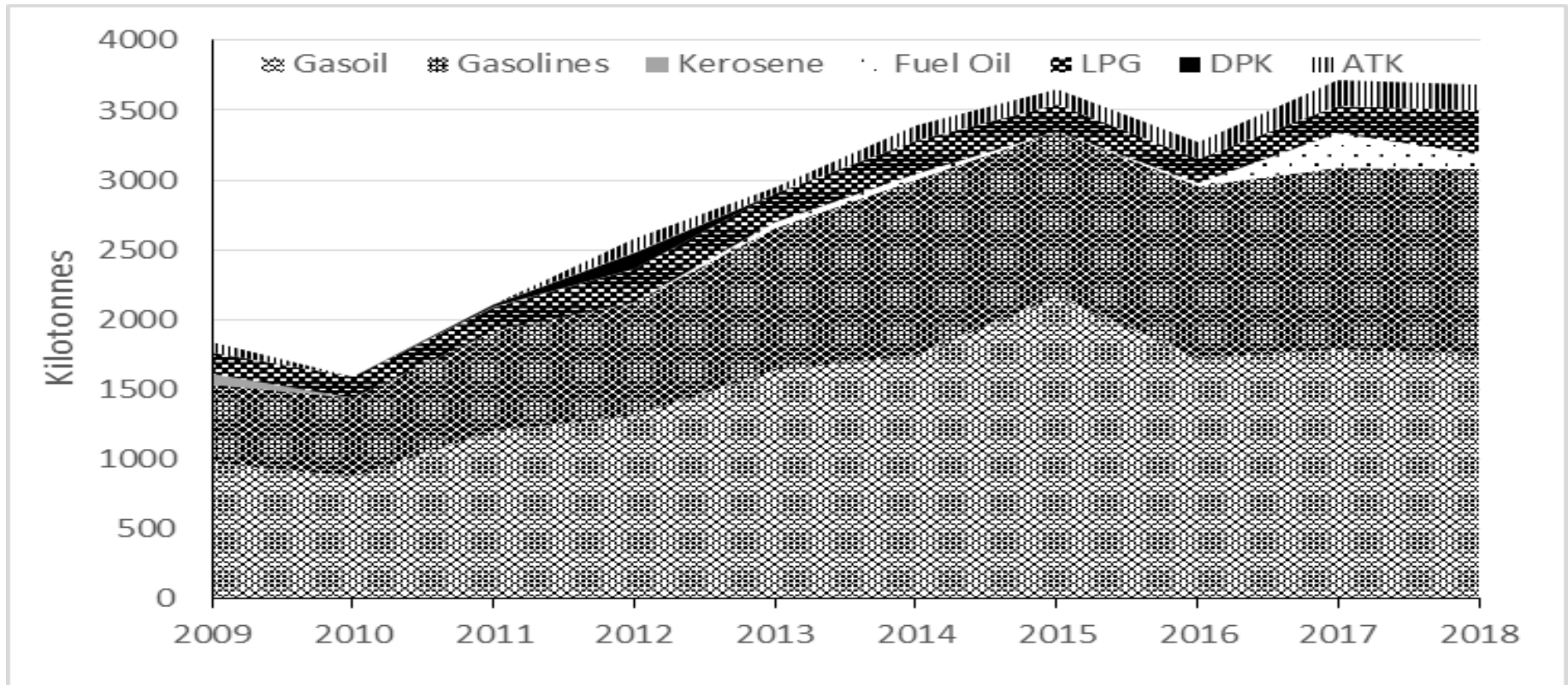


Table 4.7: Petroleum Products Export (kilotonnes)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
LPG	1.1	0.0	0.0	0.0	0.0	0.0	0.0	25.1	40.3	4.8
Gas Oil	381.9	290.9	356.5	80.8	51.8	10.8	10.3	170.1	190.2	45.4
Fuel Oil	30.2	40.6	43.5	44.5	3.7	0.0	0.0	69.8	53.0	41.5
Heavy Gasoline	20.5	93.6	141.1	54.3	36.0	10.2	9.9	112.8	11.1	63.2
ATK	0.0	103.0	128.5	131.0	122.3	105.6	101.9	115.0	150.0	184.8
Premium Gasoline	20.6	9.9	13.4	0.0	0.0	0.0	0.0	158.8	173.3	4.2
Total	454.3	538.0	683.1	310.6	213.8	126.6	122.1	651.6	618.0	343.8

NB: Gas Oil export includes sales to international marine bunkers. ATK export is sales to international aviation bunkers

Source: National Petroleum Authority

Figure 4.7: Trend in Petroleum Products Export

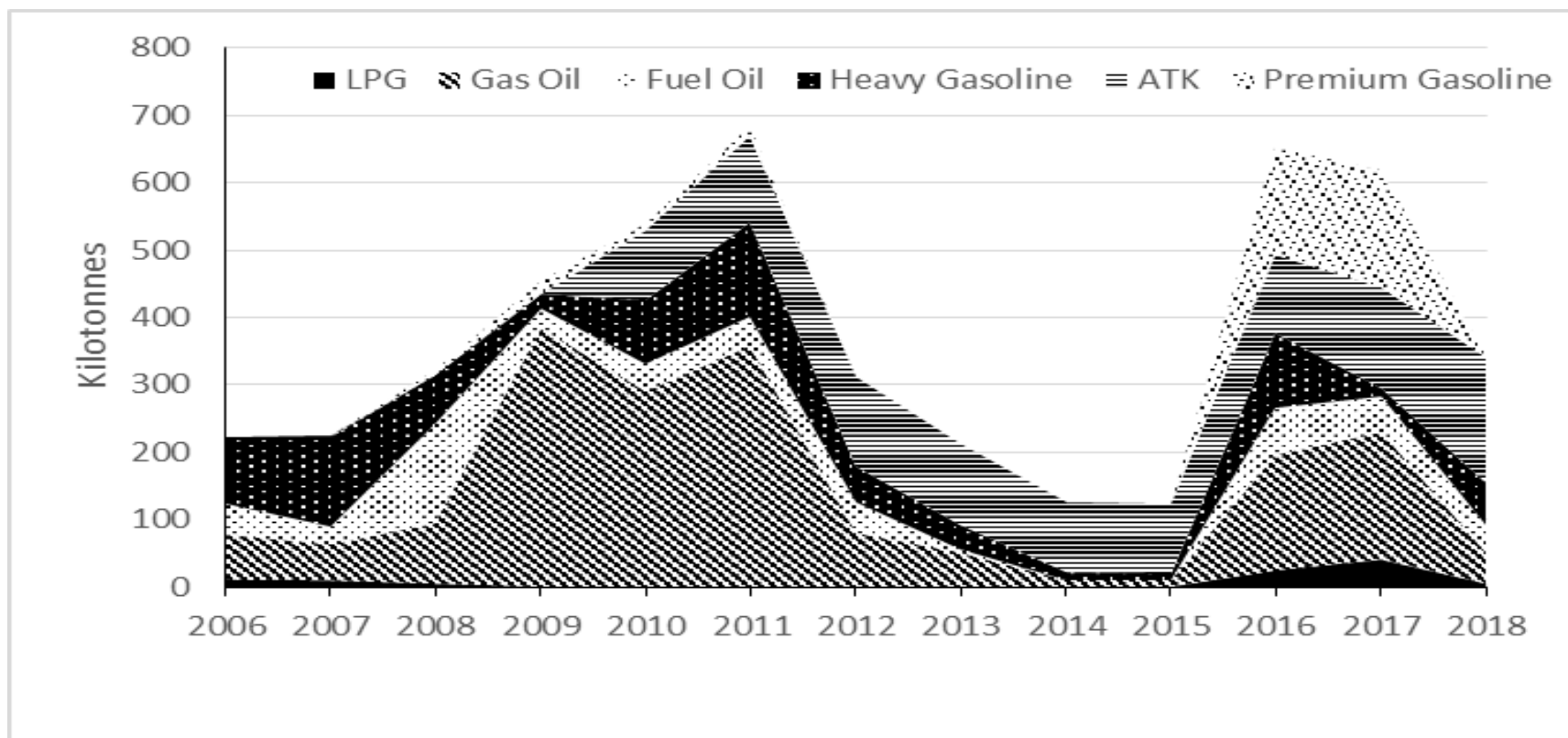


Table 4.8: Petroleum Products Supplied to the Economy (kilotonnes)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
LPG	220.6	178.4	214.4	268.5	251.8	241.5	279.0	281.5	358.9	396.8
Gasoline	701.4	737.8	807.0	992.7	1,080.6	1,102.3	1,163.2	1,069.2	1,072.6	1,256.5
Premix	55.1	32.4	45.6	58.9	53.4	56.2	47.2	56.0	68.8	55.3
Kerosene	89.3	49.3	62.4	45.6	27.8	9.3	6.9	8.1	5.6	5.0
ATK	124.7	108.4	135.3	141.3	131.9	113.9	112.0	132.2	166.6	200.3
Gas Oil	1,280.0	1,271.9	1,431.2	1,665.0	1,722.6	1,713.0	1,902.7	1,765.0	1,661.5	1,836.7
RFO	40.3	30.9	37.5	33.5	39.3	26.8	13.4	12.9	129.0	139.1
Total	2,511.4	2,409.1	2,733.4	3,205.5	3,307.4	3,263.1	3,524.4	3,324.8	3,462.9	3,889.7

Source: National Petroleum Authority

NB: LPG include quantities supplied for power generation

Figure 4.8: Trend in Petroleum Products Supplied to the Economy

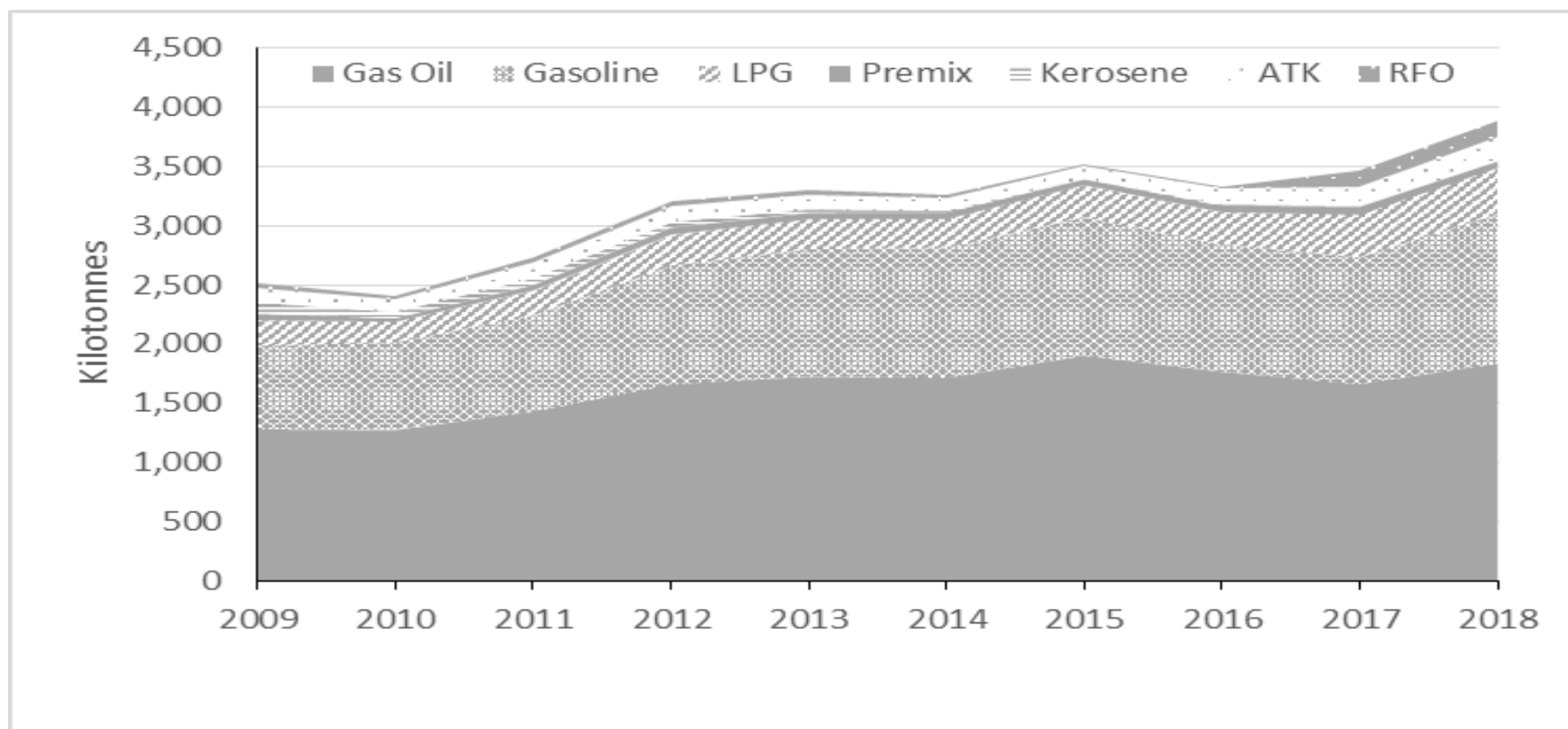
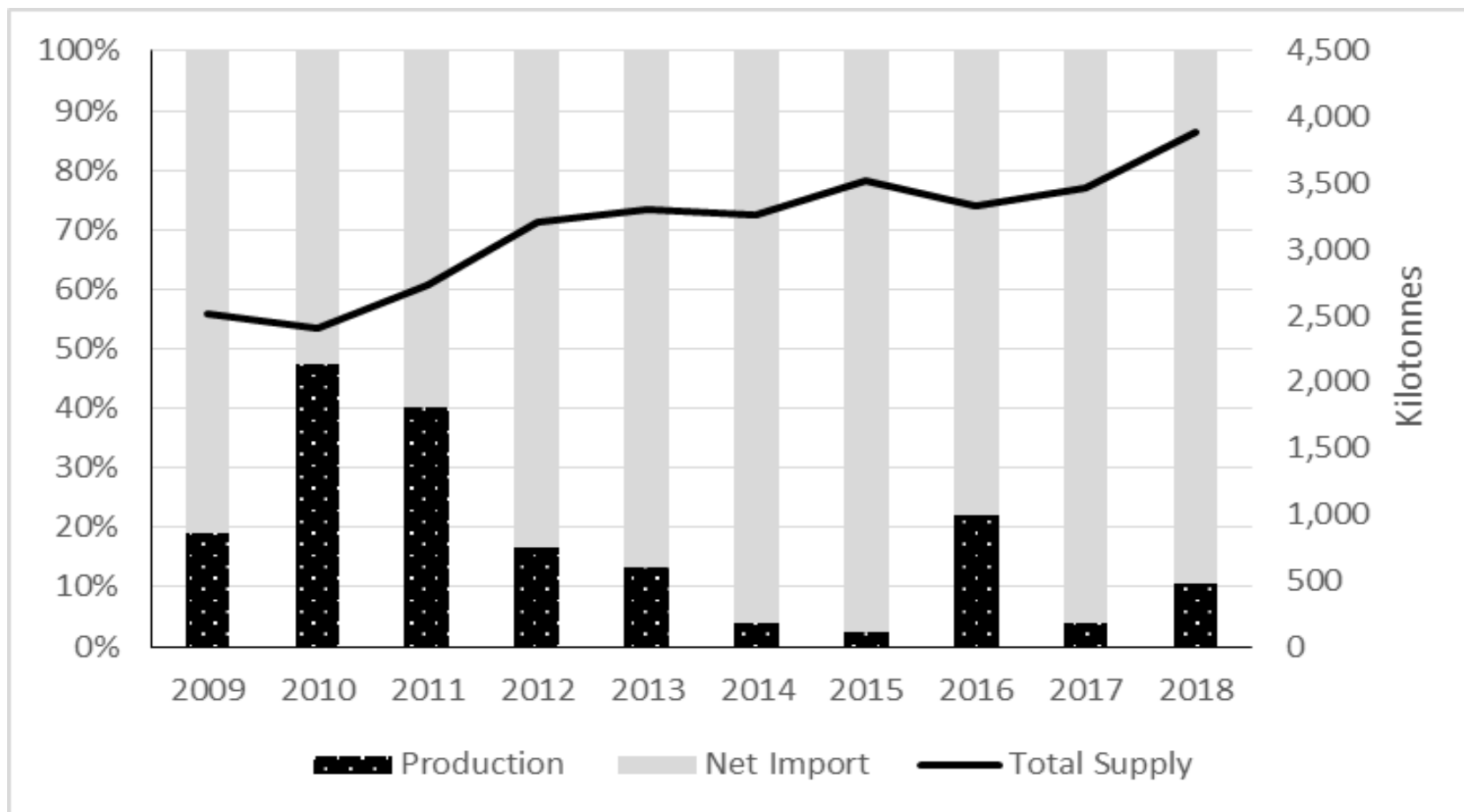


Table 4.9: Production, Net import and Total Supply of Petroleum Products (Kilotonnes)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Production	327.1	946.4	958.0	454.0	424.2	129.2	89.1	739.0	129.9	388.7
Net Import	1,390.3	1,051.9	1,425.6	2,262.6	2,731.8	3,267.1	3,527.8	2,615.1	3,099.6	3,336.2
Total Supply	2,511.4	2,409.1	2,733.4	3,205.5	3,307.4	3,263.1	3,524.4	3,324.8	3,462.9	3,889.7

Figure 4.9: Trend in Production, Net import and Total Supply of Petroleum Products



SECTION FIVE: WOODFUELS

Table 5.1: Woodfuel Supply (KTOE)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Wood for charcoal	1,576.7	1,687.1	1,805.2	1,859.3	1,989.5	2,049.0	2,043.0	2,033.0	2,323.9	2,351.8
Wood for firewood	1,520.0	1,490.2	1,534.9	1,519.5	1,534.7	1,550.0	1,545.0	1,540.0	1,550.0	1,500.0
Other	30.4	29.8	30.7	30.4	29.7	30.0	30.0	29.4	29.4	29.5
Total Wood Supply	3,127.0	3,207.0	3,370.7	3,409.2	3,553.9	3,629.0	3,618.0	3,602.4	3,903.3	3,881.3

*include saw dust, sawmill residue etc.

NB: 2007-2009 figures extrapolated from 2003 field survey data. 2011-2018 figures extrapolated from 2010 field survey data.

Figure 5.1: Trend in Woodfuel Supply

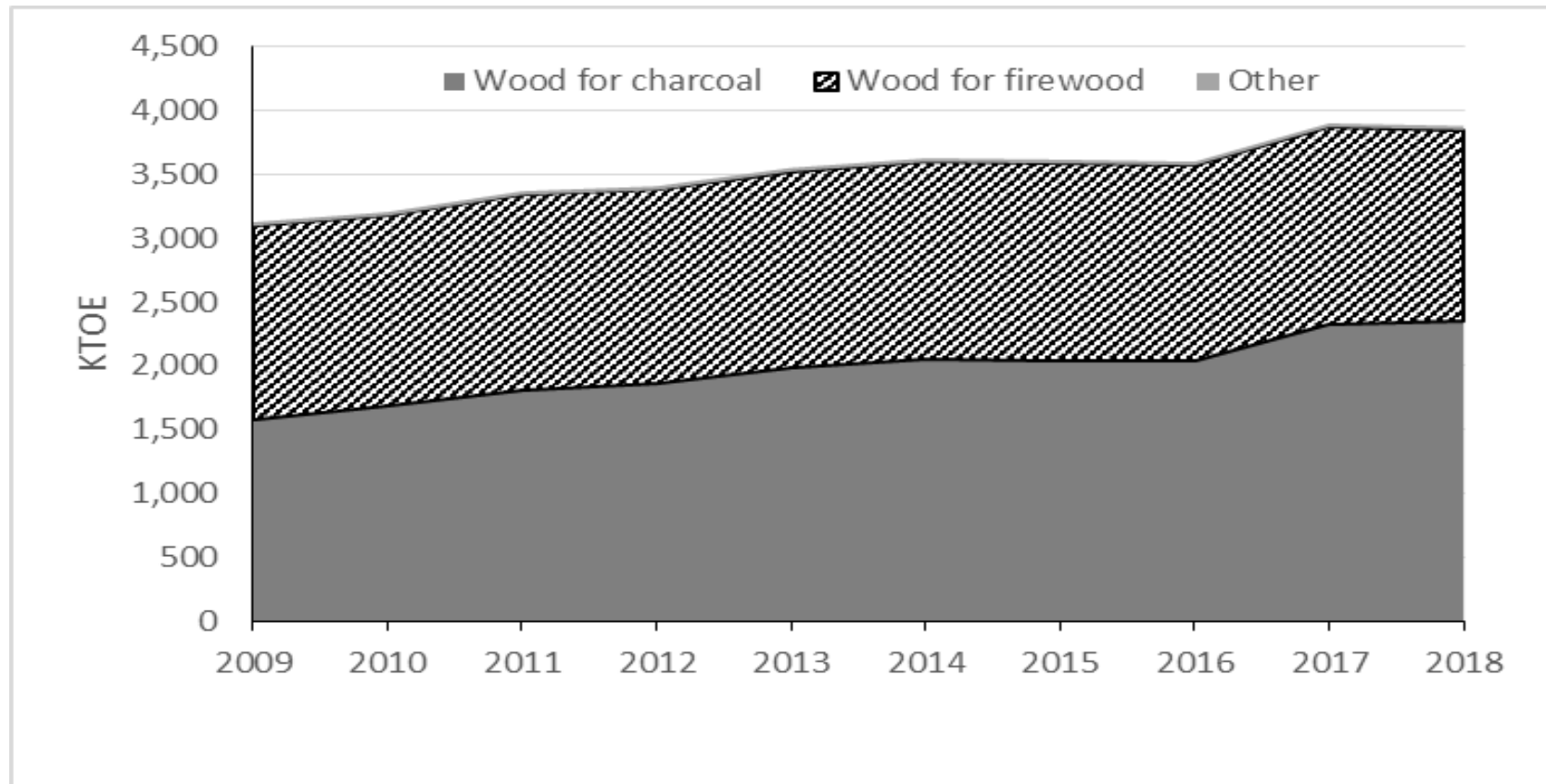


Table 5.2: Woodfuel Consumption (KTOE)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Firewood	1,520.0	1,490.2	1,534.9	1,519.5	1,534.7	1,550.0	1,545.0	1,540.0	1,550.0	1,500.0
Charcoal	942.9	944.0	1,010.0	1,038.8	1,111.6	1,212.0	1,210.0	1,214.0	1,250.0	1,265.0
Other	30.4	29.8	30.7	30.4	29.7	29.7	29.7	29.4	29.4	29.5
Total	2,493.3	2,463.9	2,575.6	2,588.8	2,676.0	2,791.7	2,784.7	2,783.4	2,829.4	2,794.5

*include saw dust, sawmill residue etc.

NB: 2007-2009 figures extrapolated from 2003 field survey data. 2011-2018 figures extrapolated from 2010 field survey data.

Figure 5.2: Trend in Woodfuel Consumption

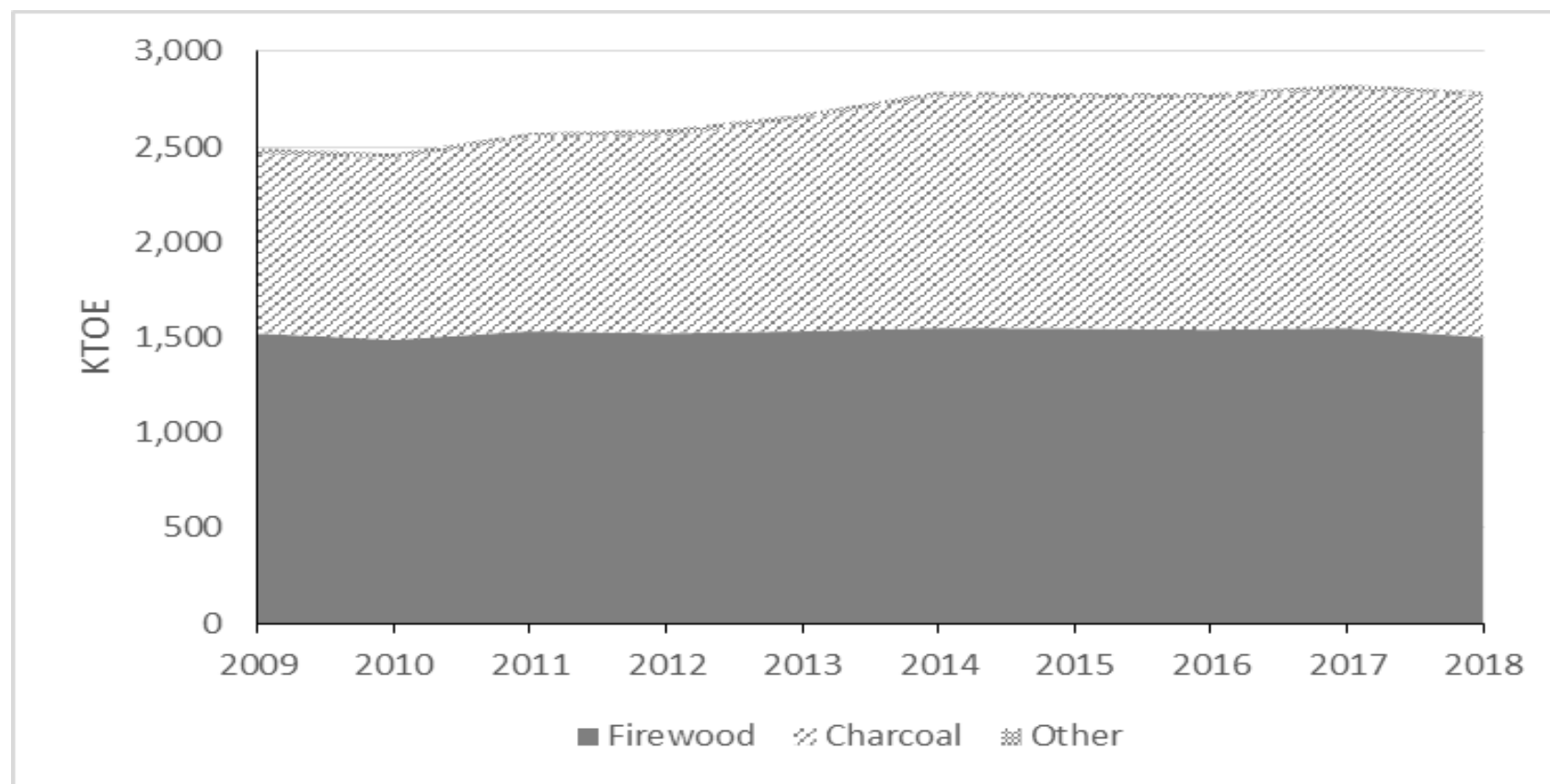
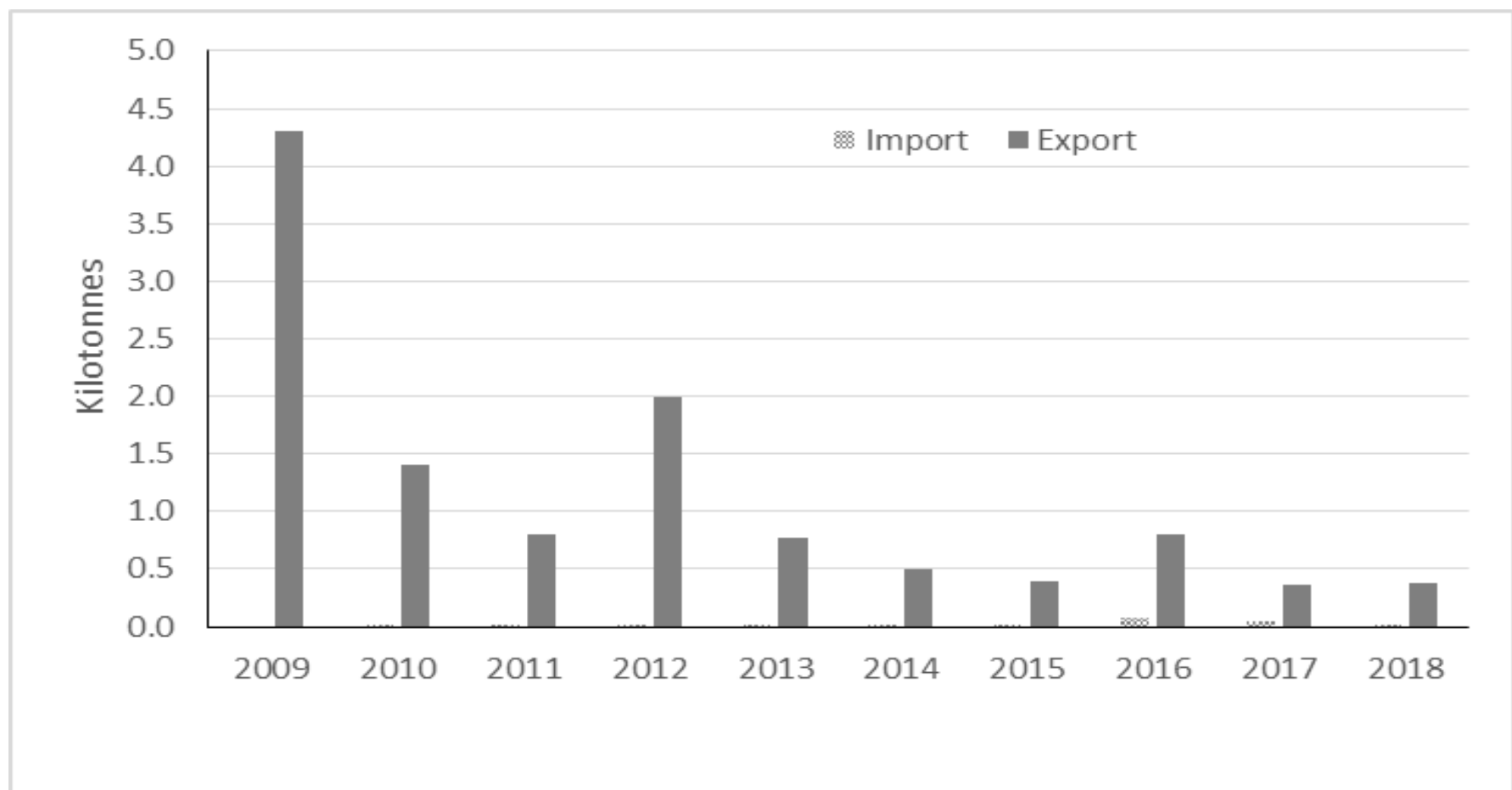


Table 5.3: Charcoal Export (kilotonnes)

	2009	2010	2011	2012	2013	2014	2015	2016*	2017*	2018
Import	-	0.004	0.005	0.004	0.011	0.010	0.014	0.083	0.044	0.018
Export	4.30	1.40	0.80	2.00	0.77	0.50	0.40	0.80	0.36	0.37

*Revised

Figure 5.3: Trend in Charcoal Import & Export



SECTION SIX: ENERGY PRICES

Table 6.1: Average Crude Oil Prices (US\$/barrel)

Month	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
January	45.62	76.92	96.82	111.55	112.28	107.32	49.72	31.93	55.51	69.09
February	43.73	74.74	104.09	126.96	116.11	108.80	58.70	33.44	55.98	65.7
March	47.32	79.90	114.62	124.55	109.53	107.68	57.01	39.80	52.53	66.68
April	51.23	85.68	123.13	125.90	103.31	108.10	60.90	43.34	53.72	71.67
May	58.57	76.99	114.53	109.36	103.32	109.20	65.62	47.63	51.11	77.06
June	69.34	75.66	113.91	95.89	103.30	111.97	63.75	49.89	47.54	75.94
July	65.76	75.49	116.68	102.77	107.37	108.21	56.75	46.58	49.20	75.04
August	73.07	77.11	109.82	113.19	110.25	103.48	48.18	47.16	51.87	73.85
September	68.19	78.21	109.96	113.04	111.21	98.56	48.57	47.23	55.23	79.09
October	73.87	83.49	108.80	111.52	109.45	88.07	48.12	51.42	57.47	80.63
November	77.50	86.11	110.61	109.53	107.77	79.40	44.42	47.08	62.87	65.96
December	75.24	92.35	107.72	109.19	110.60	62.36	37.72	54.93	62.27	57.67

Source: Bank of Ghana

Figure 6.1: Trend in Crude Oil Prices



Table 6.2: Electricity Tariff

Tariff Category	Effective Date								
	Dec, 2011	Oct, 2013	Jan, 2014	Jul, 2014	Oct, 2014	Apr, 2015	Jul, 2015	Dec, 2015	Mar, 2018
Residential									
0 - 50 (Exclusive)	9.5	15.7	17.2	19.3	20.5	21.1	21.1	33.6	27.7
51 - 300 (GHp/kWh)	17.6	31.4	34.5	38.7	41.2	42.3	42.3	67.3	55.5
301 - 600 (GHp/kWh)	22.8	40.8	44.9	50.2	53.5	54.9	54.9	87.4	72.1
600+ (GHp/kWh)	25.3	45.3	49.8	55.8	59.4	61.0	61.0	97.1	80.1
Service Charge for Lifeline Consumers (GHp/month)	165.3	295.7	324.5	363.8	387.5	397.7	397.7	633.2	213.0
Service Charge for Other Residential Consumers (GHp/month)	165.3	295.7	324.5	363.8	387.5	397.7	397.7	633.2	633.2
Non-Residential									
0 -300 (GHp/kWh)	25.3	45.2	49.6	55.6	59.2	60.8	60.8	96.8	67.8
301 - 600 (GHp/kWh)	26.9	48.1	52.8	59.2	63.0	64.7	64.7	102.1	72.1
600+ (GHp/kWh)	42.4	75.9	83.3	93.4	99.5	102.1	102.1	162.5	113.8
Service Charge (GHp/month)	275.5	492.9	540.9	606.3	645.9	662.9	662.9	1,055.3	1055.3
SLT - Low Voltage									
Maximum Demand (GHp/kVA/month)	1,542.9	2,760.3	3,028.9	3,395.1	3,616.9	3,712.1	3,712.1	5,909.6	5909.6
Energy Charge (GHp/kWh)	26.3	47.1	51.7	58.0	61.8	63.4	63.4	100.9	75.7
Service Charge (GHp/month)	1,102.2	1,971.7	2,163.5	2,425.1	2,583.6	2,651.5	2,651.5	4,221.2	4221.1
SLT - Medium Voltage									
Maximum Demand (GHp/kVA/month)	1,322.5	2,366.0	2,596.2	2,910.1	3,100.2	3,181.8	3,181.8	5,065.4	5065.4
Energy Charge (GHp/kWh)	20.4	36.5	40.0	44.9	47.8	49.1	49.1	78.1	58.6
Service Charge (GHp/month)	1,542.9	2,760.3	3,028.9	3395..1	3,616.9	3,712.1	3,712.1	5,909.6	5909.6
SLT - High Voltage									
Maximum Demand (GHp/kVA/month)	1,322.5	2,366.0	2,596.2	2,910.1	3,100.2	3,181.8	3,181.8	5,065.4	5065.4
Energy Charge (GHp/kWh)	18.7	33.5	36.8	41.2	43.9	45.1	45.1	71.8	53.8
Service Charge (GHp/month)	1,542.9	2,760.3	3,028.9	3,395.1	3,616.9	3,712.1	3,712.1	5,909.6	5909.6
SLT-High Voltage - Mines									
Capacity Charge (GHp/kVA/Month)	1,542.9	2,760.3	3,028.9	3,395.1	3,616.9	3,712.1	3,712.1	5,909.6	5909.6
Energy Charge (GHp/kWh)	29.8	53.2	58.4	65.5	69.8	71.6	71.6	114.0	102.6
Service Charge (GHp/Month)	1,542.9	2,760.3	3,028.9	3,395.1	3,616.9	3,712.1	3,712.1	5,909.6	5909.6

Table 6.3: Average Grid Electricity End User Tariff

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
GHS/kWh	0.148	0.211	0.245	0.232	0.307	0.464	0.541	0.817	0.798	0.705
Exchange Rate (GHS/US\$)*	1.43	1.45	1.55	1.88	1.97	3.20	3.68	3.89	4.36	4.59
US\$/kWh	0.104	0.145	0.158	0.124	0.156	0.145	0.147	0.210	0.183	0.154

*Source: Bank of Ghana

Figure 6.2: Trend in Average Grid Electricity End User Tariff

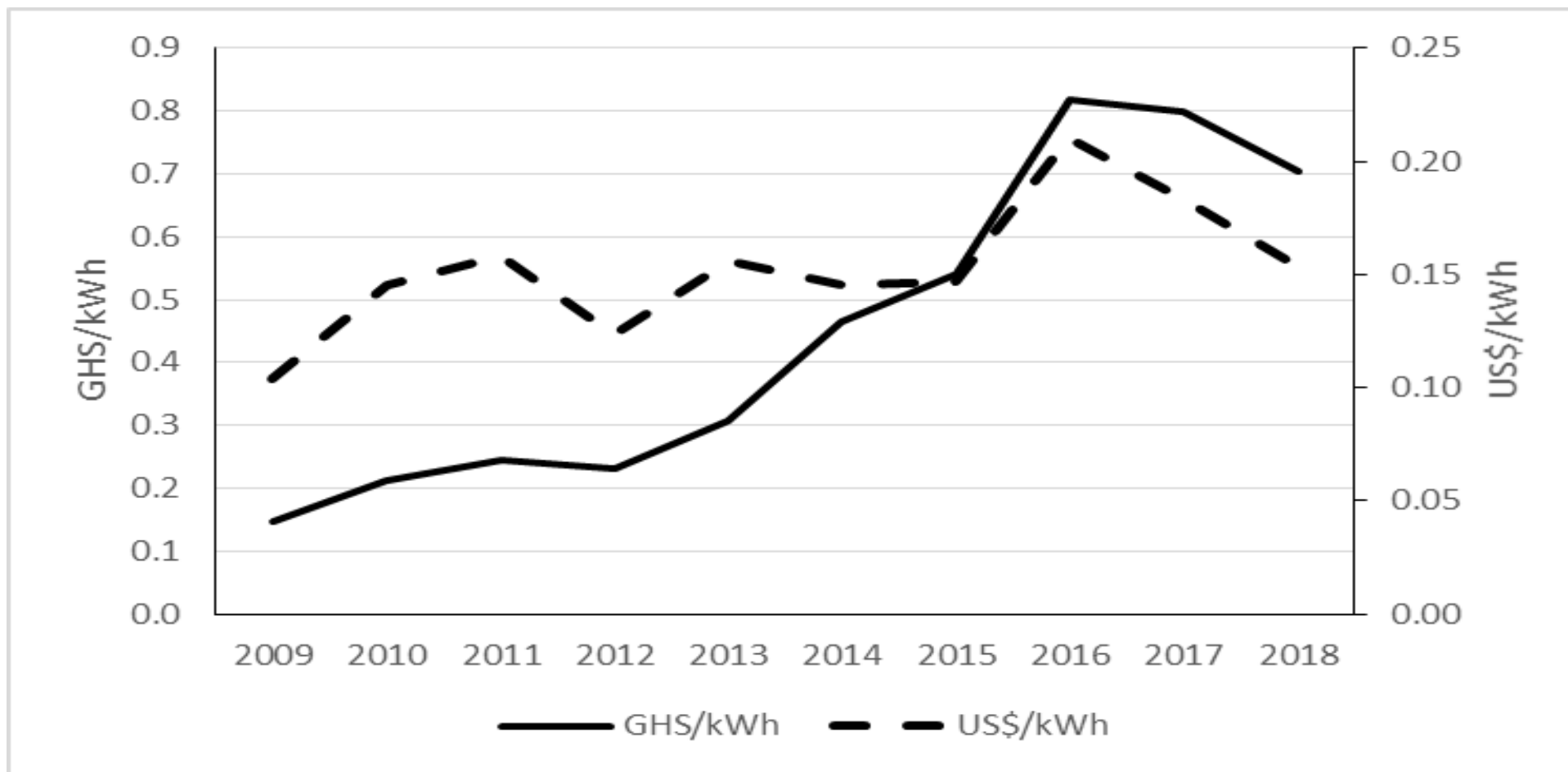
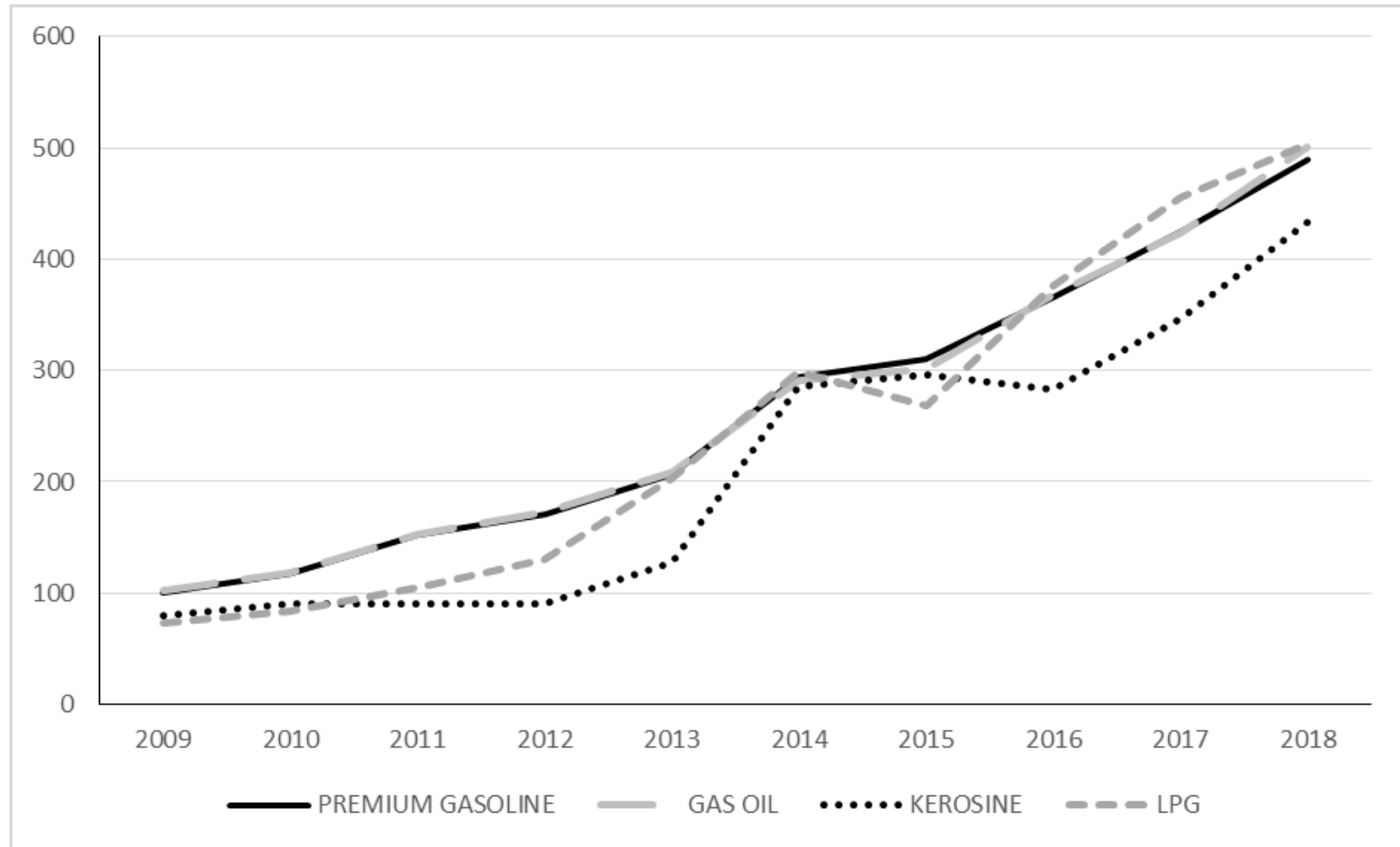


Table 6.4: Average Prices of Petroleum Prices

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Premium Gasoline (Ghp/lt)	100.2	117.0	151.9	171.3	206.0	294.1	310.1	366.1	425.0	489.7
Gas Oil (Ghp/lt)	102.4	118.1	153.3	172.9	208.7	291.3	301.9	367.4	423.3	500.9
Kerosene (Ghp/lt)	79.3	91.0	91.0	91.0	127.2	285.0	296.9	283.0	346.5	432.9
LPG (Ghp/kg)	73.1	83.8	104.8	130.6	202.8	299.0	268.3	375.7	456.0	503.9

Figure 6.3: Trend in Prices of Petroleum Products



NB: All prices in Ghc/lt except LPG which is in Ghp/kg

Table 6.5: Average Charcoal Prices by Region

Region	Maxi Bag (Ghc)								Mini Bag (Ghc)							
	2011	2012	2013	2014	2015	2016	2017	2018	2011	2012	2013	2014	2015	2016	2017	2018
Greater Accra	20.17	21.15	23.68	30.26	37.10	38.68	42.50	46.00	13.13	15.01	17.43	22.42	26.61	26.99	31.17	33.71
Ashanti	12.36	15.07	16.62	19.32	22.91	26.23	28.59	30.78	6.09	8.68	9.15	12.71	15.12	16.66	19.37	20.98
Western	15.33	23.85	25.79	28.58	32.96	37.00	43.13	45.80	10.37	13.60	15.30	18.20	21.68	23.85	27.17	29.22
Eastern	12.00	16.76	19.03	22.21	30.55	30.55	36.83	39.35	7.00	11.69	13.44	16.62	21.51	21.51	25.92	27.79
Central	21.33	22.08	26.49	31.09	39.03	41.44	47.33	50.77	11.41	13.95	19.83	23.53	31.00	28.52	32.25	35.76
Volta	19.18	26.19	32.02	36.43	49.50	53.74	56.04	53.45	10.36	13.73	16.66	20.67	28.28	30.83	35.34	37.30
Brong Ahafo	9.39	11.04	12.58	15.81	20.27	22.48	26.77	28.75	4.75	6.20	7.11	9.22	12.15	13.61	16.80	17.64
Northern	14.11	14.97	18.30	22.15	25.32	28.16	32.33	34.77	9.42	7.52	9.10	12.88	15.79	17.17	19.46	21.27
Upper East	10.00	19.51	24.93	30.65	34.45	36.67	38.49	42.03	5.11	11.96	14.80	20.35	23.00	22.75	24.67	29.74
Upper West	10.00	13.46	15.56	18.25	23.00	28.97	32.84	37.10	5.11	8.28	9.42	11.86	15.47	15.66	19.59	22.91
<i>Country Average</i>	<i>15.23</i>	<i>18.23</i>	<i>21.19</i>	<i>25.11</i>	<i>31.15</i>	<i>33.92</i>	<i>37.82</i>	<i>40.87</i>	<i>8.83</i>	<i>11.04</i>	<i>13.22</i>	<i>16.66</i>	<i>20.14</i>	<i>21.67</i>	<i>25.93</i>	<i>27.63</i>