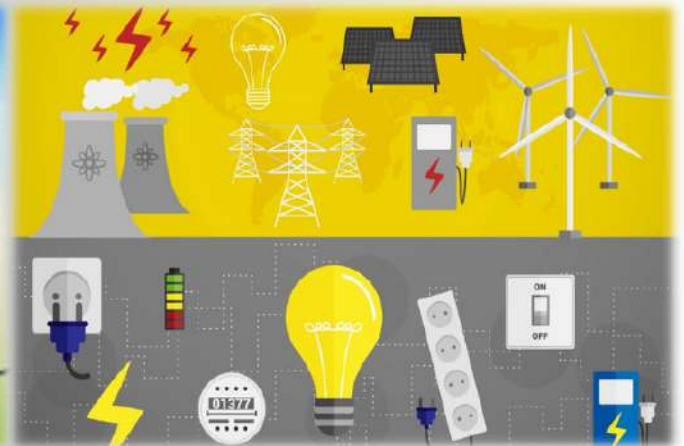


|| CHAPTER- 6 ||

CONSUMPTION OF ENERGY RESOURCES



CHAPTER 6

Consumption of Energy Resources

Consumption

The study of consumption patterns of energy in any economy is vital to understand how final demand drives energy use or consumption. SEEA – Energy states that “resource uses and environmental pressures, which occur at the level of production, can in fact be viewed as determined by final use, which initiated the production chain”.

Moreover, to fully understand the climate-change process, the data on many consumption activities, such as heating of houses and buildings, usage of electricity, various industrial processes and transportation, which entail combustion processes are required.

Energy-related air emissions are being measured and tracked by global economies, because most economic activities are linked to combustion/consumption that is needed for energy production.

With the increasing focus on sustainable consumption and production patterns world over, resource uses and environmental pressures are being viewed as determinants or drivers of the final use and consumption of products.

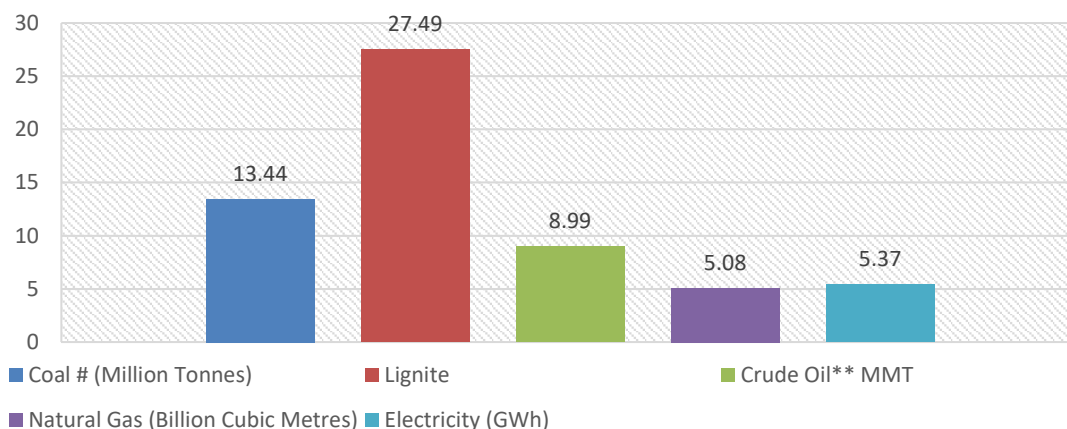
According to the International Energy Agency, where India is an Association country since March 2017, Total Energy Consumption (TEC) in an economy is a good indicator of efficient or non-efficient end-use in economic activities and may indicate course-correction measures to sustainability. It is defined to include the sum of the consumption in the end-use sectors and for non-energy use. Energy used for transformation processes and for own use of the energy producing industries is excluded. Thus, final consumption reflects for the most part, deliveries to consumers and represents the quantity of all energy necessary to satisfy inland consumption.

This chapter presents the total consumption of energy resources along with sector wise end use of different energy resources and products in India.

Highlights

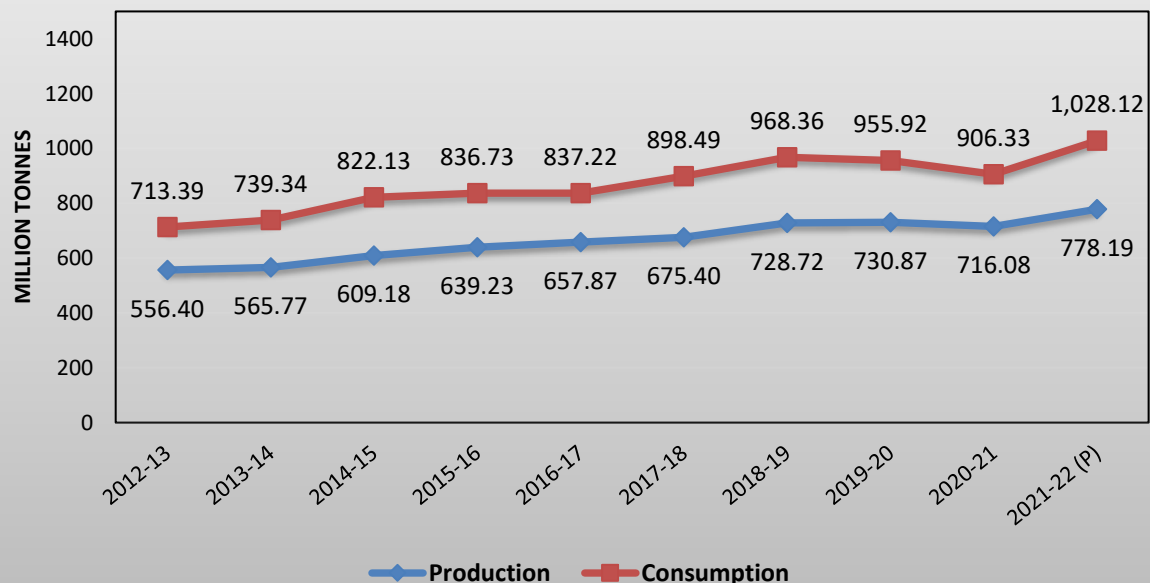
- During the FY: 2021-22, India has experienced a rather slow rate of consumption, mainly because of COVID-19 pandemic, where all the sectors experienced a negative growth rate. But during FY:2021-22, all the sectors have come-up with a healthy growth rates displaying a steady recovery of the Indian economy.

Fig 6.1 : Growth rate of consumption of Energy Resources during FY:2021-22(P) w.r.t 2020-21



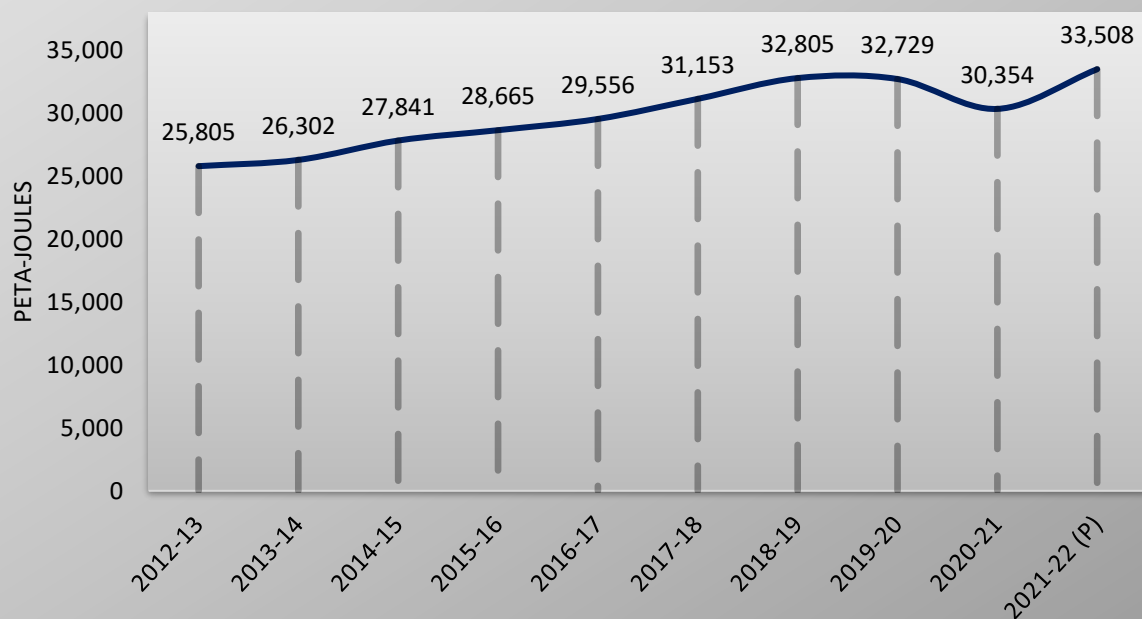
- India is one of the largest producers and consumer of coal in the world. Though there is a small decline of (-)5.19% in 2020-21 over 2019-20; the consumption has increased by close to 13.5% during FY:2021-22 (Table 6.1).

Fig 6.2 : Yearwise Trend of Production and Consumption of Coal in India during FY:2012-13 to FY:2021-22(P)



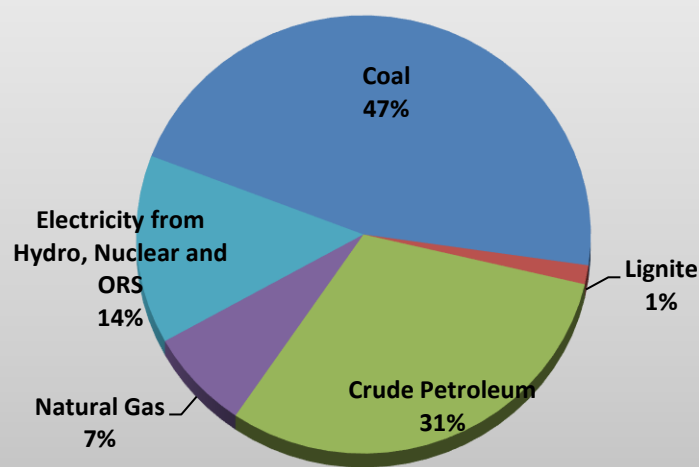
- India has experienced a healthy growth in consumption of Energy. A growth from a figure of 25,805 Petajoule (PJ) during 2012-13 to 33,508 Petajoule (PJ) in 2021-22 (P). The total consumption of energy has increased from 30,354 PJ in 2020-21 to 33,508 PJ in 2021-22(P), an increase of 10.39%. Coal and Lignite together has registered the highest growth of close to 14% during FY:2021-22(P) over last year.

**Fig 6.3 : Trend of total consumption of Energy in India during
FY: 2012-13 to FY: 2021-22 (P)**



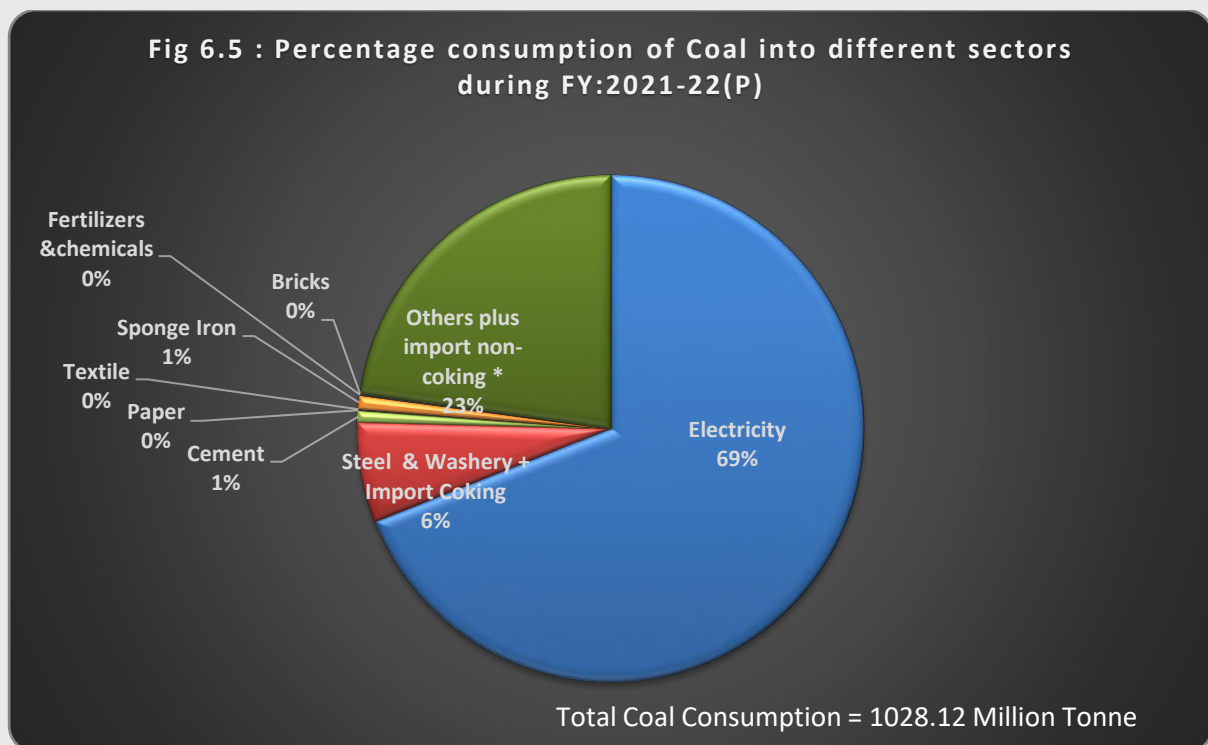
- The consumption of energy in petajoules from Coal and Lignite was highest which accounted for about 48% of the total consumption during 2021-22(P) followed by Crude Oil (31%) and Electricity (14%) (Table 6.2).

Fig 6.4: Sourcewise Consumption of Energy during 2021-22 (P)



Total Energy Consumption = 33,508 PJ

- Electricity Sector remains the biggest consumer of Raw Coal and Lignite in India with this sector consuming as much as 69.04% of the total consumption of coal and 78.98% of total consumption of lignite in India in 2021-22(P). (Table 6.3 & Table 6.4)



- Consumption of Lignite has increased from 38.49 MT in 2020-21 to 49.07 MT in 2021-22(P) which is almost 27.49%. The sharp increase can be attributed to the higher demand in Electricity/Power sector during FY: 2021-22(P), which has experienced an increase of 5.82MT over last year (Table 6.4).
- Petroleum products have experienced a steady growth over time. From a figure of 157.06 MTs during 2012-13 to 214.13 MTs during 2019-20 i.e. a growth of 36% over a span of 7 years. However, during FY:2020-21 the same has been decreased by 9.26% and stood at 194.30 MTS primarily because of COVID-19 pandemic. During FY:2021-22(P) the same has shown a positive growth rate of 5.77% and stood at 204.23 MTs. Among all the products the High-Speed Diesel Oil (HSDO) accounted for 37.55% of total consumption. This was followed by Petrol (15.10%), LPG (13.87%), Pet Coke (7.72%) (Table 6.5).

Fig 6.6 : Trend of total consumption of Petroleum Products in India during FY: 2012-13 to FY: 2021-22 (P)

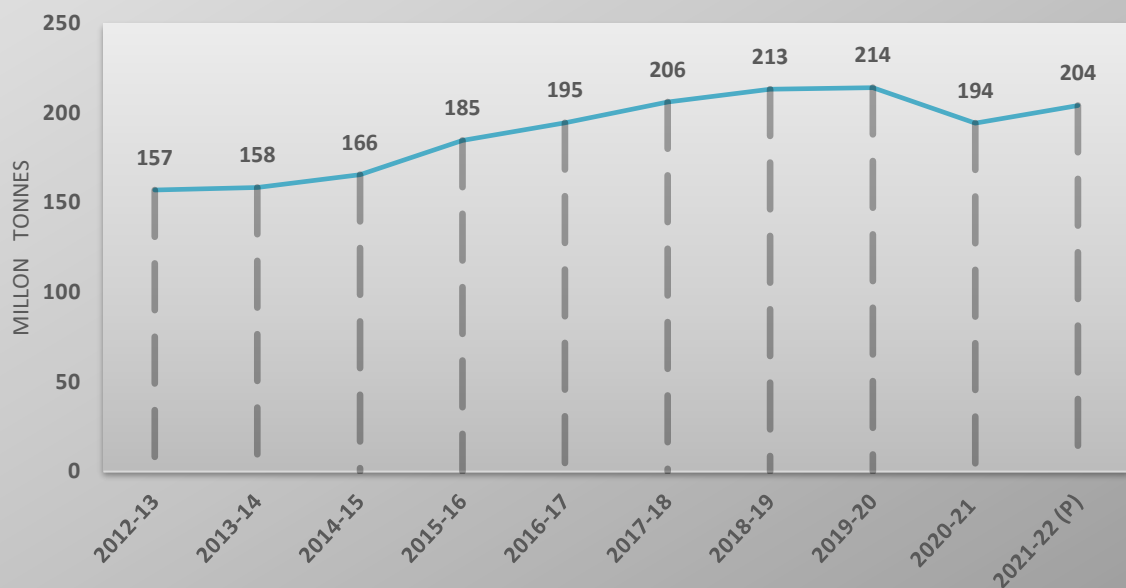
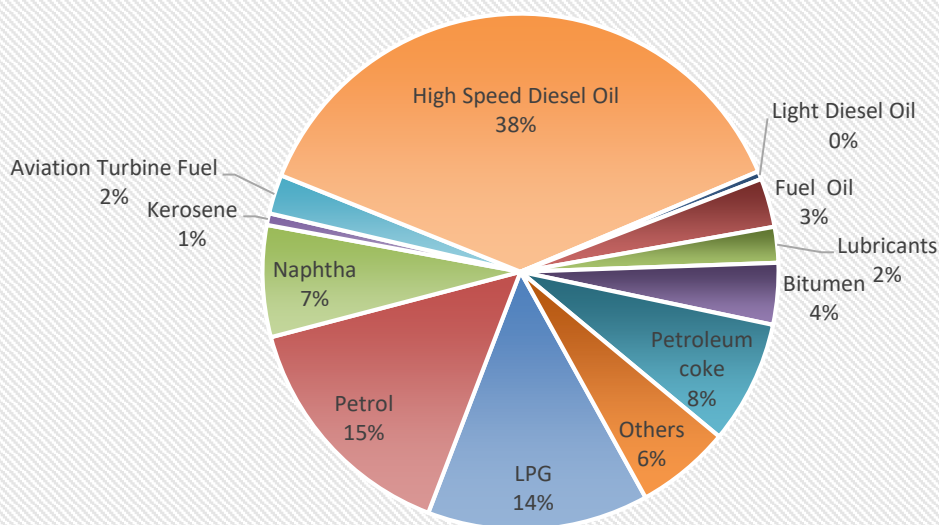
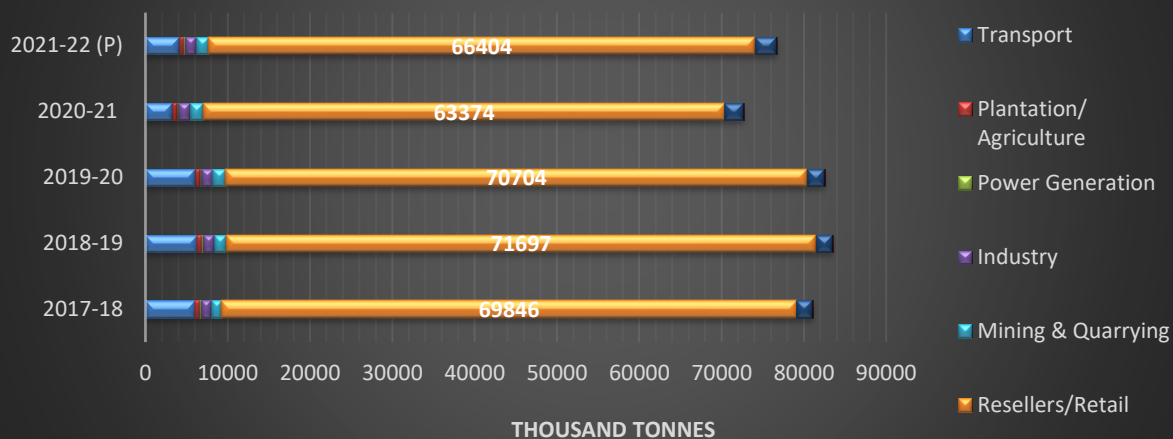


Fig 6.7 : Consumption of Petroleum Products- By type during FY:2021-22(P)



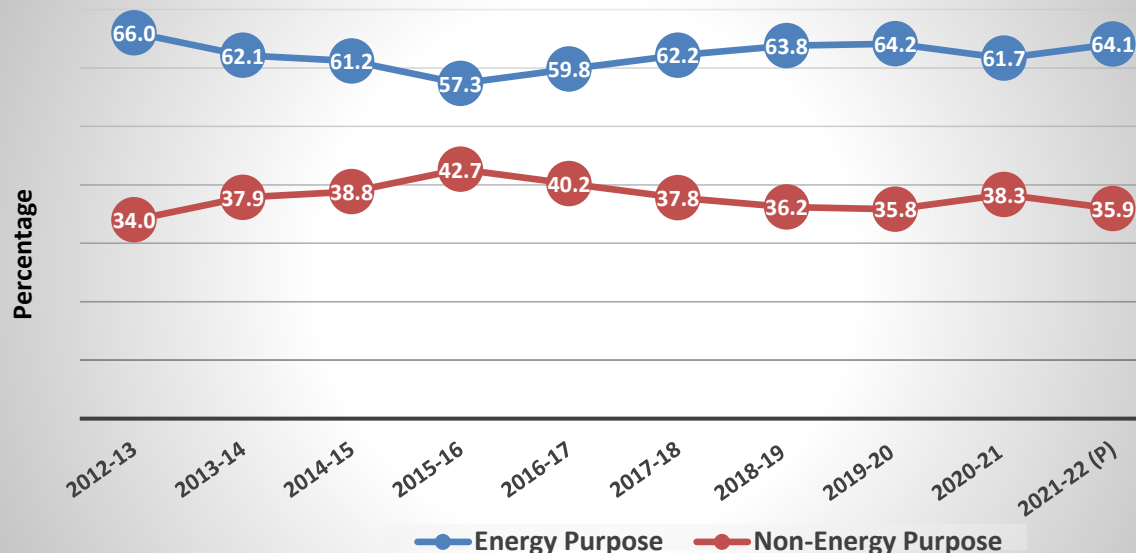
- Among all the Petroleum Products the HSDO, which has the highest share of consumption (37.55%) during FY: 2021-22(P), experienced a positive growth of 5.47% over last year. The Petrol and Pet-Coke are also having a growth of 10.30% and 1.07% respectively over last year. The LPG has registered a positive growth during FY:2021-22 (p); with a growth of 2.80% over last year it has stood at a figure of 28.33 MTs in 2021-22(P), as compared to 27.56 MTs during 2020-21(Table 6.5).

Fig 6.8 :Sector-wise consumption of HSDO(High Speed Diesel Oil) during last 5 years



- The impact of energy policies of recent time is evident on the consumption of kerosene as a fuel in the country. the consumption of Kerosene has seen a steady decreasing trend with a CAGR of (-) 16.42% from 2012-13 to 2021-22(P) (Table 6.5).
- The consumption of Natural Gas, both for energy and non-energy purpose have experienced a fluctuation over time. During FY: 2021-22 the consumption against the Energy purpose has experienced a growth of 14% (from 34,617 BCM during 2020-21 to 39,414 BCM during 2021-22); the Non-Energy purpose has also experienced a meagre growth of 2.7% (from 21,500 BCM during 2020-21 to 22,077 BCM during 2021-22).

Fig. 6.9: Trend in Percentage Consumption of Natural Gas

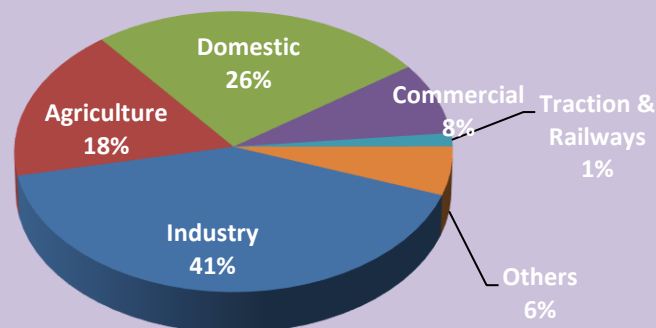


- The maximum use of Natural Gas is in fertilizers industry (28.29%) followed by power generation (15.89%). Industry wise off-take of natural gas shows that, out of the Total Consumption (*Availability Basis (Net Production + LNG Imports)*), while 62% of natural

gas has been used for Energy purposes, 35% is used for Non-energy purposes (Table 6.7).

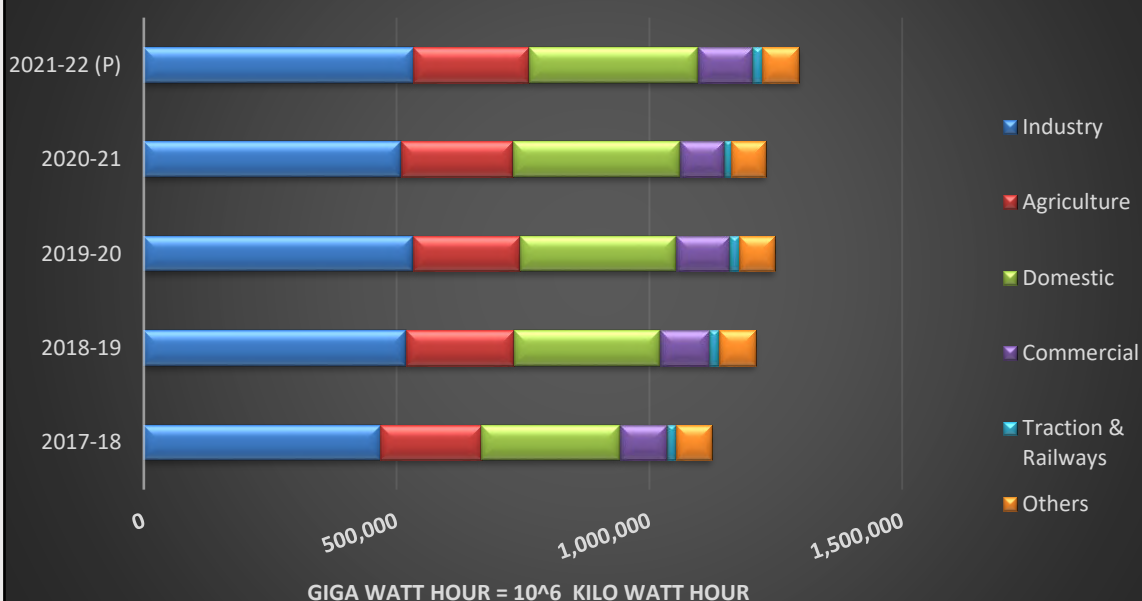
- The estimated electricity consumption increased from 8,24,301 GWh during 2012-13 to 12,96,300 GWh during 2021-22(P), showing a CAGR of 5.16%. Out of the total consumption of electricity in 2021-22(P), industry sector accounted for the largest share (41.16%), followed by domestic (25.77%), agriculture (17.67%) and commercial sectors (8.29%). The Domestic sector has experienced the highest CAGR of 6.87 between FY:2012-13 to FY:2021-22(P) (Table 6.8).

Fig 6.10: Consumption of Electricity by Sectors in India during 2021-22(P)



Total Electricity Consumption = 12,96,300

Fig 6.11: Sector-wise consumption of Electricity during last 5 years



Chapter 6 : Consumption of Energy Resources

Table 6.1: Yearwise Consumption of Energy Resources in Physical Units

Year	Coal #	Lignite	Crude Oil** MMT	Natural Gas (Billion Cubic Metres)	Electricity (GWh)
	(Million Tonnes)				
1	2	3	4	5	6
2012-13	713.39	46.31	219.21	57.37	8,24,300.99
2013-14	739.34	43.90	222.50	52.37	8,74,208.57
2014-15	822.13	46.95	223.24	51.30	9,48,521.67
2015-16	836.73	42.21	232.86	52.52	10,01,190.68
2016-17	837.22	43.16	245.36	55.70	10,61,182.64
2017-18	898.49	46.32	251.93	59.17	11,23,426.86
2018-19	968.36	45.81	257.20	60.80	12,09,971.63
2019-20	955.92	42.27	254.39	64.14	12,48,085.82
2020-21	906.33	38.49	221.77	60.82	12,30,207.98
2021-22 (P)	1,028.12	49.07	241.70	63.91	12,96,300.00
Growth rate of 2021-22 over 2020-21(%)	13.44	27.49	8.99	5.08	5.37
CAGR 2012-13 to 2021-22 (P) (%)	4.14	0.65	1.09	1.21	5.16

(P): Provisional

GWh = Giga Watt hour = 10⁶ x Kilo Watt hour

**Crude oil in terms of refinery crude throughput.

Does not include Lignite

Sources:

- Office of Coal Controller, Ministry of Coal
- Ministry of Petroleum & Natural Gas.
- Central Electricity Authority.

Table 6.2: Yearwise Consumption of Energy Resources in Energy Units

(In Petajoules)						
Year	Coal	Lignite	Crude Oil *	Natural Gas	Electricity #	Total
1	2	3	4	5	6	7
2012-13	10,794	442	9,380	2,222	2,967	25,805
2013-14	11,186	419	9,520	2,029	3,147	26,302
2014-15	12,439	448	9,552	1,987	3,415	27,841
2015-16	12,660	403	9,964	2,034	3,604	28,665
2016-17	12,667	412	10,499	2,157	3,820	29,556
2017-18	13,594	442	10,780	2,292	4,044	31,153
2018-19	14,651	437	11,006	2,355	4,356	32,805
2019-20	14,463	403	10,885	2,485	4,493	32,729
2020-21	13,713	367	9,489	2,356	4,429	30,354
2021-22 (P)	15,556	468	10,342	2,475	4,667	33,508
% Share in total consumption for 2021-22 (P)	46.4	1.4	30.9	7.4	13.9	100.0
CAGR 2012-13 to 2021-22 (%)	4.14	0.65	1.09	1.21	5.16	2.94

*: Crude oil in terms of refinery crude processed. (P): Provisional.
 #: Include Hydro, Nuclear and other renewable sources electricity from utilities
 Note: Here the value of energy in peta joules relates to the production value from Hydro and Nuclear only. Due to non availability of the data the consumption value is taken equivalent to production value
Sources: 1. Office of Coal Controller, Ministry of Coal
 2. Ministry of Petroleum & Natural Gas.
 3. Central Electricity Authority.

Chapter 6 : Consumption of Energy Resources

Table 6.3: Yearwise Consumption of Coal - Industrywise

(Million Tonnes)

Year	Electricity	Steel & Washery + Import Coking	Cement	Paper	Textile	Sponge Iron	Fertilizers & chemicals	Bricks	Others plus import non-coking *	Total
1	2	3	4	5	6	7	8	9	10	11 = 2 to 10
2012-13	446.76	51.70	13.11	2.12	0.30	20.90	2.86	2.01	173.62	713.39
2013-14	448.95	53.05	11.94	1.91	0.36	18.49	2.64	4.01	198.00	739.34
2014-15	497.70	56.24	11.36	1.65	0.42	17.77	2.70	0.09	234.22	822.13
2015-16	517.77	57.08	8.99	1.21	0.27	7.76	2.62	0.07	240.95	836.73
2016-17	535.04	51.98	6.36	1.18	0.24	5.56	2.45	0.10	234.31	837.22
2017-18	585.49	58.45	7.71	1.51	0.24	8.53	2.16	0.12	234.30	898.49
2018-19	621.64	64.65	8.82	1.64	0.20	12.09	1.79	0.09	257.44	968.36
2019-20	626.15	63.74	8.57	1.33	0.10	10.53	1.76	0.03	243.72	955.92
2020-21	581.23	60.17	6.75	1.05	0.08	9.57	1.53	0.03	245.93	906.33
2021-22 (P)	709.86	65.38	7.29	1.25	0.08	8.67	1.46	0.02	234.10	1,028.12
Percentage Distribution (in 2021-22)	69.04	6.36	0.71	0.12	0.01	0.84	0.14	0.00	22.77	100.00
Growth rate of 2021-22 over 2020-21(%)	22.13	8.66	7.94	19.62	2.50	-9.34	-4.19	-12.00	-4.81	13.44
CAGR 2012-13 to 2021-22(%)	5.28	2.64	-6.32	-5.69	-13.55	-9.31	-7.18	-39.43	3.38	4.14

(P): Provisional

* Includes Sponge Iron, colliery consumption, jute, bricks, coal for soft coke, fertilisers & other industries, import of non coking coal

Source : Office of the Coal Controller, Ministry of Coal

Table 6.4: Yearwise Consumption of Lignite - Industrywise

(Million Tonnes)

Year	Electricity	Steel & Washery	Cement	Paper	Textile	Brick	Others *	Total
1	2	3	4	5	6	7	8	9=2 to 8
2012-13	37.20	0.05	1.10	0.69	3.47	0.87	2.94	46.31
2013-14	36.34	0.03	1.49	1.29	0.73	1.00	3.02	43.90
2014-15	39.47	0.02	1.27	0.65	2.89	0.67	1.98	46.95
2015-16	37.56	0.01	0.23	0.43	1.73	0.39	1.87	42.21
2016-17	38.82	0.04	0.29	0.53	1.29	0.42	1.77	43.16
2017-18	38.84	0.12	1.09	0.76	2.46	0.38	2.67	46.32
2018-19	37.73	0.09	1.80	0.60	2.61	0.63	2.34	45.81
2019-20	36.33	0.02	1.00	0.55	0.16	0.47	3.75	42.27
2020-21	32.94	0.02	0.81	0.57	0.29	0.43	3.44	38.49
2021-22 (P)	38.76	0.27	1.55	0.78	3.40	0.54	3.78	49.07
Distribution (%) in 2021-22	78.98	0.55	3.15	1.59	6.92	1.11	7.70	100.00
Growth rate of 2021-22 over 2020-21(%)	17.67	-	-	-	-	-	9.98	27.49
CAGR 2012-13 to 2021-22(%)	0.46	20.78	3.89	1.34	-0.23	-5.05	2.83	0.65

(P): Provisional

* Includes Sponge Iron, colliery consumption., jute, bricks, coal for soft coke, chemicals, fertilisers & other industries consumption.

From 2009-10 onwards cotton is also included in others.

Source : Office of the Coal Controller, Ministry of Coal

Chapter 6 : Consumption of Energy Resources

Table 6.5 : Yearwise Consumption of Petroleum Products - Categorywise							
(Million Tonnes)							
Year	Light Distillates			Middle Distillates			
	LPG	Petrol	Naphtha	Kerosene	Aviation Turbine Fuel	High Speed Diesel Oil	Light Diesel Oil
1	2	3	4	5	6	7	8
2012-13	15.60	15.74	12.29	7.50	5.27	69.08	0.40
2013-14	16.29	17.13	11.31	7.16	5.50	68.36	0.39
2014-15	18.00	19.08	11.08	7.09	5.72	69.42	0.37
2015-16	19.62	21.85	13.27	6.83	6.26	74.65	0.41
2016-17	21.61	23.76	13.24	5.40	7.00	76.03	0.45
2017-18	23.34	26.17	12.89	3.85	7.63	81.07	0.52
2018-19	24.91	28.28	14.13	3.46	8.30	83.53	0.60
2019-20	26.33	29.98	14.27	2.40	8.00	82.60	0.63
2020-21	27.56	27.97	14.10	1.80	3.70	72.71	0.86
2021-22 (P)	28.33	30.85	14.28	1.49	5.01	76.69	1.02
% Distribution in 2021-22(P)	13.87	15.10	6.99	0.73	2.45	37.55	0.50
Growth rate of 2021-22 over 2012-13 (%)	2.80	10.30	1.25	-16.92	35.43	5.47	19.35
CAGR 2012-13 to 2021-22 (%)	6.85	7.76	1.68	-16.42	-0.57	1.17	11.01
(P) : Provisional							
Note: Consumption includes sales by oil companies, own consumption and direct private imports							
Total may not tally due to rounding off.							

Chapter 6 : Consumption of Energy Resources

Table 6.5 (Contd.) : Yearwise Consumption of Petroleum Products - Categorywise

Year	Heavy Ends				Others*	Total Consumption	Refinery Fuel and Losses	Total including Refinery Fuel and losses
	Fuel Oil	Lubricants	Bitumen	Petroleum coke				
	9	10	11	13	14	15=2 to 14	16	17
2012-13	7.66	3.20	4.68	10.13	5.51	157.06	18.35	175.40
2013-14	6.24	3.31	5.01	11.76	5.96	158.41	17.87	176.27
2014-15	5.96	3.31	5.07	14.56	5.87	165.52	17.67	183.19
2015-16	6.63	3.57	5.94	19.30	6.35	184.67	18.77	203.45
2016-17	7.15	3.47	5.94	23.96	6.59	194.60	20.07	214.67
2017-18	6.72	3.88	6.09	25.66	8.34	206.17	21.16	227.33
2018-19	6.56	3.67	6.71	21.35	11.72	213.22	21.45	234.67
2019-20	6.30	3.83	6.72	21.71	11.36	214.13	23.61	237.74
2020-21	5.59	4.10	7.52	15.61	12.79	194.30	22.81	217.10
2021-22 (P)	6.25	4.57	7.87	15.77	12.10	204.23	24.34	228.57
% Distribution in 2021-22 (P)	3.06	2.24	3.86	7.72	5.92	100.00	-	-
Growth rate of 2021-22 over 2020-21 (%)	11.96	11.54	4.65	1.07	-5.41	5.11	6.73	5.28
CAGR 2012-13 to 2021-22 (%)	-2.22	4.05	5.96	5.04	9.13	2.96	3.19	2.99
(P) : Provisional; Consumption includes sales by oil companies, own consumption and direct private imports * : Includes those of light & middle distillates and heavy ends and sales through private parties. Total may not tally due to rounding off.								
Source: Ministry of Petroleum & Natural Gas.								

Chapter 6 : Consumption of Energy Resources

Table 6.6 (A): Yearwise Consumption of Selected Petroleum Products - Sectorwise(end use)

('000 Tonnes)										
Petroleum Product	Year	Transport	Plantation/ Agriculture	Power Generation	Industry	Mining & Quarrying	Resellers/ Retail	Misc. Services	Pvt Imports	Total
1	2	3	4	5	6	7	8	9	10	11 =3 to10
High Speed Diesel Oil	2012-13	5160	617	214	1628	1073	58021	2320	47	69080
	2013-14	3203	429	204	687	873	61465	1426	77	68364
	2014-15	4617	575	197	794	998	60383	1768	83	69416
	2015-16	5765	630	224	1096	1184	63754	1940	55	74647
	2016-17	5658	607	208	1033	1224	65072	2179	46	76027
	2017-18	5999	618	223	1155	1255	69846	1887	90	81073
	2018-19	6210	639	222	1264	1465	71697	1938	93	83528
	2019-20	6011	616	214	1334	1542	70704	2064	117	82602
	2020-21	3257	571	204	1355	1642	63374	2232	79	72713
	2021-22 (P)	4089	530	213	1290	1540	66404	2552	67	76687
Growth rate of 2021-22 over 2020-21(%)		25.55	-7.05	4.83	-4.77	-6.20	4.78	14.32	-14.28	5.47
CAGR 2012-13 to 2021-22 (%)		-2.55	-1.67	-0.05	-2.55	4.10	1.51	1.07	4.16	1.17

Source : PPAC, MoPNG

Table 6.6(A-1) : Distribution of High Speed Diesel(HSD) under Retail/Reseller into different End-Use sectors
('000 Tonnes)

FY	Road Transport	Shipping	Railways	Agriculture	Power Generation	Other Consumer/ Industrial Goods	Miscellaneous	Total
2021-22(P)	51,662	531	1,394	3,187	1,062	4,183	4,383	66,404

Note : The above end-use distribution of *High Speed Diesel(HSD)* (under *Retail/Reseller* segment) has been made based on the findings mentioned in *Figure 17(End-use share(%) of diesel (retail and direct) across India) of Sectoral Study Report of PPAC (https://ppac.gov.in/uploads/rep_studies/1666932000_ExecutiveSummarySectoralConsumptionStudy.pdf)* .

Chapter 6 : Consumption of Energy Resources

Table 6.6 (B) : Yearwise Consumption of Selected Petroleum Products -

('000 Tonnes)

Petroleum	Year	Transport	Plantation/	Power	Industry	Mining &	resellers/	Misc.	Pvt	Total
1	2	3	4	5	6	7	8	9	10	11 = 3 to 10
Light Diesel Oil	2011-12	3	1	127	102	2	**	180	0	415
	2012-13	3	1	142	74	2	1	175	0	399
	2014-15	5	1	132	55	4	4	165	0	365
	2015-16	4	1	154	61	2	1	184	0	407
	2016-17	7	2	174	60	2	1	203	0	449
	2017-18	7	9	143	149	6	3	207	0	524
	2018-19	10	16	277	175	22	33	65	0	598
	2019-20	5	12	342	153	14	38	63	0	628
	2020-21	5	15	252	309	8	125	129	12	855
	2021-22 (P)	6	18	289	297	10	206	187	8	1020
Growth rate of 2021-22 over 2020-21(%)		19.88	15.97	14.39	-3.85	33.30	64.99	45.23	-35.91	19.35
CAGR 2012-13 to 2021-22(%)		7.76	33.51	8.17	16.69	17.38	86.43	0.77	-	11.01

Source : PPAC, MoPNG

Note: ** denotes that the data of Resellers / Retail are included in Miscellaneous services

**Table 6.6 (C) : Yearwise Consumption of Selected Petroleum Products -
Sectorwise(end use)**

('000 Tonnes)

Petroleum Product	Year	Transport	Plantation/ Agriculture	Power Generation	Industry	Mining & Quarrying	resellers/ Retail	Misc. Services	Pvt Imports	Total
1	2	3	4	5	6	7	8	9	10	11 = 3 to 10
Furnace Oil	2012-13	277	79	587	2019	12	351	2357	608	6291
	2013-14	315	75	536	1833	38	309	1985	696	5787
	2014-15	346	56	446	1748	45	197	2175	570	5584
	2015-16	380	57	430	2136	53	270	2564	592	6482
	2016-17	444	51	361	2492	71	357	2485	784	7046
	2017-18	601	50	314	2346	68	321	2234	672	6605
	2018-19	786	78	339	2577	54	298	1449	611	6195
	2019-20	849	71	303	2143	84	290	1398	775	5912
	2020-21	1022	80	226	1874	92	268	1330	316	5208
	2021-22 (P)	1159	65	312	2092	127	211	1388	455	5808
Growth rate of 2021-22 over 2020-21(%)		13.33	-19.01	37.82	11.59	38.93	-21.14	4.37	43.94	11.52
CAGR 2012-13 to 2021-22 (%)		17.25	-2.20	-6.79	0.39	29.48	-5.50	-5.71	-3.18	-0.88

Chapter 6 : Consumption of Energy Resources

Table 6.6 (D) : Yearwise Consumption of Selected Petroleum Products - Sectorwise(end use)

('000 Tonnes)									
Petroleum Product	Year	Plantation/ Agriculture	Power Generation	Industry	Mining & Quarrying	resellers/ Retail	Misc. Services	Pvt Imports	Total
1	2	3	4	5	6	7	8	9	10 =3 to 9
Low Sulphur Heavy Stock	2012-13	0.00	438.98	778.01	0.00	0.00	149.00	0.00	1365.99
	2013-14	0.00	328.14	76.32	0.00	0.00	44.25	0.00	448.71
	2014-15	0.00	226.18	103.54	0.00	0.00	47.50	0.00	377.22
	2015-16	0.00	50.70	70.45	0.00	0.00	29.23	0.00	150.38
	2016-17	0.00	16.43	50.88	0.00	0.00	36.91	0.00	104.23
	2017-18	1.18	0.00	53.78	0.31	14.67	46.33	0.00	116.27
	2018-19	7.90	9.31	175.13	0.00	48.04	128.67	0.00	369.04
	2019-20	6.42	17.88	201.93	0.00	50.29	113.02	0.00	389.54
	2020-21	6.79	10.71	196.23	0.00	48.50	115.97	0.00	378.20
	2021-22 (P)	6.51	29.66	191.26	0.00	67.39	151.88	0.00	446.70
Growth rate of 2021-22 over 2020-21(%)		-4.15	-	-2.53	-	38.94	30.97	-	18.11
CAGR 2012-13 to 2021-22 (%)		-	-25.87	-14.44	-	-	0.21	-	-11.68

Table 6.6 (E) : Yearwise Consumption of Selected Petroleum Products - Sectorwise(end use)

('000 Tonnes)												
Petroleum Product	Year	Transport	Plantation/ Agriculture	Power Generation	Manufacturing/Non domestic	Mining	Domestic Distribution	Non- Domestic /Industry/Commercial	Reseller/ Retail	Other/ Misc. Services	Private import	Total
1	2	3	4	5	6	7	8	9	10	11	12	13=sum of (3) to (12)
Liquefied Petroleum Gas	2012-13	215	4	0	145	0	13568	1168	59	45	398	15,601
	2013-14	195	4	3	135	0	14412	1074	58	46	369	16,294
	2014-15	165	6	3	208	0	16040	1051	45	53	429	18,000
	2015-16	172	7	3	202	0	17182	1464	45	60	489	19,623
	2016-17	168	8	2	220	0	18871	1776	67	67	429	21,608
	2017-18	185	7	1	205	0	20352	2086	74	67	364	23,342
	2018-19	181	22	2	204	0	21728	2364	0	89	316	24,907
	2019-20	173	26	1	153	0	23076	2614	0	82	204	26,330
	2020-21	119	28	0	215	2	25128	1886	1	115	64	27,558
	2021-22 (P)	123	30	0	180	3	25502	2239	2	174	76	28,330
Growth rate of 2021-22 over 2020-21(%)		3.34	5.19	15.82	-16.27	-	1.49	18.71	-	50.87	18.92	2.80
CAGR 2012-13 to 2021-22 (%)		-6.01	25.86	-	2.43	-	7.26	7.50	-29.69	16.29	-16.78	6.85
Note: ** denotes that the data of Resellers / Retail are included in Miscellaneous services												

Chapter 6 : Consumption of Energy Resources

Table 6.6 (F) : Yearwise Consumption of Selected Petroleum Products - Sectorwise(end use)								
('000 Tonnes)								
Petroleum Product	Year	Fertiliser Sector	Petro chemicals	Power Sector	Steel Plants	Others	Private import	Total
1	2	3	4	5	6	7	8	9 =3 to 8
Naptha	2012-13	897.96	9412.21	342.01	0.00	203.07	1434.16	12289.40
	2013-14	515.90	9463.94	215.11	0.00	240.27	869.98	11305.20
	2014-15	301.49	9530.06	199.24	0.00	207.53	843.71	11082.03
	2015-16	315.89	10350.23	50.30	0.00	37.07	2517.36	13270.84
	2016-17	349.35	10209.80	60.20	0.00	198.68	2422.75	13240.78
	2017-18	367.74	10010.95	66.53	0.00	404.90	2038.49	12888.61
	2018-19	351.61	10601.63	5.26	0.00	461.66	2711.08	14131.23
	2019-20	149.65	10874.49	0.41	0.00	879.64	2363.58	14267.78
	2020-21	65.66	11339.35	70.22	0.00	885.20	1739.92	14100.36
	2021-22 (P)	0.00	11903.71	5.95	0.00	799.48	1567.44	14276.58
Growth rate of 2020-21 over 2019-20(%)		-	4.98	-91.53	-	-9.68	-9.91	1.25
CAGR 2011-12 to 2020-21 (%)		-	2.64	-36.25	-	16.45	0.99	1.68

Table 6.6 (G) : Yearwise Consumption of Selected Petroleum Products - Sectorwise(end use)					
('000 Tonnes)					
Petroleum Product	Year	Domestic	Commercial/ Industry	Others	Total
1	2	3	4	5	6=3 to 5
SKO(Kerosene)	2012-13	7349.04	37.18	115.28	7502
	2013-14	7008.86	107.30	48.61	7165
	2014-15	6917.34	60.11	109.26	7087
	2015-16	6648.94	63.94	113.43	6826
	2016-17	5197.24	84.00	115.58	5397
	2017-18	3633.59	96.99	114.54	3845
	2018-19	3231.21	97.30	130.95	3459
	2019-20	2173.71	86.52	136.60	2397
	2020-21	1586.61	68.61	142.65	1798
	2021-22 (P)	1291.77	63.75	138.14	1494
Growth rate of 2021-22 over 2020-21(%)		-18.58	-7.09	-3.16	-16.92
CAGR 2012-13 to 2021-22 (%)		-17.57	6.18	2.03	-16.42

Table 6.7: Yearwise Consumption of Natural Gas - Sectorwise

(Figures in MMSCM)

Sector	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22 (P)	% Share of Total
1	2	3	4	5	6	7	8	9	10	11	12
(a) Energy Purpose											
Power	16,078	11,284	10,720	10,889	11,616	12,028	12,005	11,080	10,836	10,157	15.89
Industrial & Manufacturing	269	261	533	545	794	999	1,086	701	555	829	1.30
City or Local Natural Gas Distribution Network incl. Road Transport	5,780	5,904	5,416	5,464	7,350	8,585	9,206	10,883	9,230	12,175	19.05
Agriculture (Tea Plantation)	182	196	180	187	183	189	192	200	177	156	0.24
Internal Consumption for Pipeline System	387	372	351	410	471	496	541	525	439	486	0.76
Refinery	3,891	3,968	4,575	5,077	5,374	6,533	7,047	7,786	7,911	5,312	8.31
LPG Shrinkage	1,027	982	1,005	754	759	798	874	858	900	1,070	1.67
Miscellaneous	7,976	7,479	5,941	4,111	3,929	3,226	3,393	4,209	4,569	9,229	14.44
Total (a)	35,590	30,446	28,721	27,437	30,478	32,854	34,343	36,241	34,617	39,414	62
(b) Non-Energy Purpose											
Fertilizer Industry	14,733	15,869	15,190	16,135	15,429	14,676	14,987	16,115	17,781	18,079	28.29
Petrochemical	2,486	2,405	2,890	3,733	4,170	4,024	3,386	3,569	3,072	2,864	4.48
Sponge Iron	1,106	274	154	544	885	1,278	1,124	567	647	1,134	1.77
Total (b)	18,325	18,548	18,234	20,412	20,484	19,978	19,497	20,251	21,500	22,077	35
Total Sectorial Sales (a+b)	53,915	48,994	46,955	47,849	50,961	52,832	53,840	56,492	56,117	61,491	96
Total Consumption **	57,367	52,375	51,300	52,517	55,697	59,170	60,796	64,144	60,815	63,907	100
Total Consumption in MMSCMD	157.17	143.49	140.55	143.49	152.59	162.11	166.57	175.26	166.62	175.09	

Note: **: Availability Basis (Net Production+LNG Imports)

P: Provisional

1. Re-classification among the sectors of consumption of natural gas under energy and non-energy sectors, has been done depending on usage. Sectors where natural gas is being used as feedstock are classified

2. Sectorial Sales/consumption of natural gas includes RLNG.

3. Total may not tally due to rounding off.

4. The reasons for the variation between the consolidated availability and the consumption can be attributed to stock changes, conversion factor (volume/energy) and the provisional data reported by the

Source: PPAC

Note : LPG shrinkage is being shifted from Non-Energy purpose to Energy Purpose. Since, LPG shrinkage is a transformation process and LPG produced is further

used for energy purposes to meet domestic / household energy requirements. Therefore, it has been shifted from 'non energy purpose' to 'energy purpose'

Chapter 6 : Consumption of Energy Resources

Table 6.8: Yearwise Consumption of Electricity - Sectorwise

(in Giga Watt Hour = 10⁶ Kilo Watt Hour)

Year	Industry	Agriculture	Domestic	Commercial	Traction & Railways	Others	Total Electricity Consumed
1	2	3	4	5	6	7	8=2 to 7
2012-13	3,65,989	1,47,462	1,83,700	72,794	14,100	40,256	8,24,301
2013-14	3,84,418	1,52,744	1,99,842	74,247	15,540	47,418	8,74,209
2014-15	4,18,346	1,68,913	2,17,405	78,391	16,177	49,289	9,48,522
2015-16	4,23,523	1,73,185	2,38,876	86,037	16,594	62,976	10,01,191
2016-17	4,40,206	1,91,151	2,55,826	89,825	15,683	68,493	10,61,183
2017-18	4,68,613	1,99,247	2,73,545	93,755	17,433	70,834	11,23,427
2018-19	5,19,196	2,13,409	2,88,243	98,228	18,837	72,058	12,09,972
2019-20	5,32,820	2,11,295	3,08,745	1,06,047	19,148	70,031	12,48,086
2020-21	5,08,776	2,21,303	3,30,809	86,950	14,668	67,701	12,30,208
2021-22 (P)	5,33,500	2,29,000	3,34,000	1,07,500	19,800	72,500	12,96,300
% share in 2021-22(%)	41.16	17.67	25.77	8.29	1.53	5.59	100.00
Growth rate of 2021-22 over 2020-21(%)	4.86	3.48	0.96	23.63	34.99	7.09	5.37
CAGR 2012-13 to 2021-22 (%)	4.28	5.01	6.87	4.43	3.84	6.76	5.16

(P): Provisional

Source : Central Electricity Authority.

Table 6.9 : Electricity Generated (from Utilities), Distributed, Sold and Transmission Losses

in Giga Watt hour =10⁶ Kilo Watt hour

Year	Net Electricity Generated from Utilities	Purchases from Non-Utilities + Net Import from Other Countries	Net Electricity Available for Supply	Sold to Ultimate Consumers	Loss in transmission & distribution	Loss in transmission & distribution (%)
1	2	3	4=2+3	5	6=4-5	7
2012-13	9,00,380	20,849	9,21,229	7,08,997	2,12,232	23.04%
2013-14	9,56,488	17,948	9,74,436	7,51,908	2,22,528	22.84%
2014-15	10,40,582	13,773	10,54,355	8,14,250	2,40,105	22.77%
2015-16	10,88,282	15,947	11,04,228	8,63,364	2,40,864	21.81%
2016-17	11,54,314	8,977	11,63,290	9,14,093	2,49,197	21.42%
2017-18	12,21,307	11,198	12,32,505	9,73,131	2,59,375	21.04%
2018-19	12,88,393	19,291	13,07,685	10,37,518	2,70,167	20.66%
2019-20	13,00,116	22,932	13,23,048	10,52,346	2,70,701	20.46%
2020-21	12,92,715	21,310	13,14,025	10,41,656	2,72,369	20.73%
2021-22 (P)	14,00,586	24,450	14,25,036	11,26,030	2,91,410	20.45%
Growth rate of 2021-22 over 2020-21(%)	8.34	14.73	8.45	8.10	6.99	-1.34
CAGR 2012-13 to 2021-22 (%)	5.03	1.79	4.97	5.27	3.59	-1.32

(P): Provisional

Source : Central Electricity Authority.