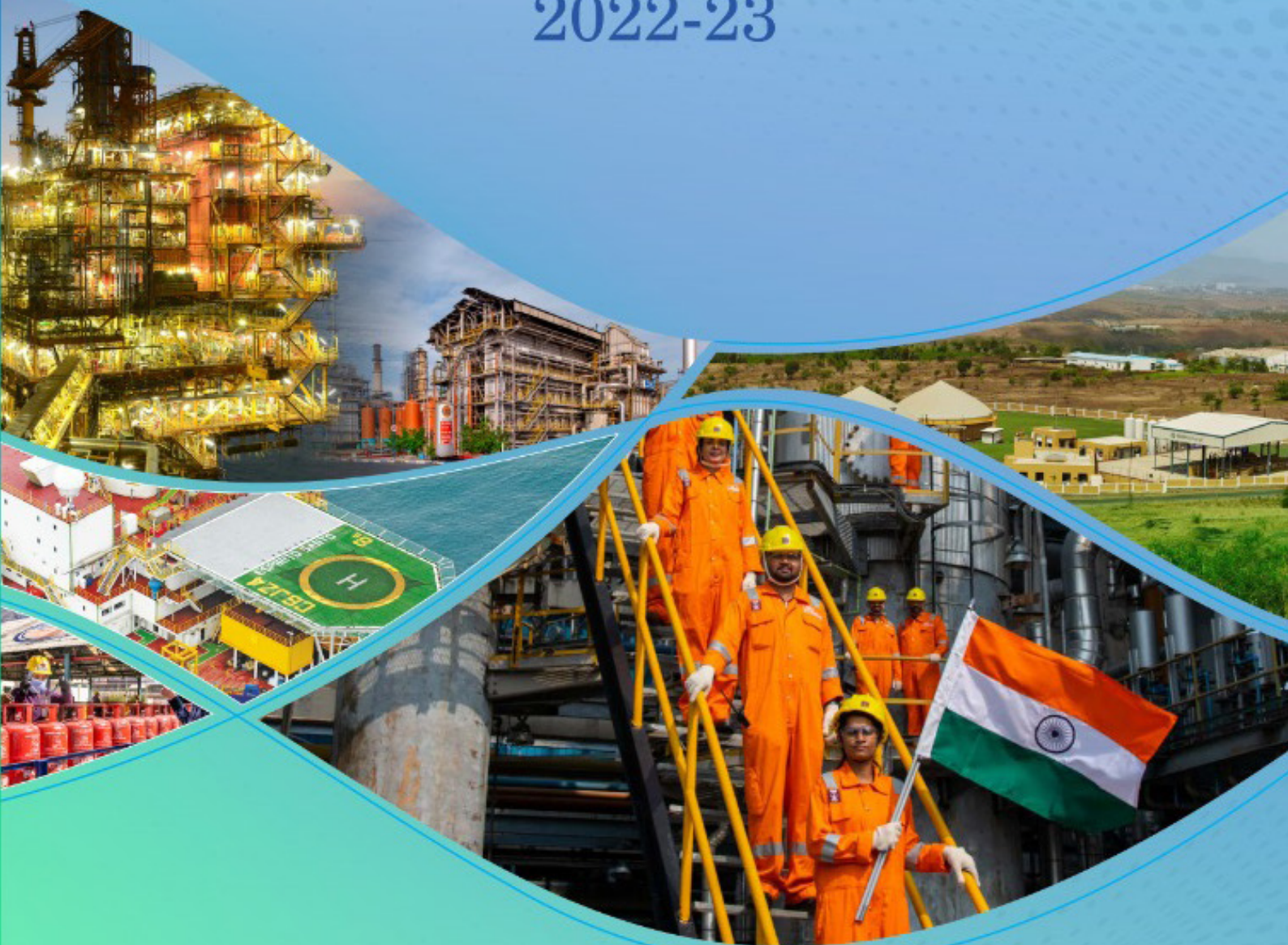


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Azadi Ka  
Amrit Mahotsav



# INDIAN PETROLEUM & NATURAL GAS STATISTICS 2022-23



**Government of India**  
**Ministry of Petroleum and Natural Gas**  
**Economic & Statistics Division**





सत्यमेव जयते

**Economic & Statistics Division**  
**Ministry of Petroleum and Natural Gas**  
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हरदीप एस पुरी  
**HARDEEP S PURI**



सत्यमेव जयते



पेट्रोलियम एवं प्राकृतिक गैस;  
 आवासन और शहरी कार्य मंत्री  
 भारत सरकार  
 Minister of  
 Petroleum and Natural Gas;  
 Housing and Urban Affairs  
 Government of India

## MESSAGE

Under the visionary leadership of the Hon'ble Prime Minister Shri Narendra Modi, India has emerged as the fastest-growing major economy in the world. In this period of our nation's *Amrit Kaal*, India is firmly moving towards achieving the target of becoming a \$26 trillion economy by 2047. India's burgeoning economic footprint brings with it increasing energy demands. The Oil and Gas sector continues to be an integral component of India's growth story.

Our commitment to energy security, and affordable and reliable energy access is absolute. The Modi government has undertaken landmark reforms in the hydrocarbon industry, across the upstream, midstream and downstream sectors. This vision is further strengthened by an integrated approach with a focus on renewable and traditional fuels, all in the pursuit of ensuring our energy security.

Data plays a pivotal role in the Oil and Gas sector. It can help unlock the potential of various programmes and new initiatives by incorporating such Artificial Intelligence, Data Analytics and other emerging technologies. I am glad that the 'Indian Petroleum & Natural Gas Statistics' captures these possibilities and presents comprehensive information as well as quality, reliable and accurate statistics related to the Oil and Gas sector in India.

I am confident that this compilation will come in handy for policymakers, investors, and practitioners in the industry who seek to tap into the tremendous potential of the Oil and Gas sector in India.

  
 (Hardeep S Puri)

11 January 2024  
 New Delhi



रामेश्वर तेली  
RAMESWAR TELI  
ৰামেশ্বৰ তেলী



सत्यमेव जयते



आज़ादी का  
अमृत महोत्सव

पेट्रोलियम एवं प्राकृतिक गैस और  
श्रम और रोजगार राज्य मंत्री  
भारत सरकार  
Minister of State for  
Petroleum and Natural Gas &  
Labour and Employment  
Government of India

## MESSAGE

Energy has been crucial for human progress since the Industrial Revolution, and it will remain a mainstay of India's economic development. India accounts for around 18 percent of the world's population. It currently consumes only around 6 percent of the world's primary energy resources. India's per capita energy consumption is roughly one-third of the global per capita average. But with the country's increasing growth and prosperity, its energy demand will also rise in the coming years. The priority for the government is to ensure access to sustainable and clean energy sources.

The Government is actively working to fulfil objectives of Sustainable Development Goal 7 (SDG 7)- ensure access to affordable, reliable, sustainable and modern energy for all through strategic interventions. Government has taken various steps to achieve the five nectar elements (Panchamrit) of India's climate action, as outlined by the Hon'ble Prime Minister at COP-26 by achieving the target of net zero emissions by 2070 and reduction of the carbon intensity of the economy by 45 per cent by 2030.

This publication, entitled 'Indian Petroleum & Natural Gas Statistics,' is the 57<sup>th</sup> edition in the series. It presents an integrated and holistic database on Oil and Gas statistics. Statistics play a vital role in capturing trends, making realistic projections, and facilitating evidence-based policy decisions. Therefore, the significance of this aggregated energy resource data makes it a crucial tool for providing a comprehensive overview of the evolving energy landscape within the nation.

I am confident that this publication would serve as an essential resource for a wide range of stakeholders including policymakers, administrators, researchers, and academicians.

*Rameswar Teli*  
11/11/23  
(Rameswar Teli)





पंकज जैन  
सचिव  
**Pankaj Jain**  
Secretary



सत्यमेव जयते



भारत सरकार  
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November 7, 2023

### Foreword

Energy is a fundamental to economic development and plays a pivotal role in driving a country's growth story. In India's energy portfolio, the Oil & Gas sector holds a significant share of around one-third and is poised to continue serving as a critical enabler for India's rapidly growing economy. In recent years, India has witnessed a huge transformation in the hydrocarbon sector, with a focus on enhancing energy security, accessibility, and sustainability. In a proactive move to reduce dependence on fuel imports and address environmental challenges, India has achieved a target of 12% ethanol blending, and is now actively striving to attain a 20% ethanol blending target by 2025-26. Government is promoting cleaner fuels such as biofuels and hydrogen through initiatives like 2G bio refineries, SATAT projects, and Green Hydrogen Mission. These efforts contribute to achieving energy independence and Net-Zero emissions, aligning with the goals of the Panchamrit (five nectar elements) outlined at COP-26.

Decision making and course corrections for this require data. The 57<sup>th</sup> edition of this publication presents a comprehensive and up-to-date database of the Nation's Oil & Gas Sector. This repository of information stands as a crucial tool for shaping policies that encompass the entire spectrum of hydrocarbon data, encompassing reserves, production, capacity, trade, pricing, taxation, consumption, workforce, and trade. It serves as a crucial data source for Crude Oil, Natural Gas, LNG, Petroleum Products, and Biofuels.

I would like to express my deep appreciation to the dedicated officers and staff of the Economic & Statistics Division under the Ministry for their outstanding work in producing this comprehensive publication. I am confident that this publication will become an invaluable reference for policy makers, planners, administrators, academicians, industry professionals, and researchers.

[Pankaj Jain]





**Praveen M. Khanooja**  
Additional Secretary



भारत सरकार  
पेट्रोलियम एवं प्राकृतिक गैस मंत्रालय  
शास्त्री भवन, नई दिल्ली - 110 001  
Government of India  
Ministry of Petroleum and Natural Gas  
Shastri Bhawan, New Delhi - 110 001



### MESSAGE

Energy stands as a pivotal element in powering economic growth. The Sustainable Development Goal (SDG) 7 is about ensuring access to clean, affordable, reliable, sustainable and modern energy. Access to clean energy is an essential factor in elevating the standard of living for citizens in any country. It serves as one of the fundamental building blocks for human development and plays a key role in supporting a nation's economic growth. Key statistical information related to energy data is invaluable for understanding the energy consumption patterns and usage trend, as well as for guiding strategic decision-making and policy formulation to achieve future energy-related goals.

It is a matter of great satisfaction that the Economic & Statistics Division of this Ministry is bringing out the Annual publication, 'Indian Petroleum & Natural Gas Statistics 2022-23'. This publication provides a comprehensive repository of statistics pertaining to the Indian Oil and Gas sector. It is a valuable resource that is not only extensively used in India but is also widely referred to by the International stakeholders. 57<sup>th</sup> edition of this report is a significant milestone for a publication that has diligently documented the evolution of India's hydrocarbon sector since 1967.

I compliment the officers and staff of Economic & Statistics Division, led by Deputy Director General, for their dedicated and sustained efforts to bring out this publication. I am confident that this edition will continue to serve as a valuable resource for planners, policy makers, and researchers in the Indian Oil & Gas sector.

  
6.11.2023  
(Praveen M. Khanooja)

Date: 06<sup>th</sup> November, 2023  
New Delhi

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डी. के. ओझा  
उप महानिदेशक  
**D. K. Ojha**  
Deputy Director General



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पेट्रोलियम एवं प्राकृतिक गैस मंत्रालय  
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## PREFACE

The Ministry of Petroleum and Natural Gas publishes the Annual report 'Indian Petroleum and Natural Gas Statistics 2022-23' with the objective of offering a credible, comprehensive, and up-to-date database of the Oil and Gas sector in India.

The integrated and updated database in this publication offers an objective overview of developments over the entire gamut of India's hydrocarbon sector, including exploration, production, refining, transportation, marketing, imports and exports of crude oil and petroleum products, taxes and duties, as well as the workforce in Oil & Gas CPSEs. It also provides insights into the global petroleum scenario through user-friendly graphics, charts, and tables. The publication concludes with a list of definitions and appendices, including conversion factors.

I would like to express my gratitude to the concerned Ministries/Departments, Oil & Gas CPSEs, and attached offices of M/o PNG for their cooperation and seamless support in providing the necessary information and data to M/o PNG.

I would like to express my deep appreciation for the dedicated efforts of my team in the Economic & Statistics Division in bringing out this publication. I extend my gratitude to Ms. Mamta (Director), Shri Sailesh Kumar (Assistant Director), and Shri Shyam Lal (Senior Statistical Officer) for their pivotal roles in data collection, compilation, analysis, reporting, and graphic design. I also want to convey my special thanks to the technical officers of the E&S Division Shri Kishor Kumar Sahu, Shri Amit Duhan, Shri Ramit Kalia and Ms. Ayushi Jain for their invaluable insights and suggestions based on their expertise and knowledge of energy data management

Any suggestions/comments towards improving any aspect of the publication would be welcome and highly appreciated.

New Delhi  
8<sup>th</sup> November, 2023

  
(D. K. Ojha)





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## SCOPE AND COVERAGE OF DATA PUBLISHED

1. **Scope:** The “**Indian Petroleum & Natural Gas Statistics**” presents updated comprehensive statistics on various aspects of Indian Petroleum & Natural Gas sector. The data on international developments in respect of the key parameters of Petroleum and Natural Gas sector have also been captured in the publication.
2. **Coverage:** The Statistics presented in the current publication cover the exploration, production, refining, alternate fuels, marketing activities, etc. of Oil and Gas sector.
3. **Source:** The primary statistics in respect of petroleum and natural gas industries included in the publication are based on various information, submitted by the Oil & Gas Central Public Sector Enterprises (CPSEs), Joint Venture companies and Private companies under the Ministry of Petroleum & Natural Gas.

The sources of all the secondary data, including International Statistics, incorporated in the publication, have been indicated at the bottom of relevant tables.

4. **Limitations:** The data in respect of sales/consumption of petroleum products reflect dispatches of various petroleum products from the sales depots of different oil companies to the bulk consumers / retail outlets. The state-wise sales/consumption of such products show dispatches to direct consumers / retail outlets meant for consumption / sales in a particular state.
5. **Reference Period:** Key statistics for the domestic petroleum and natural gas industries have been presented on calendar (January-December) as well as on financial year (April-March) basis.
6. **Natural Gas:** The gross production of natural gas reflects gross withdrawals of natural gas from reservoir. On the other hand, the net production of natural gas show gross withdrawal of natural gas from reservoirs less gas used for reinjection into reservoirs for pressuring gas which is flared and / or vented/loss.

The utilization data for natural gas includes gas marketed, gas used for LPG extraction and gas consumed for field operations by the companies engaged in hydrocarbons exploration / production activities.

7. **Petroleum Imports:** The crude oil and product import figures given in the publication includes crude oil / petroleum products imported by the oil PSUs, private and parallel marketers on behalf of Nepal for processing of crude oil in Indian refineries and arranging supplies of desired products to Nepal. Petroleum products actually brought into the country from processing of Indian and International crudes at foreign refineries for Indian oil companies have also been included under the product import figures.



8. **Value of Import/Export:** The value data in respect of exports of petroleum included in the publication show F.O.B. value of exports whereas similar value figures for imports reflect C.I.F. value of imports.
9. **Revision / Modification / Updation:** The statistics provided in this publication for the current year is provisional in view of the time lag involved in receipt of actual figures. In view of this, some information based on provisional data may undergo change as and when the actual data are available.

Necessary revision / updation in the past data has been made in the light of latest available figures. To illustrate:

- (a) Data on international statistics of certain parameters like world crude oil exports taken from different sources viz. OPEC Bulletins and BP Statistical Review may not tally due to difference in coverage and methodology used.
  - (b) Based on BP statistics a new table on the World Imports of LNG (Country-wise) included in the Chapter- XI (International Petroleum Statistics)
10. **Abbreviations:** Details of abbreviations used have been provided in Appendix.
  11. **Conversion factor:** The conversion factors generally used in the Oil & Gas sector are also given in the Appendix.

Errors or Omissions and Commissions, if any, detected may kindly be brought to the notice of the Deputy Director General, Economic & Statistics Division, Ministry of Petroleum & Natural Gas at email [d.k.ojha@gov.in](mailto:d.k.ojha@gov.in) for rectification in the subsequent issue.



# CHAPTER -I



## **Oil & Gas Sector at a Glance**



## Introduction

India has achieved noteworthy economic milestones in recent years. In 2022, the country became the fifth largest economy in the world. Furthermore, in 2023, India is estimated to surpass China in terms of population, marking a momentous economic achievement due to its relatively youthful demographic. The average age of the Indian population is approximately 28 years, in stark contrast to the aging Chinese population with an average age of 39 years. In advanced economies, in contrast, populations are ageing, which will likely lead to slower growth of the labour force and economy and rising budgetary pressures.

The COVID-19 pandemic and Russia-Ukraine war have created a volatile global environment. As governments worldwide focus on bolstering domestic security, with a particular emphasis on energy security, India's role as the current G20 presidency offers a unique opportunity to lead discussions on critical global issues, notably climate change. India has already achieved its commitments to reduce emissions intensity by 33-35% compared to 2005 levels, and to produce 40% of its electricity from non-fossil fuel-based energy sources. India took a further step forward in August 2022 when it enhanced its nationally determined contribution, in line with its goal to achieve net-zero emissions by 2070. However, like many developing countries, India also faces the challenge of balancing environmental sustainability and ensuring energy security as well as energy equity for its people.



Energy is the mainstay of socio-economic growth and development for a nation like India which is currently the third largest primary energy consumer while its per-capita energy consumption is only a third of the global average. As per various projections, India's Energy Demand is expected to grow at 2.7% till 2050 as compared to World's 0.6%. India constitutes ~6% of the global primary energy demand wherein it constitutes 9.4% of the global oil demand and 2.2% of the global gas demand. This provides a scope and opportunity for increasing energy consumption by India in near future and it being the central driving force in the global energy narrative. The Oil & Gas sector holds a prominent position as one of India's eight core industries, exerting significant influence on decision-making across various sectors of the economy.

India's Energy Demand is expected to grow at **2.7%** till 2050 as compared to World's **0.6%**.

India is striving towards ensuring energy justice through accessibility and affordability which will be the key driver towards increasing per-capita energy demand in near future. The Hon'ble PM has envisaged four pillars of India's energy future – energy access, energy efficiency, energy sustainability and energy security. These four pillars are crucial for India as it marches ahead in its ambition to become an economic powerhouse in the world.

The demand for energy is met mostly by fossil fuels as fossil fuels make up 88% of India's primary energy requirement. Coal accounts for 55% of the energy mix, oil and gas account for 28% and 6% respectively. During the



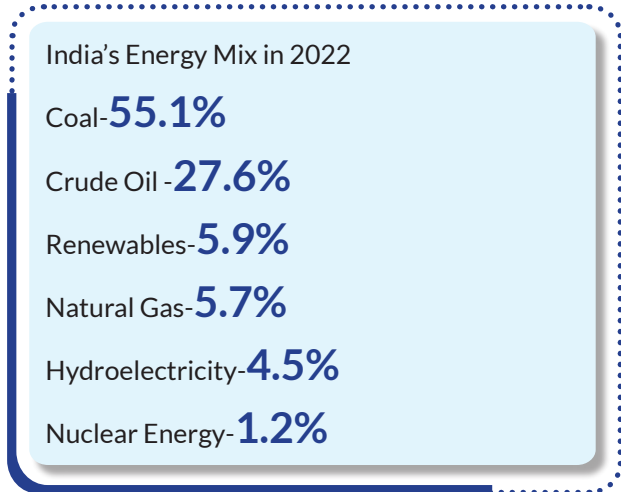


financial year 2022-23, domestic crude oil production was about 29.18 Million Metric Tonne (MMT) while the production of natural gas stood at 34.45 BCM.

The country's current oil and gas production falls short of meeting its energy demand, resulting in the need to import crude oil and natural gas. Approximately 78% of crude oil production is undertaken by National Oil Companies (such as ONGC and OIL) through the nomination regime, while the remaining 22% is handled by Private/Joint Venture companies and NOCs under the Contract Regime. As far as production of natural gas is concerned, 67% of natural gas production was by National Oil Companies from nomination regime, 33% of natural gas production was by Private/JV companies/ NOCs from Contract regimes (inclusive of ~2% was from Coal Bed Methane). The import dependency on crude oil and natural gas based on consumption of petroleum products in 2022-23 was about 87.4% and 43.9% respectively.

The global energy landscape is witnessing rapid changes in view of the climate commitments and geopolitical situations. This has driven the need for a discussion and proactive steps towards low-carbon pathways and decarbonization throughout the energy value chains. Hon'ble Prime Minister's has outlined his vision on Energy Transition in COP-26 at Glasgow in 2021, known as "Panchamrut", which quantified:

- To raise the non-fossil fuel-based energy capacity of the country to 500 GW by 2030.
- To meet 50% of the country's energy requirements using renewable energy sources by 2030.
- To reduce the total projected carbon emission by one billion tonnes between now and the year 2030.
- To reduce the carbon intensity of the economy to less than 45% by 2030
- To become carbon neutral and achieve net zero emissions by the year 2070.



This emphasizes the shift toward non-fossil fuel energy infrastructure and aims to achieve carbon neutrality by 2070, thereby reducing emissions to net-zero. Simultaneously, India is expected to double its energy demand by 2050 wherein the energy mix will be crucial in deciding the energy transition and fuels of the future. The focus towards emerging fuels and alternate energy will act as key driver and lever in designing the futuristic energy systems and formulating an effective national energy policy. The issue of energy transition, diversification of energy basket, energy independence and energy security shall be affecting the energy mix of India in the years ahead

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Meeting the rising demand for energy resources in an economically viable, environmentally sustainable manner poses a formidable national challenge. Increasing oil and gas production in near future will require a targeted effort to boost production from both producing fields and fields under development to arrest the decline. However, domestic production of crude oil has been static or declining over the years. Production enhancement from existing fields alone, which are mostly mature or maturing, is possible to a limited extent only.

A multi-pronged approach is required for achieving production targets such as enhancing production from already producing fields (old & new), speedy execution of FDPs (Field Development Plans) in existing and new fields, monetization of un-monetized fields and discoveries, augmenting inventory of flowing wells, effective implementation of production enhancement contracts (PEC), Production linked incentives in existing acreages, scouting technology partners to develop difficult plays like Tight oil/gas and HP-HT reservoirs, exploration of unconventional resources like CBM, Shale Oil / Gas in existing and new acreages etc.

New and substantial discoveries of hydrocarbon accumulations are critical to increase domestic production of natural gas and crude oil. Aggressive drilling of exploratory wells in unexplored areas as well as play-based explorations in less explored areas is the need of the hour, with the participation of global oil majors. A two-pronged approach for increase domestic production is needed: (a) exploration in mining lease areas targeting unproven plays and missed/by-passed oil and (b) aggressive award of large exploration acreages, especially in deep-water and ultra-deep-water areas, aiming at substantial discoveries for monetization.

It is necessary to accelerate exploration, especially in frontier offshore areas, and attract foreign capital through exploration-led, data driven strategies and effective outreach. The focus of exploratory efforts should be on 'Yet to Find' hydrocarbon resources. Simultaneously, emphasis on enhancing production from existing fields, albeit mostly mature or maturing, is critical to sustain and enhance the current levels of domestic production of oil and gas. The primary goal is to boost recovery rates and production from our reserves by leveraging cutting-edge technology, innovative processes, and strategic partnerships.

The strategy for enhancing domestic production and reducing dependence on import needs to be tailored to the current global scenario and investment climate. In view of increasing domestic energy needs and growing climate concerns, shrinking investment in greenfield E&P projects and increasingly stiff competition from other countries to attract foreign capital in E&P Sector, it is imperative to adopt fresh and comprehensive measures to attract private investors in the Indian E&P sector.

In order to locate 'Yet to Find' hydrocarbon resources, the active area of sedimentary basins needs to go up significantly to translate into greater resource accretion through award of larger exploration acreages under the forthcoming OALP bidding rounds. To achieve this objective, key strategic priorities are acreage accretion, with thrust on play-based exploration, time bound completion of exploratory work programme, complete seismic survey up to EEZ boundary, exploration of the petroliferous Andaman basin, special bid rounds for offshore areas and North-East, upgradation of NDR and new data acquisition /dissemination policy and National Geo-scientific data acquisition & drilling programme etc-

Government of India is driving its efforts in evolving a comprehensive energy security mechanism. To become "Aatmanirbhar", India must reduce its import dependency, which means that it should fully exploit its existing hydrocarbon resources through accelerated E&P (Exploration & Production) activities.

### PANCHAMRUT

- To raise the non-fossil fuel based energy capacity of the country to **500 GW** by 2030.
- To meet **50%** of the country's energy requirements using renewable energy sources by 2030.
- To reduce the total projected carbon emission by one billion tonnes between
- To become carbon neutral and achieve net zero emissions by the year 2070 now and the year 2030.
- To reduce the carbon intensity of the economy to less than **45%** by 2030.







Government has adopted a five-pronged strategy comprising increasing domestic production of oil and gas, promoting energy efficiency and conservation measures, giving thrust on demand substitution, promoting biofuels and other alternate fuels/ renewables, EV charging facilities and refinery process improvements for reducing the country's oil dependence on imported crude oil.

Further, India has achieved the target of 10 percent ethanol blending in June 2022, 5 months ahead of schedule. India's first pure green hydrogen plant commissioned in Jorhat. Oil India Limited (OIL) has taken the first significant step towards Green Hydrogen Economy in India with the commissioning of India's First Pure Green Hydrogen pilot plant, with an installed capacity of 10 kg per day at its Jorhat Pump Station in Assam. The Government has also taken various steps towards achieving 20% blending of ethanol in petrol by 2025 which includes allowing use of sugarcane, damaged food grains and maize for conversion to ethanol. The National Policy on Biofuels – 2018 prescribes an indicative target of 5% blending of biodiesel in diesel by 2030. Thrust is being given to Advanced Biofuels such as Second Generation (2G) Ethanol, Bio CNG/ Compressed Bio Gas (CBG), UCO based biodiesel etc. which can be sourced from wastes such as crop residues, Biomass, industrial waste, sewage water etc. and are abundantly available in the Country. 'SATAT' (Sustainable Alternative Towards Affordable Transportation) scheme for CBG was launched in 2018 which envisages targeting production of 15 MMT of CBG from 5000 plants by 2023.

## I.1 Glance of Crude Oil

Around 12.6% of our oil demand fulfilled through the indigenous source and currently we are 87.4% depend on the import of crude oil to fulfilled the domestic demand of oil. The production of crude oil production during the year 2022-23 is at 29.18 Million Metric Tonnes (MMT) as against production of 29.69 MMT in 2021-22, showing a decline of 1.72%. Out of the total crude oil production, there is contribution of 66.8% (19.49 MMT) from ONGC (nomination), 10.8% (3.16 MMT) from OIL (nomination) and 22.4% (6.53 MMT) from PSC/RSC regime. The reasons for lower domestic oil production are inter-alia declining production from old and marginal fields, unplanned shutdown and operational losses from few producing.

As of April 2023, India's oil refining capacity stood at 253.9 million metric tonnes per annum (MMTPA) from 251.2 MMTPA in FY 2022 - 23 as the Refining Capacity of HPCL - VISHAKH refinery has increased from 8.3 MMTPA to 11.0 MMTPA. HPCL - VISHAKH refiner will further increase its refining capacity from 11 MMTPA to 15 MMTPA in next phase. India is the second-largest refiner in Asia & fourth largest in the world. India has

Around **12.6%** of our oil demand fulfilled through the indigenous source and currently we are **87.4%** depend on the import of crude oil to fulfilled the domestic demand of oil.

23 Nos. of refineries presently Installed where Private companies owned about 34.7 % of the total refining capacity. As per the Centre for High Technology (CHT), a technical wing of Ministry of Petroleum and Natural Gas, the refining capacity of Indian refineries is projected to increase by about 56 MMTPA by the year 2028. Cauvery Basin Refinery (CBR) – Nagapattinam is under Capacity Augmentation from 1.0 MMTPA to 9 MMTPA. HPCL Rajasthan Refinery Ltd. (HRRL) a Joint Venture between Hindustan Petroleum Corporation Limited (HPCL) and Government of Rajasthan (GoR) with an equity participation of 74% and 26% respectively with 9.0 MMTPA capacity is under progress. Numaligarh Refinery is under capacity augmentation from 3.0 MMTPA to 9.0 MMTPA.

India has **23 Nos.** of refineries presently Installed where Private companies owned about **34.7%** of the total refining capacity.

During FY 2022-23 crude oil processed was 255.23 MMT which is an increase of 5.6% in comparison to FY 2021-22 (241.70 MMT). As regards capacity utilisation it is 101.6% against capacity of 251.22 MMTPA during FY 2022-23 and 97% against capacity of 249.22 MMTPA during FY 2021-22.



The price of crude oil in international markets is based on the demand supply scenario, geopolitical issues and various other market conditions. It is difficult to make accurate predictions about crude oil prices, specially amid ongoing volatility. India is majorly dependent on crude oil imports to meet its domestic requirements. Public Sector Oil Companies finalize their crude oil requirements annually based on techno-economic analysis of the petroleum products' demand and evaluation of various crude oil supply sources through annual term contracts as well as short term spot contracts. During this procurement of crude oil through Term and Spot contracts by the OMCs and standalone refineries, various compatible grades of crude oil available in the international market (including crude oils benchmarked to Brent/WTI) are contracted out.

The sharp rise and volatility of prices of oil and petroleum products in the international markets since 2004 became a matter of global concern. The Indian basket of crude oil, which averaged about \$23/bbl at the time of dismantling of APM in March 2002 and \$36/bbl in May 2004, went up to an average of \$85.09 per barrel during 2010-11. The average price of Indian basket of crude oil further increased to \$111.89/bbl. during 2011-12. The prices of crude oil, after continuously being at the level of more than \$100/bbl for over three years, started falling sharply during the second half of 2014. As a result, the average price of Indian crude oil basket during 2015-16, 2016-17 and 2017-18 was recorded at \$46.17/bbl, \$47.56/bbl and \$56.43/bbl respectively. The price increased to \$ 69.88/ bbl during 2018-19 and fell to \$60.47/bbl in 2019-20 and fell further to \$44.82/ bbl during 2020-21 due to the impact of Covid-19. The average price of international crude oil (Indian basket) dipped by 11.7% from 105.52 US \$/bbl during 2013-14 to 93.15 US \$/bbl during 2022-23.

Import of crude oil during 2022-23 was 232.70 MMT valued at ₹ 12,60,372 crore as against import of 212.38 MMT valued at ₹ 9,01,262 crore in 2021-22 which is

Import of crude oil during 2022-23 was **232.70 MMT** valued at ₹ 12,60,372 crore



higher by 9.6% in quantity terms and 39.8% in value terms vis-a-vis 2021-22.

The trends in the Crude Oil production, import and consumption of crude oil in term of crude process have been depicted as follows: -

### I.1: Trends of Crude Oil Production, Consumption and Imports

Year	Crude Oil Production (MMT)	% Growth in Crude Oil Production	Crude Oil Processed (MMT)	% Growth in Crude Oil Processed	Import of Crude Oil (MMT)	% Growth in Imports of Crude Oil
2013-14	37.79	-0.19	222.50	1.50	189.24	2.40
2014-15	37.46	-0.87	223.24	0.33	189.43	0.10
2015-16	36.94	-1.39	232.86	4.31	202.85	7.08
2016-17	36.01	-2.53	245.36	5.37	213.93	5.46
2017-18	35.68	-0.90	251.93	2.68	220.43	3.04
2018-19	34.20	-4.15	257.20	2.09	226.50	2.75
2019-20	32.17	-5.95	254.39	-1.10	226.95	0.20
2020-21	30.49	-5.21	221.77	-12.82	196.46	-13.44
2021-22	29.69	-2.63	241.70	8.99	212.38	8.10
<b>2022-23 (P)</b>	<b>29.18</b>	<b>-1.72</b>	<b>255.23</b>	<b>5.60</b>	<b>232.70</b>	<b>9.57</b>
CAGR 2013-14 to 2022-23 (%)		-2.83		1.54		2.32

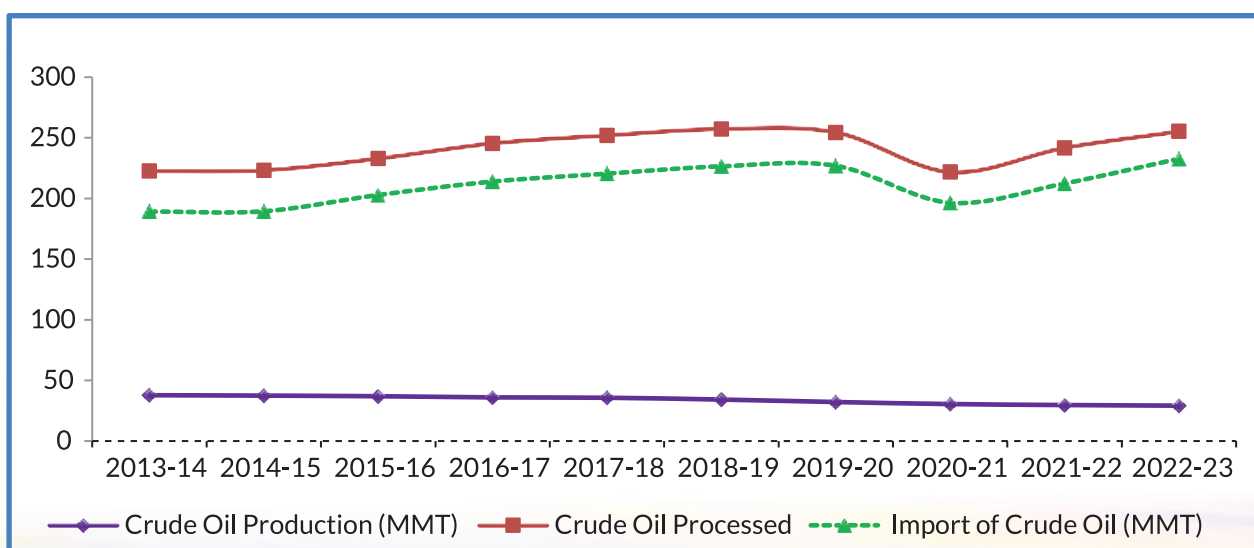
Note: % Growth based on the previous Financial Year

P: Provisional

### I.2 Glance of Natural Gas

Currently in India the share of natural gas in energy basket is around 6%. The Government has set a target to raise the share of natural gas in energy mix to 15% in 2030. Several steps taken by the Government in this direction include expansion of National Gas Grid Pipeline, expansion of City Gas Distribution (CGD) network, setting up of Liquefied Natural Gas (LNG) Terminals, allocation of domestic gas to Compressed Natural Gas (Transport) / Piped Natural Gas (Domestic) CNG(T)/PNG(D) in no cut category, allowing marketing and pricing freedom with a ceiling price to gas produced from high pressure/high temperature areas, deep water & ultra-deep water and from coal seams, Sustainable Alternative Towards Affordable Transportation (SATAT) initiatives to promote Bio-CNG, etc.

Figure I.1: Production, consumption and imports of Crude Oil





With the goal to create a National Gas Grid (One Nation, One Gas Grid) and increase the availability of natural gas across the country, Petroleum and Natural Gas Regulatory Board (PNGRB) has authorized approximately 33,592 km Natural Gas Pipeline network across the country. Out of this, 23,173 km Natural Gas pipelines including spur lines, tie-in connectivity, Sub-Transmission Pipelines (STPL) and dedicated pipelines are operational and a total of 12,206 km length of pipelines is under various stages of construction.

Further, PNGRB implemented Unified Tariff with effect from 01.04.2023 for the interconnected natural gas pipelines with an objective of “One Nation, One Grid and One Tariff”. To simplify the implementation of Unified Tariff, entity level integrated natural gas pipeline tariff has been introduced in the Regulations. Further, to protect the overall interest of consumers in different regions number of unified tariff zones have been increased from two to three.

Natural Gas production during the year 2022-23 stood at 34.45 Billion Cubic Meters (BCM) which is **1.5%** higher than production of 34.02 BCM in 2021-22.

Unified Tariff with effect from 01.04.2023 for the interconnected natural gas pipelines with an objective of “One Nation, One Grid and One Tariff”.

Natural Gas production during the year 2022-23 stood at 34.45 Billion Cubic Meters (BCM) which is 1.5% higher than production of 34.02 BCM in 2021-22. Out of total natural gas production, there is contribution of 58% (20.0 BCM) from ONGC (nomination), 8.8% (3.04 BCM) from OIL (nomination) and 33.2% (11.44 BCM) from PSC/RSC/CBM regime.

Import of natural gas (LNG) during 2022-23 was 26.30 BCM valued at ₹ 1,37,210 crore against import of 31.03 BCM valued at ₹ 1,00,521 crore in 2021-22 which is lower by 15.2% in quantity terms but higher by 36.5% in value terms vis-a-vis 2021-22.





Around 56.1% of our gas demand fulfilled through the indigenous source and 43.9% depend on the import. Total consumption of natural gas in 2022-23 stands at 59.97 BCM which is 6.53% lower than the consumption during the 2021-22 (64.16 BCM). Consumption of Natural gas for energy purpose as fuel stand at 60.3% against 39.7% for non-energy purpose as feedstock. During 2022-23, highest consumption of natural gas was in fertilizer industry at 33% followed by City & Local Natural Gas Distribution Network (including Road Transport) at 20.5%, power sector 13.9% and refinery 6.7%.

The trend in production, consumption and Import of natural gas from the year 2013-14 to 2022-23 have been depicted as follows: -

### I.2: Trends of Natural Gas Production, Consumption and Imports

Year	Natural Gas Production (BCM)	% Growth in Natural Gas Production	Consumption of Natural Gas (BCM)	% Growth in Consumption of Natural Gas	Imports of LNG (BCM)	% Growth in Imports of LNG
2013-14	35.41	-12.96	51.83	-9.33	17.25	-0.88
2014-15	33.66	-4.94	50.30	-2.94	17.61	2.06
2015-16	32.25	-4.18	50.18	-0.24	19.05	8.19
2016-17	31.90	-1.09	54.41	8.43	23.56	23.69
2017-18	32.65	2.36	58.47	7.45	26.73	13.46
2018-19	32.87	0.69	60.60	3.66	28.55	6.78
2019-20	31.18	-5.14	62.61	3.31	32.35	13.33
2020-21	28.67	-8.05	60.98	-2.60	33.20	2.61
2021-22	34.02	18.66	64.16	5.21	31.03	-6.54
<b>2022-23</b>	<b>34.45</b>	<b>1.25</b>	<b>59.97</b>	<b>-6.53</b>	<b>26.30</b>	<b>-15.22</b>
CAGR 2013-14 to 2022-23 (%)		-0.30		1.63		4.80

Note: % Growth based on the previous Financial Year

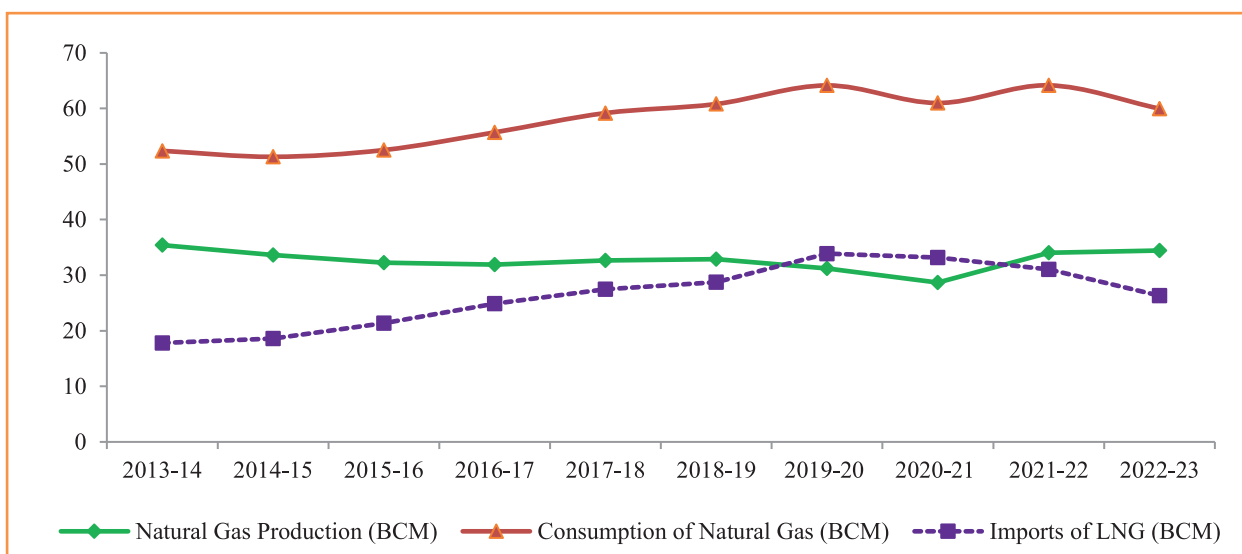
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### I.2 Glance of Petroleum Products

Production of Petroleum Products has increased by 4.8% to 266.54 MMT in FY 2022-23 over FY 2021-22 (254.31 MMT). This increase in production was mainly contributed by major petroleum products like LPG by 4.8 %; MS by 6.4 %; ATF by 45.7 %; HSD by 6.2%. During FY 2022-23, Diesel (HSD+LDO) accounted for the highest production share 42.9% followed by Motor Spirit (16.1%), Naphtha (6.4%), Petroleum Coke (6.0%), ATF (5.6%), LPG (4.8%), Fuel Oil (3.5%), Bitumen (1.9%), Lubes & Greases (0.5%) and Kerosene (0.4%).



**Figure I.2: Production, consumption and imports of Natural Gas**



The consumption of petroleum products during FY 2022-23 with a volume of about 223.01 MMT reported a growth of 10.6% compared to the volume of about 201.70 MMT during FY 2021-22. This growth was led by mainly contributed by major petroleum products like MS by 6.4 %; ATF by 47.1 %; HSD by 12.1%. petcock 28.7%. During the FY 2022-23, positive growth rate have been observed in consumption of LPG (0.9%), Petrol/Motor Spirit (13.4%), ATF (47.1%), HSD (12.1%), Fuel Oil (11.1%) Bitumen (2.9%), Petroleum Coke (28.7%) and Waxes (29.2%) in comparison with FY 2021-22. During the FY 2022-23, negative growth rate have been observed in consumption of Naphtha (8.2%), SKO (67.2%), LDO (28.8%), Lubes (17.6%) and other petroleum products (2.6%) viz-a-viz FY 2021-22. The country has experienced sustained economic growth over the past few years resulting in increased industrialization, urbanization and infrastructure

During the FY 2022-23, positive growth rate have been observed in consumption of LPG (0.9%), Petrol/Motor Spirit (13.4%), ATF (47.1%), HSD (12.1%), Fuel Oil (11.1%) Bitumen (2.9%), Petroleum Coke (28.7%) and Waxes (29.2%) in comparison with FY 2021-22.



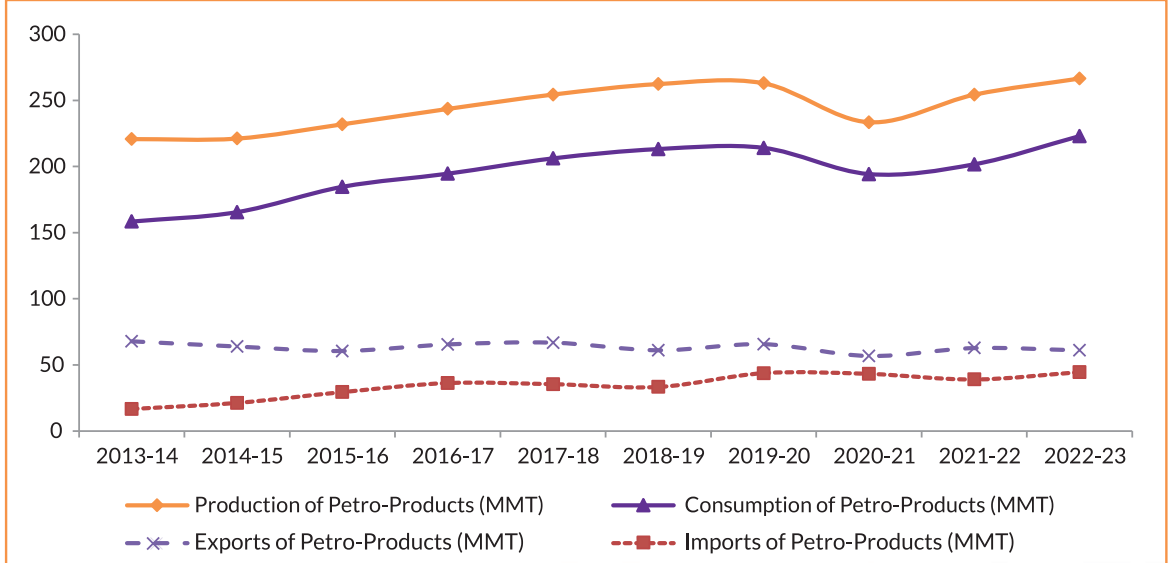
development along with the rise in total sales of vehicles. These are the major factors which have contributed to overall higher demand for transportation, energy, and fuel, consequently driving up fuel consumption. Oil consumption and imports have grown rapidly on account of rising vehicle ownership and road transport use. The Pradhan Mantri Ujjawala Yojna (PMUY) scheme provides LPG connections to households living below the poverty line. Alongside the increasing use of LPG in rural areas, there has also been growth in the use of pipeline natural gas (PNG) in urban areas. The transportation sector has experienced remarkable growth in recent years, emerging as the fastest-growing end-use segment. India is led for a significant expansion of its transportation infrastructure – from highways, railways and metro lines to airports and ports.



The import of petroleum products during 2022-23 was 44.60 MMT valued at ₹ 2,15,854 crore against the import of 39.02 MMT valued at ₹ 1,76,835 crore in 2021-22 which was higher by 14.3% in quantity terms and higher by 22.1% in value terms vis-a-vis 2021-22. Further, while the exports of petroleum products during 2022-23 was 61.02 MMT valued at ₹ 4,58,729 crore showing a decrease of 2.8% in quantity terms and 38.3% in value terms against the export of 62.76 MMT valued at ₹ 3,31,801 crore during 2021-22.

The trend in production, consumption and Import of Petroleum Products from the year 2013-14 to 2022-23 have been depicted as follows: -

**Figure I.3: Production, consumption and imports of Petroleum Products**



### I.3: Trends of Petroleum Products Production, Consumption and Imports

Year	Production of Petro-Products (MMT)	% Growth in Production of Petro-Products	Consumption of Petro-Products (MMT)	% Growth in Consumption of Petro-Products	Imports of Petroleum Products (MMT)	% Growth in Imports of Petroleum Products	Exports of Petroleum Products (MMT)	% Growth in Export of Petroleum Products
2013-14	220.76	1.39	158.41	1.39	16.70	2.10	67.86	7.03
2014-15	221.14	0.17	165.52	4.49	21.30	27.57	63.93	-5.79
2015-16	231.92	4.88	184.67	11.57	29.46	38.28	60.54	-5.31
2016-17	243.55	5.01	194.60	5.37	36.29	23.19	65.51	8.22
2017-18	254.40	4.46	206.17	5.94	35.46	-2.28	66.83	2.01
2018-19	262.36	3.13	213.22	3.42	33.35	-5.96	61.10	-8.58
2019-20	262.94	0.22	214.13	0.43	43.79	31.30	65.69	7.51
2020-21	233.51	-11.19	194.30	-9.26	43.25	-1.23	56.77	-13.57
2021-22	254.31	8.90	201.70	3.81	39.02	-9.78	62.75	10.54
<b>2022-23</b>	<b>266.54</b>	<b>4.81</b>	<b>223.01</b>	<b>10.57</b>	<b>44.60</b>	<b>14.30</b>	<b>61.01</b>	<b>-2.77</b>
CAGR 2013-14 to 2022-23 (%)		2.12		3.87		11.53		-1.18

\*Note: % Growth based on the previous Financial Year P: Provisional

### I.4 Foreign Direct Investment Inflows

The Government of India permits Foreign Direct Investment (FDI) across the hydrocarbon value chain covering the upstream, downstream and midstream sectors. The present FDI policy for petroleum & natural gas sector allows 100% automatic route for exploration and production & refining for private companies (49% for PSUs' on automatic route without any disinvestment or dilution of domestic equity in the existing PSUs), marketing of petroleum products, pipelines, storage and LNG regasification infrastructure and all related services, subject to existing sectoral policy and regulatory framework in the oil and gas sector. However, Foreign investment up to 100% under the automatic route is allowed for Petroleum refining by the Public Sector Undertakings (PSU), without any disinvestment or dilution of domestic equity in the existing PSUs in case an 'in-principle' approval for strategic disinvestment of a PSU has been granted by the Government. Exploration and Production of oil and gas are capital intensive and high-risk activities requiring use of expensive state-of-the-art technologies and best management practices. Accordingly, the Government is encouraging participation of the private sector, including foreign companies in exploration, production and transportation network for petroleum and natural gas, in order to supplement the domestic investment as well as the efforts of the national oil companies in meeting the rising demand of oil and gas and reducing import dependence. It may be observed that inflow of FDI in petroleum and natural gas has varied considerably over the years that could at least be partly due to the bulkiness of investments in the sector. The Government of India has reviewed the extant FDI policy for curbing opportunistic takeovers/acquisitions of Indian companies due to the current COVID-19 pandemic and amended para 3.1.1 of extant FDI policy as contained in Consolidated FDI Policy, 2017 as under:

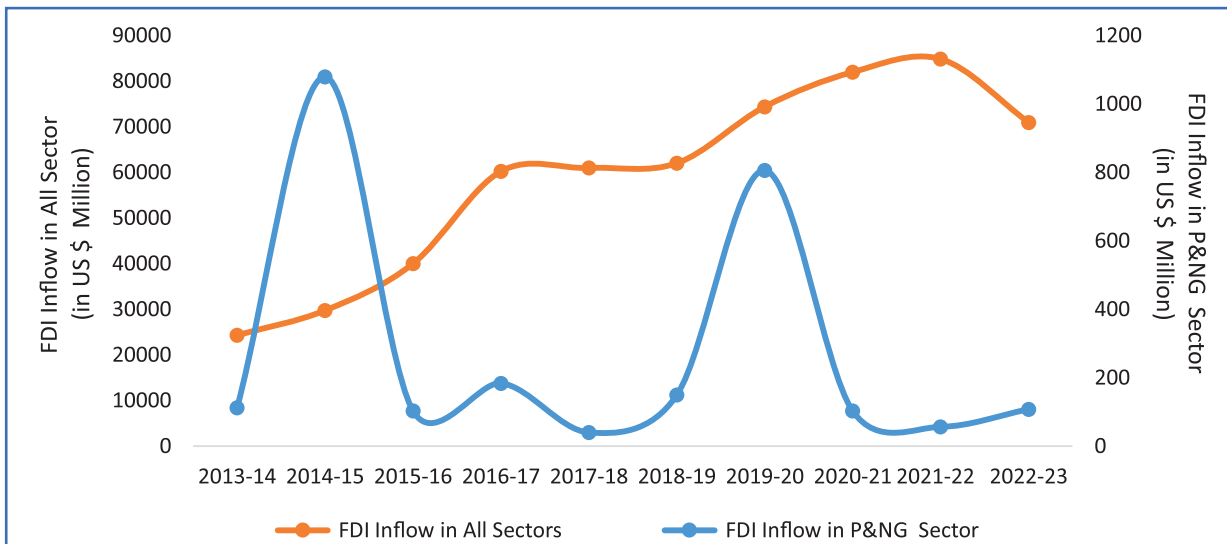
- (a) A non-resident entity can invest in India, subject to the FDI Policy except in those sectors/activities which are prohibited. However, an entity of a country, which shares land border with India or where the beneficial owner of an investment into India is situated in or is a citizen of any such country, can invest only under the Government route. Further, a citizen of Pakistan or an entity incorporated in Pakistan can invest, only under the Government route, in sectors/activities other than defense, space, atomic energy and sectors/activities prohibited for foreign investment.



- (b) In the event of the transfer of ownership of any existing or future FDI in an entity in India, directly or indirectly, resulting in the beneficial ownership falling within the restriction/purview of the para 3.1.1(a), such subsequent change in beneficial ownership will also require Government approval.

During the year 2022-23, FDI inflow received was 108 USD Million in the P& NG Sector contributing 0.2% of total FDI inflow (70,970 USD million) in the economy. The trend in **FDI Inflows in India** the year 2013-14 to 2022-23 have been depicted as follows: -

**Figure I.4: Trend in FDI Inflows in India (in USD Million)**



**I.5: Indian Economy-Selected Indicators**

Indicator	2017-18	2018-19	2019-20	2020-21	2021-22 (P)	2022-23 (P)
1	2	3	4	5	6	7
<b>1. Gross Domestic Product :</b>						
(i) At current prices (₹ Crore)	1,70,90,042	1,88,99,668	2,01,03,593	1,98,29,927	2,34,71,012	2,72,40,712
(ii) At constant prices (₹ Crore)	1,31,44,582	1,39,92,914	1,45,34,641	1,36,87,118	1,49,25,840	1,60,06,425
<b>2. GVA at Basic Price :</b>						
(i) At current prices (₹ Crore)	1,55,05,665	1,71,75,128	1,83,81,117	1,81,88,780	2,14,38,883	2,47,42,871
(ii) At constant prices (₹ Crore)	1,20,34,171	1,27,33,798	1,32,36,100	1,26,81,482	1,37,98,025	1,47,64,840
<b>3. Per Capita NNI (Population in Million) :</b>						
(i) At current prices (₹ )	1,15,224	1,25,946	1,32,341	1,27,065	1,48,524	1,72,276
(ii) At constant prices (₹ )	87,586	92,133	94,420	86,054	92,583	98,374
<b>4. Foreign Exchange Reserves :</b>						
(i) Gold (₹ Crore)	1,39,740	1,59,585	2,30,527	2,47,723	3,22,213	3,71,500
(ii) SDR (₹ Crore)	10,020	10,076	10,800	10,864	1,43,052	1,51,164
(iii) Foreign Currency Assets (₹ Crore)	25,97,570	26,65,564	33,33,815	39,24,168	40,94,565	41,89,132
(iv) Reserve Tranch Position (₹ Crore)	13,520	20,657	27,013	36,198	38,988	42,468
<b>5. Foreign Trade :</b>						
(i) Import (₹ Crore)	30,01,033	35,94,675	33,60,954	29,15,958	45,72,775	57,33,959
(ii) Export (₹ Crore)	19,56,515	23,07,726	22,19,854	21,59,043	31,47,021	36,20,631
(iii) Balance of Trade (₹ Crore)	-10,44,519	-12,86,948	-11,41,100	-7,56,914	-14,25,753	-21,13,328
<b>6. Index:</b>						
(i) Index of Industrial Production (2011-12=100)	125.3	130.1	129.0	118.1	131.6	138.4
(ii) Wholesale Price Index (2011-12=100)	114.9	119.8	121.8	123.4	139.4	152.5
(iii) Eight Core Industries Index (Base 2011-12=100)	125.7	131.2	131.6	123.2	136.1	146.6
<b>7. Energy Generation (Gross) :</b>						
(i) Coal & Lignite (MMT)	722	773	771	754	826	938
(ii) Natural Gas (BCM)	33	33	31	29	34	34
(iii) Crude Oil (MMT)	36	34	32	30	30	29
(iv) Petroleum Products (MMT)	254	262	263	234	254	267
(v) Electricity Generation (Thousand GWh)	1483	1585	1623	1598	1694	1,844

P:Provisional

Source: Oil Companies, CEA, Ministry of Power, Ministry of Coal, MoSPI, RBI and Labour Bureau, Govt. of India,



## I.6: Trends in Indian Petroleum Industry at a Glance

Item	Unit	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7	8
<b>1. Production</b>							
(i) Crude Oil	MMT	35.68	34.20	32.17	30.49	29.69	29.18
(ii) Natural Gas	BCM	32.65	32.87	31.18	28.67	34.02	34.45
(iii) Petroleum Products	MMT	254.40	262.36	262.94	233.51	254.31	266.54
<b>2. Consumption</b>							
(i) Crude Oil ( in terms of refinery crude processed)	MMT	251.93	257.20	254.39	221.77	241.70	255.23
(ii) Natural Gas (including LNG)	BCM	59.17	60.80	64.14	60.98	64.16	59.97
(iii) Petroleum Products	MMT	206.17	213.22	214.13	194.30	201.70	223.01
<b>3. Reserves (Balance Recoverable) as on 31<sup>st</sup> March</b>							
(i) Crude Oil	MMT	594.49	618.95	608.28	591.92	653.02	669.47
(ii) Natural Gas	BCM	1,339.57	1,384.06	1,373.55	1,372.37	1,149.46	1,141.73
<b>4. Imports &amp; Exports</b>							
<b>(i) Gross Imports :</b>							
(a) Qty : Crude Oil	MMT	220.43	226.50	226.95	196.46	212.38	232.70
LNG	MMT	20.18	21.54	24.42	25.05	23.42	19.85
Pol. Products	MMT	35.46	33.35	43.79	43.25	39.02	44.60
Total (a)	MMT	276.60	281.54	296.32	264.76	274.82	297.15
(b) Value: Crude Oil	₹ Billion	5,664.50	7,831.83	7,170.01	4,597.79	9,012.62	12603.72
LNG	₹ Billion	523.66	738.88	684.67	583.29	1005.21	1372.10
Pol. Products	₹ Billion	883.74	1,136.65	1,257.42	1,094.30	1,768.35	2158.54
Total (b)	₹ Billion	7,069.46	9,687.16	9,101.25	6,275.37	11,786.18	16134.35
<b>(ii) Exports :</b>							
(a) Qty : Pol. Products	MMT	66.83	61.10	65.69	56.77	62.75	61.01
(b) Value: Pol. Products	₹ Billion	2,253.88	2,676.97	2,540.18	1,571.68	3,318.01	4587.29
<b>(iii) Net Imports :</b>							
(a) Qty : Crude Oil	MMT	220.43	226.50	226.95	196.46	212.38	232.70
LNG	MMT	20.18	21.54	24.42	25.05	23.42	19.85
Pol. Products	MMT	-31.37	-27.75	-21.90	-13.52	-23.74	-16.42
Total (a)	MMT	209.77	220.44	230.63	207.99	212.06	236.14
(b) Value: Crude Oil	₹ Billion	5,664.50	7,831.83	7,170.01	4,597.79	9,012.62	12603.72
LNG	₹ Billion	523.66	738.88	684.67	583.29	1005.21	1372.10
Pol. Products	₹ Billion	-1,370.14	-1,540.31	-1,282.76	-477.38	-1,549.66	-2428.75
Total (b)	₹ Billion	4,815.58	7,010.19	6,561.08	4,703.69	8,468.17	11547.07
<b>(iv) Unit Value of Crude oil imports(gross) [iii (b)/iii(a)%]</b>							
	₹/MT	25,697.18	34,577.97	31,592.26	23,403.06	42,435.98	54162.85
<b>(v) India's Total Imports</b>							
	₹ Billion	30,010.33	35,946.75	33,609.54	29,159.58	45,727.75	57339.59
<b>(vi) India's Total Exports</b>							
	₹ Billion	19,565.15	23,077.26	22,198.54	21,590.43	31,470.21	36206.31
<b>(vii) Petroleum Imports as % of India's total Imports</b>							
	%	23.56	27.00	27.11	21.52	25.77	28.14
<b>(viii) Petroleum Exports as % of India's total Exports</b>							
	%	11.52	11.60	11.44	7.28	10.54	12.67
<b>5. Contribution of Oil Sector to Centre/State Resources</b>							
(i) Royalty from Oil & Gas	₹ Crore	14,117	19,433	17,484	10,768	19,164	27,736
(ii) Oil Development Cess	₹ Crore	14,514	17,741	14,789	10,676	19,214	21,445
(iii) Excise & Custom duties	₹ Crore	2,40,887	2,30,405	2,45,985	3,86,484	3,74,728	3,02,561
(iv) Sales Tax	₹ Crore	1,85,850	2,01,265	2,00,493	2,02,937	2,56,248	2,88,086
(v) GST	₹ Crore	4,974	7,961	7,345	6,121	11,017	13,188
(vi) CPSEs Dividend Paid	₹ Crore	29,801	30,323	25,685	22,227	46,323	31,428
(vii) CPSEs Gross Turnover	₹ Crore	13,16,380	16,03,649	15,12,196	13,53,143	19,50,464	25,20,929
(viii) CPSEs Net Profit	₹ Crore	69,619	69,763	26,927	74,198	1,06,403	64,149

P: Provisional

Source: Oil &amp; Gas Companies, PPAC, RBI, CBIC and Economic Survey



## CHAPTER -II



**EXPLORATION &  
PRODUCTION-CRUDE  
OIL & NATURAL GAS**

## Chapter Highlights



Explore oil and gas fields, over **6.26 lakh** geological surveys have been conducted in India

625 wells (of which 82.2% are development wells and 17.8% are exploratory wells) with 13.37 lakh Metreage have been drilled by Oil & Gas Companies during 2022-23.

Balance recoverable reserves of crude oil as on 01.04.2023 is 669.5 Million Metric Tonnes (MMT), which is sourced from

Offshore



259.0 MMT (38.7%)

Onshore



410.5 MMT (61.3%)

Balance recoverable reserves of natural gas as on 01.04.2023 was 1141.7 BCM which is sourced from

Offshore



609.2 BCM (53.4%)

Onshore



532.6 BCM (46.6%)

### The crude oil production

29.69  
MMT



-1.7%



29.18  
MMT

2021-22

2022-23

Western offshore ONGC accounts for 46.4% (13.53 MMT) of the total production.

crude oil & condensate production share



66.8%  
(19.49 MMT)



10.8%  
(3.16 MMT)



22.4%  
(6.53 MMT)

Crude oil & condensate production was 29.18 MMT in 2022-23.

### Natural Gas production

34.02 BCM  
2021-22



1.3%



34.45 BCM  
2022-23

Natural Gas production during FY 2022-23 is 34.45 Billion Cubic Meters (BCM), which is 1.3% higher than the production of 2021-22 (34.02 BCM). Out of 34.45 BCM, maximum production i.e. 15.12 BCM (43.9%) is from the western offshore of ONGC.

### Natural Gas Production



58%  
(19.97 BCM)



8.8%  
(3.04 BCM)



33.2%  
(11.44 BCM)

Total natural gas production was 34.45 BCM in 2022-23

### Oil and Gas production from assets abroad



19.55  
MMToE

Oil and Gas production from assets abroad is 19.55 MMToE during 2022-23, which is 30.7% of the domestic oil and gas production (63.63 MMToE).



## II.1: Area-wise Development of Deep Drilling Rigs, Wells & Metreage Drilled

Year	Onshore			Offshore			Total		
	Rigs	Wells	Metreage	Rigs	Wells	Metreage	Rigs	Wells	Metreage
	(Numbers)	(Numbers)	('000')	(Numbers)	(Numbers)	('000')	(Numbers)	(Numbers)	('000')
1	2	3	4	5	6	7	8=2+5	9=3+6	10=4+7
<b>(A) Oil &amp; Natural Gas Corporation Ltd. (Nomination)<sup>1</sup></b>									
2017-18	70	331	659	37	108	283	107	439	942
2018-19	70	356	696	31	116	310	101	472	1006
2019-20	73	344	737	34	106	249	107	450	987
2020-21	68	313	630	36	131	275	104	444	905
2021-22	63	299	617	34	104	266	97	403	883
<b>2022-23 (P)</b>	<b>59</b>	<b>335</b>	<b>639</b>	<b>33</b>	<b>100</b>	<b>257</b>	<b>92</b>	<b>435</b>	<b>896</b>
<b>(B) Oil India Limited (Nomination)</b>									
2017-18	19	39	135	0	0	0	19	39	135
2018-19	17	33	112	0	0	0	17	33	112
2019-20	19	36	118	0	0	0	19	36	118
2020-21	19	36	91	0	0	0	19	36	91
2021-22	19	38	117	0	0	0	19	38	117
<b>2022-23 (P)</b>	<b>19</b>	<b>40</b>	<b>123</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>19</b>	<b>40</b>	<b>123</b>
<b>(C) PSC/RSC &amp; CBM Regime</b>									
2017-18	23	53	120	10	14	31	33	67	152
2018-19	44	151	295	18	33	95	62	184	390
2019-20	26	131	260	11	30	77	37	161	337
2020-21	18	66	154	8	16	53	26	82	206
2021-22	21	119	242	3	6	22	24	125	263
<b>2022-23 (P)</b>	<b>12</b>	<b>138</b>	<b>272</b>	<b>2</b>	<b>12</b>	<b>45</b>	<b>14</b>	<b>150</b>	<b>318</b>
<b>Total (A+B+C)</b>									
2017-18	112	423	915	47	122	314	159	545	1228
2018-19	131	540	1103	49	149	404	180	689	1507
2019-20	118	511	1115	45	136	326	163	647	1442
2020-21	105	415	875	44	147	328	149	562	1203
2021-22	103	456	975	37	110	288	140	566	1264
<b>2022-23 (P)</b>	<b>90</b>	<b>513</b>	<b>1034</b>	<b>35</b>	<b>112</b>	<b>302</b>	<b>125</b>	<b>625</b>	<b>1337</b>

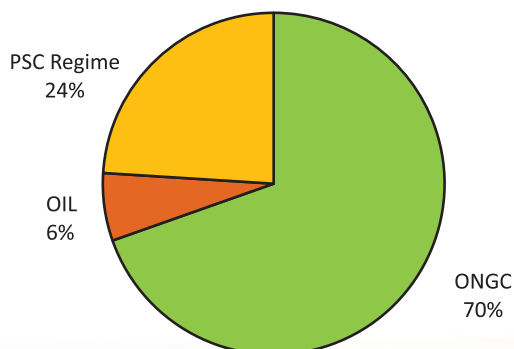
Note: Total may not tally due to rounding off

P: Provisional

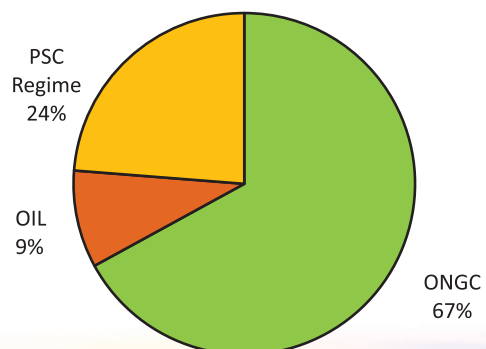
1. Nomination wells includes Exploratory, Development & Side tracked wells. CBM wells not included

Source: Oil & Natural Gas Corporation Ltd., Oil India Ltd & DGH

**Figure II.1: Share of wells drilled during 2022-23 (%)**



**Figure II.2: Share in metreage drilled during 2022-23 (%)**



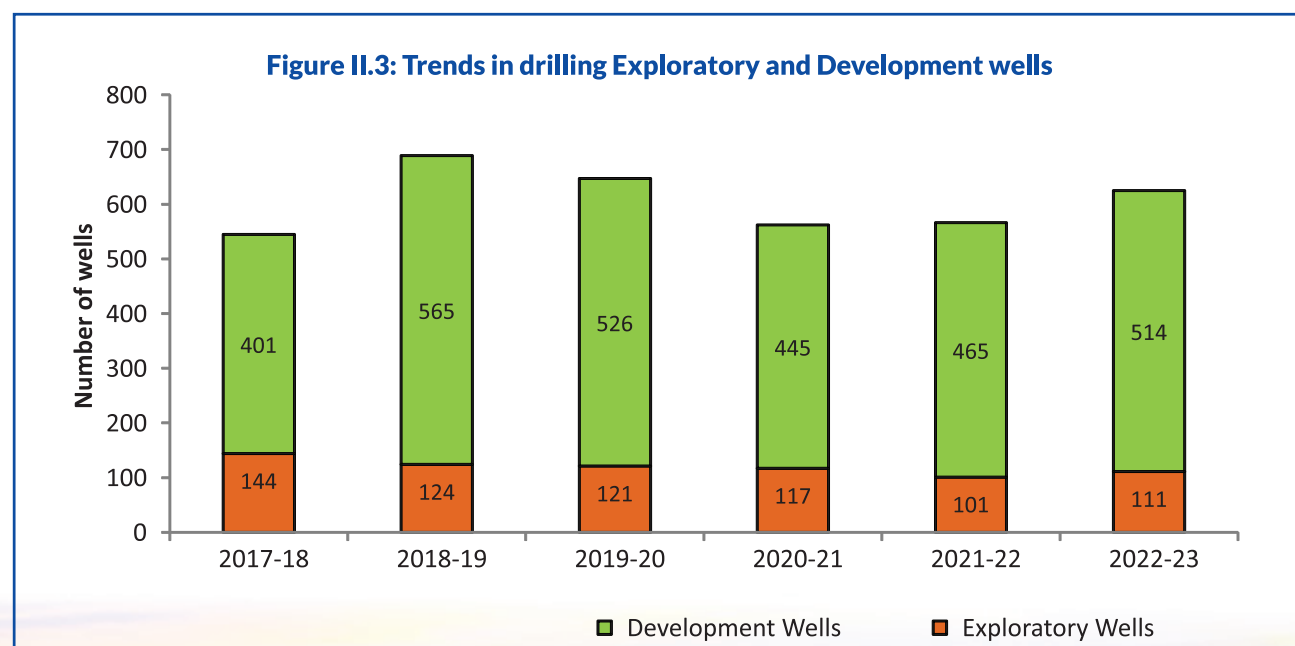
## II.2: Exploratory & Development Drilling by Oil Companies

Year	Exploratory		Development		Total	
	Wells (Nos.)	Metreage ('000')	Wells (Nos.)	Metreage ('000')	Wells (Nos.)	Metreage ('000')
	2	3	4	5	6=2+4	7=3+5
<b>(A) Onshore</b>						
2017-18	85	266	338	649	423	915
2018-19	89	229	451	874	540	1103
2019-20	84	270	427	845	511	1115
2020-21	78	226	337	649	415	875
2021-22	76	212	380	763	456	975
<b>2022-23</b>	<b>76</b>	<b>212</b>	<b>437</b>	<b>823</b>	<b>513</b>	<b>1034</b>
<b>(B) Offshore</b>						
2017-18	59	149	63	165	122	314
2018-19	35	104	114	300	149	404
2019-20	37	102	99	224	136	327
2020-21	39	111	108	217	147	328
2021-22	25	68	85	220	110	288
<b>2022-23</b>	<b>35</b>	<b>91</b>	<b>77</b>	<b>211</b>	<b>112</b>	<b>302</b>
<b>Total (A+B)</b>						
2017-18	144	414	401	814	545	1228
2018-19	124	333	565	1174	689	1507
2019-20	121	373	526	1069	647	1442
2020-21	117	337	445	866	562	1203
2021-22	101	280	465	984	566	1264
<b>2022-23</b>	<b>111</b>	<b>302</b>	<b>514</b>	<b>1034</b>	<b>625</b>	<b>1337</b>

Note: P: Provisional

- Includes Water Disposal Wells and Non-Associated Gas Wells
- Total may not tally due to rounding off
- ONGC's Nomination wells includes Exploratory, Development, Side tracked & CBM wells.

Source: Oil & Natural Gas Corporation Ltd., Oil India Ltd & DGH



**II.3: Status of Wells (as on 01.04.2023)**

Status	Offshore	Gujarat	Rajasthan	Assam & Arunachal Pradesh	Tripura	Andhra Pradesh	Tamilnadu	West Bengal (CBM)	Jharkhand (CBM)	Madhya Pradesh (CBM)	Other state (UP, HP, MP, Bihar, Punjab, JK, WB)	Total
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>
1. ONGC (Nomination)	1274	3456	0	449	0	47	42	0	0	0	0	5268
2. Oil (Nomination)	0	0	14	410	0	0	0	0	0	0	0	424
3. PSC/RSC & CBM Regime	32	160	412	30	0	4	3	0	0	0	0	641
<b>A. Total-Flowing Oil Wells (1 to 3)</b>	<b>1306</b>	<b>3616</b>	<b>426</b>	<b>889</b>	<b>0</b>	<b>51</b>	<b>45</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6333</b>
4. ONGC (Nomination)	199	67	0	10	112	79	86	0	38	0	0	591
5. Oil (Nomination)	0	0	20	106	0	0	0	0	0	0	0	126
6. PSC/RSC & CBM Regime	34	15	117	6	0	0	0	356	45	313	0	886
<b>B. Total - Flowing Gas Wells (4 to 6)</b>	<b>233</b>	<b>82</b>	<b>137</b>	<b>122</b>	<b>112</b>	<b>79</b>	<b>86</b>	<b>356</b>	<b>83</b>	<b>313</b>	<b>0</b>	<b>1603</b>
<b>C. Total Flowing Wells (A+B)</b>	<b>1539</b>	<b>3698</b>	<b>563</b>	<b>1011</b>	<b>112</b>	<b>130</b>	<b>131</b>	<b>356</b>	<b>83</b>	<b>313</b>	<b>0</b>	<b>7936</b>
7. ONGC (Nomination)	243	1060	29	161	36	95	107	0	43	0	0	1774
8. Oil (Nomination)	0	0	4	216	0	0	0	0	0	0	0	220
9. PSC/RSC & CBM Regime	25	94	136	36	0	0	10	157	20	38	0	516
<b>D. Total Non Flowing (7 to 9)</b>	<b>268</b>	<b>1154</b>	<b>169</b>	<b>413</b>	<b>36</b>	<b>95</b>	<b>117</b>	<b>157</b>	<b>63</b>	<b>38</b>	<b>0</b>	<b>2510</b>
<b>E. Total flowing + Non flowing well (C+D)</b>	<b>1807</b>	<b>4852</b>	<b>732</b>	<b>1424</b>	<b>148</b>	<b>225</b>	<b>248</b>	<b>513</b>	<b>146</b>	<b>351</b>	<b>0</b>	<b>10446</b>
10. ONGC (Nomination)	409	4199	52	1334	155	511	501	0	45	0	0	7206
11. Oil (Nomination)	0	0	51	700	0	0	0	0	0	0	0	751
12. PSC/RSC & CBM Regime	26	156	316	4	0	0	0	0	0	0	0	502
<b>F. Other Flowing &amp; Non flowing (10 to 12)</b>	<b>435</b>	<b>4355</b>	<b>419</b>	<b>2038</b>	<b>155</b>	<b>511</b>	<b>501</b>	<b>0</b>	<b>45</b>	<b>0</b>	<b>0</b>	<b>8459</b>
13. Total ONGC Wells (Nomination) (1+4+7+10)	2125	8782	81	1954	303	732	736	0	126	0	0	14839
14. Total OILs Wells (Nomination) (2+5+8+11)	0	0	89	1432	0	0	0	0	0	0	0	1521
15. Total Wells in PSC/RSC & CBM Regime (3+6+9+12)	117	425	981	76	0	4	13	513	65	351	0	2545
<b>Total Wells in PNG Sector (13+14+15)</b>	<b>2242</b>	<b>9207</b>	<b>1151</b>	<b>3462</b>	<b>303</b>	<b>736</b>	<b>749</b>	<b>513</b>	<b>191</b>	<b>351</b>	<b>0</b>	<b>18905</b>

Note: Others includes Injector well, abandoned, to be abandoned etc.

1. ONGC Offshore wells tabulated above are nomination regime only.

Source: Oil & Natural Gas Corporation Ltd., Oil India Ltd & DGH

## II.4: State-wise Geological Surveys Achievements upto 31.03.2023

States	ONGC	OIL	Survey under NSP LKM		Total Geological Surveys
			ONGC	OIL	
1	2	3	4	5	6=2 to 5
Andhra Pradesh	53427	-	2172	-	55599
A.N. Islands	6860	-	264	-	7124
Arunachal Pradesh	3692	-	-	186	3878
Assam	48073	-	-	3899	51972
Bihar (incl. Jharkhand)	4035	-	766	-	4801
Gujarat (Gulf Of Cambay)	60625	-	5688	-	66313
Haryana	-	-	250	-	250
Himachal Pradesh	9948	-	709	-	10657
Jammu & Kashmir	31970	-	188	-	32158
Kerala-Karnataka (incl. Goa)	4000	-	2058	-	6058
Madhya Pradesh	117920	-	6472	-	124392
Chhattisgarh	5920	-	2223	-	8143
Manipur	2781	-	-	5	2786
Meghalaya	1911	-	-	13	1924
Mizoram	6194	-	-	980	7174
Nagaland	6971	-	-	-	6971
Odisha	-	-	2481	-	2481
Punjab	-	-	802	-	802
Rajasthan	46501	-	3313	-	49814
Sikkim	720	-	-	-	720
Tamil Nadu (Incl. Puducherry)	20003	-	-	-	20003
Telangana	-	-	800	-	800
Tripura	21263	-	-	163	21426
Uttar Pradesh (incl. Uttarakhand)	29797	-	2920	-	32717
West Bengal	8808	-	911	-	9719
Maharashtra	-	-	9696	-	9696
Eastern offshore	-	-	8234	-	8234
Western offshore	-	-	39039	-	39039
Andaman offshore*	-	-	17999	22554	40553
<b>Total</b>	<b>491419</b>	<b>-</b>	<b>106986</b>	<b>27800</b>	<b>626205</b>

\*: Special project to appraise Andaman offshore

NSP: National Seismic Programme LKM: Line Kilometre

Source: Oil and Natural Gas Corporation Limited, Oil India Limited and DGH





## II.5: State-wise Achievements of Geophysical Field Parties in India since inception upto 31.03.2023

Area/ State	ONGC (Nomination)		OIL (Nomination)		PSC + RSC/CBM (In- cluding DSF) Regime		Grand Total	
	2D (LKM)	3D (SKM)	2D (LKM)	3D (SKM)	2D (LKM)	3D (SKM)	2D (LKM)	3D (SKM)
1	2	3	4	5	6	7	8=2+4+6	9=3+6+9
<b>(A) Onshore</b>								
1. Andhra Pradesh	39166	10392	-	-	1271	1511	40436	<b>11903</b>
2. Arunachal Pradesh	-	-	2641	390	552	114	3193	<b>504</b>
3. Assam <sup>1</sup>	31493	5610	9063	7974	5717	2506	46273	<b>16090</b>
4. Bihar <sup>2</sup>	6566	-	-	-	2423	947	8989	<b>947</b>
5. Chhattisgarh	202	-	-	-	-	-	202	-
6. Gujarat	104712	11344	-	-	9366	9714	114079	<b>21058</b>
7. Himachal Pradesh	4172	-	-	-	810	-	4982	-
8. Haryana	1038	-	-	-	-	-	1038	-
9. Jammu & Kashmir	2563	-	-	-	-	-	2563	-
10. Madhya Pradesh	10021	1189	-	-	4152	2131	14173	<b>3321</b>
11. Maharashtra	-	-	-	-	476	-	476	-
12. Manipur	-	-	-	-	210	-	210	-
13. Meghalaya	205	-	-	-	-	-	205	-
14. Mizoram	34	-	-	-	1526	613	1560	<b>613</b>
15. Nagaland	602	6	-	-	338	40	940	<b>46</b>
16. Odisha	313	-	1822	-	1972	1786	4107	<b>1786</b>
17. Punjab	4078	-	-	-	-	-	4078	-
18. Rajasthan	20571	1633	11571	729	27865	17484	60006	<b>19847</b>
19. Tamil Nadu	41031	8269	-	-	1710	2763	42740	<b>11033</b>
20. Telangana	-	-	-	-	195	-	195	-
21. Tripura	6375	1283	-	-	1846	141	8222	<b>1424</b>
22. Uttar Pradesh	26798	-	-	-	2860	211	29658	<b>211</b>
23. Uttarakhand	1522	-	-	-	-	-	1522	-
24. West Bengal	29227	596	-	-	4787	5369	34013	<b>5965</b>
<b>A. Total Onshore (1 to 24)</b>	<b>330687</b>	<b>40323</b>	<b>25096</b>	<b>9093</b>	<b>68075</b>	<b>45332</b>	<b>423858</b>	<b>94748</b>
<b>(B) Offshore</b>								
25. Andaman	27357	-	-	-	-	-	27357	-
26. Eastern offshore	90158	8101	2863	-	235735	200682	328756	<b>208783</b>
27. Western offshore	434940	87585	-	-	116443	78534	551382	<b>166120</b>
<b>B. Total Offshore (to 25 to 27)</b>	<b>552454</b>	<b>95686</b>	<b>2863</b>	<b>-</b>	<b>352178</b>	<b>279216</b>	<b>907495</b>	<b>374903</b>
<b>Grand Total (A+B)</b>	<b>883141</b>	<b>136009</b>	<b>27959</b>	<b>9093</b>	<b>420253</b>	<b>324548</b>	<b>1331353</b>	<b>469651</b>

Note: Total may not tally due to round off.

LKM: Line Kilometre

SKM: Square Kilometre

- Excludes 387.81 LKM in Pre-NELP acreage (Assam) in ONGC's 2D LKM.
- Geophysical fields of Pvt./JVs in State of Bihar include Jharkhand
- Figures not strictly comparable with earlier issues of publication prior to 2015-16 due to change in nomenclature, rationalisation and classification of reporting.

Source: Oil & Natural Gas Corporation Ltd., Oil India Ltd. and DGH

**II.6: Basin-wise / State-wise Achievements of Drilling since inception upto 31.03.2023**

Basin	State / Region	Wells (in No.)	Metreage (in Thousand Metric)
1	2	3	4
<b>A. Onshore (B to F)</b>		<b>15286</b>	<b>34342</b>
1. Cambay	Gujarat	9094	15509
2. Kutch	Gujarat	0	0
3. Rajasthan	Rajasthan	360	795
4. Vindhyan	Madhya Pradesh	2	6
<b>B. Total WRBC (1 to 4)</b>		<b>9456</b>	<b>16309</b>
5. Upper Assam	Nagaland	37	131
	Assam	3699	12135
	Meghalaya	3	6
6. Mahanadi	Odisha	5	11
7. Fold Belt	Mizoram under ERBC	8	27
	Arunachal Pradesh	66	175
8. Assam-Arakan	Tripura	305	886
<b>C. Total ERBC (5 to 8)</b>		<b>4123</b>	<b>13370</b>
9. Foot hills & Ganga Valley	West Bengal	61	174
10. Ganga Valley	Bihar	6	30
11. CBM	Jharkhand	45	51
12. CBM	West Bengal	59	66
13. Satpura-South Rewa-Damodar	Madhya Pradesh	0	0
<b>D. Total CRBC (9 to 13)</b>		<b>171</b>	<b>321</b>
14. Himalayan Foot-hills,	Himachal Pradesh	15	54
15. Ganga Valley &	Punjab	4	16
	Uttar Pradesh	8	30
16. Vindhyan/Gondwana/Ganga	Madhya Pradesh	21	61
	Jammu & Kashmir	4	12
<b>E. Total NRBC (14 to 16)</b>		<b>52</b>	<b>172</b>
17. Krishna-Godavari	Andhra Pradesh	735	2232
18. Pranhita-Godavari	Andhra Pradesh	10	37
19. Cauvery	Tamil Nadu	739	1901
<b>F. Total SRBC (17 to 19)</b>		<b>1484</b>	<b>4169</b>
<b>G. Offshore (20+21)</b>		<b>3653</b>	<b>9294</b>
20. East Coast(SW+DW)	East Coast including KG, Cauvery	328	1080
	West Coast including drilling in Orissa, Andaman & Saurashtra	3307	8152
21. West Coast(SW+DW)	Others	18	61
		0	0
<b>Total (A+G)</b>		<b>18939</b>	<b>43635</b>

**Note:** All figures are provisional

WRBC: Western Region Basin Coast, CRBC: Central Region Basin Coast, SRBC: Southern Region Basin Coast, NRBC: Northern Region Basin Coast, ERBC: Eastern Region Basin Coast

Source: Oil & Natural Gas Corporation Ltd., Oil India Ltd. and DGH

## II.7: State-wise/Basin -wise Oil Fields in India (as on 31.03.2023)

(in Number)

Company / State	Basin	Oil Fields	Gas Fields	Oil and Gas Fields	Total Fields
1	2	3	4	5	6
<b>A. Oil &amp; Natural Gas Corporation Ltd. (Nomination) (B+C)</b>		<b>126</b>	<b>74</b>	<b>25</b>	<b>225</b>
1. Gujarat	Cambay	74	5	-	<b>79</b>
2. Assam	Upper Assam	26	-	-	<b>26</b>
3. Assam	A&AA	2	2	-	<b>4</b>
4. Rajasthan	Jodhpur	-	4	-	<b>4</b>
5. Andhra Pradesh	K.G. Basin	10	36	-	<b>46</b>
6. Tamil Nadu	Cauvery	14	11	-	<b>25</b>
7. Tripura	AAFB	-	9	-	<b>9</b>
8. Nagaland	A&AA	-	-	-	<b>-</b>
9. Madhya Pradesh	Vindhyan Basin	-	-	-	<b>-</b>
<b>B. Total Onshore (1 to 9)</b>		<b>126</b>	<b>67</b>	<b>-</b>	<b>193</b>
10. East Coast	Cauvery Offshore	-	-	-	<b>-</b>
11. East Coast	KG Offshore(Shallow)	-	1	-	<b>1</b>
12. East Coast	KG Offshore(Deep)	-	3	3	<b>6</b>
13. West Coast	Cambay	-	-	-	<b>-</b>
14. West Coast	Mumbai Offshore	-	3	22	<b>25</b>
15. West Coast	Kutch	-	-	-	<b>-</b>
<b>C. Total Offshore (10 to 15)</b>		<b>-</b>	<b>7</b>	<b>25</b>	<b>32</b>
<b>D. Oil India Ltd. (Nomination) (16 to 18)</b>		<b>1</b>	<b>3</b>	<b>15</b>	<b>19</b>
16. Assam	Upper Assam	-	-	14	<b>14</b>
17. Arunachal Pradesh	Upper Assam	-	-	1	<b>1</b>
18. Rajasthan	Jaisalmer	-	3	-	<b>3</b>
	Bikaner Nagar	1	-	-	<b>1</b>
<b>E. PSC + RSC/CBM (F+G)</b>		<b>52</b>	<b>21</b>	<b>4</b>	<b>76</b>
19. Andhra Pradesh	Krishna Godavari	1	-	-	<b>1</b>
20. Arunachal Pradesh	Assam-Arakan	1	-	-	<b>1</b>
21. Assam	Assam-Arakan	-	3	-	<b>3</b>
22. Tripura	Assam-Arakan	-	-	-	<b>-</b>
23. Gujarat	Cambay	33	3	-	<b>36</b>
24. Madhya Pradesh*	Sohagpur	-	2	-	<b>2</b>
25. Jharkhand*	Jharia	-	1	-	<b>1</b>
26. Jharkhand*	Bokaro	-	1	-	<b>1</b>
27. Rajasthan	Rajasthan	13	2	-	<b>15</b>
28. Tamil Nadu	Cauvery	-	-	1	<b>1</b>
29. West Bengal	Bengal	1	-	-	<b>1</b>
30. West Bengal*	Ranigunj	-	2	-	<b>2</b>
<b>F. Total Onshore+CBM (19 to 30)</b>		<b>49</b>	<b>14</b>	<b>1</b>	<b>64</b>
31. East Coast	Cauvery	1	1	-	<b>2</b>
32. East Coast	Krishna Godavari	1	5	1	<b>6</b>
33. West Coast	Mumbai	1	-	-	<b>1</b>
34. West Coast	Cambay	-	1	2	<b>3</b>
<b>G. Total Offshore (31 to 34)</b>		<b>3</b>	<b>7</b>	<b>3</b>	<b>12</b>
<b>Grand Total (A+D+E)</b>		<b>179</b>	<b>98</b>	<b>44</b>	<b>320</b>

A&amp;AA : Assam &amp; Assam Arakan.

\*: CBM Fields

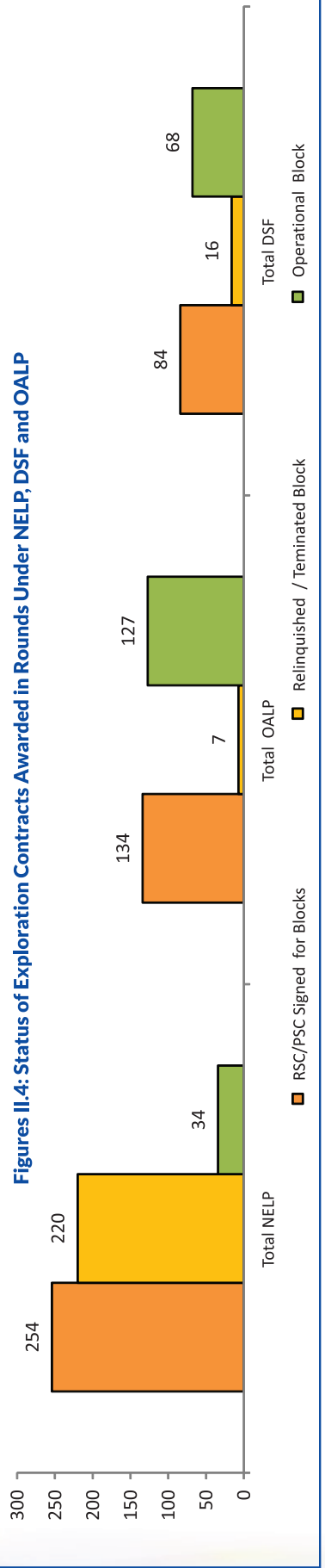
Source: Oil &amp; Natural Gas Corporation Ltd., Oil India Ltd. and DGH

II.8: Exploration Contracts Awarded in Rounds Under NELP, DSF and OALP as on 01.04.2023

Round	Launch Year	Offered Block/Contract Area	RSC/PSC Signed for Blocks				Relinquished/Terminated/Proposed for Relinquishment/Contracts not signed				Operational Block*				Area Awarded (Sq. Km)
			Ultra Deep/Deep Water	Shallow Water	Onland	Total	Ultra Deep/Deep Water	Shallow Water	Onland	Total	Ultra Deep/Deep Water	Shallow Water	Onland	Total	
1	2	3	4	5	6	7-4 to 6	8	9	10	11=8 to 10	12	13	14	15	16=12 to 15
NELP-I	1999	48	7	16	1	24	5	15	1	21	2	1	-	3	231527
NELP-II	2000	25	8	8	7	23	8	8	6	22	-	-	1	1	267883
NELP-III	2002	27	9	6	8	23	9	5	5	19	-	1	3	4	204596
NELP-IV	2003	24	10	-	10	20	10	7	7	17	-	-	3	3	192810
NELP-V	2005	20	6	2	12	20	6	1	9	16	-	1	3	4	115180
NELP-VI	2006	55	21	6	25	52	21	5	20	46	-	1	5	6	306426
NELP-VII	2007	57	11	7	23	41	11	5	20	36	-	2	3	5	112947
NELP-VIII	2009	70	8	11	13	32	8	11	12	31	-	-	1	1	52573
NELP-IX	2010	34	1	3	15	19	1	3	8	12	-	-	7	7	26441
<b>Total NELP</b>		<b>360</b>	<b>81</b>	<b>59</b>	<b>114</b>	<b>254</b>	<b>79</b>	<b>53</b>	<b>88</b>	<b>220</b>	<b>2</b>	<b>6</b>	<b>26</b>	<b>34</b>	<b>1510383</b>
OALP-I	2018	55	1	8	46	55	-	-	4	4	1	8	42	51	59283
OALP-II	2019	14	1	5	8	14	-	-	-	-	1	5	8	14	29233
OALP-III	2019	23	1	3	14	18	-	-	3	3	1	3	11	15	29765
OALP-IV	2019	7	-	-	7	7	-	-	-	-	-	-	7	7	18510
OALP-V	2020	11	1	2	8	11	-	-	-	-	1	2	8	11	19789
OALP-VI	2021	21	2	4	15	21	-	-	-	-	2	4	15	21	35346
OALP-VII	2021	8	1	2	5	8	-	-	-	-	1	2	5	8	15766
<b>Total OALP</b>		<b>139</b>	<b>7</b>	<b>24</b>	<b>103</b>	<b>134</b>	<b>-</b>	<b>-</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>24</b>	<b>96</b>	<b>127</b>	<b>207692</b>
DSF-I	2016	46	-	7	23	30	-	4	7	11	-	3	16	19	777
DSF-II	2018	25	-	9	15	24	-	1	4	5	-	8	11	19	3004
DSF-III	2022	32	1	18	11	30	-	-	-	-	1	18	11	30	12395
<b>Total DSF</b>		<b>103</b>	<b>1</b>	<b>34</b>	<b>49</b>	<b>84</b>	<b>-</b>	<b>5</b>	<b>11</b>	<b>16</b>	<b>1</b>	<b>29</b>	<b>38</b>	<b>68</b>	<b>16176</b>

Source: DGH \*including operational with issues blocks

Figures II-4: Status of Exploration Contracts Awarded in Rounds Under NELP, DSF and OALP





## II.9: State-wise/Area-wise Balance Recoverable Reserves of Crude Oil (in MMT)

State/Region	01.04.2021			01.04.2022			01.04.2023 (P)			% of Total (01.04.2023)
	Reserves (2P)	Contingent Resources 2C	Total	Reserves (2P)	Contingent Resources 2C	Total	Reserves (2P)	Contingent Resources 2C	Total	
<b>1</b>	<b>2</b>	<b>3</b>	<b>4=2+3</b>	<b>5</b>	<b>6</b>	<b>7=5+6</b>	<b>8</b>	<b>9</b>	<b>10=8+9</b>	<b>11</b>
1.Andhra Pradesh	3.5	3.8	7.3	3.6	7.8	11.4	3.7	7.4	11.1	1.7
2.Arunachal Pradesh	3.6	0.0	3.6	2.4	0.5	2.9	2.4	0.5	3.0	0.4
3.Assam	110.8	42.2	153.1	107.3	41.2	148.5	106.6	41.5	148.1	22.1
4.Gujarat	86.3	29.1	115.4	88.7	28.7	117.4	94.5	25.8	120.3	18.0
5.Nagaland	0.0	2.4	2.4	0.0	2.4	2.4	0.0	2.4	2.4	0.4
6.Rajasthan	35.3	0.0	35.3	31.0	72.7	103.7	26.6	90.0	116.7	17.4
7.Tamil Nadu	6.8	2.2	9.0	5.9	3.1	9.0	5.7	3.0	8.7	1.3
8.Tripura	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0
9.West Bengal	0.02	0.00	0.0	0.02	0.09	0.1	0.0	0.1	0.1	0.0
10.Eastern Offshore	39.0	4.0	43.0	33.8	7.2	41.1	33.6	6.9	40.5	6.1
11.Western Offshore	189.9	32.9	222.8	177.1	39.5	216.6	176.2	42.2	218.4	32.6
<b>12. Total Reserves of Crude Oil (1 to 11)</b>	<b>475.3</b>	<b>116.6</b>	<b>591.9</b>	<b>450.0</b>	<b>203.0</b>	<b>653.0</b>	<b>449.5</b>	<b>219.9</b>	<b>669.5</b>	<b>100.0</b>
<b>13. Initial-In Place</b>			<b>6996.3</b>			<b>7461.4</b>			<b>7299.2</b>	
<b>14. Ultimate</b>			<b>2006.8</b>			<b>1893.3</b>			<b>1920.9</b>	
<b>15. Reserves Replacement Ratio</b>			<b>0.39</b>			<b>0.77</b>			<b>1.00</b>	

Note: Figures as on 1st April of particular year P:Provisional

- Western offshore includes Gujarat offshore
- Total may not tally due to rounding off
- ONGC adopted PRMS System w.e.f 01.04.2019; OIL & Contract Regime adopted PRMS system w.e.f 01.04.2022. Revision/changes in Reserves figures are mainly attributed to the adoption of PRMS guidelines in reserves reporting.
- As per PRMS system, Under PRMS, each project must be classified individually so that the estimated recoverable sales quantities associated with that project can be correctly assigned to one of the three main classes: Reserves, Contingent Resources or Prospective Resources.
  - Reserves are associated with projects that the owners can demonstrate to be economic and that have approval for development by all partners.
  - Contingent resources are associated with projects that are discoveries, but for some reason the project is not yet approved for development.
  - Prospective resources are from projects that remain as prospects, i.e. are yet to be discovered."

Source: Oil & Natural Gas Corporation Ltd., Oil India Ltd. and DGH

## II.10: State-wise/Area-wise Balance Recoverable Reserves of Natural Gas ( in BCM)

State/Region	01.04.2021				01.04.2022				01.04.2023 (P)				% of Total (01.04.2023)
	Re-serves (2P)	Contingent Resources 2C	Total	Reserves (2P)	Contingent Resources 2C	Total	Re-serves (2P)	Contingent Resources 2C	Total	Contingent Resources 2C	Total		
<b>1</b>	<b>2</b>	<b>3</b>	<b>4=2+3</b>	<b>5</b>	<b>6</b>	<b>7=5+6</b>	<b>8</b>	<b>9</b>	<b>10=8+9</b>	<b>11</b>			
1.Andhra Pradesh	27.1	37.7	64.8	22.1	41.5	63.6	21.1	42.0	63.2	5.5			
2. Arunachal Pradesh	3.1	0.0	3.1	0.0	7.3	7.3	0.0	7.2	7.2	0.6			
3. Assam	144.3	22.2	166.5	80.3	84.8	165.1	78.1	87.6	165.7	14.5			
4. Gujarat	45.6	11.6	57.2	43.0	12.5	55.5	37.8	18.8	56.6	5.0			
5. Jharkhand (CBM)	8.6	0.0	8.6	4.1	0.0	4.1	4.1	0.7	4.9	0.4			
6. Madhya Pradesh (CBM)	30.9	0.0	30.9	24.2	0.9	25.2	24.2	0.9	25.2	2.2			
7. Nagaland	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0			
8. Rajasthan	57.7	1.4	59.1	56.0	17.6	73.6	51.5	12.4	64.0	5.6			
9. Tamil Nadu	27.3	10.6	37.9	25.2	13.3	38.5	24.2	13.4	37.5	3.3			
10. Tripura	22.2	7.1	29.3	18.8	11.5	30.3	17.4	11.5	28.9	2.5			
11. West Bengal (CBM)	32.2		32.2	32.0	47.3	79.3	32.0	47.3	79.3	6.9			
12. Eastern Offshore	514.5	42.6	557.1	155.7	113.8	269.5	142.3	120.1	262.4	23.0			
13. Western Offshore	228.5	97.1	325.6	193.4	143.9	337.3	217.9	128.9	346.8	30.4			
<b>14. Total Natural Gas Reserves (1 to 13)</b>	<b>1142.0</b>	<b>230.3</b>	<b>1372.4</b>	<b>654.9</b>	<b>494.6</b>	<b>1149.5</b>	<b>650.6</b>	<b>491.1</b>	<b>1141.7</b>	<b>100.0</b>			
<b>15. Initial-In Place Reserves</b>			<b>4225.0</b>			<b>3944.0</b>			<b>3952.7</b>				
<b>16. Ultimate Reserves</b>			<b>2399.1</b>			<b>1787.1</b>			<b>1829.6</b>				
<b>17. Reserves Replacement Ratio</b>			<b>1.1</b>			<b>0.6</b>			<b>1.1</b>				

Note: Figures as on 1st April of particular year P: Provisional

- Western offshore includes Gujarat offshore
- Total may not tally due to rounding off
- ONGC adopted PRMS System w.e.f 01.04.2019; OIL & Contract Regime adopted PRMS system w.e.f 01.04.2022. Revision/changes in Reserves figures are mainly attributed to the adoption of PRMS guidelines in reserves reporting
- As per PRMS system, Under PRMS, each project must be classified individually so that the estimated recoverable sales quantities associated with that project can be correctly assigned to one of the three main classes: Reserves, Contingent Resources or Prospective Resources.
  - Reserves are associated with projects that the owners can demonstrate to be economic and that have approval for development by all partners.
  - Contingent resources are associated with projects that are discoveries, but for some reason the project is not yet approved for development.
  - Prospective resources are from projects that remain as prospects, i.e. are yet to be discovered.

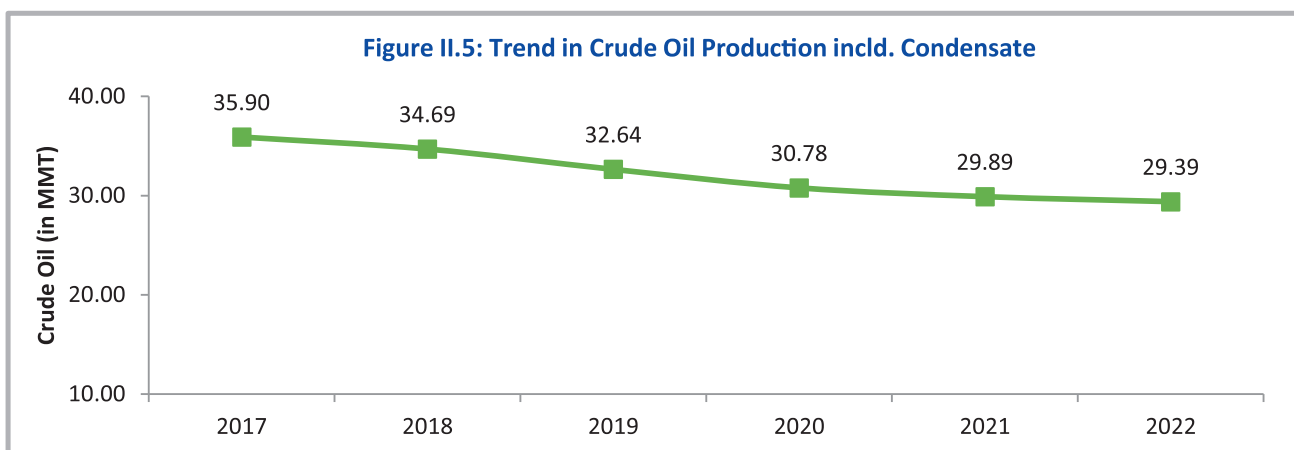
Source: Oil & Natural Gas Corporation Ltd., Oil India Ltd. and DGH

## II.11: Production of Crude Oil and Condensate (Calendar Year-wise)

State/Region	2017	2018	2019	2020	2021	2022 (P)	% variation in 2022 over 2021
1	2	3	4	5	6	7	8=(7-6)/6%
<b>A. State-wise Crude Oil Production including Condensate (TMT)</b>							
1. Andhra Pradesh	322	299	252	206	198	231	16.4
2. Arunachal Pradesh	52	43	52	55	50	46	-7.9
3. Assam	4341	4353	4113	3951	3949	4113	4.2
4. Gujarat	4597	4622	4676	4668	4646	4783	2.9
5. Rajasthan	7876	7832	7024	5859	5964	5335	-10.6
6. Tamil Nadu	341	375	415	413	383	335	-12.7
7. Tripura	-	-	-	-	2	3	51.6
8. West Bengal	-	-	-	-	0.10	0.01	-86.7
9. Offshore	18369	17163	16111	15625	14699	14544	-1.1
<b>A. Total Crude Oil Production* (1 to 9)</b>	<b>35898</b>	<b>34687</b>	<b>32642</b>	<b>30777</b>	<b>29891</b>	<b>29388</b>	<b>-1.7</b>
of which							
10. Crude Oil Production	34302	32969	30959	29329	28622	28103	-1.8
11. Condensate Production	1596	1718	1683	1448	1269	1286	1.3
<b>B. Entity-wise Crude Oil Production including Condensate (TMT)</b>							
12. ONGC (Nomination) Onshore Production	6016	6053	6064	5990	5848	5937	1.5
13. OIL (Nomination) Onshore Production	3376	3344	3131	2979	2955	3103	5.0
14. Pvt/JVs (PSC + RSC) Onshore Production	8137	8127	7336	6183	6389	5804	-9.2
<b>15. Total Production in Onshore (12 to 14)</b>	<b>17529</b>	<b>17524</b>	<b>16531</b>	<b>15152</b>	<b>15192</b>	<b>14844</b>	<b>-2.3</b>
16. ONGC (Nomination) Offshore Production	16422	15256	14457	14459	13722	13640	-0.6
17. Pvt/JVs (PSC+RSC) Offshore Production	1947	1907	1653	1166	977	904	-7.5
<b>18. Total Production in Offshore (16+17)</b>	<b>18369</b>	<b>17163</b>	<b>16111</b>	<b>15625</b>	<b>14699</b>	<b>14544</b>	<b>-1.1</b>
<b>B. Total Crude Oil Production* (15+18)</b>	<b>35898</b>	<b>34687</b>	<b>32642</b>	<b>30777</b>	<b>29891</b>	<b>29388</b>	<b>-1.7</b>
of which							
<b>19. Total ONGC (Nomination) Production</b>	<b>22438</b>	<b>21309</b>	<b>20521</b>	<b>20449</b>	<b>19570</b>	<b>19577</b>	<b>0.0</b>
<b>20. Total OIL (Nomination) Production</b>	<b>3376</b>	<b>3344</b>	<b>3131</b>	<b>2979</b>	<b>2955</b>	<b>3103</b>	<b>5.0</b>
<b>21. Total Pvt/JVs (PSC+RSC) Production</b>	<b>10084</b>	<b>10035</b>	<b>8989</b>	<b>7350</b>	<b>7366</b>	<b>6708</b>	<b>-8.9</b>

Note: Total may not tally due to rounding off \*Included Condensate PSC: Production Sharing Contracts RSC: Revenue Sharing Contract

Source: Oil & Natural Gas Corporation Ltd., Oil India Ltd. and DGH



**II.12: Production of Crude Oil and Condensate (Financial Year-wise)**

State/Region	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	% variation in 2022-23 over 2021-22
1	2	3	4	5	6	7	8=(7-6)/6%
<b>A. State-wise Crude Oil Production (TMT)*</b>							
1. Andhra Pradesh	322	296	243	195	202	236	16.7
2. Arunachal Pradesh	50	43	56	53	48	47	-1.3
3. Assam	4345	4309	4093	3902	3988	4164	4.4
4. Gujarat	4591	4626	4707	4651	4627	4850	4.8
5. Rajasthan	7887	7667	6653	5891	5887	5074	-13.8
6. Tamil Nadu	345	395	415	410	367	324	-11.6
7. Tripura	-	-	-	-	3	3	8.7
8. West Bengal	-	-	-	-	0.05	0.01	-85.1
9. Offshore	18145	16868	16003	15391	14569	14480	-0.6
<b>A. Total Crude Oil Production* (1 to 9)</b>	<b>35684</b>	<b>34203</b>	<b>32170</b>	<b>30494</b>	<b>29691</b>	<b>29179</b>	<b>-1.7</b>
of which							
10. Crude Oil Production	34045	32474	30524	29121	28450	27826	-2.2
11. Condensate Production	1639	1729	1646	1373	1241	1353	9.0
<b>B. Entity-wise Crude Oil Production (TMT)*</b>							
12. ONGC (Nomination) Onshore Production	6010	6074	6090	5934	5833	5950	2.0
13. OIL (Nomination) Onshore Production	3376	3293	3107	2937	2987	3156	5.7
14. Pvt/JVs (PSC + RSC) Onshore Production	8154	7969	6970	6232	6303	5593	-11.3
<b>15. Total Production in Onshore (12 to 14)</b>	<b>17540</b>	<b>17336</b>	<b>16167</b>	<b>15103</b>	<b>15122</b>	<b>14699</b>	<b>-2.8</b>
16. ONGC (Nomination) Offshore Production	16240	14969	14537	14249	13619	13544	-0.6
17. Pvt/JVs(PSC+RSC) Offshore Production	1905	1899	1466	1142	950	936	-1.4
18. Total Production in Offshore (16+17)	18145	16868	16003	15391	14569	14480	-0.6
<b>C. Total Crude Oil Production* (15+18)</b>	<b>35684</b>	<b>34203</b>	<b>32170</b>	<b>30494</b>	<b>29691</b>	<b>29179</b>	<b>-1.7</b>
of which							
<b>19. Total ONGC (Nomination) Production</b>	<b>22249</b>	<b>21042</b>	<b>20627</b>	<b>20183</b>	<b>19451</b>	<b>19493</b>	<b>0.2</b>
<b>20. Total OIL (Nomination) Production</b>	<b>3376</b>	<b>3293</b>	<b>3107</b>	<b>2937</b>	<b>2987</b>	<b>3156</b>	<b>5.7</b>
<b>21. Total Pvt/JVs (PSC+RSC) Production</b>	<b>10059</b>	<b>9868</b>	<b>8436</b>	<b>7374</b>	<b>7253</b>	<b>6530</b>	<b>-10.0</b>

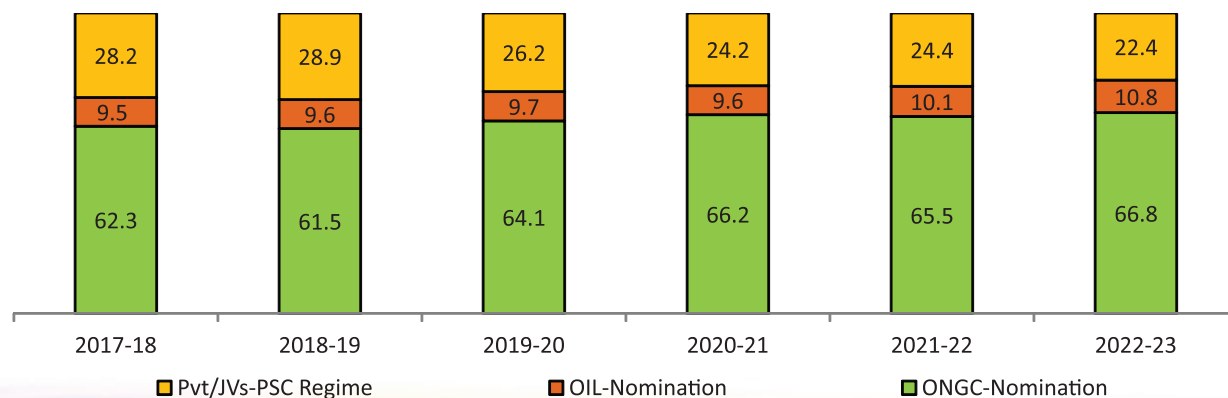
Note: Total may not tally due to rounding off

\*:Included Condensate

PSC: Production Sharing Contracts

RSC: Revenue Sharing Contract

Source: Oil &amp; Natural Gas Corporation Ltd., Oil India Ltd. and DGH

**Figure II.6: Entity - wise % Share of Crude Oil Production**




## II.13: Basin-wise Production of Crude Oil

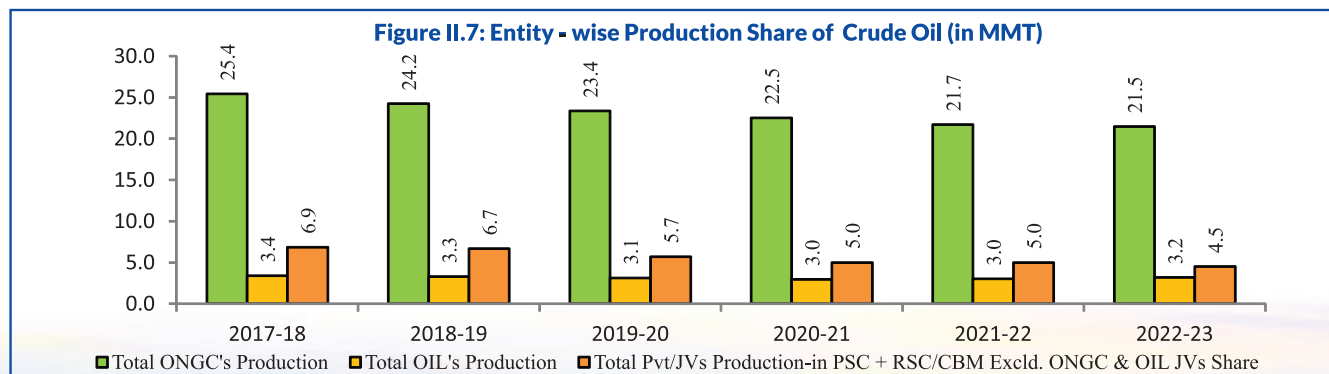
Basin	State	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	Production % Share in FY 2022-23
1	2	3	4	5	6	7	8	9
<b>Crude Oil Production (TMT) by Oil and Natural Gas Corporation</b>								
1. Western Offshore *	Maharashtra	16231	14950	14517	14236	13604	13527	46.4
2. Krishna Godavari Off-shore (Eastern offshore)	Andhra Pradesh	8	18	19	13	14	17	0.1
3. Western Onland	Gujarat	4452	4492	4574	4484	4388	4484	15.4
4. Assam & Assam Arakan	Assam	975	993	987	964	994	1009	3.5
5. Krishna Godavari	Andhra Pradesh	322	285	202	154	159	202	0.7
6. Cauvery	Tamilnadu	262	303	328	331	291	254	0.9
<b>A. Total ONGC-Nomination (1 to 6)</b>		<b>22249</b>	<b>21042</b>	<b>20627</b>	<b>20183</b>	<b>19451</b>	<b>19493</b>	<b>66.8</b>
<b>B. ONGC-NELP/JVs Share</b>		<b>3186</b>	<b>3189</b>	<b>2726</b>	<b>2350</b>	<b>2256</b>	<b>1992</b>	<b>6.8</b>
<b>C. Total ONGC's Production (A+B)</b>		<b>25435</b>	<b>24231</b>	<b>23353</b>	<b>22533</b>	<b>21707</b>	<b>21485</b>	<b>73.6</b>
<b>Crude Oil Production (TMT) by Oil India Ltd.</b>								
7. Assam-Arakan	Assam	3367	3282	3075	2905	2957	3114	10.7
8. Assam-Arakan	Arunachal Pradesh	7	9	23	24	21	24	0.1
9. Rajasthan	Rajasthan	2	3	8	9	9	17	0.1
<b>D. Total OIL (Nomination) (7 to 9)</b>		<b>3376</b>	<b>3293</b>	<b>3107</b>	<b>2937</b>	<b>2987</b>	<b>3156</b>	<b>10.8</b>
<b>E. OIL (JVs Share)</b>		<b>17</b>	<b>14</b>	<b>26</b>	<b>27</b>	<b>23</b>	<b>20</b>	<b>0.1</b>
<b>F. Total OIL's Production (D+E)</b>		<b>3393</b>	<b>3307</b>	<b>3133</b>	<b>2964</b>	<b>3010</b>	<b>3176</b>	<b>10.9</b>
<b>Crude Oil Production (TMT) by Pvt/JVs-in PSC + RSC/CBM</b>								
10. Krishna Godavari Off-shore (Eastern offshore)	Andhra Pradesh	815	634	537	731	612	533	1.8
11. Cauvery Offshore (Eastern offshore)	Tamilnadu	4	2	1	0.1	0	0.2	0.0
12. Cambay (Offshore)	Gujarat Offshore	399	736	591	411	338	379	1.3
13. Mumbai Offshore (Western Offshore)	Western Offshore	687	527	338	0	0	24	0.1
14. KG Onshore	Andhra Pradesh	0	11	41	40	43	34	0.1
15. Assam-Arakan	Arunachal Pradesh	43	34	32	30	27	23	0.1
	Assam	3	34	30	33	40	43	0.1
16. Cambay	Gujarat	139	134	134	167	239	366	1.3
17. Rajasthan	Rajasthan	7885	7664	6645	5882	5879	5058	17.3
18. Cauvery	Tamilnadu	83	92	88	79	76	70	0.2
19. West Bengal	West Bengal	0	0	0	0.1	0.1	0	0.0
<b>G. Total Pvt/JVs Production-in PSC + RSC/ CBM ** (10 to 19)</b>		<b>10059</b>	<b>9868</b>	<b>8436</b>	<b>7374</b>	<b>7253</b>	<b>6530</b>	<b>24.4</b>
<b>H. Total Crude Oil Production (A+D+G)</b>		<b>35684</b>	<b>34203</b>	<b>32170</b>	<b>30494</b>	<b>29691</b>	<b>29179</b>	<b>100.0</b>

Note: Total may not tally due to rounding off

\* Condensate receipt at Uran & Hazira included in Western Offshore Basin of Maharashtra

\*\* Including NELP/JVs Share of ONGC's & OIL's Production

Source: Oil & Natural Gas Corporation Ltd., Oil India Ltd. and DGH



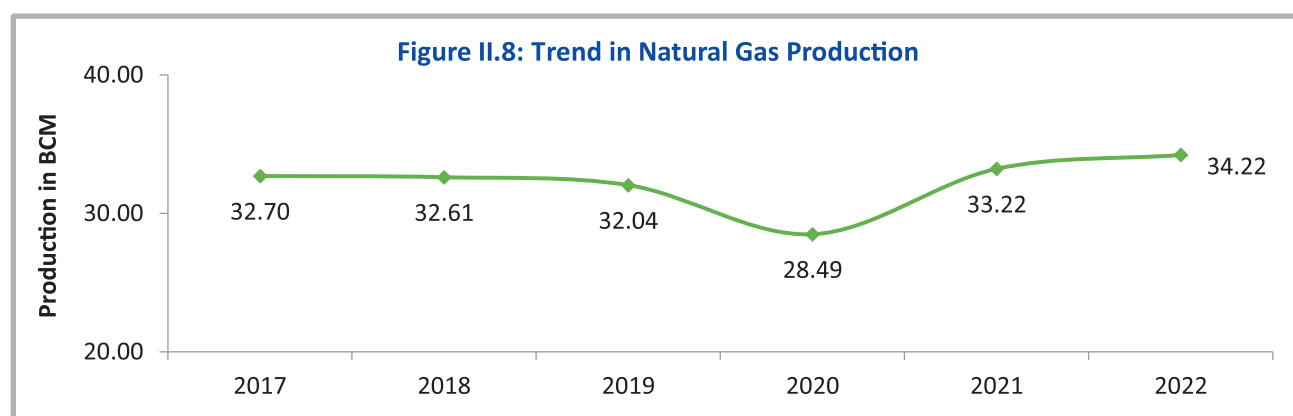
**II.14: Production of Natural Gas (Calendar Year-wise)**

State/Region	2017	2018	2019	2020	2021	2022 (P)	% variation in 2022 over 2021
1	2	3	4	5	6	7	8=(7-6)/6%
<b>A. State-wise Natural Gas Production (MMSCM)</b>							
1. Andhra Pradesh	921	1090	950	847	818	739	-9.7
2. Arunachal Pradesh	28	31	37	55	57	56	-2.9
3. Assam	3219	3263	3239	2979	3251	3536	8.7
4. Gujarat	1669	1424	1356	1184	1051	951	-9.6
5. Jharkhand (CBM)	4	3	5	2	3	8	132.1
6. Madhya Pradesh (CBM)	126	345	344	344	300	270	-9.9
7. Rajasthan	1373	1472	1721	2007	2633	2304	-12.5
8. Tamil Nadu	1163	1213	1121	968	1011	1117	10.5
9. Tripura	1455	1507	1584	1520	1529	1653	8.1
10. West Bengal (CBM)	554	380	312	302	380	399	5.2
11. Offshore	22186	21883	21373	18286	22184	23186	4.5
<b>A. Total Natural Gas Production (1 to 11)</b>	<b>32699</b>	<b>32612</b>	<b>32043</b>	<b>28493</b>	<b>33218</b>	<b>34218</b>	<b>3.0</b>
<b>B. Entity-wise Natural Gas Production (MMSCM)</b>							
12. ONGC (Nomination) Onshore Production	5616	5635	5372	4810	4671	4697	0.6
13. OIL (Nomination) Onshore Production	2922	2745	2708	2491	2800	2997	7.1
14. Pvt/JVs (PSC + RSC) Onshore Production	1974	2348	2590	2907	3563	3337	-6.4
<b>15. Total Production in Onshore (12 to 14)</b>	<b>10512</b>	<b>10729</b>	<b>10670</b>	<b>10208</b>	<b>11034</b>	<b>11031</b>	<b>0.0</b>
16. ONGC (Nomination) Offshore Production	17702	18559	18805	17563	16199	15447	-4.6
17. Pvt/JVs(PSC+RSC) Offshore Production	4484	3324	2568	723	5985	7739	29.3
<b>18. Total Production in Offshore (16+17)</b>	<b>22186</b>	<b>21883</b>	<b>21373</b>	<b>18286</b>	<b>22184</b>	<b>23186</b>	<b>4.5</b>
<b>B. Total Crude Oil Production* (15+18) of which</b>	<b>32699</b>	<b>32612</b>	<b>32043</b>	<b>28493</b>	<b>33218</b>	<b>34218</b>	<b>3.0</b>
<b>19. Total ONGC (Nomination) Production</b>	<b>23319</b>	<b>24195</b>	<b>24177</b>	<b>22372</b>	<b>20870</b>	<b>20144</b>	<b>-3.5</b>
<b>20. Total OIL (Nomination) Production</b>	<b>2922</b>	<b>2745</b>	<b>2708</b>	<b>2491</b>	<b>2800</b>	<b>2997</b>	<b>7.1</b>
<b>21. Total Pvt/JVs (PSC+RSC) Production</b>	<b>6458</b>	<b>5672</b>	<b>5158</b>	<b>3630</b>	<b>9548</b>	<b>11076</b>	<b>16.0</b>

Note: Total may not tally due to rounding off P: Provisional

PSC: Production Sharing Contracts RSC: Revenue Sharing Contract CBM: Coal Bed Methane

Source: Oil &amp; Natural Gas Corporation Ltd., Oil India Ltd. and DGH



## II.15: Production of Natural Gas (Financial Year-wise)

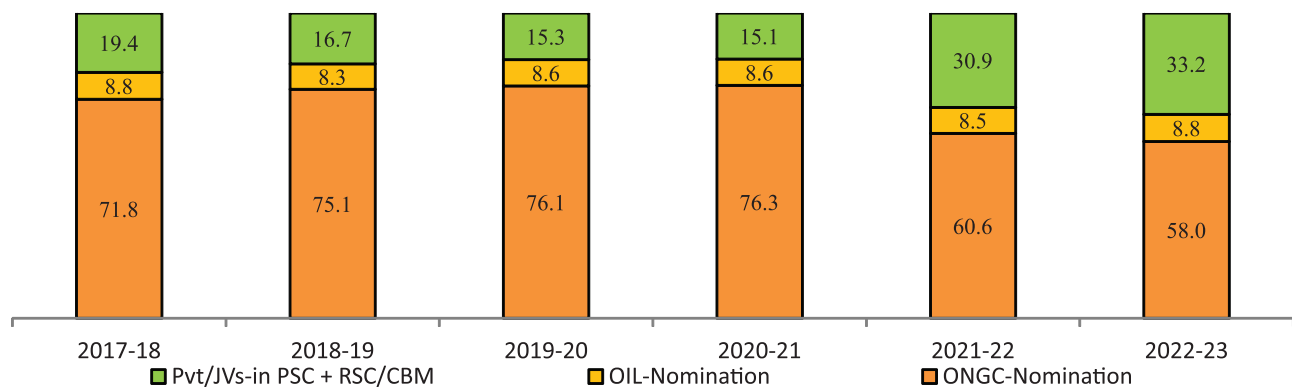
State/Region	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% variation in 2022-23 over 2021-22
1	2	3	4	5	6	7	8=(7-6)/6%
<b>A. State-wise Natural Gas Production (MMSCM)</b>							
1. Andhra Pradesh	959	1081	912	827	809	710	-12.2
2. Arunachal Pradesh	30	28	46	55	58	53	-7.6
3. Assam	3219	3289	3141	2995	3371	3557	5.5
4. Gujarat	1607	1402	1342	1138	1017	923	-9.2
5. Jharkhand (CBM)	4	4	5	2	4	10	149.7
6. Madhya Pradesh (CBM)	200	357	345	334	290	264	-9.0
7. Rajasthan	1442	1483	1883	2040	2619	2340	-10.6
8. Tamil Nadu	1207	1208	1097	911	1067	1109	4.0
9. Tripura	1440	1554	1473	1634	1531	1675	9.4
10. West Bengal (CBM)	531	350	306	307	389	399	2.6
11. Offshore	22011	22117	20635	18429	22869	23409	2.4
<b>A. Total Natural Gas Production (1 to 11)</b>	<b>32649</b>	<b>32873</b>	<b>31184</b>	<b>28673</b>	<b>34024</b>	<b>34450</b>	<b>1.3</b>
<b>B. Entity-wise Natural Gas Production (MMSCM)</b>							
12. ONGC (Nomination) Onshore Production	5638	5633	5170	4786	4686	4644	-0.9
13. OIL (Nomination) Onshore Production	2881	2722	2668	2480	2893	3041	5.1
14. Pvt/JVs (PSC + RSC) Onshore Production	2119	2401	2710	2978	3576	3357	-6.1
<b>15. Total Production in Onshore (12 to 14)</b>	<b>10639</b>	<b>10756</b>	<b>10549</b>	<b>10244</b>	<b>11155</b>	<b>11042</b>	<b>-1.0</b>
16. ONGC (Nomination) Offshore Production	17791	19042	18576	17086	15943	15325	-3.9
17. Pvt/JVs(PSC+RSC) Offshore Production	4219	3075	2059	1343	6926	8084	16.7
<b>18. Total Production in Offshore (16+17)</b>	<b>22011</b>	<b>22117</b>	<b>20635</b>	<b>18429</b>	<b>22869</b>	<b>23409</b>	<b>2.4</b>
<b>C. Total Natural Gas Production* (15+18) of which</b>	<b>32649</b>	<b>32873</b>	<b>31184</b>	<b>28673</b>	<b>34024</b>	<b>34450</b>	<b>1.3</b>
<b>19. Total ONGC (Nomination) Production</b>	<b>23429</b>	<b>24675</b>	<b>23746</b>	<b>21872</b>	<b>20629</b>	<b>19969</b>	<b>-3.2</b>
<b>20. Total OIL (Nomination) Production</b>	<b>2881</b>	<b>2722</b>	<b>2668</b>	<b>2480</b>	<b>2893</b>	<b>3041</b>	<b>5.1</b>
<b>21. Total Pvt/JVs (PSC+RSC) Production</b>	<b>6338</b>	<b>5477</b>	<b>4770</b>	<b>4321</b>	<b>10502</b>	<b>11440</b>	<b>8.9</b>

Note: Total may not tally due to rounding off P: Provisional

PSC: Production Sharing Contracts RSC: Revenue Sharing Contract CBM: Coal Bed Methane

Source: Oil & Natural Gas Corporation Ltd., Oil India Ltd. and DGH

Figure II.9: Entity - wise Natural Gas Production Share (%)



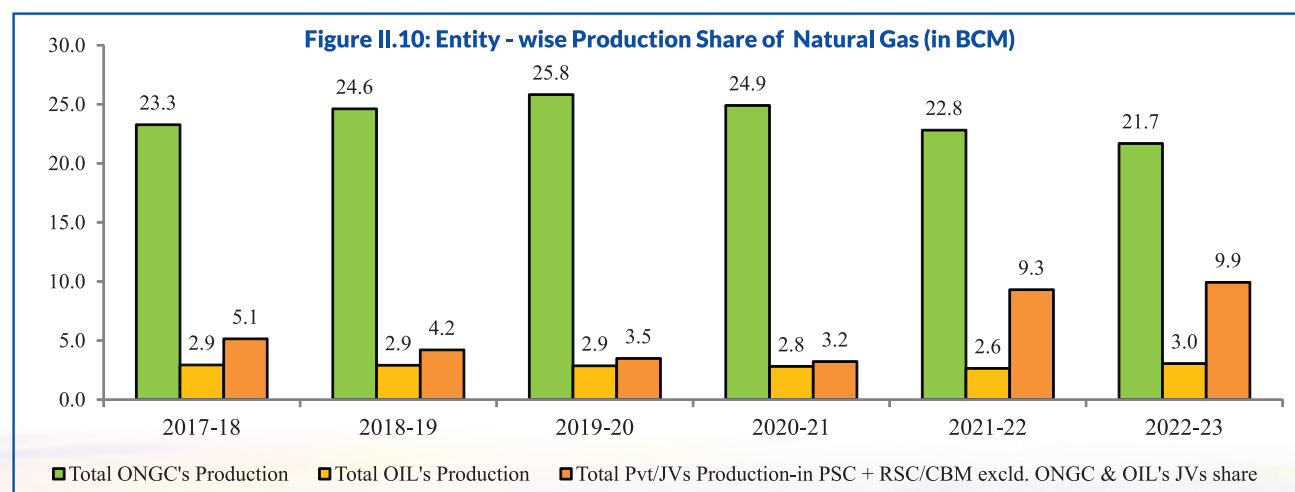
**II.16: Basin-wise Production of Natural Gas**

Basin	State	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	Production % Share in FY 2022-23
1	2	3	4	5	6	7	8	9
<b>Natural Gas Production by Oil and Natural Gas Corporation</b>								
1. Western Offshore	Maharashtra	17243	18005	17645	16660	15681	15,117	43.9
2. Krishna Godavari Offshore (Eastern offshore)	Andhra Pradesh	548	1037	931	426	262	208	0.6
3. Western Onland	Gujarat	1532	1332	1274	1074	951	837	2.4
4. Frontier	Rajasthan	6	4	0	0			0.0
5. Assam & Assam Arakan	Assam	508	483	460	387	373	355	1.0
	Tripura	1440	1554	1473	1634	1531	1675	4.9
6. Krishna Godavari	Andhra Pradesh	959	1077	897	814	794	695	2.0
7. Cauvery	Tamilnadu	1194	1182	1066	877	1037	1082	3.1
<b>A. Total ONGC-Nomination (1 to 7)</b>		<b>23429</b>	<b>24675</b>	<b>23746</b>	<b>21872</b>	<b>20629</b>	<b>19969</b>	<b>58.0</b>
<b>B. ONGC-NELP/JVs Share</b>		<b>1180</b>	<b>1136</b>	<b>1150</b>	<b>944</b>	<b>1051</b>	<b>1382</b>	<b>4.0</b>
<b>C. Total ONGC's Production (A+B)</b>		<b>24610</b>	<b>25810</b>	<b>24896</b>	<b>22816</b>	<b>21680</b>	<b>21351</b>	<b>62.0</b>
<b>Natural Gas Production by Oil India Ltd.</b>								
8. Assam-Arakan	Assam	2659	2482	2379	2241	2620	2812	8.2
9. Assam-Arakan	Arunachal Pradesh	12	12	38	50	53	48	0.1
10. Rajasthan	Rajasthan	211	228	251	188	219	181	0.5
<b>D. Total OIL-Nomination (8 to 10)</b>		<b>2881</b>	<b>2722</b>	<b>2668</b>	<b>2480</b>	<b>2893</b>	<b>3041</b>	<b>8.8</b>
<b>E. OIL-JVs Share</b>		<b>23</b>	<b>143</b>	<b>133</b>	<b>162</b>	<b>153</b>	<b>139</b>	<b>0.4</b>
<b>F. Total OIL's Production (D+E)</b>		<b>2905</b>	<b>2865</b>	<b>2801</b>	<b>2642</b>	<b>3045</b>	<b>3180</b>	<b>9.2</b>
<b>Natural Gas Production by Pvt/JVs-in PSC + RSC/CBM</b>								
11. Krishna Godavari Offshore (Eastern offshore)	Andhra Pradesh	2245	1338	849	1182	6761	7784	22.6
12. Cauvery Offshore (Eastern offshore)	Tamilnadu	24	84	43	13	2	8	0.0
13. Cambay (Offshore)	Gujarat Offshore	98	122	129	148	163	232	0.7
14. Mumbai Offshore (Western Offshore)	Maharashtra	1853	1531	1039	0	0	60	0.2
15. KG Onshore	Andhra Pradesh		5	15	13	15	14	0.0
16. Assam-Arakan	Arunachal Pradesh	18	16	7	5	5	5	0.0
	Assam	53	324	302	367	378	390	1.1
17. Cambay	Gujarat	75	70	69	65	66	86	0.3
18. Rajasthan	Rajasthan	1225	1251	1632	1852	2399	2159	6.3
19. Cauvery	Tamilnadu	14	25	31	34	29	28	0.1
20. Ranigunj South (CBM)	West Bengal	203	153	139	110	112	104	0.3
21. Ranigunj East (CBM)	West Bengal	328	198	167	197	277	295	0.9
22. Jharia (CBM)	Jharkhand	4	4	5	2	4	10	0.0
23. Sohagpur East / West (CBM)	Madhya Pradesh	200	357	345	334	290	264	0.8
<b>G. Total Pvt/JVs Production-in PSC + RSC/CBM (11 to 23)</b>		<b>6338</b>	<b>5477</b>	<b>4770</b>	<b>4321</b>	<b>10502</b>	<b>11440</b>	<b>33.2</b>
<b>H. Total Natural Gas Production (A+D+G)</b>		<b>32649</b>	<b>32873</b>	<b>31184</b>	<b>28673</b>	<b>34024</b>	<b>34450</b>	<b>100.0</b>

Note: Total may not tally due to rounding off P: Provisional

PSC: Production Sharing Contracts RSC: Revenue Sharing Contract CBM: Coal Bed Methane

Source: Oil &amp; Natural Gas Corporation Ltd., Oil India Ltd. and DGH





## II.17: State-wise Gross & Net Production of Natural Gas in India

(Figures in MMSCM)

State / Utilisation	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
<b>Andhra Pradesh</b>						
1. Gross Production	959	1081	912	827	809	710
2. Flare	16	37	39	44	41	30
3. Losses	0	0	0	0	0	0
4. Net Availability/Net Production (1-2-3)	943	1044	874	783	767	680
5. Internal Use/Consumption	32	25	24	23	24	25
6. Sales	911	1019	850	760	744	655
<b>Arunachal Pradesh</b>						
7. Gross Production	30	28	46	55	58	53
8. Flare	14	15	33	43	47	44
9. Losses	7	5	1	0.02	0.02	0.02
10. Net Availability/Net Production (7-8-9)	8	8	11	12	11	9
11. Internal Use/Consumption	8	8	11	12	11	9
12. Sales	0	0	0	0	0	0
<b>Assam</b>						
11. Gross Production	3219	3289	3141	2995	3371	3557
12. Flare	186	192	196	179	214	242
13. Losses	5	12	13	14	48	66
14. Net Availability/Net Production (11-12-13)	3028	3085	2932	2803	3110	3249
15. Internal Use/Consumption	618	586	570	538	648	670
16. Sales	2411	2499	2362	2265	2462	2580
<b>Gujarat</b>						
17. Gross Production	1607	1402	1342	1138	1017	923
18. Flare	51	54	55	80	48	41
19. Losses	0	0	0	0	0	0
20. Net Availability/Net Production (17-18-19)	1556	1349	1287	1059	969	882
21. Internal Use/Consumption	423	383	420	382	334	322
22. Sales	1133	966	867	677	635	559
<b>Rajasthan</b>						
23. Gross Production	1442	1483	1883	2040	2619	2340
24. Flare	37	53	91	85	56	32
25. Losses	67	52	20	16	22	19
26. Net Availability/Net Production (23-24-25)	1338	1378	1772	1938	2541	2289
27. Internal Use/Consumption	595	597	624	711	755	658
28. Sales	743	780	1148	1227	1786	1630
<b>Tamil Nadu</b>						
29. Gross Production	1207	1208	1097	911	1067	1109
30. Flare	21	40	46	54	23	32
31. Losses	0	0	0	0	0	0
32. Net Availability/Net Production (29-30-31)	1186	1167	1051	857	1043	1078
33. Internal Use/Consumption	7	7	5	5	5	6
34. Sales	1179	1161	1046	852	1038	1072
<b>Tripura</b>						
35. Gross Production	1440	1554	1473	1634	1531	1675
36. Flare	0	0	0	0	0	0
37. Losses	0	0	0	0	0	0
38. Net Availability/Net Production (35-36-37)	1440	1554	1472	1634	1530	1675
39. Internal Use/Consumption	3	3	3	3	3	4
40. Sales	1437	1551	1470	1631	1527	1671

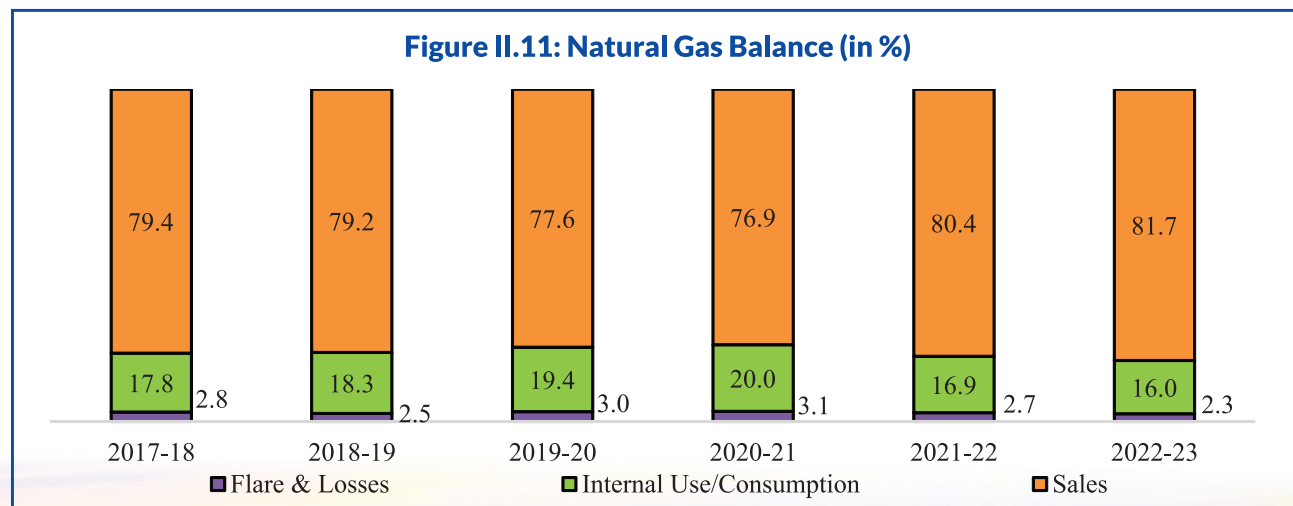
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State / Utilisation	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
<b>Jharkhand</b>						
41. Gross Production	4	4	5	2	4	10
42. Flare	0	0.03	0.07	0.03	0	1
43. Losses	0	0	0	0	0	0
44. Net Availability/Net Production (41-42-43)	4	4	5	2	4	9
45. Internal Use/Consumption	1	1	1	1	2	6
46. Sales	3	3	4	1	2	3
<b>Madhya Pradesh</b>						
47. Gross Production	200	357	345	334	290	264
48. Flare	1	1	1	1	0.40	1
49. Losses	0	0	0	0	0	0
50. Net Availability/Net Production (47-48-49)	199	356	344	333	290	263
51. Internal Use/Consumption	15	23	25	28	25	22
52. Sales	184	333	319	305	265	241
<b>West Bengal</b>						
53. Gross Production	531	350	306	307	389	399
54. Flare	173	36	16	45	12	0.30
55. Losses	0	8	13	11	12	12
56. Net Availability/Net Production (53-54-55)	358	307	277	250	365	387
57. Internal Use/Consumption	62	57	50	46	69	63
58. Sales	296	250	227	204	297	324
<b>B. Offshore</b>						
59. Gross Production	22011	22117	20635	18429	22869	23409
60. Flare	325	299	384	290	371	271
61. Losses	15	16	20	25	13	10
62. Net Availability/Net Production (59-60-61)	21671	21802	20232	18113	22485	23128
63. Internal Use/Consumption	4045	4326	4319	3982	3892	3726
64. Sales	17626	17476	15913	14131	18593	19402
<b>Total Balance of Natural Gas</b>						
65. Gross Production	32649	32873	31184	28673	34024	34450
66. Flare	824	726	860	822	813	695
67. Losses	94	93	67	67	95	107
68. Net Availability/Net Production (65-66-67)	31731	32054	30257	27784	33116	33648
69. Internal Use/Consumption	5808	6015	6052	5730	5767	5511
70. Sales	25923	26039	24205	22054	27349	28137
71. Flared % to Gross Production	3	2	3	3	2	2

**Note:**

- Total may not tally due to rounding off.
- Net availability denotes natural gas available for consumption which is derived by deducting gas flared/losses from gross production.

Source: Oil &amp; Natural Gas Corporation Ltd., Oil India Ltd. and DGH



## II.18: Domestic and Overseas Production of Oil & Gas

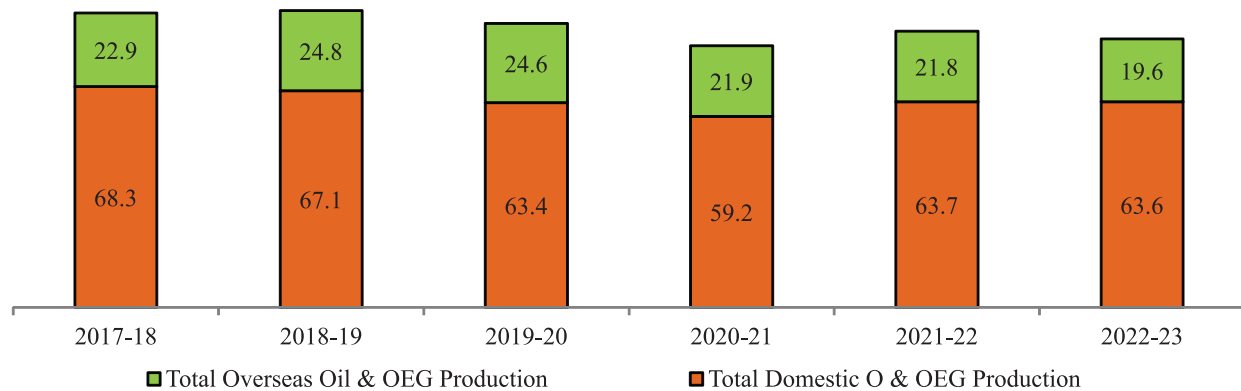
Entity/Year	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
<b>A. Domestic Production of Oil &amp; Gas</b>						
1. Total Production of Oil & Condensate (MMT)	35.68	34.20	32.17	30.49	29.69	29.18
2. Total Production of Gas (BCM)	32.65	32.87	31.18	28.67	34.02	34.45
<b>4. Total Domestic O &amp; OEG Production (MMTOE) (1+2)</b>	<b>68.33</b>	<b>67.08</b>	<b>63.35</b>	<b>59.17</b>	<b>63.71</b>	<b>63.63</b>
<b>B. Overseas Production of Oil &amp; Gas</b>						
5. Overseas Production of Crude Oil & Condensate (MMT)	15.26	17.25	16.66	14.45	14.27	12.26
6. Overseas Production of Natural Gas (BCM)	7.66	7.58	7.98	7.48	7.60	7.34
<b>7. Total Overseas Oil &amp; OEG Production (in MMTOE) (5+6)</b>	<b>22.88</b>	<b>24.79</b>	<b>24.58</b>	<b>21.89</b>	<b>21.82</b>	<b>19.55</b>
8. Overseas production as (%) percentage of domestic production (7/4%)	33.48	36.96	38.80	36.99	34.25	<b>30.73</b>

Note: Total may not tally due to rounding off

P: Provisional

Source: Oil and Gas Companies and DGH

Figure II.12: Trend of Domestic & Overseas Production of Oil & Gas (in MMTOE)





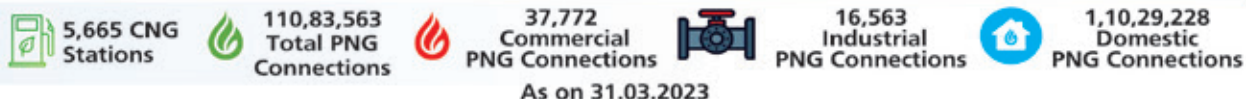


# CHAPTER -III



**Refining, Transportation &  
Marketing Infrastructure**

## Chapter Highlights



**Public Sector share (60.8%)**



**Private sector/JVs Sector Share (39.2%).**

Refining Capacity in India is 253.92 MMTPA as on 31.03.2023

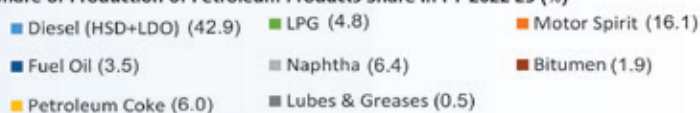
**241.70 MMTPA 2021-22**



**255.23 MMT 2022-23**

Crude oil processing significantly increased by 56% in 2022-23 from 2021-22

**Share of Production of Petroleum Products Share in FY 2022-23 (%)**



Production of Petroleum Products has increased by 4.8% to 266.54 MMT in FY 2022-23 over FY 2021-22 (254.31 MMT).



During FY 2022-23 total installed capacities of six LNG terminals was 42.7 MMTPA. The maximum capacity utilization was around 77.8% by Dahej LNG terminal and minimum around 13.3% by Ennore LNG Terminal.

**Length of crude oil pipeline 10,420 km**



As of 01.04.2023, the total length of crude oil pipeline network across India is 10,420 km with a capacity utilization of 72.8% (147.9 MMTPA).

**Product Pipeline (including LPG Pipeline) 23,087 km**



Product pipelines, including LPG, have a total network of 23,087 km with 161.6 MMTPA capacity. During FY 2022-23, product pipeline utilization stands at 62.6%.

**Natural Gas Pipeline 33,592 Km**

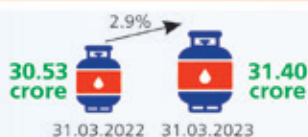


As on 31.03.2023, out of 33,592 km total Natural Gas pipeline network in the country, 23,173 km is operational and 12,206 km (excluding Tie-in connectivity, dedicated & STPL) is under various stages of development.

**12.44 Lakh KL PDS SKO Kerosene was allocated to state**



During FY 2022-23, total PDS Kerosene allocation to States was 12.44 Lakh KL against which 3.96 Lakh KL (31.9%) was uplifted.



As on 31.03.2023, the LPG active domestic consumers of Public Sector Marketing Companies was 31.40 crore marking an increase of 2.9% vis-à-vis 31.03.2022 (30.53 crore).



As on 31.03.2023, total number of Retail Outlets (ROs) in India was 86,855 which is an increase of 4.6% over 31.03.2022 (83,027).



The Compressed Natural Gas (CNG) sales increased by 28.6% from 3.97 MMT in 2021-22 to 5.10 MMT in 2022-23.

### III.1: Refinery Capacity and Crude Oil Processed

(Figures in TMT)

Refinery	2018-19			2019-20			2020-21			2021-22			2022-23 (P)		
	Capacity (31.03.2018)	Crude Processed	Utilisation (in %)	Capacity (31.03.2019)	Crude Processed	Utilisation (in %)	Capacity (31.03.2020)	Crude Processed	Utilisation (in %)	Capacity (31.03.2021)	Crude Processed	Utilisation (in %)	Capacity (31.03.2022)	Crude Processed	Utilisation (in %)
1	2	3	4=3/2%	5	6	7=6/5%	8	9	10=9/8	11	12	13=12/11	14	15	16=15/14
<b>A. CPSEs Refineries (1 to 19)</b>	148066	156692	105.8	149866	152629	101.8	150366	133693	88.9	149716	145491	97.2	151716	161500	106.4
1. IOCL, Guwahati	1000	863	86.3	1000	892	89.2	1000	849	84.9	1000	730	73.0	1000	1080	108.0
2. IOCL, Barauni	6000	6661	111.0	6000	6516	108.6	6000	5469	91.2	6000	5620	93.7	6000	6785	113.1
3. IOCL, Koyali	13700	13505	98.6	13700	13075	95.4	13700	11603	84.7	13700	13474	98.4	13700	15567	113.6
4. IOCL, Halidfa	7500	7965	106.2	7500	6463	86.2	8000	6759	84.5	8000	7305	91.3	8000	8506	106.3
5. IOCL, Mathura	8000	9737	121.7	8000	8948	111.9	8000	8926	111.6	8000	9123	114.0	8000	9573	119.7
6. IOCL, Digboi	650	676	103.9	650	664	102.2	650	605	93.1	650	708	108.9	650	713	109.7
7. IOCL, Panipat	15000	15281	101.9	15000	15038	100.3	15000	13181	87.9	15000	14849	99.0	15000	13810	92.1
8. IOCL, Bongaigaon	2350	2513	106.9	2350	2045	87.0	2350	2450	104.3	2700	2639	97.7	2700	2775	102.8
9. IOCL, Paradip	15000	14616	97.4	15000	15778	105.2	15000	12508	83.4	15000	13217	88.1	15000	13599	90.7
<b>B. Total IOCL (1 to 9)</b>	<b>69200</b>	<b>71816</b>	<b>103.8</b>	<b>69200</b>	<b>69419</b>	<b>100.3</b>	<b>69700</b>	<b>62351</b>	<b>89.5</b>	<b>70050</b>	<b>67665</b>	<b>96.6</b>	<b>70050</b>	<b>72408</b>	<b>103.4</b>
10. BPCL, Mumbai	12000	14773	123.1	12000	15017	125.1	12000	12941	107.8	12000	14437	120.3	12000	14546	121.2
11. BPCL, Kochi	15500	16051	103.6	15500	16515	106.6	15500	13282	85.7	15500	15402	99.4	15500	16017	103.3
12. BORL, Bina**	6000	5716	95.3	7800	7913	101.4	7800	6190	79.4	7800	7410	95.0	7800	7841	100.5
<b>C. Total BPCL (10 to 12)</b>	<b>33500</b>	<b>36539</b>	<b>109.1</b>	<b>35300</b>	<b>39445</b>	<b>111.7</b>	<b>35300</b>	<b>32412</b>	<b>91.8</b>	<b>35300</b>	<b>37248</b>	<b>105.5</b>	<b>35300</b>	<b>38404</b>	<b>108.8</b>
13. HPCL, Mumbai	7500	8671	115.6	7500	8065	107.5	7500	7374	98.3	7500	5558	74.1	9500	9804	103.2
14. HPCL, Vishakhapatnam	8300	9773	117.7	8300	9115	109.8	8300	9050	109.0	8300	8410	101.3	8300	9287	111.9
<b>D. Total HPCL (13+14)</b>	<b>15800</b>	<b>18444</b>	<b>116.7</b>	<b>15800</b>	<b>17180</b>	<b>108.7</b>	<b>15800</b>	<b>16425</b>	<b>104.0</b>	<b>15800</b>	<b>13968</b>	<b>88.4</b>	<b>17800</b>	<b>19091</b>	<b>107.3</b>
15. CPCL, Manali	10500	10271	97.8	10500	10161	96.8	10500	8243	78.5	10500	9040	86.1	10500	11316	107.8
16. CPCL, Narimanam***	1000	423	42.3	1000	0	0.0	1000	0.0	0.0	-	-	-	-	-	-
<b>E. Total CPCL (15+16)</b>	<b>11500</b>	<b>10695</b>	<b>93.0</b>	<b>11500</b>	<b>10161</b>	<b>88.4</b>	<b>11500</b>	<b>8243</b>	<b>71.7</b>	<b>10500</b>	<b>9040</b>	<b>86.1</b>	<b>10500</b>	<b>11316</b>	<b>107.8</b>
17. NRL, Numaligarh	3000	2900	96.7	3000	2383	79.4	3000	2707	90.2	3000	2624	87.5	3000	3091	103.0
18. MRPL, Mangalore	15000	16231	108.2	15000	13953	93.0	15000	11475	76.5	15000	14871	99.1	15000	17116	114.1
19. ONGC, Tatipaka	66	66	100.2	66	87	131.7	66	81	122.7	66	75	113.8	66	74	111.4
<b>F. Pvt./JV's Refineries (17 to 19)</b>	<b>99500</b>	<b>100513</b>	<b>101.0</b>	<b>99500</b>	<b>101757</b>	<b>102.3</b>	<b>99500</b>	<b>88080</b>	<b>88.5</b>	<b>99500</b>	<b>96213</b>	<b>96.7</b>	<b>99500</b>	<b>93733</b>	<b>94.2</b>
20. HHEL, Bathinda	11300	12473	110.4	11300	12242	108.3	11300	10072	89.1	11300	13027	115.3	11300	12735	112.7
21. RIL, Jamnagar	33000	31752	96.2	33000	33019	100.1	33000	34100	103.3	33000	34757	105.3	33000	34433	104.3
22. RIL, SEZ-Jamnagar	35200	37393	106.2	35200	35876	101.9	35200	26841	76.3	35200	28264	80.3	35200	27872	79.2
<b>G. Total RIL (21+22)</b>	<b>68200</b>	<b>69145</b>	<b>101.4</b>	<b>68200</b>	<b>68895</b>	<b>101.0</b>	<b>68200</b>	<b>60941</b>	<b>89.4</b>	<b>68200</b>	<b>63021</b>	<b>92.4</b>	<b>68200</b>	<b>62305</b>	<b>91.4</b>
23. NEL, Vadinar	20000	18896	94.5	20000	20620	103.1	20000	17067	85.3	20000	20164	100.8	20000	18692	93.5
<b>H. Total Crude Oil Processed (1 to 23)</b>	<b>247566</b>	<b>257205</b>	<b>103.9</b>	<b>249366</b>	<b>254386</b>	<b>102.0</b>	<b>249866</b>	<b>221773</b>	<b>88.8</b>	<b>249216</b>	<b>241704</b>	<b>97.0</b>	<b>251216</b>	<b>255233</b>	<b>101.6</b>

Note: Total may not tally due to rounding off \*\*; BORL Bina merged with BPCL in July, 2022 \*\*\*; CPCL CBR refinery is under shutdown due to limitation in meeting required Product specifications with the existing configuration.

Source: Oil & Gas Companies



### III.2: Refinery-wise Production of Petroleum Products

(Figures in TMT)

Refinery	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	Production % Share in 2022-23 of Total 2022-23
1	2	3	4	5	6	7	8
<b>A. CPSEs Refineries (1 to 19)</b>	<b>143929</b>	<b>148360</b>	<b>144425</b>	<b>126461</b>	<b>137097</b>	<b>151479</b>	<b>56.8</b>
1. IOCL, Guwahati	1142	1030	1151	1008	905	1310	0.5
2. IOCL, Barauni	5507	6276	6073	5166	5082	6275	2.4
3. IOCL, Koyali	13271	12908	12592	11071	12920	14732	5.5
4. IOCL, Haldia	7167	7450	5925	6206	6689	8034	3.0
5. IOCL, Mathura	9151	9560	8793	8747	8991	9443	3.5
6. IOCL, Digboi	665	676	665	604	717	714	0.3
7. IOCL, Panipat	15889	15777	15366	13651	15208	13700	5.1
8. IOCL, Bongaigaon	2241	2337	1863	2314	2428	2574	1.0
9. IOCL, Paradip	11447	13230	14240	11159	11860	12274	4.6
<b>B. Total IOCL (1 to 9)</b>	<b>66480</b>	<b>69244</b>	<b>66668</b>	<b>59925</b>	<b>64799</b>	<b>69056</b>	<b>25.9</b>
10. BPCL, Mumbai	13638	14193	14514	12519	13862	13941	5.2
11. BPCL, Kochi	13307	15149	15726	12605	14491	14965	5.6
12. BORL, Bina**	6094	5113	7219	5456	6623	6946	2.6
<b>C. Total BPCL (10 to 12)</b>	<b>33039</b>	<b>34455</b>	<b>37459</b>	<b>30580</b>	<b>34976</b>	<b>35852</b>	<b>13.5</b>
13. HPCL, Mumbai	8126	8202	7645	6952	5114	9152	3.4
14. HPCL, Vishakhapatnam	8901	9095	8292	8408	7776	8489	3.2
<b>D. Total HPCL (13+14)</b>	<b>17027</b>	<b>17297</b>	<b>15937</b>	<b>15360</b>	<b>12890</b>	<b>17642</b>	<b>6.6</b>
15. CPCL, Manali	9331	9254	9329	7653	8371	10555	4.0
16. CPCL, Narimanam***	502	425	1	0	0	0	0.0
<b>E. Total CPCL (15+16)</b>	<b>9833</b>	<b>9679</b>	<b>9330</b>	<b>7653</b>	<b>8371</b>	<b>10555</b>	<b>4.0</b>
17. NRL, Numaligarh	2823	2882	2300	2741	2583	3073	1.2
18. MRPL, Mangalore	14650	14741	12651	10124	13407	15231	5.7
19. ONGC, Tatipaka	75	63	80	77	72	70	0.0
<b>F. Pvt/JVs Refineries</b>	<b>105868</b>	<b>109070</b>	<b>113756</b>	<b>102840</b>	<b>113157</b>	<b>111570</b>	<b>41.9</b>
20. HMEL, Bathinda	8370	11797	11601	9617	12267	11551	4.3
21. RIL, Jamnagar	33561	33334	35061	35771	35979	35807	13.4
22. RIL, SEZ-Jamnagar	44178	45761	47313	40912	45529	46280	17.4
<b>G. Total RIL (21+22)</b>	<b>77739</b>	<b>79095</b>	<b>82374</b>	<b>76683</b>	<b>81507</b>	<b>82087</b>	<b>30.8</b>
23. NEL, Vadinar	19758	18178	19780	16540	19383	17932	6.7
<b>H. Refineries' Production (A+F)</b>	<b>249797</b>	<b>257430</b>	<b>258181</b>	<b>229301</b>	<b>250254</b>	<b>263049</b>	<b>98.7</b>
<b>I. Fractionators' Production</b>	<b>4608</b>	<b>4931</b>	<b>4760</b>	<b>4212</b>	<b>4051</b>	<b>3493</b>	<b>1.3</b>
<b>J. Total Production of Petroleum Products (H+I)</b>	<b>254405</b>	<b>262361</b>	<b>262940</b>	<b>233513</b>	<b>254305</b>	<b>266542</b>	<b>100.0</b>

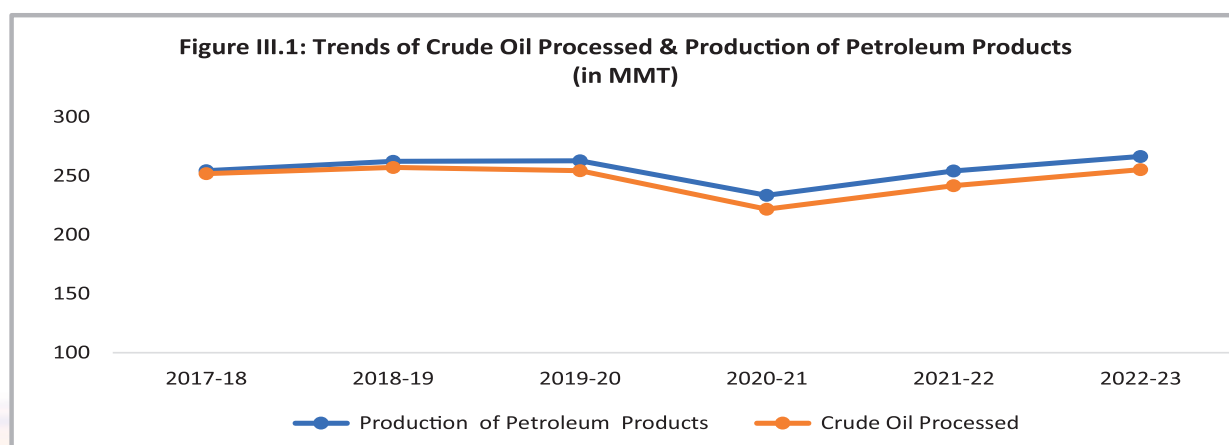
Note: Total may not tally due to rounding off

\*: BORL Bina merged with BPCL in July, 2022

P: Provisional

\*\*: CPCL CBR refinery is under shutdown due to limitation in meeting required Product specifications with the existing configuration.

Source: Oil &amp; Gas Companies





### III.3: Refinery-wise and Product-wise Production of Petroleum Products during 2022-23 (P)

(Figures in TMT)

Refinery/Plant	LPG	Motor Spirit	Naphtha	ATF	SKO	HSD	LDO	Fuel Oil	Bitumen	Lube Oil	Petroleum Coke	Others	Total Production	Fuel & Losses	Crude Processed	Total Input/Output
1	2	3	4	5	6	7	8	9	10	11	12	13-14-sum of 2 to 12	14	15	16	17
1. IOCL, Guwahati	49	301	41	67	18	739	0	0	0	0	67	28	1310	125	1080	1443
2. IOCL, Barauni	387	1460	201	50	79	3545	0	176	96	0	220	60	6275	606	6785	6872
3. IOCL, Koyali	452	2181	965	522	87	7520	72	1332	483	0	804	314	14732	1375	15567	16150
4. IOCL, Haldia	284	912	611	491	131	3973	75	384	391	246	402	132	8034	864	8506	8856
5. IOCL, Mathura	505	1904	131	765	106	3706	0	1252	852	0	0	221	9443	655	9573	10101
6. IOCL, Digboi	12	125	0	0	0	415	0	92	0	0	39	31	714	83	713	800
7. IOCL, Panipat	657	1685	1179	1232	12	6669	112	344	299	0	824	686	13700	1363	13810	15142
8. IOCL, Bongaigaon	147	477	127	28	7	1555	11	79	0	0	137	7	2574	343	2775	2910
9. IOCL, Paradip	631	2532	152	636	23	5476	0	4	0	0	1109	1711	12274	1367	13599	13712
10. BPCL, Mumbai	447	2577	1179	587	20	6504	117	1233	590	316	0	371	13941	717	14546	14614
11. BPCL, Kochi	1072	3991	323	610	60	7291	10	2	218	0	797	591	14965	1437	16017	16411
12. BORL, Bina	267	1257	31	599	44	4400	0	0	0	0	226	122	6946	800	7841	7843
13. HPCL, Mumbai	493	1842	391	364	82	3789	108	722	592	504	0	266	9152	726	9804	9812
14. HPCL, Vishakhapatnam	363	1758	93	75	102	3713	141	1426	607	0	0	211	8489	700	9287	9287
15. CPCL, Manali	378	1142	976	1039	36	5041	0	242	533	236	539	395	10555	1049	11316	11585
16. NRL, Numaligarh	52	662	20	35	27	2127	0	0	0	0	83	67	3073	224	3091	3287
17. MRPL, Mangalore	1154	2427	54	1921	41	6581	0	435	166	0	1003	1449	15231	1907	17116	17124
18. ONGC, Tatipaka	0	0	26	0	0	16	0	26	0	0	0	2	70	3	74	74
19. HMEL, Bathinda	940	1996	3	167	64	6105	0	0	230	0	655	1391	11551	928	12735	12788
20. RIL, Jamnagar	927	2100	6746	3255	0	7003	0	744	0	0	3550	11482	35807	4296	34433	41432
21. RIL, SEZ-Jamnagar	1136	7898	2731	1445	0	18136	0	493	0	0	3629	10812	46280	5269	27872	51629
22. NEL, Vadinar	875	3590	97	1073	0	9410	0	254	85	0	1962	585	17932	1107	18692	19056
<b>A. Total Refineries' Production (1 to 22)</b>	<b>11226</b>	<b>42817</b>	<b>16076</b>	<b>14960</b>	<b>941</b>	<b>113716</b>	<b>646</b>	<b>9242</b>	<b>5144</b>	<b>1301</b>	<b>16044</b>	<b>30935</b>	<b>263049</b>	<b>25946</b>	<b>255233</b>	<b>290928</b>
<b>B. Fractionators</b>	<b>1605</b>	<b>0</b>	<b>961</b>	<b>40</b>	<b>7</b>	<b>59</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>820</b>	<b>3493</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>C. Grand Total (A+B)</b>	<b>12832</b>	<b>42817</b>	<b>17036</b>	<b>15000</b>	<b>948</b>	<b>113775</b>	<b>646</b>	<b>9242</b>	<b>5144</b>	<b>1301</b>	<b>16044</b>	<b>31756</b>	<b>266542</b>	<b>-</b>	<b>-</b>	<b>-</b>

Note: 1 Total may not tally due to rounding off.  
 2. Others include Propylene, Solvents (Hexane, Benzene, Toluene, Xylene and Specialty solvents), Reformate, MTO, Carbon Black Feed Stock, Sulphur etc.  
 Source: Oil & Gas Companies

P: Provisional

**III.4: Production of Petroleum Products (Calendar Year-wise)**

(Figures in TMT)

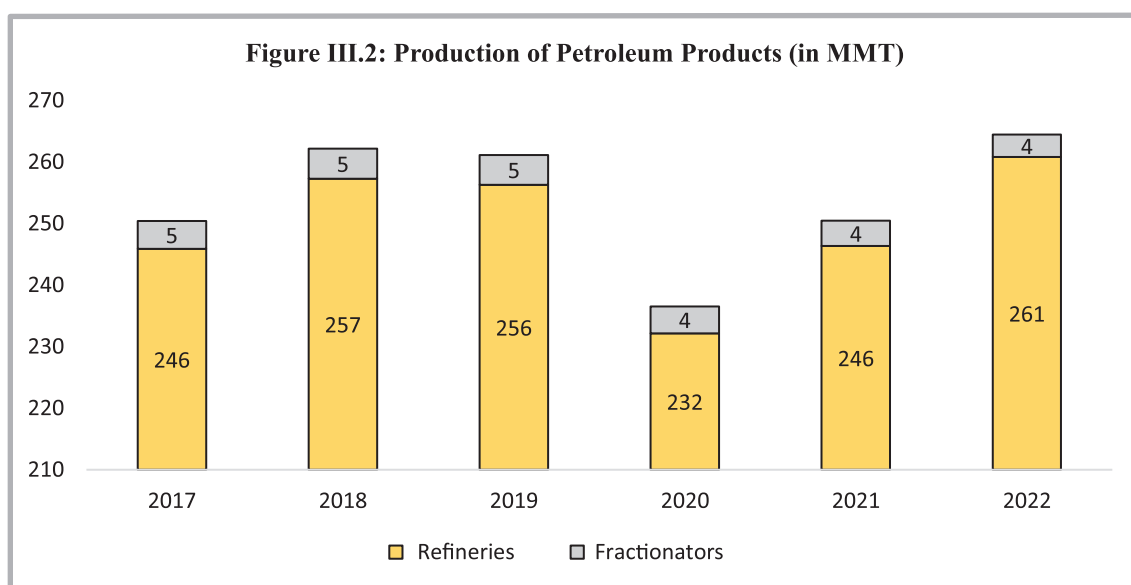
Products	2017	2018	2019	2020	2021	2022 (P)	% Share in 2022 of Product in Total Production
1	2	3	4	5	6	7	8
1. LPG	12094	12751	12768	12231	12184	12822	4.8
2. Motor Spirit	37567	28422	38604	35383	39398	42290	16.0
3. Naphtha	20064	20081	19693	19676	20282	17767	6.7
4. ATF	14211	15506	15457	8403	9719	13831	5.2
5. Kerosene	4635	4180	3322	2687	1975	1166	0.4
6. HSD	105975	110272	110849	100869	106072	112646	42.6
7. LDO	592	711	652	651	870	681	0.3
8. Total Fuel Oils (a+b)	9439	9566	8997	7445	8281	9004	3.4
a) Furnace Oil	9172	8971	8579	7081	7531	8010	3.0
b) LSHS/HHS/RFO	267	595	418	364	750	994	0.4
9. Lube Oils	994	1008	919	977	1183	1274	0.5
10. Bitumen	5076	5735	5461	4949	5229	5305	2.0
11. Petroleum Coke	14483	14998	14860	12655	14568	16091	6.1
12. Paraffin Wax	101	92	94	96	102	106	0.0
13. Others	25188	38838	29459	30529	30510	31453	11.9
<b>14. Total Production of Petroleum Products (1 to 14) of which</b>	<b>250418</b>	<b>262158</b>	<b>261134</b>	<b>236550</b>	<b>250372</b>	<b>264436</b>	<b>100.0</b>
<b>15. Refineries' Production</b>	<b>245879</b>	<b>257298</b>	<b>256292</b>	<b>232179</b>	<b>246341</b>	<b>260824</b>	<b>98.6</b>
<b>16. Fractionators' Production</b>	<b>4539</b>	<b>4860</b>	<b>4843</b>	<b>4371</b>	<b>4109</b>	<b>3612</b>	<b>1.4</b>
<b>17. Crude Processed</b>	<b>250418</b>	<b>262158</b>	<b>261134</b>	<b>236550</b>	<b>238626</b>	<b>253061</b>	<b>-</b>

Note: 1.Total may not tally due to rounding off.

P: Provisional

2. Others include Propylene, Solvents (Hexane, Benzene, Toluene, Xylene and Specialty solvents), Reformate, MTO, Carbon Black Feed Stock, Sulphur etc.

Source: Oil &amp; Gas Companies

**Figure III.2: Production of Petroleum Products (in MMT)**


### III.5: Production of Petroleum Products (Financial Year-wise)

(Figures in TMT)

Products	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share in 2022 of Product in Total Production
1	2	3	4	5	6	7	8
1. LPG	12380	12786	12823	12072	12238	12832	4.8
2. Motor Spirit	37784	38039	38616	35779	40238	42817	16.1
3. Naphtha	20006	19786	20679	19403	19994	17036	6.4
4. ATF	14594	15479	15238	7092	10294	15000	5.6
5. Kerosene	4408	4072	3211	2393	1916	948	0.4
6. HSD	107904	110535	111221	100441	107175	113775	42.7
7. LDO	562	702	620	729	805	646	0.2
8. Total Fuel Oils	9486	10032	8609	7242	8327	9242	3.5
9. a) Furnace Oil	9019	9598	8214	6882	7587	8115	3.0
10. b) LSHS/HHS/RFO	468	434	395	360	741	1127	0.4
11. Lube Oils	1036	949	932	1069	1173	1301	0.5
12. Bitumen	5277	5803	5244	5245	5111	5144	1.9
13. Petroleum Coke	14754	14676	15528	12655	15508	16044	6.0
14. Paraffin Wax	104	90	96	97	101	106	0.0
15. Others	26111	29413	30124	29296	31424	31649	11.9
<b>16. Total Production of Petroleum Products of which</b>	<b>254405</b>	<b>262361</b>	<b>262940</b>	<b>233513</b>	<b>254305</b>	<b>266542</b>	<b>100</b>
<b>17. Refineries</b>	<b>249797</b>	<b>257430</b>	<b>258181</b>	<b>229301</b>	<b>250254</b>	<b>263049</b>	<b>98.7</b>
<b>18. Fractionators</b>	<b>4608</b>	<b>4931</b>	<b>4760</b>	<b>4212</b>	<b>4051</b>	<b>3493</b>	<b>1.3</b>

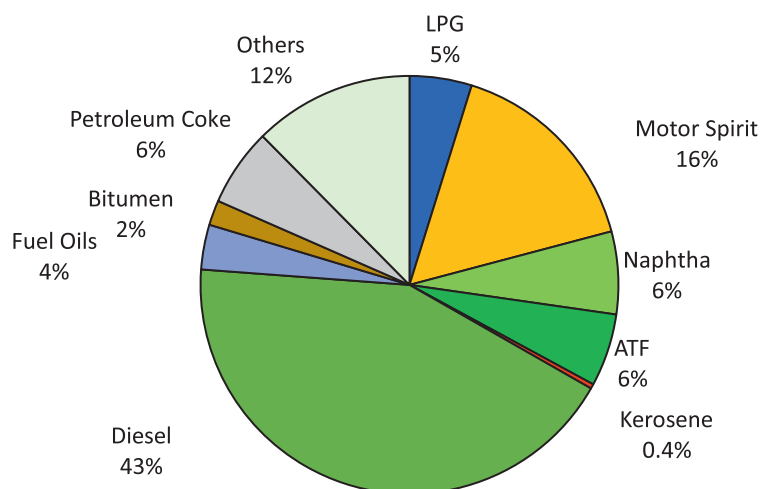
Note: 1.Total may not tally due to rounding off.

P: Provisional

2. Others include Propylene, Solvents (Hexane, Benzene, Toluene, Xylene and Specialty solvents), Reformate, MTO, Carbon Black Feed Stock, Sulphur etc.

Source: Oil Companies

Figure III.3: Distribution of Petroleum Products Produced during 2022-23 (%)



**III.6: Gross Refining Margins (GRM) of Oil Refineries**

(Figures in \$/bbl)

Refinery	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
<b>A. PSUs Refineries</b>						
1. IOCL, Guwahati**	21.88	16.35	14.22	31.87	35.95	36.40
2. IOCL, Barauni	6.60	3.86	-1.24	3.98	12.68	20.68
3. IOCL, Koyali	9.44	4.87	1.90	2.83	8.22	18.78
4. IOCL, Haldia	6.86	5.36	-2.44	4.10	8.69	18.99
5. IOCL, Mathura	7.09	4.65	-1.03	5.03	11.35	16.01
6. IOCL, Digboi**	24.86	22.74	17.52	28.62	34.96	36.62
7. IOCL, Panipat	7.74	4.66	-0.25	3.23	9.26	18.63
8. IOCL, Bongaigaon**	20.62	16.94	10.49	28.89	33.51	29.19
9. IOCL, Paradip	7.02	4.46	-1.80	5.35	10.24	19.25
<b>B. Total IOCL</b>	<b>8.49</b>	<b>5.41</b>	<b>0.08</b>	<b>5.64</b>	<b>11.25</b>	<b>19.52</b>
10. BPCL, Mumbai	7.26	4.92	2.88	3.76	8.73	15.20
11. BPCL, Kochi	6.44	4.27	2.17	4.36	9.40	21.01
12. BPCL, Bina	11.70	9.80	5.60	6.20	11.00	28.18
<b>C. Total BPCL</b>	<b>6.85</b>	<b>4.58</b>	<b>2.51</b>	<b>4.06</b>	<b>9.09</b>	<b>20.24</b>
14. HPCL, Mumbai	8.35	5.79	3.63	4.10	7.60	14.82
15. HPCL, Vishakhapatnam	6.55	4.31	-1.30	3.67	6.92	9.20
<b>D. Total HPCL</b>	<b>7.40</b>	<b>5.01</b>	<b>1.02</b>	<b>3.86</b>	<b>7.19</b>	<b>12.09</b>
16. CPCL, Manali	6.42	3.70	-1.18	7.14	8.85	11.91
17. NRL, Numaligarh**	31.92	28.11	24.33	37.23	43.46	35.82
18. MRPL, Mangalore	7.54	4.06	-0.23	3.71	8.72	9.88
<b>Private Refineries</b>						
19. RIL's Refinery	11.60	9.20	8.90	*	*	*
20. NEL, Vadinar	8.95	6.97	5.88	*	*	*
<b>Joint Venture Refineries</b>						
21. HMEL, Bhatinda	12.07	9.42	*	*	*	*

\*: Not available \*\*: GRM of North Eastern refineries are including excise duty benefit. P: Provisiona

Source: Centre for High Technology

**III.7: GRM of NE refineries without Excise Duty benefit**

(Figures in \$/bbl)

Refinery	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
1. IOCL, Guwahati	3.70	0.63	-3.34	2.13	11.43	19.82
2. IOCL, Digboi	8.27	8.84	3.35	3.71	10.78	22.61
3. IOCL, Bongaigaon	6.22	4.21	1.84	3.15	9.33	15.60
4. NRL, Numaligarh	11.43	11.8	7.99	4.09	14.33	19.86

Source: Centre for High Technology



### III.8: Specific Energy Consumption (MBN number) of Oil Refineries

Refinery	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
<b>A. PSUs Refineries</b>						
1. IOCL, Guwahati	108.0	112.3	121.2	123.7	121.4	103.0
2. IOCL, Barauni	77.7	77.9	75.9	78.1	76.8	70.9
3. IOCL, Koyali	72.4	75.3	77.4	82.6	79.5	69.7
4. IOCL, Haldia	80.8	76.6	88.3	89.3	86.9	71.8
5. IOCL, Mathura	68.3	63.9	65.8	63.1	62.7	60.3
6. IOCL, Digboi	105.5	101.8	101.7	98.1	88.4	96.1
7. IOCL, Panipat	63.2	64.1	64.5	68.0	63.6	59.7
8. IOCL, Bongaigaon	91.7	88.6	96.8	108.5	111.1	105.4
9. IOCL, Paradip	72.8	66.8	64.1	69.0	68.3	60.7
<b>B. Total IOCL</b>	<b>72.6</b>	<b>71.0</b>	<b>71.8</b>	<b>75.5</b>	<b>73.7</b>	<b>68.8</b>
10. BPCL, Mumbai	66.7	64.7	63.0	64.4	64.1	62.5
11. BPCL, Kochi	79.2	71.6	68.2	71.7	67.1	65.4
12. BPCL, Bina	66.9	69.2	64.8	74.1	69.8	66.8
<b>C. Total BPCL</b>	<b>73.2</b>	<b>68.8</b>	<b>66.1</b>	<b>68.5</b>	<b>65.8</b>	<b>64.9</b>
14. HPCL, Mumbai	84.4	82.8	84.8	98.2	105.8	74.5
15. HPCL, Vishakhapatnam	77.3	77.3	84.4	81.2	85.3	78.3
<b>D. Total HPCL</b>	<b>80.8</b>	<b>80.0</b>	<b>84.6</b>	<b>89.1</b>	<b>93.7</b>	<b>77.8</b>
16. CPCL, Manali	88.6	83.0	81.5	86.7	82.8	75.2
17. CPCL, Narimanam	123.7	118.1	-	-	-	-
<b>E. Total CPCL</b>	<b>89.4</b>	<b>83.7</b>	<b>81.5</b>	<b>86.7</b>	<b>82.8</b>	<b>75.2</b>
18. NRL, Numaligarh	64.7	65.9	64.8	64.4	63.5	61.4
19. MRPL, Mangalore	76.7	74.2	75.3	81.4	73.5	71.3
<b>F. Private Refineries</b>						
20. RIL, Jamnagar	50.0	49.0	50.4	48.1	*	47.5
21. RIL, SEZ-Jamnagar	48.6	48.2	49.1	47.2	*	43.9
<b>G. Total RIL</b>	<b>49.2</b>	<b>48.6</b>	<b>49.7</b>	<b>47.6</b>	<b>*</b>	<b>46.0</b>
22. NEL, Vadinar	58.9	61.1	59.7	65.2	*	58.2
<b>H. Joint Venture Refineries</b>						
23. HMEL, Bathinda	61.1	59.2	59.9	65.7	*	56.6
<b>I. Grand Total</b>	<b>63.3</b>	<b>62.6</b>	<b>63.0</b>	<b>64.9</b>	<b>73.7</b>	<b>60.4</b>

\*: Not Available P: Provisional

Source: Centre for High Technology

## III.9: Distillate Yield of PSU Refineries

(Distillate %)

Refinery	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
1. IOCL, Guwahati	82.70	81.00	83.50	82.11	86.40	81.51
2. IOCL, Barauni	89.00	87.90	86.90	87.15	85.90	83.83
3. IOCL, Koyali	82.50	81.00	79.50	72.08	76.70	73.97
4. IOCL, Haldia	66.90	69.90	69.00	72.24	72.20	74.76
5. IOCL, Mathura	75.40	76.10	75.60	72.30	74.90	71.75
6. IOCL, Digboi	77.90	75.80	72.50	67.89	79.20	72.82
7. IOCL, Panipat	84.90	82.80	84.80	80.20	83.90	78.93
8. IOCL, Bongaigaon	84.30	84.80	80.80	84.81	81.30	80.04
9. IOCL, Paradip	79.40	80.80	80.70	79.18	79.60	79.51
<b>A. Total IOCL</b>	<b>80.36</b>	<b>80.36</b>	<b>80.20</b>	<b>77.18</b>	<b>79.20</b>	<b>77.01</b>
10. BPCL, Mumbai	84.30	82.20	84.90	83.66	84.40	85.50
11. BPCL, Kochi	83.90	82.50	84.20	83.77	85.40	83.90
12. BPCL, Bina	-	-	-	-	84.30	85.30
<b>B. Total BPCL</b>	<b>84.10</b>	<b>82.36</b>	<b>84.50</b>	<b>83.72</b>	<b>84.90</b>	<b>84.80</b>
13. HPCL, Mumbai	77.40	77.60	77.00	76.23	70.40	75.90
14. HPCL, Vishakhapatnam	74.50	74.50	72.10	74.38	70.70	67.90
<b>C. Total HPCL</b>	<b>75.90</b>	<b>76.00</b>	<b>74.40</b>	<b>75.21</b>	<b>70.60</b>	<b>72.01</b>
15. CPCL, Manali	72.30	75.30	77.60	78.41	74.90	78.30
16. CPCL, Narimanam	79.10	77.30	-	-	-	-
<b>D. Total CPCL</b>	<b>72.62</b>	<b>75.38</b>	<b>77.60</b>	<b>78.41</b>	<b>77.20</b>	<b>78.30</b>
17. NRL, Numaligarh	86.68	87.10	83.00	86.36	85.70	89.93
18. MRPL, Mangalore	76.50	76.80	76.70	78.09	78.80	77.90
<b>E. Grand Total (PSUs)</b>	<b>79.70</b>	<b>79.70</b>	<b>80.00</b>	<b>78.63</b>	<b>78.1(P)</b>	<b>78.70</b>

P: Provisional

Source: Centre for High Technology



### III.10: Status of LNG Terminals in India

(Distillate %)

Terminal	Promoters	Capacity (MMTPA) as on 31.03.2023	Capacity Utilization (%)					
			2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7	8	9
<b>Operational LNG Terminal</b>								
1. Dahej (Gujarat)	Petronet LNG Ltd. (PLL)	17.5	105	107	102	94	88	78
2. Kochi (Kerala)		5.0	12	9	17	18	21	19
3. Hazira (Gujarat)	Hazira LNG Pvt. Ltd. (HLPL)	5.2	59	80	95	77	47	37
4. Dabhol (Maharashtra) <sup>1</sup>	Ratnagiri Gas and Power Pvt. Ltd. (RGPPL- JV of GAIL & NTPC)	5.0	65	72	97	75	85	39
5. Ennore (Tamilnadu)	IndianOil LNG Pvt. Ltd. (IOLPL)	5.0	-	-	9	13	14	13
6. Mundra (Gujarat)	GSPC LNG Limited (GLL)	5.0	-	-	30	35	19	16
<b>Planned/Under-Construction LNG Terminals</b>								
7. Dhamra (Odisha)	Adani LNG Pvt Ltd	5						
8. Dhabol Expansion <sup>2</sup>	GAIL(KLPL)	3						
9. Jaigarh (Maharashtra)	H-Energy	4						
10. Jafrabad (Gujarat)	Swan Energy	5						
11. Chhara (Gujarat)	HSEPL	5						

Note:

- To increase to 5 MMTPA with breakwater. Only HP stream of capacity of 2.9 MMTPA is commissioned.
- Additional Capacity to be available after construction of breakwater

Source: CPSEs/GP Division, MoPNG

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APPENDIX

**III.11: Existing Major Crude Oil Pipelines in India- As on 31.03.2023**

Type of Pipeline / Owner/Name of Pipeline	Entity	Length (KM)	Capacity (MMT)	Throughput (MMT)		Capacity Utilisation in 2022-23 (%)	
				2021-22	2022-23 (P)		
1	2	3	4	5	6	7=6/4%	
1. Salaya Mathura Pipeline	IOCL	2646	25.0	25.9	28.5	114.2	
2. Mundra Panipat Pipeline		1194	8.4	7.0	5.8	69.2	
3. Paradip Haldia Barauni Pipeline		1355	15.2	15.6	19.0	125.2	
4. Salaya Mathura Pipeline		14	-	-	-	-	
5. Paradip Haldia Barauni Pipeline		92	-	-	-	-	
<b>A. Total IOCL</b>		<b>5301</b>	<b>48.6</b>	<b>48.5</b>	<b>53.4</b>	<b>109.8</b>	
6. CTF Kalol to CTF Nawagam - New	ONGC	63	3.1	1.1	1.0	33.2	
7. Nawagam-Koyali (18" New)		80	5.4	3.6	3.7	68.9	
8. Nawagam-Koyali (14" Old)		78	3.3	0.0	0.0	0.0	
9. Mehsana-Nawagam trunk line - New		77	2.3	2.1	2.1	93.4	
10. CTF, Ankleshwar to Koyali pipeline		95	2.2	0.6	0.5	24.2	
11. CTF, Ankleshwar to CPF, Gandhar		44	0.4	0.0	0.0	0.0	
12. CPF, Gandhar to Saraswani 'T' point		57	1.8	0.5	0.4	23.4	
13. Akholjuni- Koyali oil pipe line		66	0.5	0.4	0.4	82.5	
14. Lakwa-Moran oil line (New)		15	1.5	0.5	0.5	34.0	
15. Lakwa-Moran oil line (Old)		18	1.5	0.0	0.0	0.0	
16. Geleki-Jorhat oil line (old)		49	1.5	0.0	0.0	0.0	
17. Geleki-Jorhat oil line (new)		48	1.5	0.3	0.3	18.7	
18. Borholla- Jorhat (old)		43	0.6	0.0	0.0	0.0	
19. Borholla- Jorhat (New)		43	0.6	0.2	0.2	34.8	
20. NRM (Narimanam) to CPCL		5	0.7	0.4	0.3	41.9	
21. KSP-WGGS to TPK Refinery		14	0.1	0.1	0.1	74.4	
22. GMAA EPT		4	0.1	0.0	0.0	36.2	
23. Mumbai High - Uran Trunk Pipeline		204	15.6	6.4	3.6	23.2	
24. Heera-Uran Trunk Pipeline		81	11.5	4.4	6.0	52.4	
25. Bombay-Uran Trunk 30" Pipeline		203	6.4	0.0	0.5	7.4	
<b>B. Total ONGC</b>		<b>1284</b>	<b>60.6</b>	<b>20.6</b>	<b>19.8</b>	<b>32.6</b>	
26. Duliajan-Digboi-Barauni-Bongaigaon Pipeline		OIL	1193	9.0	6.2	6.8	76.0
27. Mundra - Bhatinda Pipeline		HMPL	1017	11.3	13.1	12.8	113.8
28. Vadinar - Bina Pipeline		BPCL	937	7.8	7.4	7.8	100.2
29. Mangala- Bhogat Pipeline		CAIRN	660	8.7	5.9	5.1	58.6
30. Bhogat- Marine	28		2.0	1.4	2.1	105.0	
<b>C. Total CAIRN</b>		<b>688</b>	<b>10.7</b>	<b>7.3</b>	<b>7.2</b>	<b>67.2</b>	
<b>D. Total Crude Oil Pipeline</b>		<b>10420</b>	<b>147.9</b>	<b>103.1</b>	<b>107.8</b>	<b>72.8</b>	

Source: Oil &amp; Gas Companies



## III.12: Major Gas Pipelines in India As on 31.03.2023

Type of Pipeline / Owner/Name of Pipeline	Entity	Authorised Length (KM)	Capacity (MMSCMD)	Throughput (MMSCMD)		Capacity Utilisation (%)
				2021-22	2022-23	
1	2	3	4	5	6	7=6/4%
1. Integrated HVJ Network	GAIL	6725	107	73	73	68
2. Dahej-Uran (DUPL) & Dabhol-Panvel (DPPL)		943	20	17	16	82
3. KG Basin Network		917	16	4	4	24
4. Gujarat Regional Network		615	8	3	3	37
5. Agartala Regional Network		65	2	1	1	50
6. Mumbai Regional Network		125	7	4	4	63
7. Cauvery Basin Network		272	4	2	2	43
8. Kochi-Koottanad-Bangalore-Mangalore #		642	12	4	3	27
9. Chainsa-Jhajjar-Hissar **		442	35	1	2	5
10. Dadri-Bawana-Nangal		909	31	7	8	24
11. Dabhol-Bangalore		1148	16	2	2	12
12. Jagdishpur-Haldia-Bokaro Dhamra including Barauni-Guwahati #		2383	7	2	5	70
13. Dedicated Pipelines		226	4	3	3	70
<b>A. Total Gail*</b>		<b>15413</b>	<b>270</b>	<b>111</b>	<b>107</b>	<b>40</b>
14. Dadri Panipat Pipeline	IOCL	141	10	5	4	45
15. Ennore Tuticorin Bangalore Pipeline		285	34	3	3	9
16. Dahej Koyali Pipeline		106	5	0	1	20
<b>B. Total IOCL</b>		<b>532</b>	<b>49</b>	<b>8</b>	<b>8</b>	<b>17</b>
17. Gujarat Gas Grid	GSPL	2265	43	25	27	63
18. Duliajan to Numaligarh	DNPL	194	1	1	1	71
19. Assam Regional Network	AGCL	105	2	1	2	62
20. East-West Pipeline	PIL	1459	85	21	24	28
21. Shahdol-Phulpur Pipeline	RGPL	312	4	1	1	19
22. 20" Uran Trombay Gas Line	ONGC	24	6	3	3	47
23. Hazira-Ankleshwar (HAPI)	GGL	73	4	1	1	18
24. Mehsana-Bhatinda\$\$	GIGL	1940	46	3	3	7
25. Bhatinda-Gurdaspur \$		392	34	0	0	0
26. Mallavaram-Bhopal-Bhilwara-Vijaipur	GITL	1811	78	2	1	2
27. Kakinada-vizag-Srikakulam^	APG-DC	275	90	-	-	-
28. North-East Natural Gas Pipeline Grid^	IGGL	1656	5	-	-	-
29. Others Authorised Pipelines		7141	-	-	-	-
<b>C. Total Authorized Gas Pipeline</b>		<b>33592</b>				
<b>D. Total Operational Gas Pipelines</b>		<b>23173</b>				
<b>E. Total Under construction Gas Pipelines</b>		<b>12206</b>				

Note: 1. The sum of operational and under construction length of natural gas pipeline may be more than the total authorised length, as the entities are allowed to lay additional pipeline within tariff zone in the line with the provisions of the NGPL Authorisation regulations.

2. The above operational and under construction length of pipelines includes the available length of Sub-Transmission Pipelines owned by the CGD entities.

GAIL: \*: Total flow will not match with sum of individual pipeline network quantity as some quantity have travelled more than one pipeline network. \*\*Even though GAIL has submitted the capacity of 12 MMSCMD (on account of reduced dia.), the capacity as per PNGRB Acceptance is still indicated as 35 MMSCMD. So 35 MMSCMD has been retained. # Capacity of commissioned section

\$: 101 kms of Jalandhar amritsar pipeline commissioned approx 10 kms of spurline in Punjabcomltd approx. 20 kms is pending due to ROU issues.

\$\$: around 763 KMs line under construction & partially commissioned ^: Under Construction P:Provisional

Source: PNGRB & Gas Companies

**III.13: Existing Major LPG & Petroleum Products Pipelines in India - As on 31.03.2023**

Type of Pipeline / Owner/Name of Pipeline	Entity	Length (KM)	Capacity (MMT)	Throughput (MMT)		Capacity Utilisation in 2022-23 (%)	
				2021-22	2022-23		
1	2	3	4	5	6	7=6/4%	
<b>A. Total LPG Pipeline</b>		<b>4974</b>	<b>15.1</b>	<b>8.8</b>	<b>9.5</b>	<b>62.5</b>	
1. Jamnagar-Loni Pipeline	GAIL	1414	2.5	2.9	3.0	121.5	
2. Vizag-Secunderabad Pipeline	GAIL	609	1.3	1.3	1.3	97.5	
<b>B. Total GAIL</b>		<b>2023</b>	<b>3.8</b>	<b>4.2</b>	<b>4.3</b>	<b>113.2</b>	
3. Panipat Jalandhar Pipeline	IOCL	280	0.7	0.7	0.6	84.7	
4. Paradip Haldia Durgapur Pipeline	IOCL	1468	3.5	1.2	1.4	39.2	
<b>C. Total IOCL</b>		<b>1748</b>	<b>4.2</b>	<b>1.9</b>	<b>2.0</b>	<b>46.8</b>	
<b>D. Uran LPG Pipeline</b>	BPCL	<b>28</b>	<b>0.8</b>	<b>0.6</b>	<b>0.7</b>	<b>83.1</b>	
5. Mangalore-Hassan-Mysore-Bangalore Pipeline	HPCL	356	3.1	1.2	1.3	42.7	
6. Uran-Chakan-Shikrapur Pipeline		169	1.0	0.9	1.0	99.2	
7. Hassan Cherlapally Pipeline		650	2.2	0.0	0.2	8.2	
<b>E. Total HPCL</b>		<b>1175</b>	<b>6.3</b>	<b>2.1</b>	<b>2.5</b>	<b>39.6</b>	
<b>F. Total Product Pipelines (Excl. LPG Pipelines)</b>		<b>17520</b>	<b>146.4</b>	<b>77.3</b>	<b>91.7</b>	<b>62.6</b>	
8. Koyali Ahmedabad Pipeline	IOCL	79	1.1	0.7	0.8	69.2	
9. Koyali Jaipur Panipat Pipeline		1644	5.0	4.5	4.9	98.9	
10. Koyali Dahej Pipeline		197	2.6	0.8	0.9	33.7	
11. Koyali Ratlam Pipeline		265	2.0	0.7	1.7	85.4	
12. Panipat Bhatinda Pipeline		219	3.0	1.5	1.7	55.2	
13. Panipat Rewari Pipeline		155	2.1	1.5	1.4	68.0	
14. Panipat Delhi Pipeline		189	3.0	0.9	0.4	14.5	
15. Panipat Bijwasan ATF Pipeline		111	1.0	0.0	0.5	48.4	
16. Panipat Ambala Jalandhar Pipeline		495	3.5	2.9	3.3	93.0	
17. Mathura Delhi Pipeline		147	3.7	2.0	2.7	73.8	
18. Mathura Agra Gawria Pipeline		311	4.0	0.5	0.5	12.2	
19. Mathura Bharatpur Pipeline		21	1.2	0.2	0.7	57.5	
20. Guwahati Siliguri Pipeline		435	1.4	1.8	2.0	146.1	
21. Barauni Kanpur Pipeline		1227	3.5	3.1	3.6	104.1	
22. Haldia Mourigram Rajbandh Pipeline		277	1.4	1.8	1.9	144.1	
23. Haldia Barauni Pipeline		526	1.3	1.4	1.6	125.8	
24. Chennai Trichy Madurai Pipeline		683	3.9	2.5	3.0	77.6	
25. Chennai Bangalore Pipeline		290	2.5	1.9	2.4	97.3	
26. Chennai ATF Pipeline		95	0.2	0.2	0.2	133.3	
27. Paradip Raipur Ranchi Pipeline		1073	5.0	3.6	4.3	86.3	
28. Paradip Hyderabad Pipeline		958	4.5	0.0	0.2	4.5	
29. Paradip Somnathpur Haldia Pipeline		165	4.6	0.0	0.0	0.5	
30. Koyali Ahmednagar Solapur Pipeline		352	5.0	0.0	0.1	1.1	
31. Devangonhi Devanhalli ATF Pipeline		36	0.7	0.4	0.5	82.7	
32. Kolkata ATF Pipeline		27	0.2	0.1	0.2	81.5	
33. Lucknow ATF Pipeline		6	0.2	0.0	0.1	35.2	
<b>G. Total IOCL</b>			<b>9983</b>	<b>66.4</b>	<b>32.8</b>	<b>39.7</b>	<b>59.8</b>

Type of Pipeline / Owner/Name of Pipeline	Entity	Length (KM)	Capacity (MMT)	Throughput (MMT)		Capacity Utilisation in 2022-23 (%)
				2021-22	2022-23	
1	2	3	4	5	6	7=6/4%
34. Mumbai-Manmad-Bijwasan Pipeline	BPCL	1392	6.0	7.1	7.8	129.3
35. Bina-Kota Pipeline (BKPL)		259	4.4	3.8	3.5	78.4
36. ATF P/L Mumbai Refinery (MR)-Santacruz		15	1.0	0.4	0.5	53.6
37. ATF P/L Kochi Refinery (KR)-Kochi Airport		34	0.6	0.2	0.4	68.8
38. Kota - Jobner branch Pipeline <sup>1</sup>		211	1.7	-	-	-
39. Mumbai Refinery- Wadilube Pipeline		12	1.3	0.3	0.3	22.2
40. Cochin-Coimbatore-Karur (CCK) Pipeline		293	3.3	3.6	4.3	130.2
41. Bina-Panki Multiproduct Pipeline		355	3.5	0.5	1.6	46.5
<b>H. Total BPCL</b>		<b>2571</b>	<b>21.8</b>	<b>15.9</b>	<b>18.4</b>	<b>84.3</b>
42. Mumbai-Pune-Solapur Pipeline (MPSPL)	HPCL	508	4.3	2.8	3.7	86.4
43. Visakh-Vijaywada-Secunderabad Pipeline (VVSPL)		572	7.7	4.7	5.5	71.5
44. Mundra-Delhi Pipeline (MDPL)		1054	6.9	2.5	3.5	51.3
45. Ramanmandi-Bahadurgarh (RBPL)		243	7.1	6.7	6.2	86.8
46. Ramanmandi-Bathinda Pipeline (RBHPL)		30	2.1	1.1	1.3	62.5
47. Mumbai - Vashi Black Oil Pipeline (BOPL)		21	1.5	0.5	1.2	78.9
48. Mumbai Refinery to Mumbai Airport ATF Pipeline		20	0.5	0.2	0.3	68.8
49. Trombay to Wadibundar Lube Oil Pipeline (LOPL)		19	1.0	0.4	0.5	50.1
50. Awa-Salawas Pipeline (ASPL)		93	2.3	0.6	0.6	27.6
51. Bahadurgarh-Tikrikalan Pipeline (BTPL)		14	0.8	0.3	0.4	48.1
52. Rewari- Kanpur Pipeline (RKPL)		443	8.0	4.3	4.0	50.3
53. Palanpur-Vadodara Pipeline (PVPL)		235	4.5	0.6	0.9	20.9
54. Vijaywada Dharmapuri Pipeline		697	4.2	0.0	0.1	2.3
<b>I. Total HPCL</b>			<b>3949</b>	<b>50.9</b>	<b>24.7</b>	<b>28.3</b>
55. Petronet Mangalore-Hassan-Bangalore Pipeline	Petronet-MHB	363	5.6	2.1	3.9	69.6
56. Numaligarh - Siliguri Pipeline	OIL	654	1.7	1.7	1.4	81.3
<b>J. Total Petroleum Products Pipeline (A+F)</b>		<b>22494</b>	<b>161.6</b>	<b>86.1</b>	<b>101.1</b>	<b>62.6</b>

Note: 1. Kota-Jobner Pipeline is a branch pipeline of Mumbai Manmad Bijwasan pipeline with annual capacity of 1.7 MMTPA. Throughput of this pipeline is included in MMBPL & BKPL pipelines.

2. ASPL, PVPL and RKPL are branch lines of MDPL. BTPL is a Spurline of RBPL. MDPL End-Section Rewari-Bahadurgarh can operate in reverse direction. Thus RKPL is fed from MDPL and RBPL Mainlines. Capacities/ Throughputs of Branch/ Spurline form part of their respective Mainlines.

Source: Oil & Gas Companies

P:Provisional

## III.14: Tonnage of Indian Tankers Fleet (as on 31st March)

	2018	2019	2020	2021	2022	2023 (P)
1	2	3	4	5	6	7
<b>Coastal Trade (Oil Tankers)</b>						
<b>A. Product Carriers</b>						
1. No. of tankers/Ships	16	16	17	18	20	20
2. Dead Weight Tonnage (in TMT)	47	46	48	94	50	50
3. Gross Registered Tonnage (in TMT)	44	44	46	74	49	49
<b>B. Crude Oil Carriers</b>						
4. No. of tankers/Ships	4	4	5	4	4	4
5. Dead Weight Tonnage (in TMT)	403	403	477	432	432	432
6. Gross Registered Tonnage (in TMT)	219	219	263	234	234	234
<b>C. Offshore Supply Vessels</b>						
7. No. of tankers/Ships	101	101	101	104	110	113
8. Dead Weight Tonnage (in TMT)	114	117	121	126	141	140
9. Gross Registered Tonnage (in TMT)	133	137	137	143	154	155
<b>D. Specialized vessels for offshore</b>						
10. No. of tankers/Ships	37	37	38	38	37	37
11. Dead Weight Tonnage (in TMT)	49	49	48	48	46	46
12. Gross Registered Tonnage (in TMT)	87	87	86	86	83	83
<b>E. Total (A+B+C+D)</b>						
13. No. of tankers/Ships (1+4+7+10)	158	158	161	164	171	174
14. Dead Weight Tonnage (in TMT) (2+5+8+11)	613	615	694	700	669	668
15. Gross Registered Tonnage (in TMT) (3+6+9+12)	484	488	531	536	520	521
<b>Overseas Trade (Oil Tankers)</b>						
<b>F. Ore Oil Bulk Carriers</b>						
16. No. of tankers/Ships	1	1	1	0	0	0
17. Dead Weight Tonnage (in TMT)	46	46	46	0	0	0
18. Gross Registered Tonnage (in TMT)	28	28	28	0	0	0
<b>G. Crude Oil Carriers</b>						
19. No. of tankers/Ships	71	69	70	67	65	65
20. Dead Weight Tonnage (in TMT)	7246	7005	7052	6704	6469	6729
21. Gross Registered Tonnage (in TMT)	3989	3857	3889	3708	3582	3714
<b>H. Product Carriers</b>						
22. No. of tankers/Ships	56	63	66	68	69	72
23. Dead Weight Tonnage (in TMT)	3660	3939	3974	3919	4126	4364
24. Gross Registered Tonnage (in TMT)	2150	2326	2345	2322	2447	2582
<b>I. LPG Carriers</b>						
25. No. of tankers/Ships	19	19	17	16	23	26
26. Dead Weight Tonnage (in TMT)	696	808	736	723	1049	1203
27. Gross Registered Tonnage (in TMT)	640	683	622	607	886	1016
<b>J. Total Overseas (F+G+H+I)</b>						
28. No. of tankers/Ships (16+19+22+25)	147	152	154	151	157	163
29. Dead Weight Tonnage (in TMT) (17+20+23+26)	11648	11798	11808	11346	11644	12296
30. Gross Registered Tonnage (in TMT) (18+21+24+27)	6807	6894	6885	6636	6915	7312
<b>K. Total Oil Tankers (E+J)</b>						
31. No. of tankers/Ships (13+28)	305	310	315	315	328	337
32. Dead Weight Tonnage (in TMT) (14+29)	12260	12413	12502	12046	12313	12964
33. Gross Registered Tonnage (in TMT) (15+30)	7292	7382	7416	7172	7435	7833

Note: Total may not tally due to rounding off

Source: Directorate General of Shipping, Mumbai.



### III.15: Share of Petroleum Products in the Total Traffic Handled at Major Ports

(in Million Tonnes)

Name of the port	Year	Total Traffic	POL Traffic	POL as %age of total traffic at the port
1	2	3	4	5=4/3%
Kolkata/Haldia	2020-21	61.37	9.36	15.25
	2021-22	58.17	10.40	17.88
	2022-23 (P)	65.66	9.99	15.21
Mumbai	2020-21	53.32	34.28	64.29
	2021-22	59.89	36.85	61.53
	2022-23 (P)	63.61	37.84	59.49
Chennai	2020-21	43.55	10.23	23.49
	2021-22	48.56	11.85	24.40
	2022-23 (P)	48.95	14.15	28.91
Cochin	2020-21	31.50	19.52	61.97
	2021-22	34.55	22.09	63.94
	2022-23 (P)	35.26	22.22	63.02
Deendayal (Kandla)	2020-21	117.57	53.26	45.30
	2021-22	127.10	58.03	45.66
	2022-23 (P)	137.56	61.82	44.94
Visakhapatnam	2020-21	69.84	16.02	22.94
	2021-22	69.03	14.25	20.64
	2022-23 (P)	73.75	16.10	21.83
Mormugao	2020-21	21.99	0.41	1.86
	2021-22	18.46	0.50	2.71
	2022-23 (P)	17.33	0.61	3.52
J.N.P.T.	2020-21	64.81	3.60	5.55
	2021-22	76.00	3.16	4.16
	2022-23 (P)	83.86	3.25	3.88
Paradip	2020-21	114.55	33.12	28.91
	2021-22	116.13	35.12	30.24
	2022-23 (P)	135.36	37.81	27.93
Tuticorin (V.O. Chidambaranar)	2020-21	31.79	0.45	1.42
	2021-22	34.12	0.35	1.03
	2022-23 (P)	38.04	0.30	0.79
New Mangalore	2020-21	36.50	21.89	59.97
	2021-22	39.30	23.74	60.41
	2022-23 (P)	41.42	26.84	64.80
Kamarajar (Ennore)	2020-21	25.89	4.62	17.84
	2021-22	38.74	4.93	12.73
	2022-23 (P)	43.51	4.70	10.80
<b>Grand Total</b>	<b>2020-21</b>	<b>672.68</b>	<b>206.76</b>	<b>30.74</b>
	<b>2021-22</b>	<b>720.05</b>	<b>221.27</b>	<b>30.73</b>
	<b>2022-23 (P)</b>	<b>784.31</b>	<b>235.63</b>	<b>30.04</b>

Source : Ministry of Shipping

P: Provisional

### III.16: Movement of POL Traffic on Railways

Year	Tonnes Originating	Earnings	Average Lead	Earnings	Average Freight
1	(TMT)	( in ₹ crore )	(Kms)	(Paisa/Tonnes/Kms)	(₹/Tonne)
2	3	4	5	6=3/2%	
2017-18	43108	5668	685	192	1315
2018-19	43010	5632	682	192	1309
2019-20	44680	5928	689	193	1327
2020-21	42477	5727	706	191	1348
2021-22	44462	5822	705	186	1309
<b>2022-23(P)</b>	<b>48210</b>	<b>6520</b>	<b>648</b>	<b>209</b>	<b>1352</b>

Source : Ministry of Railways

P: Provisional

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APPENDIX



### III.17: State-wise PDS Kerosene Allocated and Quantity Uplifted

(Figures in Kilolitre)

State	2020-21		2021-22		2022-23	
	Allocation	Sales	Allocation	Sales	Allocation	Sales
1	2	3	4	5	6	7
1. Andaman & Nicobar Islands*	0	0	0	0	0	0
2. Andhra Pradesh*	0	0	0	0	0	0
3. Arunachal Pradesh	4752	3699	3312	2892	2976	165
4. Assam	155568	153143	124464	117299	99552	12716
Bihar	212736	212355	170208	169771	127632	48363
6. Chandigarh*	0	0	0	0	0	0
7. Chattishgarh	58272	56095	46608	43924	34944	9698
8. Dadra & Nagar Haveli and Daman & Diu*	0	0	0	0	0	0
9. Delhi*	0	0	0	0	0	0
10. Goa	384	384	288	288	192	0
11. Gujarat	84000	83059	55800	53709	25092	6046
12. Haryana*	0	0	0	0	0	0
13. Himachal Pradesh	9792	6756	6864	2328	4032	120
14. Jammu and Kashmir*	44988	36523	38256	29222	30624	762
15. Ladakh*	3528	3518	3528	3346	2832	634
16. Jharkhand	90000	83196	72000	68900	54000	18950
17. Karnataka	42480	38748	29760	17796	17856	6344
18. Kerala	37056	37056	25920	25920	15552	15552
19. Lakshadweep	768	912	576	576	432	24
20. Madhya Pradesh	213408	187132	160032	116757	120000	3381
21. Maharashtra	46528	21558	27936	15552	16752	3912
22. Manipur	11088	11252	9984	9984	8976	2616
23. Meghalaya	18864	17892	16992	15960	15312	2532
24. Mizoram	3216	3192	2880	2688	2592	144
25. Nagaland	8592	8439	7728	7719	6960	1122
26. Odisha	194304	190291	155424	150313	116544	28658
27. Puducherry*	0	0	0	0	0	0
28. Punjab*	0	0	0	0	0	0
29. Rajasthan	14150	936	0	0	0	0
30. Sikkim	2256	2109	2016	1971	1824	240
31. Tamil Nadu	129168	129167	90432	90431	54240	54223
32. Telangana	16032	2880	4992	420	1488	0
33. Tripura	25152	25089	22656	22490	20400	8374
34. Uttar Pradesh	181702	26526	0	0	0	0
35. Uttrakhand	2208	374	672	0	144	0
36. West Bengal	704016	696512	704016	689651	462696	171540
<b>All India (1 to 36)</b>	<b>2315008</b>	<b>2038790</b>	<b>1783344</b>	<b>1659906</b>	<b>1243644</b>	<b>396115</b>

Note: \*: Zero represent PDS kerosene free State/UTs.

Source: Distribution Section, MoPNG

**III.18: State-wise Number of Retail Outlets (as on 1st April)**

States/UT's	2018	2019	2020	2021	2022	2023
1	2	3	4	5	6	7
1. Andaman & Nicobar Islands	14	14	16	16	19	19
2. Andhra Pradesh	3336	3430	3721	4048	4230	4345
3. Arunachal Pradesh	85	94	116	152	178	195
4. Assam	871	897	979	1104	1312	1417
5. Bihar	2695	2860	2968	3158	3341	3523
6. Chandigarh	41	42	42	47	47	48
7. Chhattisgarh	1249	1280	1462	1808	1969	2071
8. Dadra & Nagar Haveli and Daman & Diu	63	62	61	61	64	66
<b>9. Delhi</b>	<b>397</b>	<b>398</b>	<b>398</b>	<b>400</b>	<b>400</b>	<b>402</b>
10. Goa	116	118	118	122	127	135
11. Gujarat	4025	4159	4573	5151	5502	5661
12. Haryana	2862	2933	3060	3412	3660	3769
13. Himachal Pradesh	432	439	494	563	638	701
14. Jammu and Kashmir	500	504	530	542	581	643
15. Jharkhand	1207	1216	1358	1535	1634	1681
16. Karnataka	4215	4385	4811	5503	5929	6199
17. Kerala	2100	2140	2238	2396	2559	2694
18. Ladakh	3	3	3	22	27	32
19. Lakshadweep	0	0	0	0	1	4
20. Madhya Pradesh	3711	3832	4230	4981	5567	5909
21. Maharashtra	5970	6148	6457	7048	7667	8045
22. Manipur	97	104	136	160	178	195
23. Meghalaya	203	208	225	239	270	285
24. Mizoram	41	43	45	55	72	96
25. Nagaland	73	79	94	120	150	167
26. Odisha	1681	1704	1894	2070	2246	2340
27. Puducherry	165	165	164	174	179	186
28. Punjab	3427	3453	3551	3772	3920	4000
29. Rajasthan	4476	4661	4967	5615	6028	6348
30. Sikkim	51	51	55	57	63	65
31. Tamil Nadu	5387	5638	5804	6357	6744	7018
32. Telangana	2625	2767	3078	3571	3798	3969
33. Tripura	71	72	79	94	108	114
34. Uttar Pradesh	7473	7762	8210	9315	10162	10709
35. Uttarakhand	590	601	629	686	763	798
36. West Bengal	2333	2363	2523	2750	2894	3006
<b>Total All India (1 to 36)</b>	<b>62585</b>	<b>64625</b>	<b>69089</b>	<b>77104</b>	<b>83027</b>	<b>86855</b>

Source: Oil Companies



**III.19: State-wise Number of Active LPG Domestic Consumers (as on 1st April)**

States/UT's	2018	2019	2020	2021	2022	2023
1	2	3	4	5	6	7
1. Andaman & Nicobar Islands	77818	95216	111914	116534	120005	122756
2. Andhra Pradesh	13164722	13400938	13698139	14288832	14710846	14920574
3. Arunachal Pradesh	212424	247144	265723	284368	298196	307703
4. Assam	4626873	6380250	7114327	7368622	7932550	8385807
5. Bihar	12958952	16405554	17586885	18649169	20689619	21516623
6. Chandigarh	272930	274506	278565	281659	286442	287723
7. Chhattisgarh	4017727	4787168	5204320	5320754	5731143	5901280
8. Dadra & Nagar Haveli and Daman & Diu	140829	148710	159187	162637	164889	166935
<b>9. Delhi</b>	<b>4824565</b>	<b>4942352</b>	<b>4955648</b>	<b>5053091</b>	<b>5153568</b>	<b>5334159</b>
10. Goa	469977	481802	501716	518919	537733	547857
11. Gujarat	8587610	10059531	10534513	10895030	11584089	12057143
12. Haryana	5952169	6614281	6901299	7210546	7475277	7611678
13. Himachal Pradesh	1527088	1726749	1966911	2053143	2114690	2147429
14. Jammu and Kashmir	2266050	2983661	3147033	3242616	3475859	3459799
15. Jharkhand	3365159	5172328	5615407	5766773	6070506	6276470
16. Karnataka	13080566	15412792	16016923	16702757	17335893	17855747
17. Kerala	8287720	8608602	8794625	9100272	9340572	9504494
18. Ladakh	-	-	79971	84215	92308	94661
19. Lakshadweep	5390	7691	8267	10076	10610	10927
20. Madhya Pradesh	10792567	14114369	14963370	15372920	16316422	16659985
21. Maharashtra	24102724	26928428	27628751	28757177	29854482	30386661
22. Manipur	400301	503977	550390	593423	624068	656806
23. Meghalaya	189129	298297	318746	332316	360904	409648
24. Mizoram	249976	283205	300109	321037	330601	342181
25. Nagaland	196934	246597	264534	280710	310838	333618
26. Odisha	5928365	7977388	8588263	8886588	9469153	9695790
27. Puducherry	355032	369483	370003	380597	388291	393898
28. Punjab	7353947	8307357	8549514	8850563	9160891	9339704
29. Rajasthan	12285550	15446522	16251372	16702775	17173885	17574787
30. Sikkim	122969	136529	146170	159701	167321	169580
31. Tamil Nadu	18428977	20691449	21114555	21687145	22177395	22608470
32. Telangana	9436266	10555226	10895927	11363991	11731495	12013290
33. Tripura	505271	698279	738083	759240	769638	788951
34. Uttar Pradesh	30212427	37597958	40379541	42319240	45232099	46344627
35. Uttarakhand	2239506	2521811	2650520	2786682	2916891	3025493
36. West Bengal	17627457	20939075	22058515	22819027	25214925	26779527
<b>Total All India (1 to 36)</b>	<b>224265967</b>	<b>265365225</b>	<b>278709736</b>	<b>289483145</b>	<b>305324094</b>	<b>314032781</b>

Source: Central Public Sector Enterprises

## III.20: State-wise Number of LPG Distributors (as on 1st April)

States/UT's	2018	2019	2020	2021	2022	2023
1	2	3	4	5	6	7
1. Andaman & Nicobar Islands	5	9	9	9	9	9
2. Andhra Pradesh	940	1015	1057	1062	1083	1093
3. Arunachal Pradesh	66	83	83	85	85	85
4. Assam	468	522	559	590	596	596
5. Bihar	1109	1799	1938	1993	2009	2024
6. Chandigarh	27	27	27	26	26	26
7. Chhattisgarh	443	523	534	534	534	534
8. Dadra & Nagar Haveli and Daman & Diu	6	6	6	6	6	7
<b>9. Delhi</b>	<b>321</b>	<b>323</b>	<b>322</b>	<b>321</b>	<b>319</b>	<b>317</b>
10. Goa	52	54	55	55	55	56
11. Gujarat	774	901	968	1006	1020	1038
12. Haryana	540	614	621	623	625	624
13. Himachal Pradesh	168	196	203	206	207	207
14. Jammu and Kashmir	253	282	269	269	267	270
15. Jharkhand	401	491	536	572	582	585
16. Karnataka	1043	1171	1238	1261	1270	1271
17. Kerala	610	659	675	691	698	696
18. Ladakh	0	0	18	18	24	24
19. Lakshadweep	1	1	1	1	1	1
20. Madhya Pradesh	1268	1450	1507	1528	1543	1551
21. Maharashtra	1827	2134	2184	2206	2219	2231
22. Manipur	84	99	99	101	101	102
23. Meghalaya	51	62	62	64	64	63
24. Mizoram	54	58	59	59	59	59
25. Nagaland	61	78	81	83	83	83
26. Odisha	753	912	938	955	960	963
27. Puducherry	27	27	27	28	27	29
28. Punjab	808	851	856	857	861	858
29. Rajasthan	1099	1333	1372	1385	1387	1387
30. Sikkim	16	22	24	26	27	28
31. Tamil Nadu	1353	1567	1623	1632	1642	1645
32. Telangana	715	764	777	785	791	800
33. Tripura	63	73	74	77	80	80
34. Uttar Pradesh	3395	4052	4110	4126	4134	4142
35. Uttarakhand	268	306	313	314	315	316
36. West Bengal	1077	1273	1445	1529	1560	1586
<b>Total All India (1 to 36)</b>	<b>20146</b>	<b>23737</b>	<b>24670</b>	<b>25083</b>	<b>25269</b>	<b>25386</b>

Note: Total LPG Distributors as on 01.04.2022 includes Sheheri Vitrak 7894, Rurban Vitrak (3720), Gramin Vitrak (11452), Durgam Kshetriya Virak (2203)

Source: Central Public Sector Enterprises

**III.21: State-wise Number of PMUY Connections (as on 1st April)**

State / UT	2018	2019	2020	2021	2022	2023
1	2	3	4	5	6	7
1. Andaman & Nicobar Islands	1711	7889	12436	12602	13403	13447
2. Andhra Pradesh	80044	342598	391860	391625	416861	512437
3. Arunachal Pradesh	6362	39315	44699	44670	47818	49247
4. Assam	1128139	2835940	3484901	3474326	3979854	4414806
5. Bihar	4913150	7894786	8537893	8523573	10094557	10733364
6. Chandigarh	0	88	88	87	92	659
7. Chhattisgarh	1952120	2692704	2989440	2988523	3351181	3492221
8. Dadra & Nagar Haveli and Daman & Diu	11640	14530	15174	15166	15050	15033
<b>9. Delhi</b>	<b>677</b>	<b>73797</b>	<b>76855</b>	<b>76190</b>	<b>98756</b>	<b>142164</b>
10. Goa	984	1072	1082	1081	1081	1265
11. Gujarat	1269014	2521066	2901059	2899233	3438252	3843237
12. Haryana	357112	680456	730928	726751	738980	767322
13. Himachal Pradesh	29741	112918	135966	135960	138382	140822
14. Jammu and Kashmir	372920	1053018	1230997	1230134	1238847	1245438
15. Jharkhand	1203543	2904575	3261556	3258502	3474963	3646220
16. Karnataka	909014	2822822	3146300	3143099	3466468	3757704
17. Kerala	38393	209923	256302	256136	300498	341187
18. Ladakh	-	-	11083	11072	11099	11090
19. Lakshadweep	134	290	290	292	302	309
20. Madhya Pradesh	3315172	6445785	7154600	7143875	7938596	8227427
21. Maharashtra	1877378	4063804	4428682	4419772	4698339	4890055
22. Manipur	32617	130377	156598	156398	178392	202029
23. Meghalaya	36844	140311	150744	150526	173142	214928
24. Mizoram	902	25781	28118	28122	29645	33595
25. Nagaland	9225	49402	55140	54096	77111	91807
26. Odisha	2300335	4226289	4740385	4736666	5188279	5319685
27. Puducherry	2621	13374	13577	13568	14218	14833
28. Punjab	382351	1208962	1224218	1219883	1235939	1283976
29. Rajasthan	2625634	5695525	6368525	6359564	6620356	6927163
30. Sikkim	687	7798	8752	8752	12457	13795
31. Tamil Nadu	1018051	3141843	3242217	3237695	3450256	3704058
32. Telangana	41	923841	1072321	1071393	1111322	1152850
33. Tripura	46379	238393	271888	271530	271904	283503
34. Uttar Pradesh	6486116	12963097	14756494	14733034	16718454	17503067
35. Uttarakhand	137440	352921	404566	403234	449877	496450
36. West Bengal	5056785	8062319	8856695	8839050	10908400	12372225
<b>Total All India (1 to 36)</b>	<b>35603276</b>	<b>71897609</b>	<b>80162429</b>	<b>80036180</b>	<b>89903131</b>	<b>95859418</b>

Source: LPG Section, MoPNG

**III.22: State-wise Number of SKO/LDO Dealerships (as on 1st April)**

States/UT's	2018	2019	2020	2021	2022	2023
1	2	3	4	5	6	7
1. Andaman & Nicobar Islands	2	2	2	2	2	2
2. Andhra Pradesh	413	394	394	384	328	328
3. Arunachal Pradesh	33	33	33	33	30	30
4. Assam	359	359	359	359	227	227
5. Bihar	372	371	371	362	349	349
6. Chandigarh	12	12	12	12	11	11
7. Chhattisgarh	108	108	108	108	105	105
8. Dadra & Nagar Haveli and Daman & Diu	7	7	7	7	7	7
<b>9. Delhi</b>	<b>116</b>	<b>116</b>	<b>116</b>	<b>111</b>	<b>112</b>	<b>112</b>
10. Goa	22	22	22	22	19	19
11. Gujarat	476	473	473	470	466	466
12. Haryana	141	141	141	139	150	150
13. Himachal Pradesh	26	26	26	26	25	25
14. Jammu and Kashmir	45	47	45	45	50	50
15. Jharkhand	87	87	87	87	110	110
16. Karnataka	318	315	315	311	376	376
17. Kerala	237	237	237	234	200	200
18. Ladakh	2	0	2	2	2	2
19. Lakshadweep	0	0	0	0	1	1
20. Madhya Pradesh	284	284	284	284	279	279
21. Maharashtra	767	767	766	752	786	786
22. Manipur	36	36	36	36	40	40
23. Meghalaya	35	35	35	35	31	31
24. Mizoram	19	19	19	19	27	27
25. Nagaland	19	19	19	19	19	19
26. Odisha	177	177	177	176	172	172
27. Puducherry	8	8	8	8	6	6
28. Punjab	237	237	237	237	232	232
29. Rajasthan	250	250	250	248	285	285
30. Sikkim	12	12	12	12	7	7
31. Tamil Nadu	466	466	465	458	392	392
32. Telangana	183	202	202	202	205	205
33. Tripura	40	40	40	40	48	48
34. Uttar Pradesh	696	695	691	675	772	772
35. Uttarakhand	73	73	73	69	73	73
36. West Bengal	458	458	457	455	470	470
<b>Total All India (1 to 36)</b>	<b>6536</b>	<b>6528</b>	<b>6521</b>	<b>6439</b>	<b>6414</b>	<b>6414</b>

Source: Central Public Sector Enterprises



### III.23: State-wise Number of Operational POL Terminal/Depots (as on 1st April)

State / UT	2019	2020	2021	2022	2023
1	2	3	4	5	6
1. Andaman & Nicobar Islands	1	1	1	1	1
2. Andhra Pradesh	23	22	20	23	23
3. Arunachal Pradesh	1	1	1	2	2
4. Assam	7	7	7	8	7
5. Bihar	9	9	9	9	9
6. Chandigarh	1	1	1	0	0
7. Chhattisgarh	5	3	3	3	3
8. Dadra & Nagar Haveli and Daman & Diu	2	0	0	0	0
<b>9. Delhi</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>
10. Goa	3	2	3	2	2
11. Gujarat	17	18	19	18	18
12. Haryana	9	9	9	10	10
13. Himachal Pradesh	4	2	2	3	3
14. Jammu and Kashmir	7	7	7	6	6
15. Jharkhand	8	7	7	7	7
16. Karnataka	22	22	22	20	20
17. Kerala	9	9	9	10	10
18. Ladakh	0	2	2	4	4
19. Lakshadweep	0	0	0	1	2
20. Madhya Pradesh	17	18	18	17	17
21. Maharashtra	33	33	34	34	33
22. Manipur	1	1	1	1	1
23. Meghalaya	0	0	0	0	0
24. Mizoram	1	1	1	1	1
25. Nagaland	1	1	1	1	1
26. Odisha	10	10	10	10	10
27. Puducherry	0	0	0	0	0
28. Punjab	11	10	10	12	13
29. Rajasthan	14	14	14	14	14
30. Sikkim	2	2	2	2	2
31. Tamil Nadu	22	22	22	22	24
32. Telangana	8	8	9	8	8
33. Tripura	1	1	1	1	1
34. Uttar Pradesh	32	31	31	31	31
35. Uttarakhand	7	7	7	7	7
36. West Bengal	19	18	18	17	15
<b>Total All India (1 to 36)</b>	<b>311</b>	<b>303</b>	<b>305</b>	<b>309</b>	<b>309</b>

Source: Oil Companies

**III.24: State-wise Number of Aviation Fuelling Station (as on 1st April)**

State / UT	2019	2020	2021	2022	2023
1	2	3	4	5	6
1. Andaman & Nicobar Islands	2	2	2	3	3
2. Andhra Pradesh	12	12	13	14	14
3. Arunachal Pradesh	3	4	7	8	9
4. Assam	12	12	13	14	14
5. Bihar	6	6	7	7	7
6. Chandigarh	1	1	1	1	1
7. Chhattisgarh	6	6	6	6	6
8. Dadra & Nagar Haveli and Daman & Diu	2	2	2	2	2
<b>9. Delhi</b>	<b>8</b>	<b>8</b>	<b>6</b>	<b>6</b>	<b>6</b>
10. Goa	4	4	4	4	6
11. Gujarat	18	18	19	20	20
12. Haryana	2	2	2	2	2
13. Himachal Pradesh	3	3	3	4	4
14. Jammu and Kashmir	9	7	7	5	7
15. Jharkhand	4	5	5	5	7
16. Karnataka	15	16	15	15	15
17. Kerala	13	13	12	13	14
18. Ladakh	0	2	2	2	2
19. Lakshadweep	0	1	1	1	1
20. Madhya Pradesh	9	8	8	10	10
21. Maharashtra	20	21	22	24	25
22. Manipur	2	2	2	2	2
23. Meghalaya	2	2	2	2	2
24. Mizoram	1	1	1	1	2
25. Nagaland	2	2	2	2	2
26. Odisha	8	9	8	8	9
27. Puducherry	1	1	1	1	1
28. Punjab	11	12	12	11	11
29. Rajasthan	13	13	13	12	14
30. Sikkim	1	1	1	1	1
31. Tamil Nadu	20	21	20	19	21
32. Telangana	6	6	6	6	6
33. Tripura	2	2	2	2	2
34. Uttar Pradesh	17	18	17	18	18
35. Uttarakhand	2	2	3	3	3
36. West Bengal	11	11	11	11	12
<b>Total All India (1 to 36)</b>	<b>248</b>	<b>256</b>	<b>258</b>	<b>265</b>	<b>281</b>

Source: Oil &amp; Gas Companies

### III.25: LPG Bottling Plants in the Country (as on 1st April)

State / UT	No. of LPG Bottling Plants		Capacity (in TMTPA)	
	2022	2023	2022	2023
1	2	3	4	5
1. Andaman & Nicobar Islands	1	1	11	15
2. Andhra Pradesh	9	9	1020	1020
3. Arunachal Pradesh	0	0	0	0
4. Assam	7	8	653	653
5. Bihar	8	9	1110	1230
6. Chandigarh	0	0	0	0
7. Chhattisgarh	3	4	270	330
8. Dadra & Nagar Haveli and Daman & Diu	0	0	0	0
<b>9. Delhi</b>	<b>2</b>	<b>2</b>	<b>480</b>	<b>480</b>
10. Goa	2	2	90	90
11. Gujarat	11	11	1140	1140
12. Haryana	6	5	900	840
13. Himachal Pradesh	2	2	90	90
14. Jammu and Kashmir	3	3	180	180
15. Jharkhand	4	5	372	480
16. Karnataka	11	11	1570	1570
17. Kerala	7	7	690	690
18. Ladakh	1	1	5	5
19. Lakshadweep	0	0	0	0
20. Madhya Pradesh	9	11	930	1050
21. Maharashtra	20	22	2370	2610
22. Manipur	1	1	30	30
23. Meghalaya	0	0	0	0
24. Mizoram	0	0	0	0
25. Nagaland	1	1	11	11
26. Odisha	6	6	510	510
27. Puducherry	1	1	60	60
28. Punjab	8	8	900	900
29. Rajasthan	11	11	1050	1050
30. Sikkim	1	1	11	11
31. Tamil Nadu	19	19	1800	1800
32. Telangana	5	5	660	660
33. Tripura	1	1	60	60
34. Uttar Pradesh	26	27	3030	3030
35. Uttarakhand	3	4	180	240
36. West Bengal	10	10	1390	1390
<b>Total All India (1 to 36)</b>	<b>199</b>	<b>208</b>	<b>21573</b>	<b>22225</b>

Source: Oil & Gas Companies/PPAC

## III.26: Oil industry Alternate fuel infrastructure at retail outlets as on 01.04.2023 (P)

State/UT	CNG/ CBG/ LNG	EV CHARGING	AUTO LPG	RO's with atleast 1 alternate fuel	TOTAL (All alternate fuel)
1	2	3	4	5	6
1. Andaman & Nicobar Islands	0	2	0	2	2
2. Andhra Pradesh	161	355	8	492	524
3. Arunachal Pradesh	0	27	4	27	31
4. Assam	6	186	0	192	192
5. Bihar	121	219	1	335	341
6. Chandigarh	7	19	8	32	34
7. Chhattisgarh	4	179	4	182	187
8. Dadra & Nagar Haveli and Daman & Diu	9	2	0	10	11
<b>9. Delhi</b>	<b>262</b>	<b>101</b>	<b>3</b>	<b>290</b>	<b>366</b>
10. Goa	10	42	3	49	55
11. Gujarat	729	686	20	1365	1435
12. Haryana	273	402	2	667	677
13. Himachal Pradesh	15	65	0	80	80
14. Jammu and Kashmir	0	85	3	85	88
15. Jharkhand	82	191	0	264	273
16. Karnataka	274	861	145	1165	1280
17. Kerala	136	259	61	401	456
18. Ladakh	0	0	0	0	0
19. Lakshadweep	0	1	0	1	1
20. Madhya Pradesh	254	439	25	678	718
21. Maharashtra	681	690	59	1310	1430
22. Manipur	0	33	0	33	33
23. Meghalaya	0	27	0	27	27
24. Mizoram	0	2	0	2	2
25. Nagaland	0	12	0	12	12
26. Odisha	97	278	4	368	379
27. Puducherry	5	9	2	15	16
28. Punjab	236	312	9	535	557
29. Rajasthan	265	631	24	853	920
30. Sikkim	0	2	0	2	2
31. Tamil Nadu	214	563	113	810	890
32. Telangana	142	412	62	567	616
33. Tripura	20	31	0	44	51
34. Uttar Pradesh	790	960	38	1694	1788
35. Uttarakhand	39	75	5	103	119
36. West Bengal	71	404	37	481	512
<b>Total All India (1 to 36)</b>	<b>4903</b>	<b>8562</b>	<b>640</b>	<b>13173</b>	<b>14105</b>

\*Source: Oil companies (Includes dealers of private oil companies)/PPAC



## III.27: CNG Activities (Sales) in India

(Figures in TMT)

State Name	Company name	No. of companies (as on 31.03.2023)	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7	8
1. Andhra Pradesh*	AGP City Gas Private Limited, Bhagyanagar Gas Limited, Godavari Gas Private Limited, Indian Oil Corporation Limited, Megha City Gas Distribution Private Limited	5	31	21	13	33	48
2. Andhra Pradesh, Karnataka and Tamil Nadu	AGP City Gas Private Limited	1	0	0	0	0.1	2.5
3. Assam	Assam Gas Company Limited, Purba Bharati Gas Private Limited	2	0	0.02	0.05	0.06	0.5
4. Bihar	GAIL (India) Limited, Indian Oil-Adani Gas Private Limited, Think Gas Begusarai Pvt Limited, Indian Oil Corporation Limited	4	0	2	5	15	38
5. Bihar & Jharkhand	Indian Oil Corporation Limited	1	0	0	0	0	0.04
6. Chandigarh, Haryana, Punjab & Himachal Pradesh	Indian Oil-Adani Gas Private Limited	1	15	21	14	25	35
7. Dadra & Nagar Haveli**	Gujarat Gas Limited	1	0	3	2	3	3
8. Daman and Diu	Indian Oil-Adani Gas Private Limited	1	2	2	1	3	2
9. Delhi NCT***	Indraprastha Gas Limited	1	1144	1033	785	1015	1210
10. Goa	Goa Natural Gas Private Limited, Indian Oil-Adani Gas Private Limited	2	0	0.03	0.15	1	3
11. Gujarat **	Adani Total Gas Limited, Charotar Gas Sahakari Mandali Limited, Gujarat Gas Limited, Hindustan Petroleum Corporation Limited, IRM Energy Private Limited, Sabarmati Gas Limited, Torrent Gas Private Limited, Vadodara Gas Limited	8	662	745	649	945	1084
12. Gujarat & UT of Daman and Diu	IRM Energy Private Limited	1	0	0.07	1	4	6
13. Haryana	Adani Total Gas Limited, Bharat Petroleum Corporation Limited, GAIL Gas Limited, Haryana City Gas (KCE) Private Limited, Haryana City Gas Distribution (Bhiwadi) Limited, Haryana City Gas Distribution Ltd., Hindustan Petroleum Corporation Limited, HPOIL Gas Private Limited, Indian Oil-Adani Gas Private Limited, Indraprastha Gas Limited	10	179	197	173	303	428
14. Haryana & Himachal Pradesh	Indian Oil-Adani Gas Private Limited	1	0	0	0.1	0.7	1.2
15. Haryana & Punjab	Gujarat Gas Limited	1	0	0	1.4	5	6.7
16. Himachal Pradesh	Bharat Petroleum Corporation Limited	1	0	0	0	0.2	0.4

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State Name	Company name	No. of companies (as on 31.03.2023)	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7	8
17. Jharkhand	GAIL (India) Limited, GAIL Gas Limited, Indian Oil Corporation Limited, Bharat Petroleum Corporation Limited	4	0	0.34	1.2	4	10
18. Karnataka	Adani Total Gas Limited, AGP City Gas Private Limited, GAIL Gas Limited, Indian Oil-Adani Gas Private Limited, Maharashtra Natural Gas Limited, Megha City Gas Distribution Private Limited, Unison Enviro Private Limited, Bharat Petroleum Corporation Limited	8	0.3	1	3	15	56
19. Kerala	AGP City Gas Private Limited, Indian Oil-Adani Gas Private Limited	2	1	6	4	12	28
20. Kerala & Puducherry	Indian Oil-Adani Gas Private Limited	1	0	0	0	0.2	2
21. Madhya Pradesh	Aavantika Gas Limited, GAIL Gas Limited, Gujarat Gas Limited, Indian Oil Corporation Limited, Naveriya Gas Private Limited, Rajasthan State Gas Limited, Think Gas Bhopal Private Limited, Bharat Petroleum Corporation Limited	8	31	34	24	45	76
22. Madhya Pradesh & Rajasthan	Gujarat Gas Limited, Megha City Gas Distribution Private Limited	2	0	0	0.26	3	5.5
23. Madhya Pradesh and Chhattisgarh	Adani Total Gas Limited	1	0	0	0	0	0.01
24. Maharashtra	Bharat Petroleum Corporation Limited, Gujarat Gas Limited, HPOIL Gas Private Limited, Mahanagar Gas Limited, Maharashtra Natural Gas Limited, Torrent Gas Pune Limited, Unison Enviro Private Limited, Harayana City Gas Nagpur Private Limited, IMC Limited	9	702	738	504	812	1022
25. Maharashtra & Gujarat	Maharashtra Natural Gas Limited	1	0	0	1.4	5.6	19
26. Odisha	Adani Total Gas Limited, GAIL (India) Limited, GAIL Gas Limited	3	1	3	2	4	6.9
27. Puducherry (UT) & Tamil Nadu	Torrent Gas Private Limited	1	0	0	0.001	0.04	0.18
28. Puducherry (UT)	East Coast Natural Gas Private Limited	1	0	0	0.000	0.00	0.01
29. Punjab	Bharat Petroleum Corporation Limited, Gujarat Gas Limited, IRM Energy Private Limited, Think Gas Ludhiana Private Limited, Torrent Gas Private Limited, Indian Oil Corporation Limited, Megha City Gas Distribution Private Limited	7	1	7	14	43	61

Contd...

State Name	Company name	No. of companies (as on 31.03.2023)	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7	8
30. Rajasthan	"Adani Total Gas Limited, AGP City Gas Private Limited, Dholpur CGD Private Limited, Gujarat Gas Limited, Indraprastha Gas Limited, Rajasthan State Gas Limited, Torrent Gas Jaipur Private Limited, Torrent Gas Private Limited, Haryana City Gas Distribution (Bhiwadi) Limited, Indian Oil Corporation Limited"	10	7	9	15	47	94
31. Tamil Nadu	Adani Total Gas Limited, AGP CGD India Pvt Ltd, Indian Oil Corporation Limited, Torrent Gas Chennai Private Limited, Megha City Gas Distribution Private Limited	5	0	0	0.004	2	23
32. Telangana*	Bhagyanagar Gas Limited, Megha City Gas Distribution Private Limited, Torrent Gas Private Limited, Indian Oil Corporation Limited	4	0	13	9	33	68
33. Telangana & Karnataka	Megha City Gas Distribution Private Limited	1	0	0	0	0	0.16
34. Tripura	Tripura Natural Gas Company Limited	1	15	16	18	20	24
35. Uttar Pradesh	Adani Total Gas Limited, Bagpat Green Energy Private Limited, Bharat Petroleum Corporation Limited, Central UP Gas Limited, GAIL (India) Limited, GAIL Gas Limited, Green Gas Limited, Hindustan Petroleum Corporation Limited, Indian Oil-Adani Gas Private Limited, Indraprastha Gas Limited, Sanwariya Gas Limited, Torrent Gas Moradabad Limited, Torrent Gas Private Limited	13	282	392	339	545	670
36. Uttar Pradesh & Uttarakhand	Hindustan Petroleum Corporation Limited	1	0	0	0.4	2	4
37. Uttar Pradesh & Madhya Pradesh	Adani Total Gas Limited	1	0	0.001	0.4	8	5
38. Uttar Pradesh & Rajasthan	Gail Gas Limited	1	0	0	0	0	36
39. Uttarakhand	GAIL Gas Limited, Haridwar Natural Gas Private Limited, Indian Oil-Adani Gas Private Limited,	3	0.1	1	5	12	18
40. West Bengal	Bengal Gas Company Limited, IndianOil-Adani Gas Private Limited, Hindustan Petroleum Corporation Limited	3	3	2	2	4	7
<b>Total (1 to 40)</b>			<b>3076</b>	<b>3247</b>	<b>2589</b>	<b>3968</b>	<b>5103</b>

Source :PPAC/CGD companies

P: Provisional

"Notes: From the FY 2019-20 entries for

\* Andhra Pradesh &amp; Telangana are reported separately. Prior to this AP &amp; Telangana were taken together.

\*\* Dadra &amp; Nagar Haveli are reported separately from Gujarat State"

**III.28: Connection of Piped Natural Gas (PNG) and Compressed Natural Gas (CNG) Stations in the Country - as on 31.03.2023**

State/Union Territory	Geographical Area/ CGD Networks	PNG Connections				CNG Stations
		Domestic	Commercial	Industrial	Total	
1	2	3	4	5	6=3+4+5	7
1. Andhra Pradesh	Kakinada, East Godavari District (EAAA), West Godavari District, Krishna District (EAAA), Srikakulam, Visakhapatnam & Vizianagaram Districts, Vijaywada, Anantapur and YSR (Kadapa) Districts, Sri Potti Sriramulu Nellore District, Kurnool, Guntur, Prakasam	2,53,361	429	33	2,53,823	161
2. Andhra Pradesh, Karnataka & Tamil Nadu	Chittoor, Kolar and Vellore Districts	170	-	5	175	36
3. Assam	Cachar, Hailakandi & Karimganj Districts, Kamrup & Kamrup Metropolitan Districts, Upper Assam, Nagaon, Morigaon, Hojai, Karbi Anglong, West Karbi Anglong and Dima Hasao districts, Lakhimpur, Dhemaji, Darrang, Udalgiri, Sonitpur and Biswanath Chariali districts, Kokrajhar, Dhubri, South Salmara-Mankachar and Goalpara districts, Baksa, Barpeta, Bongaigaon, Chirang, Nalbari and Bajali districts	49,079	1,340	441	50,860	5
4. Bihar	Aurangabad, Kaimur & Rohtas Districts, Begusarai District, Gaya & Nalanda Districts, Patna District, Araria, Purnia, Kathar and Kishanganj Districts, Arwal, Jehanabad, Bhojpur and Buxar Districts, Khagaria, Saharsa and Madhepura Districts, Lakhisarai, Munger and Bhagalpur Districts, Muzaffarpur, Vaishali, Saran and Samastipur Districts, Darbhanga, Madhubani, Supaul, Sitamarhi and Sheohar districts	1,02,534	74	4	1,02,612	93
5. Bihar and Uttar Pradesh	Gopalganj, Siwan, West Champaran, East Champaran and Deoria districts	-	-	-	-	14
6. Bihar & Jharkhand	Nawada and Koderma Districts, Sheikhpura, Jamui and Deoghar Districts	7,261	-	-	7,261	2
7. Chandigarh (UT), Haryana, Punjab & Himachal Pradesh	Chandigarh	25,540	118	24	25,682	25
8. Chhattisgarh	Baloda Bazar, Gariyaband and Raipur districts, Kabirdham, Raj Nandgaon and Kanker districts, Mungeli, Bemetara, Durg, Balod and Dhamtari districts, Jashpur, Raigarh, Janjgir-Champa and Mahasamund districts, Koriya, Surajpur, Balrampur and Surguja districts, Kondagaon, Bastar, Sukma, Narayanpur, Bijapur and Dantewada districts	-	-	-	-	9
9. Dadra & Nagar Haveli (UT)	UT of Dadra & Nagar Haveli	11,171	55	58	11,284	7
10. Daman & Diu (UT)	UT of Daman	5,134	47	43	5,224	4
11. Daman and Diu & Gujarat	Diu & Gir Somnath Districts	1,852	7	-	1,859	15
12. Goa	North Goa District, South Goa District	10,703	15	31	10,749	12
13. Gujarat	Bhavnagar, Jamnagar, Kutch (West), Kutch (East), Amreli District, Patan District, Dahej Vagra Taluka, Dahod District, Banaskantha District, Anand District (EAAA), Panchmahal District, Ahmedabad District (EAAA), Surendranagar District (EAAA) & Morbi District (EAAA), Barwala & Ranpur Talukas, Navsari District (EAAA), Surat District (EAAA), Tapi District (EAAA) & the Dangs District, Junagadh District, Kheda District (EAAA) & Mahisagar District, Narmada (Rajpipla) District, Porbandar District, Surat, Bharuch, Anklेशwar, Nadiad, Navsari, Rajkot, Surendranagar, Ahmedabad City and Daskroi Area, Hazira, Valsad, Anand area including Kanjari & Vadtal Villages (in Kheda District), Gandhinagar Mehsana Sabarkantha, Vadodara,	28,26,845	21,823	5,656	28,54,324	953

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State/Union Territory	Geographical Area/ CGD Networks	PNG Connections				CNG Stations
		Domestic 3	Commercial 4	Industrial 5	Total 6=3+4+5	
1	2					
14. Haryana	Sonapat, Panipat District, Yamunanagar District, Rewari District, Rohtak District, Karnal District, Ambala & Kurukshetra Districts, Bhiwani, Charkhi Dadri & Mahendragarh Districts, Hisar District, Jhajjar District, Sonapat District (EAAA) & Jind District, Nuh and Palwal Districts, Kaithal District.	1,67,018	151	598	1,67,767	257
15. Haryana & Himachal Pradesh	Panchkula District (EAAA), Sirmaur, Shimla & Solan (EAAA) Districts, Mandi, Kullu, Kinnaur and Lahaul & Spiti districts, Kangra and Chamba districts,	-	-	-	-	10
16. Haryana & Punjab	Sirsa, Fatehabad and Mansa (Punjab) Districts	2	-	-	2	24
17. Himachal Pradesh	Bilaspur, Hamirpur & Una Districts, Mandi, Kullu, Kinnaur and Lahaul & Spiti districts, Kangra and Chamba districts	5,461	4	-	5,465	8
18. Jharkhand	East Singhbhum District, Ranchi District, Bokaro, Hazaribagh & Ramgarh Districts, Giridih & Dhanbad Districts, Chatra and Palamu Districts, Seraikela-Kharsawan District, West Singhbhum District,	1,11,534	5	-	1,11,539	75
19. Karnataka	Bengaluru Rural and Urban Districts, Tumkur District, Dharwad District, Belgaum District, Chitradurga & Davanagere Districts, Ballari & Gadag Districts, Udupi District, Bidar District, Dakshina Kannada District*, Ramanagara District, Bagalkot, Koppal and Raichur Districts, Chikkamagaluru, Hassan and Kodagu Districts, Kalaburagi and Vijayapura Districts, Mysuru, Mandya and Chamarajanagar Districts, Uttara Kannada, Haveri and Shivamogga Districts,	3,86,283	523	300	3,87,106	291
20. Kerala	Ernakulam District, Kozhikode & Wayanad Districts, Malappuram Districts, Palakkad & Thrissur Districts, Alapuzha, Kollam and Thiruvananthapuram Districts, Idukki, Kottayam and Pattanamtitta districts	44,298	20	16	44,334	105
21. Kerala & Puducherry	Kannur, Kasaragod & Mahe Districts	361	-	-	361	9
22. Madhya Pradesh	Dewas, Dhar District, Bhopal & Rajgarh Districts, Guna District, Rewa District, Satna & Shandol Districts, Indore (including Ujjain City), Gwalior, Ashoknagar District, Gwalior (EAAA) District and Sheopur District, Raisen, Shajapur and Sehore Districts, Morena District, Shivpuri District, Sidhi and Singrauli Districts, Ujjain (EAAA) District, Dewas (EAAA) District and Indore (EAAA) District, Burhanpur, Khandwa, Khargone and Harda districts, Tikamgarh, Niwari, Chattarpur and Panna districts, Betul, Chhindwara, Seoni and Balaghat districts, Damoh, Jabalpur, Katni, Mandla, Umaria and Dindori districts, Hoshangabad, Narsinghpur, Sagar and Vidisha districts	2,06,697	343	441	2,07,481	221
23. Madhya Pradesh and Chhattisgarh	Anuppur, Bilaspur and Korba Districts	-	-	-	-	7
24. Madhya Pradesh and Rajasthan	Jhabua, Banswara, Ratlam and Dungarpur Districts, Agar Malwa, Neemuch, Mandasaur and Jhalawar districts	320	-	-	320	31
25. Madhya Pradesh and Uttar Pradesh	Jhansi (EAAA) District, Bhind, Jalaun, Lalitpur and Datia Districts	-	-	2	2	16

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State/Union Territory	Geographical Area/ CGD Networks	PNG Connections				CNG Stations
		Domestic 3	Commercial 4	Industrial 5	Total 6=3+4+5	
1	2					7
26. Maharashtra	Palghar District & Thane Rural, Raigarh District (EAAA), Pune District (EAAA), Ratnagiri District, Solapur District, Kolhapur District, Ahmednagar & Aurangabad Districts, Latur & Osmanabad Districts, Sangli & Satara Districts, Sindhudurg District, Mumbai & Greater Mumbai, Pune City including Pimpri - Chichwad & adjoining contiguous areas Hinjewadi, Chakan, Talegaon, Thane urban and adjoining Municipalities, Buldana, Nanded and Parbhani districts, Beed, Jalgaon and Jaina districts, Akola, Hingoli and Washim districts, Amravati and Yavatmal districts, Chandrapur and Wardha districts, Nagpur district, Bhandara, Gondiya and Garhchiroli districts	28,40,638	4,652	867	28,46,157	741
27. Maharashtra & Madhya Pradesh	Alirajpur, Nandurbar and Barwani districts	-	-	-	-	9
28. Maharashtra & Gujarat	Valsad (EAAA), Dhule & Nashik Districts	1,50,004	4	17	1,50,025	60
29. National Capital Territory of Delhi (UT)	National Capital Territory of Delhi	14,38,659	3,582	1,799	14,44,040	480
30. Odisha	Angul & Dhekanal Districts, Sundargarh & Jharsuguda Districts, Balasore, Bhadrak & Mayurbhanj Districts, Bargarh, Debagarh & Sambalpur Districts, Ganjam, Nayagarh & Puri Districts, Jagatsinghpur & Kendrapara Districts, Jajpur & Kendujhar Districts, Khordha District, Cuttack District, Koraput, Malkangiri, and Nabarangpur districts, Gajapati, Kandhamal, Boudh and Sonepur districts, Rayagada, Kalahandi, Bolangir and Nuapada districts	86,876	5	-	86,881	66
31. Puducherry	Puducherry District	-	-	-	-	1
32. Puducherry & Tamil Nadu	Karaikal & Nagapattinam Districts	175	-	-	175	8
33. Punjab	Jalandhar, Ludhiana, Amritsar District, Bhatinda District, Rupnagar District, Fatehgarh Sahib District, SAS Nagar District (EAAA), Patiala & Sangrur Districts, Ludhiana District (EAAA), Barnala & Moga Districts, Jalandhar District (EAAA), Kapurthala & SBS Nagar Districts, Ferozepur, Faridkot and Sri Muktsar Sahib Districts, Hoshiarpur and Gurdaspur Districts, Pathankot district, Tarn Taran district	67,344	324	244	67,912	204
34. Punjab and Rajasthan	Fazilka (except area already authorized), Ganganagar and Hanumangarh districts	-	-	-	-	19
35. Rajasthan	Kota, Barmer, Jaisalmer & Jodhpur Districts, Alwar (Other than Bhiwadi) & Jaipur Districts, Kota District (EAAA), Baran & Chittorgarh (Only Rawatbhata Taluka) Districts, Bhilwara & Bundi Districts, Chittorgarh (Other than Rawatbhata Taluka) & Udaipur Districts, Dholpur District, Bhiwadi (in Alwar District), Ajmer, Pali and Rajsamand Districts, Jalore and Sirohi Districts, Bikaner and Churu districts, Jhunjhunu, Sikar and Nagaur districts, Dausa, Karauli, Sawai Madhopur and Tonk districts	2,13,830	83	1,519	2,15,432	247
36. Tamil Nadu	Kanchipuram District, Chennai & Tiruvallur Districts, Coimbatore District, Cuddalore, Nagapattinam & Tiruvarur Districts, Ramanathapuram District, Salem District, Tiruppur District, Dharmapuri and Krishnagiri districts, Tiruvannamalai, Villupuram and Kallakurichi districts, Ariyalur and Perambalur districts, Namakkal and Tiruchirappalli districts, Pudukottai, Sivaganga and Thanjavur districts, Madurai, Theni and Virudhnagar districts, Kanyakumari, Thoothukudi, Tirunelveli Kattabo and Tenkasi districts, Dindigul and Karur districts, The Nilgiris and Erode districts	738	-	8	746	187

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State/Union Territory	Geographical Area/ CGD Networks	PNG Connections			CNG Stations
		Domestic	Commercial	Industrial	
1	2	3	4	5	7
37. Telangana	Bhadrairi Kothagudem & Khamman Districts, Jagtial, Peddapalli, Karimnagar & Rajanna Sircilla Districts, Jangaon, Jayashankar Bhupalpally, Mahabubabad, Warangal Urban & Warangal Rural Districts, Medak, Siddipet & Sangareddy Districts, Medchal-Malkajgiri, Ranga Reddy & Vikarabad Districts, Nalgonda Suryapet & Yadadri Bhuvanagiri Districts, Hyderabad, Nizamabad, Adilabad, Nirmal, Mancheril Kurumam Bheem Asifabad and Kamareddy districts	1,93,026	77	98	147
38. Telangana & Karnataka	Jogulamba Gadwal, Nagarkurnool, Mahabubnagar, Narayanpet, Wanaparthy and Yadgir districts	-	-	-	2
39. Tripura	Gomati District, West Tripura (EAAA) District, Agartala	59,131	506	62	18
40. Uttar Pradesh	Mathura, Meerut, Allahabad, Bagpat District, Jhansi, Saharanpur District, Bulandshahr (part) District, Bulandshahr District (EAAA), Aligarh & Hathras Districts, Allahabad District (EAAA), Bhadohi & Kaushambi Districts, Amethi, Pratapgarh & Raebareilly Districts, Auraiya, Kanpur Dehat & Etawah Districts, Faizabad & Sultanpur Districts, Gorakhpur, Sant Kabir Nagar & Kushinagar Districts, Meerut District (EAAA), Muzaffarnagar & Shamli Districts, Moradabad (EAAA) District, Unnao (EAAA) District, Varanasi District, Khurja, Moradabad, Bareilly, Kanpur, Agra, Lucknow, Ghaziabad & Hapur Districts, Azamgarh, Mau and Ballia Districts, Bareilly (EAAA) District, Pilibhit and Rampur Districts, Basti and Ambedkarnagar Districts, Farrukhabad, Etah and Hardoi Districts, Gonda and Barabanki Districts, Jaunpur and Ghazipur Districts, Kanpur (EAAA) District, Fatehpur and Hamirpur Districts, Mainpuri and Kannauj Districts, Mirzapur, Chandauli and Sonbhadra Districts, Shahjahanpur and Budaun Districts, Amroha (except area already authorized) & Sambhal (except area already authorized) districts, Kasganj district, Banda, Chitrakoot and Mahoba	10,40,390	1,352	1,357	740
41. Uttar Pradesh & Rajasthan	Firozabad (Taj Trapezium Zone)	18,958	38	343	40
42. Uttar Pradesh and Utrkhand	Bijnor and Nainital Districts	8,019	-	-	26
43. Utrkhand	Dehradun District, Udham Singh Nagar District, Haridwar District	68,567	57	84	30
44. West Bengal	Burdwan District, Kolkata Municipal Corporation and Parts of Adjoining Districts, Darjeeling, Jalpaiguri and Uttar Dinajpur Districts, Howrah (EAAA) District and Hoogly (EAAA) District, Nadia (EAAA) District and North 24 Parganas (EAAA) District, South 24 Parganas (EAAA) District, Purulia and Bankura districts, East Medinipore, West Medinipore and Jhargram districts, Alipurduar and Koch Bihar	260	-	-	68
<b>A. Total CGD Networks authorized by PNGRB (1 to 44)</b>		<b>1,04,02,239</b>	<b>35,634</b>	<b>14,050</b>	<b>5,483</b>
45. Gujarat	Ahmedabad City (Only for CNG), Vadodara, Gandhinagar	1,48,349	596	109	44
46. Haryana	Gurugram, Faridabad	1,51,253	676	1,072	81
47. Uttar Pradesh	Gautam Budh Nagar District	3,27,387	866	1,332	57
<b>B. Total CGD Networks Operational based on Court Orders or NOC (45+46+47)</b>		<b>6,26,989</b>	<b>2,138</b>	<b>2,513</b>	<b>182</b>
<b>Total (A+B)</b>		<b>1,10,29,228</b>	<b>37,772</b>	<b>16,563</b>	<b>5,665</b>

Source: PNGRB

Note: 1. All the GAs where PNG connections/CNG Stations have been established is considered as Operational.

2. Under normal conditions, Operation of any particular GA commences within around one year of authorization.

3. EAAA stands for Excluding/Except Area Already Authorized

4. As on March 2022, there are 291 GAs authorized by PNGRB for development of CGD Networks across the country (228 GAs upto 10th CGD Bidding Round + 53 GAs in 11th CGD bidding Round).

5. The data pertaining to GAs of 11 and 11A round have been included.





# CHAPTER -IV



## Prices and Taxes & Duties

## Chapter Highlights

### Wholesale Price Index (WPI) growth in 2022-23

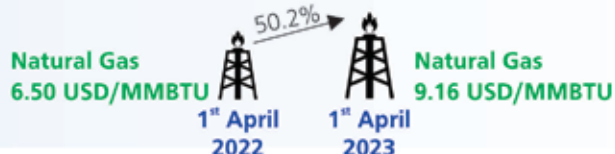


Wholesale Price Index (WPI) inflation for all commodities stood at 9.4% higher in 2022-23 (152.50) as compared to 2021-22 (139.40). The WPI growth during 2022-23, in Crude Petroleum, Natural Gas and Petroleum Products stood at 29.9%, 101.5% and 37.0% respectively.

### Growth in 2022-23 over 2021-22



Index of Eight Core Industries stood at 7.7% higher in 2022-23 as compared to 2021-22. During 2022-23, Crude Oil production (weight: 8.98%) declined by 1.7%, Net Natural Gas production (weight: 6.88 per cent) increased by 1.6% and Petroleum Refinery production (weight: 28.04 per cent) increased by 4.8% over 2021-22.



Domestic price of Natural Gas increased by around 50.2% from 6.10 (USD/ MMBTU) as on 1<sup>st</sup> April, 2022 to 9.16 (USD/ MMBTU) as on 1<sup>st</sup> April, 2023. Further Domestic price of Natural Gas fixed 6.50 (USD/ MMBTU) as on 1<sup>st</sup> June, 2023. i.e. 29.0% lower than the price as on 1<sup>st</sup> April, 2023.

### International crude oil price (Indian basket)



International crude oil price (Indian basket) increased by 17.6% from 79.18 US \$/bbl during 2021-22 to 93.15 US \$/bbl during 2022-23. Among major Petroleum products, the highest increase (44.8%) in International FOB price is observed for Diesel and the least increase (-4.5%) is observed for Naphtha comparing 2022-23 vis-à-vis 2021-22.

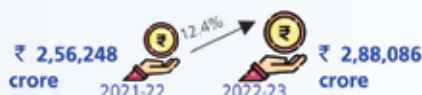
### Retail Selling Price in Delhi



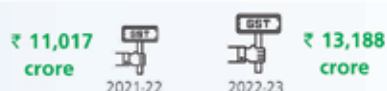
As on 1<sup>st</sup> April, 2023, Retail Selling Prices of Liquefied Petroleum Gas (₹ 14.2 Kg Cylinder) for metropolitan cities of India namely Delhi, Kolkata, Mumbai and Chennai are ₹ 1103.00, ₹ 1129.00, ₹ 1102.50 and ₹ 1118.50 respectively.



Contribution by Oil and Gas major 15 companies of Petroleum Sector to the Governments' exchequer during 2022-23 was ₹ 7,48,718 crore which is 3.3% lower as compared to 2021-22 (₹ 7,74,425 crore). Contribution of Petroleum sector to the Central Exchequer is ₹ 4,28,067 crore and contribution to the State exchequer is ₹ 3,20,651 crores.



During 2022-23, Sales tax/VAT payments paid by 15 Major Oil & Gas Companies was at ₹ 2,88,086 crore, 12.4% higher as compared to 2021-22 (₹ 2,56,248 crore)



GST payment paid by 15 Major Oil & Gas Companies during the year 2022-23 was at ₹ 13,188 crore, 19.7% higher than the GST payment during 2021-22 (₹ 11,017 crore).



During 2022-23, Sales tax payment by CPSEs for Petrol and Diesel increase by 10.3% & 14.0% respectively as compared to 2021-22.

## IV.1: Indices of Selected Oil &amp; Gas Products (Base Year 2011-12=100)

Items	Weight (%)	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
1	2	3	4	5	6	7	8
<b>Wholesale Price Index</b>							
<b>All commodities</b>	<b>100.00</b>	<b>114.90</b>	<b>119.80</b>	<b>121.80</b>	<b>123.40</b>	<b>139.40</b>	<b>152.50</b>
<b>Crude Petroleum &amp; Natural Gas</b>	<b>2.41</b>	<b>73.00</b>	<b>92.40</b>	<b>85.30</b>	<b>70.40</b>	<b>110.30</b>	<b>158.40</b>
Crude Petroleum	1.95	65.00	84.30	73.60	62.00	110.30	143.30
Natural Gas	0.46	106.40	126.20	134.50	105.60	110.10	221.90
<b>Total Petroleum Products (Mineral Oils)</b>	<b>7.95</b>	<b>82.50</b>	<b>96.70</b>	<b>92.30</b>	<b>79.20</b>	<b>126.20</b>	<b>172.90</b>
LPG	0.64	82.20	92.10	84.50	82.20	117.80	130.90
Petrol	1.60	80.30	88.40	85.60	75.50	123.00	164.10
Naphtha	0.87	74.50	92.60	82.30	65.10	115.80	135.90
Kerosene	0.19	117.80	152.40	172.80	116.80	221.90	402.60
Aviation Turbine Fuel	0.32	78.70	102.80	97.20	62.50	112.40	188.50
High Speed Diesel Oil	3.10	84.40	97.10	93.70	80.20	128.20	191.40
Furnace Oil	0.67	68.80	94.70	81.00	67.90	108.20	127.20
Lube Oil	0.29	114.00	124.80	131.70	137.20	162.00	180.00
Bitumen	0.23	71.30	85.60	82.80	77.90	113.20	131.40
Petroleum Coke	0.05	117.20	149.70	128.60	132.40	220.10	293.60
<b>Index of Eight Core Industries</b>							
<b>Overall Index</b>	<b>100.00</b>	<b>125.69</b>	<b>131.18</b>	<b>131.65</b>	<b>123.24</b>	<b>136.07</b>	<b>146.57</b>
Index of Coal	10.33	124.88	134.10	133.62	131.13	142.34	163.49
<b>Index of Crude Oil</b>	<b>8.98</b>	<b>93.68</b>	<b>89.80</b>	<b>84.46</b>	<b>80.06</b>	<b>77.95</b>	<b>76.60</b>
<b>Index of Natural Gas</b>	<b>6.88</b>	<b>68.42</b>	<b>68.98</b>	<b>65.09</b>	<b>59.78</b>	<b>71.28</b>	<b>72.42</b>
<b>Index of Petroleum Refinery Products</b>	<b>28.04</b>	<b>125.20</b>	<b>129.11</b>	<b>129.40</b>	<b>114.88</b>	<b>125.14</b>	<b>131.18</b>
Index of Fertilizers	2.63	106.61	106.98	109.83	111.65	112.42	125.14
Index of Steel	17.92	140.51	147.67	152.62	139.40	163.02	177.52
Index of Cement	5.37	129.72	146.98	145.69	129.96	156.95	170.54
Index of Electricity	19.85	149.18	156.87	158.35	157.57	170.12	185.24

Source: Ministry of Commerce &amp; Industry



**IV.2: Consumer and Producer Prices of Natural Gas**

Effective Date	Consumer Prices		Producer Prices			Calorific Value (K. Cal / SCM)	Domestic Price of Natural Gas	Gas Price Ceiling	NELP & PRE-NELP block*
	Off-shore (Landfall point) and On-shore	For North-East States	ONGC	ONGC (North-East States)	OIL (North-East States)				
(in ₹ /'000' cubic metre)						(USD/ MMBTU)			
1	2	3	4	5	6	7	8	9	10
01.04.2017	6483	3890	6483	6483	6483	10000	2.48	5.56	-
01.10.2017	7390	4434	7390	7390	7390	10000	2.89	6.3	-
01.04.2018	7895	4737	7895	7895	7895	10000	3.06	6.78	-
01.10.2018	9629	5789	9629	9629	9629	10000	3.36	7.67	-
01.04.2019	10174	6093	10174	10174	10174	10000	3.69	9.32	-
01.10.2019	9143	5491	9143	9143	9143	10000	3.23	8.43	-
01.04.2020	7052	4219	7052	7052	7052	10000	2.39	5.61	-
01.10.2020	5219	3120	5219	5219	5219	10000	1.79	4.06	-
01.04.2021	5170	3091	5170	5170	5170	10000	1.79	3.62	-
01.10.2021	8465	5079	8465	8465	8465	10000	2.90	6.13	-
01.04.2022	18455	11073	18455	18455	18455	10000	6.10	9.92	-
01.10.2022	27285	16364	27285	27285	27285	10000	8.57	12.46	-
01.04.2023	29912	17960	29912	29912	29912	10000	9.16	12.12	-
08.04.2023	21226	12735	21226	21226	21226	10000	6.50	12.12	7.92
01.05.2023	21156	12694	21156	21156	21156	10000	6.50	12.12	8.27
<b>01.06.2023</b>	<b>21238</b>	<b>12743</b>	<b>21238</b>	<b>21238</b>	<b>21238</b>	<b>10000</b>	<b>6.50</b>	<b>12.12</b>	<b>7.58</b>

Notes: \*Where Govt approval of prices is required.

- GOI has issued the New Domestic Gas Pricing Guidelines on 25.10.2014. In line with these guidelines, PPAC declared the price of natural gas half yearly.
- Producer Price as well as Consumer price of natural gas produced by the NOCs including ONGC is fixed by the MoPNG, Government of India from time to time. Till 31.10.2014, different gas prices were applicable for APM (Administrative Price Mechanism) and non-APM customers. MoPNG has notified "New Domestic Natural Gas Pricing Guidelines, 2014" on 25 Oct'2014. These guidelines are effective from 01 Nov'2014.
- The above guidelines shall not be applicable to:
  - The Gas to be produced from Discoveries in Deepwater, Ultra Deepwater, and High Pressure-High Temperature areas, in terms of MoPNG letter dated 21.03.16 (Marketing including pricing freedom).
  - CBM gas, in terms of Government Notification dt. 11.04.2017.
  - New discoveries in Nomination blocks whose FDP will be approved by DGH as per notifications dated 28.02.2019
  - Existing and Future discoveries in Pre-NELP and NELP fields in North East which will commence production on 01.07.2018 and after.
  - Adhoc/ Test Gas as per guidelines dated 22.11.2021

Source: ONGC, OIL and PPAC



### IV.3: Weighted Average Crude Oil Prices

Year	Particulars	Basic Price	Royalty	OID Cess	Sales Tax/VAT/CST
1	2	3	4	5	6
2017-18	Offshore crude	28378	2395	4541	931
	Onshore crude	26648	4027	4227	1237
	Offshore and Onshore crude	27866	2878	4448	1022
2018-19	Offshore crude	36494	3232	6074	1253
	Onshore crude	34579	5555	5755	1707
	Offshore and Onshore crude	35886	3968	5973	1397
2019-20	Offshore crude	31604	2819	5254	1077
	Onshore crude	30488	4781	5157	1570
	Offshore and Onshore crude	31237	3464	5222	1239
2020-21	Offshore crude	24187	2105	4018	783
	Onshore crude	23081	3806	3897	1151
	Offshore and Onshore crude	23832	2651	3979	901
2021-22	Offshore crude	43745	3738	7268	1270
	Onshore crude	41088	6278	6937	2042
	Offshore and Onshore crude	42874	4571	7160	1523
2022-23	Offshore crude	56837	5069	8637	1785
	Onshore crude	52719	8342	8161	2611
	Offshore and Onshore crude	55436	6183	8475	2066

**Notes:**

1. Basic Price is all inclusive gross (pre-discount) price and linked to international crude price, though ONGC net price realization has been lower due to sharing of under-recoveries of OMCs by extending discount, as per the directives of MoPNG.
2. Basic Price up to 2017-18 is inclusive of VAT/CST.
3. VAT/CST and Royalty are worked out based on Gross (Pre-discount) Price. However, the above levies are actually paid on post-discount price. From the Second Quarter of 2015-16 onwards, no subsidy discount has been extended by ONGC to refineries /OMCs.
4. Royalty and OID Cess are production levies and are part of cost.
5. NCCD @ ₹ 50/MT & Excise Duty @ Re1/MT is also paid on crude oil & Education Cess @ 3% on OID Cess and NCCD were paid till 2014-15.
6. OID Cess in ₹/MT has been paid considering specific rate of ₹4,500/MT from 17.03.12 till Feb'16 and "20% ad-valorem" w.e.f. 01.03.2016

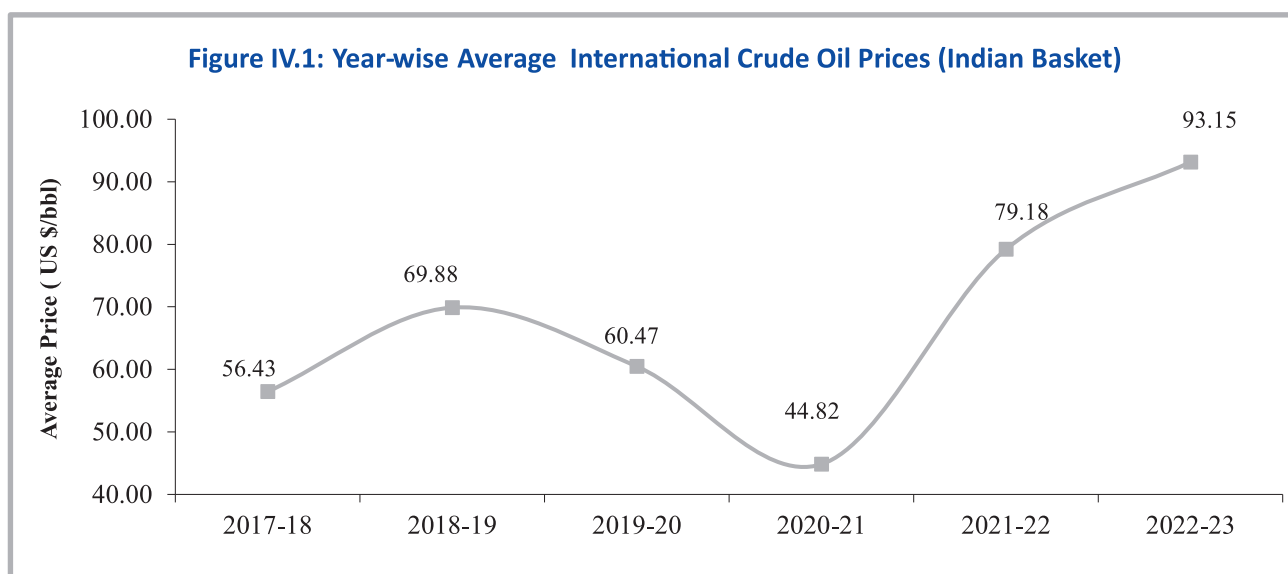
Source: ONGC

**IV.4: Month-wise & Year-wise Average International Crude Oil Prices (Indian Basket)**

Year/Month	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	% Growth in 2022-23 over 2021-22
1	2	3	4	5	6	7	8 = (7-6)/6*100
April	52.49	69.22	71.00	19.90	63.40	102.97	62.41
May	50.57	75.25	70.01	30.61	66.95	109.51	63.55
June	46.56	73.83	62.37	40.63	71.98	116.01	61.17
July	47.86	73.47	63.63	43.35	73.54	105.49	43.45
August	50.63	72.53	59.35	44.19	69.80	97.40	39.54
September	54.52	77.88	61.72	41.35	73.13	90.71	24.03
October	56.06	80.08	59.70	40.66	82.11	91.70	11.68
November	61.32	65.40	62.53	43.34	80.64	87.55	8.58
December	62.29	57.77	65.50	49.84	73.30	78.10	6.55
January	67.06	59.27	64.31	54.79	84.67	80.92	-4.42
February	63.54	64.53	54.63	61.22	94.07	82.28	-12.53
March	63.80	66.74	33.36	64.73	112.87	78.54	-30.42
<b>Year Average</b>	<b>56.43</b>	<b>69.88</b>	<b>60.47</b>	<b>44.82</b>	<b>79.18</b>	<b>93.15</b>	<b>17.64</b>
<b>Ratio</b>	<b>72.38:27.62</b>	<b>74.77:25.23</b>	<b>75.50:24.50</b>	<b>75.62:24.38</b>	<b>75.62:24.38</b>	<b>75.62:24.38</b>	<b>-</b>

Note: The composition of Indian Basket of Crude represents Average of Oman & Dubai for sour grades and Brent (Dated) for sweet grade in the ratio of crude processed during previous financial year, e.g. ratio of crude processed as indicated in the table above.

Source: IOCL & PPAC

**Figure IV.1: Year-wise Average International Crude Oil Prices (Indian Basket)**


## IV.5: International FOB Prices of Crude Oil & Major Petroleum Products

Period	Crude Oil (Indian Basket)	Petrol	Diesel	Kerosene	FO	Naphtha	LPG
	(\$/BBL)				(\$/MT)		
1	2	3	4	5	6	7	8
2017-18	56.43	67.83	68.19	67.65	327.50	494.73	485.92
2018-19	69.88	75.58	82.51	82.24	420.93	573.72	526.00
2019-20	60.47	66.94	71.78	70.56	321.19	471.08	453.75
2020-21	44.82	47.68	47.86	43.60	259.30	378.93	415.17
2021-22	79.18	89.66	88.45	85.31	445.25	698.25	692.67
<b>2022-23</b>	<b>93.15</b>	<b>107.00</b>	<b>128.08</b>	<b>120.55</b>	<b>452.66</b>	<b>666.53</b>	<b>711.50</b>
<b>% Growth in 2022-23 over 2021-22</b>	<b>17.64</b>	<b>19.34</b>	<b>44.80</b>	<b>41.31</b>	<b>1.67</b>	<b>-4.54</b>	<b>2.72</b>

**Notes:** FOB: Freight on Board

- Price of kerosene, Diesel, Naphtha & FO is for Arab Gulf Market. LPG Price is Monthly Saudi Aramco CP based on 60:40 butane / propane ratio.
- From 01.04.2017, the Diesel price is for 0.005% Sulphur, From 02.01.2013 the Diesel price in Arab Gulf Market is for 0.05% Sulphur, and for earlier years the price is for 0.5% Sulphur. Price of Petrol is 92 RON unleaded for Singapore market.
- FOB prices does not include Trade premium/discounts.

Source: PPAC

**IV.6: Rates of CPSEs Dealers' Commission for MS, HSD and LPG in India**

Effective	MS	HSD	Effective	LPG (Packed Domestic)		
				14.2 Kg	5Kg	Additional commission for sale at market determined price
	(₹/Kilolitre)			(₹/Cylinder)		(₹/14.2 KG cyl.)
1	2	3	4	5	6	7
01.04.2017	₹ 2020.38/KL + 0.859% of Product Billable Price	₹ 1502.13/KL + 0.267% of Product Billable Price	01.04.2017	47.48	23.74	0.40
			01.05.2017	47.48	23.74	0.27
			01.06.2017	47.48	23.74	0.15
01.07.2017	₹ 2025.97/KL + 0.859% of Product Billable Price	₹ 1506.81/KL + 0.267% of Product Billable Price	01.07.2017	47.48	23.74	0.13
01.08.2017	₹ 2674.74/KL + 0.859% of Product Billable Price	₹ 2031.38/KL + 0.257% of Product Billable Price	01.08.2017	47.48	23.74	0.06
			01.09.2017	47.48	23.74	0.16
			30.09.2017	48.89	24.20	0.16
			01.10.2017	48.89	24.20	0.23
			01.11.2017	48.89	24.20	0.36
			01.01.2018	48.89	24.20	0.35
			01.02.2018	48.89	24.20	0.34
			01.03.2018	48.89	24.20	0.28
			01.04.2018	48.89	24.20	0.23
			01.06.2018	48.89	24.20	0.29
			01.07.2018	48.89	24.20	0.36
			01.08.2018	48.89	24.20	0.42
			01.09.2018	48.89	24.20	0.46
			01.10.2018	48.89	24.20	0.54
			01.11.2018	48.89	24.20	0.63
			07.11.2018	50.58	25.29	0.63
			01.12.2018	50.58	25.29	0.45
01.01.2019	50.58	25.29	0.28			
01.02.2019	50.58	25.29	0.24			
19.02.2019 to 01.04.2023	₹ 2637.80/KL + 0.859% of Product Billable Price	₹ 2000.60/KL + 0.257% of Product Billable Price	01.03.2019	50.58	25.29	0.30
			01.04.2019	50.58	25.29	0.31
			01.06.2019	50.58	25.29	0.35
			01.07.2019	50.58	25.29	0.21
			01.08.2019	56.20	28.10	-
			01.09.2019	59.02	29.51	-
			01.10.2019	61.84	30.92	-
<b>19.05.2022</b>			<b>64.84</b>	<b>32.42</b>	<b>-</b>	

Note:- In addition to above, for Petrol and Diesel effective 1st August 2017, slab based incentive is also given to eligible dealers through credit notes, The applicable average slab based incentive effective 01.04.2022 is ₹ 351.48/KL for both petrol and diesel.

Source: PPAC



## IV.7: Subsidy Provided by the Government & Oil Companies on Petroleum Products

(in ₹ crore)

Particulars	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
1. Under recovery on Diesel	-	-	-	-	-	-
2. Under recovery on PDS Kerosene	4,672	5,950	1,833	-	-	-
3. Under recovery on Domestic LPG	-	-	-	-	-	22,000
<b>A. Total Under-recoveries (1 to 3)</b>	<b>4,672</b>	<b>5,950</b>	<b>1,833</b>	<b>-</b>	<b>-</b>	<b>22,000</b>
4. DBTL subsidy	20,880	31,447	22,635	3,559	-	823
5. Permanent Advance	-	-	-	-	-	-
6. Project Management Expenditure	25	92	91	99	242	32
<b>B. Total DBTL related subsidies (4 to 6)</b>	<b>20,905</b>	<b>31,539</b>	<b>22,726</b>	<b>3,658</b>	<b>242</b>	<b>855</b>
7. PMUY	2,496	5,636	1,403	(34)	1,569	6,110
8. PME & IEC under PMUY	63	34	43	110	-	-
<b>C. Total PMUY related subsidy (7+8)</b>	<b>2,559</b>	<b>5,670</b>	<b>1,446</b>	<b>76</b>	<b>1,569</b>	<b>6,110</b>
<b>D. DBTK subsidy</b>	<b>113</b>	<b>98</b>	<b>42</b>	<b>-</b>	<b>-</b>	<b>-</b>
9. PDS Kerosene and Domestic LPG Subsidy Scheme, 2002	SKO	-	-	-	-	-
	LPG	-	-	-	-	-
10. Freight Subsidy (For Far-Flung Areas) Scheme, 2002	SKO	-	-	-	-	-
	LPG	-	-	-	-	-
<b>11. Natural Gas Subsidy for North East</b>	<b>435</b>	<b>557</b>	<b>574</b>	<b>336</b>	<b>405</b>	<b>1,354</b>
12. Scheme for Promotion of Flagging of Merchant Ships in India	-	-	-	-	22	76
<b>E. Other Subsidies (9 to 12)</b>	<b>435</b>	<b>557</b>	<b>574</b>	<b>336</b>	<b>427</b>	<b>1,431</b>
<b>F. PMGKY</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8,162</b>	<b>-</b>	<b>-</b>
<b>Total Subsidy/Under-recovery on Petroleum Products &amp; Natural Gas (A+B+C+D+E + F)</b>	<b>28,684</b>	<b>43,814</b>	<b>26,620</b>	<b>12,231</b>	<b>2,237</b>	<b>30,396</b>
<b>Compensation</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
13. By the Government	28,684	43,814	26,620	12,231	2,237	30,396
14. Upstream/Midstream Oil/Gas Companies	-	-	-	-	-	-
15. Borne by the OMCs	-	-	-	-	-	-

Note: on payment basis.

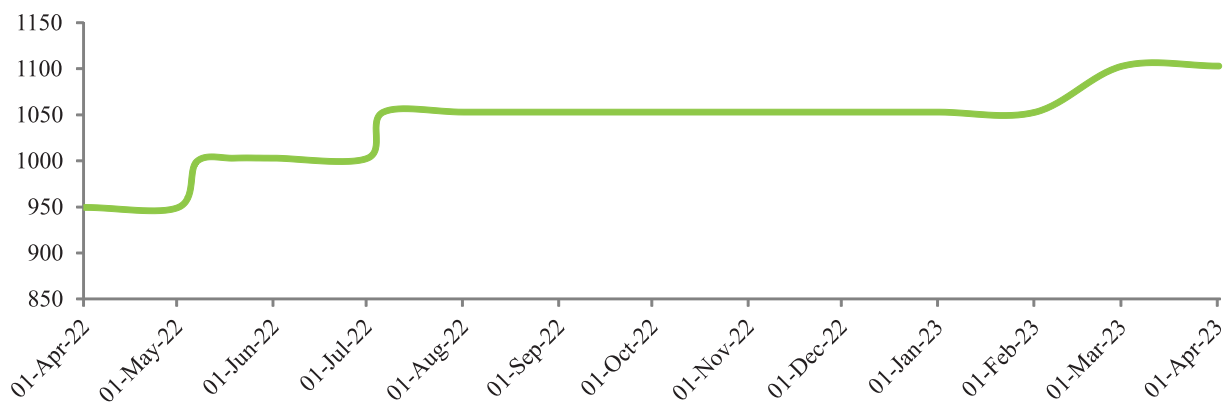
Source: PPAC

### IV.8: Price Build-up and Retail Selling Prices of Liquefied Petroleum Gas in Metropolitan Cities in India

Elements/State	Delhi	Kolkata	Mumbai	Chennai
1	2	3	4	5
<b>Trends in Retail Selling Prices of Liquefied Petroleum Gas (₹v 14.2 Kg Cylinder)</b>				
01.04.2017	440.90	442.90	476.50	428.40
01.04.2018	491.35	494.33	489.04	479.44
01.04.2019	706.50	732.50	678.50	722.00
01.04.2020	744.00	774.50	714.50	761.50
01.04.2021	809.00	835.50	809.00	825.00
01.04.2022	949.50	976.00	949.50	965.50
<b>01.04.2023</b>	<b>1,103.00</b>	<b>1,129.00</b>	<b>1,102.50</b>	<b>1,118.50</b>
<b>Price Build-up of Retail Selling Prices of Liquefied Petroleum Gas (₹ 14.2 Kg Cylinder) as on 01.04.2023</b>				
1. Market Determined Price ( as per PAHAL Scheme)	985.64	1010.40	985.16	1000.40
2. Add : GST (including GST on Distributor Commission)	52.52	53.76	52.50	53.26
3. Add : Distributor Commission	64.84	64.84	64.84	64.84
<b>4. Retail Selling Price (1 to 3)</b>	<b>1,103.00</b>	<b>1,129.00</b>	<b>1,102.50</b>	<b>1,118.50</b>
5. Retail Selling Price (Rounded)	1103.00	1129.00	1102.50	1118.50
6. Less: Cash Compensation to Consumer under DBTL	0.00	19.57	0.00	24.95
<b>7. Effective Cost to Consumer after Subsidy (5-6)</b>	<b>1,103.00</b>	<b>1,109.43</b>	<b>1,102.50</b>	<b>1,093.55</b>

Source: IOCL

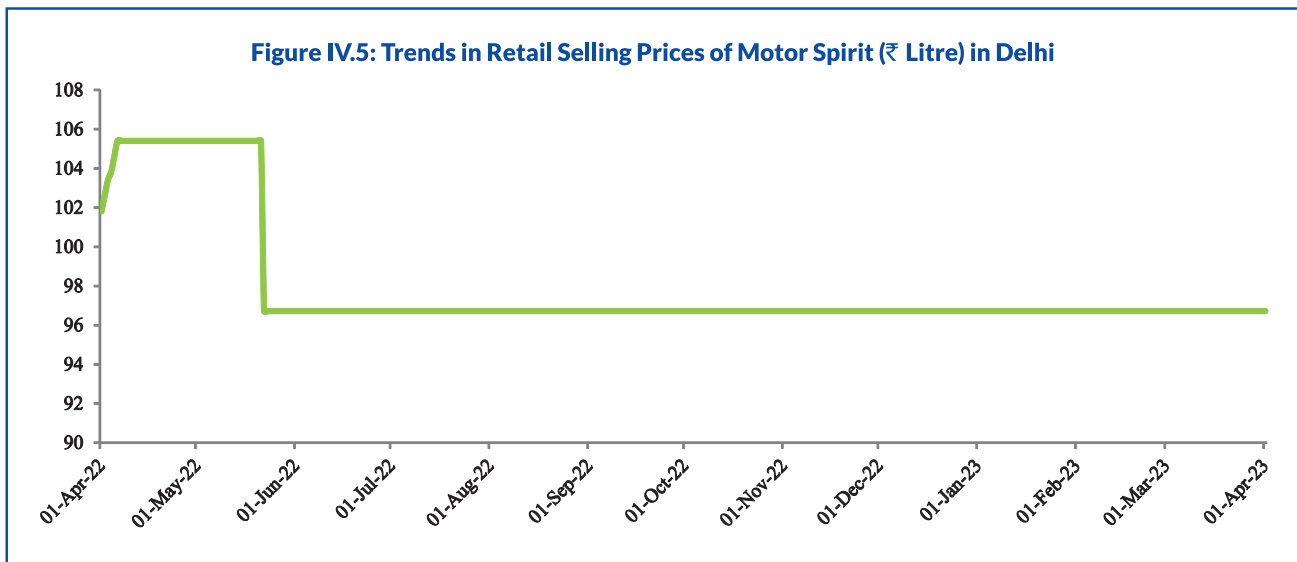
#### Figure IV.4: Trends in Retail Selling Prices of LPG (₹ 14.2 Kg Cylinder) in Delhi



### IV.9: Price Build-up and Retail Selling Prices of Motor Spirit in Metropolitan Cities in India

Elements/State	Delhi	Kolkata	Mumbai	Chennai
1	2	3	4	5
<b>Trends in Retail Selling Prices of Motor Spirit (₹ Litre)</b>				
01.04.2017	66.29	68.97	72.66	69.28
01.04.2018	73.73	76.44	81.59	76.48
01.04.2019	72.86	74.88	78.43	75.62
01.04.2020	69.59	73.30	76.31	72.28
01.04.2021	90.56	90.77	96.98	92.58
01.04.2022	101.81	111.35	116.72	107.45
<b>01.04.2023</b>	<b>96.72</b>	<b>106.03</b>	<b>106.31</b>	<b>102.63</b>
<b>Price Build-up of Retail Selling Prices of Motor Spirit (₹ Litre) as on 01.04.2023</b>				
1. Base Price	57.16	57.16	57.16	57.16
2. Freight etc	0.20	4.64	0.15	0.17
3. Price Charged to Dealers (excluding Excise Duty and VAT)	57.36	61.80	57.31	57.33
4. Add : Excise Duty	19.90	19.90	19.90	19.90
5. Add : Dealer Commission (Average)	3.75	3.83	3.83	3.80
6. Add : VAT (including VAT on Dealer Commission)	15.71	20.50	25.27	21.60
<b>7. Retail Selling Price (₹/Litre) (3 to 6)</b>	<b>96.72</b>	<b>106.03</b>	<b>106.31</b>	<b>102.63</b>

Source: IOCL

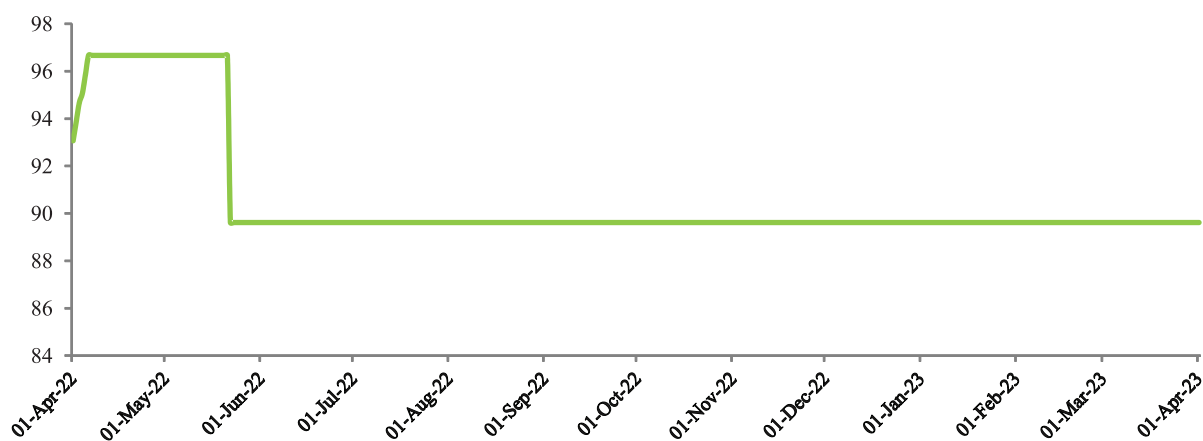


### IV.10: Price Build-up and Retail Selling Prices of High Speed Diesel Oil in Metropolitan Cities in India

Elements/State	Delhi	Kolkata	Mumbai	Chennai
1	2	3	4	5
<b>Trends in Retail Selling Prices of High Speed Diesel Oil (₹ Litre)</b>				
01.04.2017	55.61	57.86	61.27	58.82
01.04.2018	64.58	67.27	68.77	68.12
01.04.2019	66.09	67.83	69.17	69.78
01.04.2020	62.29	65.62	66.21	65.71
01.04.2021	80.87	83.75	87.96	85.88
01.04.2022	93.07	96.22	100.94	97.52
<b>01.04.2023</b>	<b>89.62</b>	<b>92.76</b>	<b>94.07</b>	<b>94.24</b>
<b>Price Build-up of Retail Selling Prices of High Speed Diesel Oil (₹ Litre) as on 01.04.2023</b>				
1. Base Price	57.95	57.95	57.95	57.95
2. Freight etc	0.22	3.31	0.16	0.16
3. Price Charged to Dealers (excluding Excise Duty and VAT)	58.17	61.26	58.11	58.11
4. Add : Excise Duty	15.80	15.80	15.80	15.80
5. Add : Dealer Commission (Average)	2.54	2.55	2.55	2.55
6. Add : VAT (including VAT on Dealer Commission)	13.11	13.15	17.81	17.78
<b>7. Retail Selling Price (₹ /Litre) (3 to 6)</b>	<b>89.62</b>	<b>92.76</b>	<b>94.27</b>	<b>94.24</b>

Source: IOCL

**Figure IV.6: Trends in Retail Selling Prices of High Speed Diesel Oil (₹ Litre) in Delhi**





#### IV.11: Price Build-up and Retail Selling Prices of Superior Kerosene Oil in Metropolitan Cities in India

Elements/State	Delhi	Kolkata	Mumbai	Chennai
1	2	3	4	5
<b>Trends in Retail Selling Prices of Superior Kerosene Oil (₹ Litre)</b>				
01.04.2017	-	20.19	19.03	13.60
01.04.2018	-	26.30	23.96	13.60
01.04.2019	-	32.79	30.87	13.60
01.04.2020	-	27.85	25.72	13.60
01.04.2021	-	39.18	36.78	15.00
01.04.2022	-	79.62	76.36	15.00
<b>01.04.2023</b>	-	<b>67.91</b>	<b>64.68</b>	<b>15.00</b>
<b>Price Build-up of Retail Selling Prices of Superior Kerosene Oil (₹ Litre) as on 01.04.2023</b>				
1. Ex-Storage Price	<b>Kerosene free state</b>	58,940.00	58,940.00	58,940.00
2. Siding Charge		19.37	-	-
3. Other State Levies/ State Govt Subsidy		-	-	(46,581.00)
4. Sales/GST Tax Amount		2,947.97	2,947.00	617.95
5. Sub Total (1 to 4)		61,907.34	61,887.00	12,976.95
6. Ex-Mi/ Depot Price/KL-Oil Co.		61,907.34	61,887.00	12,976.95
7. Ex-Mi/ Depot Price/KL-St. Govt.		61,907.34	61,887.00	12,976.95
8. Wholesales Margin		1,341.88	1,341.88	1,341.88
9. Transport Charges		816.60	465.37	216.80
10. Toll		-	70.00	-
11. Handling Charges		639.59	99.00	-
12. Rounding Up		-	8.75	-
13. GST On Wholesale Margin		139.90	99.25	67.09
14. Wholesales Price/KL (7 to 13)		64,845.31	63,971.25	14,602.72
15. Retailer Margin		1,048.30	675.00	360.00
16. Handling Charges		1,485.15	-	-
17. Retailer Transportation		386.60	-	40.00
18. GST On Retailer Margin		146.00	33.75	18.00
19. Retail Selling Price/KL (14 to 18)		67,911.36	64,680.00	15,020.72
<b>20. Retail Selling Price (₹ /Litre)</b>		<b>67.91</b>	<b>64.68</b>	<b>15.00</b>

Note :

- (a) Selling price for Superior Kerosene Oil is for Public Distribution System ( PDS)  
 (b) Delhi is declared as Kerosene free city, hence no PDS SKO rate declared.

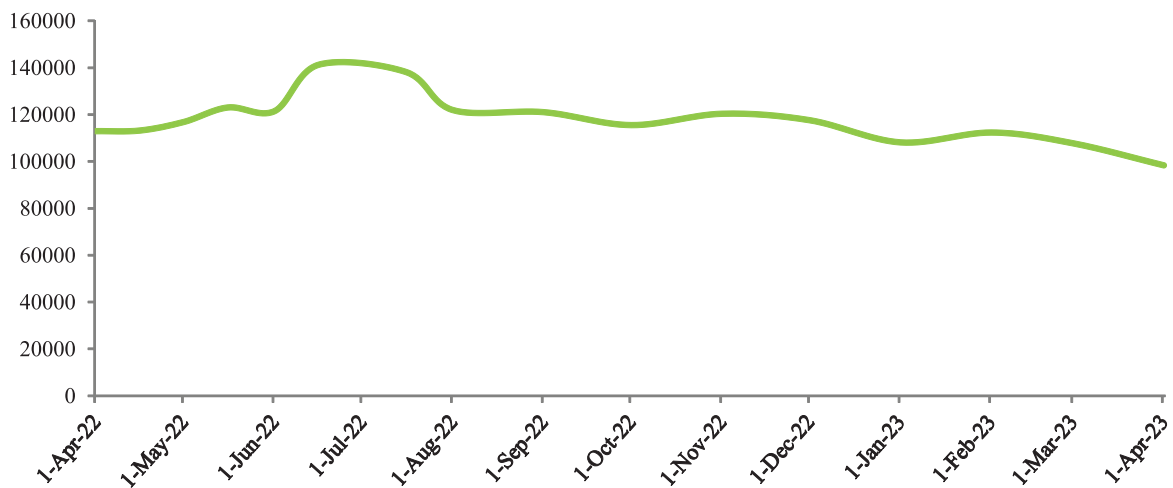
Source: IOCL

### IV.12: Price Build-up and Retail Selling Prices of ATF Domestic prices in Metropolitan Cities in India

Elements/State	Delhi	Kolkata	Mumbai	Chennai
1	2	3	4	5
<b>Trends in Retail Selling Prices of ATF Domestic prices (₹/KL)</b>				
01.04.2017	51,481.85	56267.50	50895.90	54323.54
01.04.2018	61,449.97	65985.36	61024.61	64615.19
01.04.2019	63,472.22	69242.21	63447.54	64713.18
01.04.2020	35,490.12	40902.59	35068.56	36923.17
01.04.2021	58,374.16	62732.69	56479.02	59541.72
01.04.2022	112,924.83	117353.71	111690.61	116583.70
<b>01.04.2023</b>	<b>98,349.59</b>	<b>105,228.98</b>	<b>91,953.85</b>	<b>102,491.86</b>
<b>Price Build-up of Retail Selling Prices of ATF Domestic prices (₹/KL) as on 01.04.2023</b>				
1. Base Price	63,980.00	66850.00	63670.00	64500.00
2. Freight & Cost etc	6,902.59	8990.71	6534.50	7077.52
3. Excise Duty and Cess	7,797.08	8342.48	7722.49	7873.53
4. State Taxes & Levies	19,669.92	21045.80	14026.86	23040.82
<b>5. Retail Selling Price (₹/KL) (1 to 4)</b>	<b>98,349.59</b>	<b>105,228.98</b>	<b>91,953.85</b>	<b>102,491.86</b>

Source: IOCL

**Figure IV.7: Trends in Retail Selling Prices of ATF Domestic prices (₹/KL) in Delhi**



## IV.13: Central Excise and Customs Tariff (as on 01.04.2023)

Particulars	Customs			Central Excise			
	Basic Customs Duty	Additional Customs Duty (CVD)	Additional Customs Duty	Basic Excise Duty	Special Additional Excise Duty	Agriculture Infrastructure & Development Cess (AIDC)	Additional Excise Duty (Road and infrastructure Cess)
1	2	3	4	5	6	7	8
<b>Petroleum Products on which GST is not levied (Non GST Products)</b>							
Crude Petroleum	₹ 1/MT + ₹ 50/MT as NCCD	₹ 1/MT	-	₹ 1/MT+ Cess @ 20% + ₹ 350/MT as NCCD	₹ 3,500/MT	-	-
Petrol	2.50%	₹ 1.40/ltr. + ₹ 11.00/ ltr SAD+ ₹ 2.50/ ltr AIDC	₹ 5.00/ ltr.	₹ 1.40/ltr	₹ 11.00/ ltr	₹ 2.50/ltr	₹ 5.00/ltr.
Petrol (branded)	2.50%	₹ 2.60/ltr. + ₹ 11.00/ ltr SAD+ Rs.2.50/ ltr AIDC	₹ 5.00/ ltr.	₹ 2.60/ltr	₹ 11.00/ ltr	₹ 2.50/ltr	₹ 5.00/ltr.
High Speed Diesel	2.50%	₹ 1.80/ltr. + ₹ 8.00/ ltr SAD+ ₹ 4.00/ ltr AIDC	₹ 5.00/ ltr.	₹ 1.80/ltr	₹ 8.00/ltr	₹ 4.00/ltr	₹ 2.00/ltr.
High Speed Diesel (branded)	2.50%	₹ 4.20/ltr. + ₹ 8.00/ ltr SAD+ ₹ 4.00/ ltr AIDC	₹ 5.00/ ltr.	₹ 4.20/Ltr	₹ 8.00/ltr	₹ 4.00/ltr	₹ 2.00/ltr.
Aviation Turbine Fuel <sup>2</sup>	5.00%	11%	-	11%	-	-	-
Liquefied Natural Gas	2.50%	Nil	-	Nil	-	-	-
Natural Gas [Gaseous state]	5.00%	Nil	-	Nil	-	-	-
Natural Gas [Compressed]	5.00%	14.00%	-	14.0%	-	-	-
<b>Petroleum Products on which GST is levied</b>							

Particulars	Customs	
	Basic Customs Duty	CVD (in lieu of IGST)
LPG	Domestic <sup>3</sup>	5.00%
	Non - Domestic	18.00%
Kerosene	PDS	5.00%
	Non PDS	18.00%
Naphtha	Fertilizer	18.00%
	Non- Fertilizer	18.00%
Butane / Propane	Domestic	5.00%
	Non-Domestic	18.00%
Bitumen & Asphalt		18.00%
Furnace Oil	Fertilizer	18.00%
	Non- Fertilizer	18.00%
Light Diesel Oil		18.00%
Low Sulphur Heavy Stock/ HPS & other Res.	Fertilizer	18.00%
	Non- Fertilizer	18.00%
Lube oil/greases		18.00%
Petroleum Coke		18.00%
Petroleum Jelly		18.00%
Transformer Oil		18.00%
Waxes all types		18.00%

**Note:**

- In addition to the above, 10% Social Welfare Surcharge is also applicable on the total duties of Customs (excluding CVD in lieu of IGST).
- In case of ATF, Basic Excise Duty /Additional Customs Duty (CVD) is 2% in place of 11%, for supply to schedule commuter airlines(SCA) from the regional connectivity scheme (RCS)airports.
- Basic Customs duty is Nil for import of domestic LPG sold to household consumers (including NDEC) by PSU OMCs. Basic Customs duty rate is 5% for other importers of domestic LPG.

Source: PPAC

**IV.14: Sales Tax Rates Applicable on Crude Oil, Natural Gas and Select Petroleum Products (as on 01.04.2023)**

State/U.T	Crude Oil	Natural Gas	MS	HSD	ATF Domestic
1	2	3	4	5	6
Andaman & Nicobar Islands	6.00%	10.00%	1.00%	1% (HSD for Ship@8%)	1.00%
Andhra Pradesh	5.00%	24.50%	31% + ₹ 4 per Litre + ₹ 1 Per Litre Road Development Cess	22.25% + ₹ 4 per Litre + ₹ 1 Per Litre Road Development Cess- 0.5% VAT on HSD supplied to Foreign going Vessel	1.00%
Arunachal Pradesh	4.00%	20.00%	14.50%	7.00%	1.00%
Assam	5.00%	14.50%	20.67% or ₹ 15.5 per litre whichever is higher	"HSD - 18.32% or ₹ 11,500 per KL whichever is higher Rebate of ₹ 1.78 per litre subject to minimum tax of ₹ 11.50 per litre - For retails	23.65%
Bihar	5.00%	20.00%	23.58 percent or ₹ 16.65 per litre, Which ever is higher. Plus 30% Surcharge	16.37 percent or ₹ 12.33 per litre, Which ever is higher. plus 30 % Surcharge	29.00% Gaya AFS- 4%"
Chandigarh	12.50%	5.00%	15.24% or ₹ 12.42 per liter which ever is higher +(MST ₹ 10/- PER KL)	6.66% or ₹ 5.07 per liter which ever is higher +(MST ₹ 10/- PER KL)	20.00% (MST:- ₹ 10/- PER KL)
Chhattisgarh	5.00%	25.00%	24% + ₹ 2 per ltr	23% + ₹ 1 per ltr	4.00%
Delhi	5.00%	0.00%	19.40%	16.75% plus ₹ 250 per KL Air Ambience Cess	25.00%
Goa	20% Goa Green Cess- 0.50% on Turnover excluding VAT	Piped Natural Gas for domestic use - 4% Regasified Liquefied Natural Gas - 12.50% Natural Gas other than above - 12.50 % Goa Green Cess- 0.50% on Turnover excluding VAT	20% Goa Green Cess- 0.50% on Turnover excluding VAT	17% Goa Green Cess- 0.50% on Turnover excluding VAT	8% Goa Green Cess-0.50% on Turnover excluding VAT
Gujarat	5.00%	15.00%	13.70%, Motor Spirit Cess-4% on Turnover	14.90%, Motor Spirit Cess-4% on Turnover	ATF duty paid:-5%
Haryana	12.50%, Additional Tax on VAT 5%	PNG for use in domestic sector 6%, Additional Tax on VAT 5% otherwise 12.50%, Additional Tax on VAT 5%	18.20% or Fixed rate of ₹ 14.50 per litre, whichever is greater + 5% surcharge on tax	16% or Fixed rate of ₹ 11.86 per litre, whichever is greater + 5% surcharge on tax	For Passenger Flights = 1%, For Flights engaged in MRO and adventure activities = 1% For others = 20%, Additional Tax on VAT 5%
Himachal Pradesh	13.75%	4.00%	17.5% or ₹ 13.5 per liter which ever is greater	9.96% or ₹ 7.40 per liter which ever is greater	17.5 % or ₹ 13.5 per liter which ever is greater for defence and 2% for scheduled Airlines & non scheduled airlines
Jammu & Kashmir	14.50%	21.00%	MST 24.00%, Rebate ₹ 4.5 per liter, Motor Spirit CESS ₹ 2/- PER LTR, ₹ 50 per kl on MS leaving from jammu depot only & ₹ 50 per KL on MS Leaving from Srinagar Depot only	MST 16.00%, Rebate of ₹ 6.5 per liter, Motor Spirit CESS ₹ 1/- PER LTR, ₹ 50 per kl on HSD leaving from jammu depot only & ₹ 50 per KL on HSD Leaving from Srinagar Depot only	MST 1%



State/U.T	Crude Oil	Natural Gas	MS	HSD	ATF Domestic
1	2	3	4	5	6
Jharkhand	5.00%	14.00%	22% on the sale price or ₹ 17.00 per litre, which ever is higher + Road Development Cess of ₹ 1.00 per Ltr.	22% on the sale price or ₹ 12.50 per litre, which ever is higher + Road Development Cess of ₹ 1.00 per Ltr.	4.00%
Karnataka	0.00%	14.5%, PNG IS 5.5%	25.92%	14.34%, 4% for captive power, 1% for foreign going vessel, Exempt up to 1,50,000 KL per year towards Supply to Fishermen	18.00%
Kerala	5.00%	5.00%	30.08%, Additional Sales Tax ₹ 1/- per litre, SSC 1% on total tax Social Security Cess ₹ 2/ltr	22.76%, Additional Sales Tax ₹ 1/- per litre, SSC 1% on total tax Social Security Cess ₹ 2/ltr	5%, cess 1% on tax Tiruvananthapuram AFS: Sales Tax 1% and Cess @ 1% on Sales Tax (w.e.f 01.04.2020 for 10 years). ATF to domestic airlines Ex-Nedumbassery AFS and Calicut AFS: Sales Tax 1% and Cess @ 1% effective from 14.08.2020 for 10 years Ex-Kannur AFS is with Sales tax 1% + 1% cess (w.e.f 03.11.2018 for 10 years)
Ladakh	14.50%	21.00%	MST 15.00%, Rebate ₹ 2.5 per liter, Motor Spirit CESS ₹ 5/- PER LTR.	MST 6.00%, Rebate of ₹ 0.5 per liter, Motor Spirit CESS ₹ 1/- PER LTR.	MST 1 % for Civil Flights 26.25 % for Defence and Others
Lakshadweep	10%	10%	10%	10%	10%
Madhya Pradesh	5.00%	14.00%	29% + ₹ 2.50 per ltr Additional Tax + Cess 1% over Turnover inc VAT & Addtl tax	19% + ₹ 1.50 per ltr Additional Tax + Cess 1% over Turnover inc VAT & Addtl tax	4.00%
Maharashtra	5.00%	3.00%	Within Municipal Limits of Thane, Mumbai, Navi Mumbai, Aurangabad, 26.00%+ ₹ 5.12/ltr, Others 25%+ ₹ 5.12/Ltr	Within Municipal Limits of Thane, Mumbai, Navi Mumbai, Aurangabad, 24.00%, Others 21%	ATF - duty paid Mumbai Pune, Raigad:- 18.00%, ATF - duty paid, except Mumbai Pune, Raigad 5.00%
Manipur	5.00%	13.50%	25.00%	13.50%	1.00%
Meghalaya	4.00%	14.50%	13.5% or RS 12.50/ ltr whichever is higher + ₹ 0.1/ltr SURCHARGE on tax payable at ad valorem rate only	5% or RS 5.50/ ltr whichever is higher + ₹ 0.1/ Ltr SURCHARGE on tax payable at ad valorem rate only	EXEMPT
Mizoram	5.00%	13.50%	16.36%	5.23%	1.00%
Nagaland	5.00% surcharge on tax 5% (16.07.15)	5.00% surcharge on tax 5% (16.07.15)	25% or ₹ 16.04 per litre whichever is higher Surcharge on tax 5% . Road Maintenance Cess ₹ 2 /Ltr. Variable Rebate max to ₹ 5.5 per litre effective 04.11.2021	16.5% or ₹ 10.51 per litre whichever is higher Surcharge on tax 5%. Road Maintenance Cess ₹ 2 /Ltr. Variable Rebate max to ₹ 5.1 per litre effective 04.11.2021	1%, Surcharge on tax 5%

State/UT	Crude Oil	Natural Gas	MS	HSD	ATF Domestic
1	2	3	4	5	6
Odisha	5.00%	15%; 5% when used for Industrial Purpose, piped or Domestic use	28.00%	24.00%	5.00%
Puducherry	14.50%	14.50%	Puducherry & Karaikal- 14.55% Mahe- 13.32% Yanam- 15.26%	Puducherry & Karaikal- 8.65%, Mahe- 6.91%, Yanam- 8.91%"	14.50%
Punjab	13%, Surcharge on Tax 10%	3%, Surcharge on Tax 10%	14.75% plus surcharge on tax 10% or ₹ 13.40 per litre whichever is greater, infrastructure development cess ₹ 2.05 per ltr, special infrastructure development fee 25 paise per liter, 10 paise per ltr additional cess on sale of urban area	10.97% plus surcharge on tax 10% or rs. 9.14 per litre whichever is greater, infrastructure development cess rs. 1.05 per ltr, special infrastructure development fee 25 paise per liter, 10 paise per ltr additional cess on sale of urban area	A) 4.00% + 10% Surcharge on Tax -When sold at Airports in Punjab to Scheduled & Non Scheduled Airlines carrying passengers, B) For others residual Rate is @13% + Surcharge on Tax:-10.00%.
Rajasthan	5.00%	10% w.e.f 10.07.2019	31.04%, Road Development Cess ₹ 1500/-per KL	19.30%, Road Development Cess ₹ 1750/-per KL	A) 2.6%, B) 2% when sale of Aviation Turbine Fuel (ATF) by a registered dealer to any airline which operates commercial flights in and/or from the State of Rajasthan
Sikkim	4.50%	4.50%	25% to others & 20% for retailers in sikkim, Infrastructure Development Cess ₹ 3000 per Kl	15% to others & 10% for retailers in Sikkim, Infrastructure Development Cess ₹ 2500 per Kl	1.00%
Tamil nadu	5.00%	5.00%	13% + ₹ 11.52 per litre	11% + ₹ 9.62 per litre	29.00%
Telangana	5.00%	14.50%	35.20%	27.00%	1.00%
Tripura	5.00%	4% & 19.5% Cess on Turnover(Taxable Value+VAT). Cess is w.e.f 13.05.2020	17.50% & 3% Road Development Cess on Turnover(Taxable Value + VAT).	10.00% & 3% Road Development Cess on Turnover(Taxable Value+VAT)	1.00%
UT of Dadra Nagar Haveli and Daman & Diu	20.00%	20.00%	12.75%	13.50%	3.00%
Uttar Pradesh	4.00%	When sold to industrial unit for use in process of chemical fertilizer- 14.5% and for other cases- 10%"	19.36% or ₹ 14.85 per litre whichever is greater.	17.08% or ₹ 10.41 per litre whichever is greater"	1.00%
Uttarakhand	5.00%	20%	16.97% or ₹ 13.14 per liter whichever is greater	17.15% or ₹ 10.41 per liter whichever is greater	2.00%
West Bengal	5.00%	5.00%	25% or ₹ 13.12/Ltr whichever is higher, Infrastructure Development Cess ₹ 1000 per Kl, Additional Tax on tax 20%, Rebate Available ₹ 1000/Kl - Extended upto 30.09.2023 (NIL rebate for Inter State Sales)"	17% or ₹ 7.70/Litre whichever is higher, Infrastructure Development Cess ₹ 1000 per Kl, Additional Tax on tax 20%, Rebate Available ₹ 1000/Kl. Extended upto 30.09.2023 (NIL rebate for Inter State Sales)	25.00% + 20% Add. Tax on tax. For Bagdogra AFS- nil (No tax). 0.84%+20% Add. Tax on Tax for Flights under RCS w.e.f 21.09.2021.

Source: IOCL

### IV.15: GST Rates applicable on Select Petroleum Products (as on 01.04.2023)

Product	For intra-state supply		For inter-state supply
	Central Tax	State / UT tax	Integrated Tax
1	2	3	4
Naphtha	9.00%	9.00%	18.00%
Superior Kerosene Oil - PDS	2.50%	2.50%	5.00%
Superior Kerosene Oil - Others	9.00%	9.00%	18.00%
LPG - Domestic	2.50%	2.50%	5.00%
LPG - Non-Domestic	9.00%	9.00%	18.00%
Fuel Oil	9.00%	9.00%	18.00%
IFO 180 CST & IFO 380 CST <sup>1</sup>	2.50%	2.50%	5.00%
Low Sulphur Heavy Stock	9.00%	9.00%	18.00%
Light Diesel Oil	9.00%	9.00%	18.00%
Lubes/Greases	9.00%	9.00%	18.00%
Mineral Turpentine Oil	9.00%	9.00%	18.00%
Sulphur <sup>2</sup>	2.50%	2.50%	5.00%
Asphalt / Bitumen	9.00%	9.00%	18.00%

IFO: Intermediate Fuel Oil (For use in Bunker fuel)

**Note:**

<sup>1</sup>Bunker fuel for use in ships or vessels- (i) IFO 180 CST, (ii) IFO 380 CST, (iii) Marine Fuel 0.5% (Fo).

<sup>2</sup>GST Rate for Sulphur is 5%, Relevant entry abstract is as under-"Sulphur of all kinds, other than sublimed sulphur, precipitated sulphur and colloidal sulphur"

Source: Indian Oil Corporation Ltd.

**IV.16: Contribution of Petroleum Sector to exchequer**

(Value in ₹ Crore)

Particulars	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
<b>1. Contribution to Central Exchequer</b>						
1. Cess on Crude Oil	14,514	17,741	14,789	10,676	19,214	21,445
2. Royalty on Crude Oil / Gas	4,747	6,062	5,602	3,590	5,639	9,822
3. Customs Duty	11,171	16,035	22,927	13,514	11,423	14,985
4. NCCD on Crude Oil	968	1,180	1,130	1,016	1,121	1,192
5. Excise Duty	229,716	214,369	223,057	372,970	363,305	287,575
6. Service tax	1,228	340	17	0	0	0
7. IGST	9,211	16,479	13,099	11,594	19,726	22,236
8. CGST	4,488	7,437	6,831	6,158	10,843	13,012
9. Others	125	204	88	365	338	59
<b>A. Tax/ Duties on Crude oil &amp; Petroleum products (1 to 9)</b>	<b>276,168</b>	<b>279,847</b>	<b>287,540</b>	<b>419,884</b>	<b>431,609</b>	<b>370,326</b>
10. Corporate/ Income Tax	33,599	38,561	23,134	21,909	29,219	33,292
11. Dividend income to Central Govt.	14,575	15,525	12,270	10,393	22,612	15,673
12. Dividend distribution tax	5,981	6,415	5,462	0	0	0
13. Profit Petroleum on exploration of Oil/ Gas	5,839	7,694	5,909	2,883	8,862	8,776
<b>B. Dividend to Government/ Income tax etc. (10 to 13)</b>	<b>59,994</b>	<b>68,194</b>	<b>46,775</b>	<b>35,185</b>	<b>60,694</b>	<b>57,741</b>
<b>C. Total Contribution to Central Exchequer (A+B)</b>	<b>336,163</b>	<b>348,041</b>	<b>334,315</b>	<b>455,069</b>	<b>492,303</b>	<b>428,067</b>
<b>2. Contribution to State Exchequer</b>						
14. Royalty on Crude Oil / Gas	9,370	13,371	11,882	7,179	13,526	17,914
15. Sales Tax/ VAT on POL Products	185,850	201,265	200,493	202,937	256,248	288,086
16. SGST/UTGST	4,974	7,961	7,345	6,121	11,017	13,188
17. Octroi, Duties Incl. Electricity Duty	1,663	685	716	706	827	830
18. Entry Tax/ Others	4,745	4,114	405	329	354	293
<b>D. Tax/ Duties on Crude &amp; Petroleum products (14 to 18)</b>	<b>206,601</b>	<b>227,396</b>	<b>220,841</b>	<b>217,271</b>	<b>281,972</b>	<b>320,311</b>
19. Dividend Income to State Govt.	262	195	215	379	151	340
<b>E. Dividend to Government/ Direct tax etc.</b>	<b>262</b>	<b>195</b>	<b>215</b>	<b>379</b>	<b>151</b>	<b>340</b>
<b>F. Total Contribution to State Exchequer (D+E)</b>	<b>206,863</b>	<b>227,591</b>	<b>221,056</b>	<b>217,650</b>	<b>282,122</b>	<b>320,651</b>
<b>Total Contribution of Petroleum Sector to Exchequer (C+F)</b>	<b>543,026</b>	<b>575,632</b>	<b>555,370</b>	<b>672,719</b>	<b>774,425</b>	<b>748,718</b>

Note: Totals may not tally due to round off. (P) Provisional

- As GST was implemented w.e.f 01.07.2017, data for 2017-18 is for a period of nine months
- As the amounts have been rounded off to the nearest crore, hence some amounts are zero.

Source: PPAC (Based on 15 major oil &amp; gas companies)



## IV.17: Sales Tax / VAT Payments by Oil &amp; Gas Companies

(Value in ₹ Crore)

State & UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share during 2022-23
1	2	3	4	5	6	7	8
Andaman & Nicobar islands	51	92	94	74	80	63	0.0
Andhra Pradesh	9,693	10,784	10,168	11,014	14,724	16,429	5.7
Arunachal Pradesh	67	49	26	104	136	158	0.1
Assam	3,108	3,879	3,641	3,747	3,901	5,073	1.8
Bihar	5,447	6,584	6,238	5,854	6,867	9,848	3.4
Chandigarh	54	62	60	60	87	99	0.0
Chhattisgarh	3,682	3,986	3,877	4,107	5,178	6,164	2.1
Dadra & Nagar Haveli and Daman & Diu	42	2	2	1	2	1	0.0
Delhi	3,944	4,379	3,833	2,653	3,659	4,398	1.5
Goa	657	694	754	682	994	1,278	0.4
Gujarat	15,593	16,229	15,337	15,141	20,697	24,631	8.5
Haryana	7,647	8,286	7,648	7,923	10,067	10,030	3.5
Himachal Pradesh	344	364	440	882	1,313	1,222	0.4
Jammu & Kashmir	1,329	1,449	1,459	1,444	1,859	1,543	0.5
Jharkhand	3,224	2,796	3,296	3,619	4,392	5,533	1.9
Karnataka	13,306	14,417	15,381	15,476	18,310	18,459	6.4
Kerala	7,300	7,995	8,074	6,924	9,265	11,827	4.1
Ladakh	-	-	14	49	81	68	0.0
<b>Madhya Pradesh</b>	<b>9,380</b>	<b>9,485</b>	<b>10,720</b>	<b>11,908</b>	<b>14,157</b>	<b>15,573</b>	<b>5.4</b>
Maharashtra	25,256	27,191	26,791	25,430	34,002	37,619	13.1
Manipur	162	181	192	265	319	331	0.1
Meghalaya	0	-	-	-	-	-	0.0
Mizoram	55	88	91	84	120	87	0.0
Nagaland	86	97	116	148	180	168	0.1
Odisha	6,870	5,660	5,495	6,224	7,656	9,328	3.2
Puducherry	15	8	5	10	11	9	0.0
Punjab	6,062	6,576	5,548	6,291	7,890	6,900	2.4
Rajasthan	12,094	12,714	13,319	15,119	17,401	18,574	6.4
Sikkim	110	134	129	111	155	179	0.1
Tamil nadu	15,507	18,143	18,175	17,063	20,586	24,309	8.4
Telangana	8,776	10,037	10,045	8,691	13,171	14,929	5.2
Tripura	205	277	384	445	474	624	0.2
Uttar Pradesh	17,420	19,168	20,112	21,956	26,333	28,170	9.8
Uttarakhand	1,323	1,595	1,495	1,524	1,847	2,073	0.7
West bengal	7,042	7,866	7,534	7,916	10,335	12,386	4.3
<b>Total</b>	<b>185,850</b>	<b>201,265</b>	<b>200,493</b>	<b>202,937</b>	<b>256,248</b>	<b>288,086</b>	<b>100</b>

Note: (P) Provisional

- Totals may not tally due to round off.
- As the amounts have been rounded off to the nearest crore, hence some amounts are zero.

Source: PPAC (Based on 15 major oil &amp; gas companies)

## IV.18: GST Payment by Oil &amp; Gas Companies

(Value in ₹ Crore)

State/UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23(P)	% Share during 2022-23
1	2	3	4	5	6	7	8
Andaman & Nicobar islands	1	0	0	0	1	1	0.0
Andhra Pradesh	172	257	156	112	204	290	2.2
Arunachal Pradesh	1	6	0	0	0	1	0.0
Assam	116	559	475	332	414	445	3.4
Bihar	91	159	145	122	147	210	1.6
Chandigarh	1	1	1	1	1	2	0.0
Chhattisgarh	39	18	9	14	26	30	0.2
Dadra & Nagar Haveli and Daman & Diu	10	12	20	20	15	41	0.3
Delhi	114	52	51	37	54	56	0.4
Goa	5	3	9	11	15	10	0.1
<b>Gujarat</b>	<b>1,022</b>	<b>2,060</b>	<b>1,801</b>	<b>1,566</b>	<b>3,180</b>	<b>3,922</b>	<b>29.7</b>
Haryana	379	659	685	529	1,064	1,119	8.5
Himachal Pradesh	15	3	4	6	8	18	0.1
Jammu & Kashmir	38	20	17	40	35	24	0.2
Jharkhand	57	13	16	12	10	29	0.2
Karnataka	329	356	269	260	461	577	4.4
Kerala	136	146	171	136	255	333	2.5
Ladakh	-	-	1	1	1	6	0.0
Lakshadweep	0	0	0	0	1	0	0.0
Madhya Pradesh	73	87	98	68	117	174	1.3
Maharashtra	797	1,272	1,126	932	1,822	2,102	15.9
Manipur	2	1	1	2	2	2	0.0
Meghalaya	0	1	0	0	0	0	0.0
Mizoram	1	1	1	0	0	1	0.0
Nagaland	1	1	1	0	1	1	0.0
Odisha	52	93	192	195	421	579	4.4
Other territory (Offshore areas of India beyond 12 Nautical Miles)	8	11	11	7	9	15	0.1
Puducherry	2	1	1	1	1	4	0.0
Punjab	157	116	128	43	346	258	2.0
Rajasthan	88	205	176	145	196	260	2.0
Sikkim	3	2	0	0	0	0	0.0
Tamil nadu	517	642	562	439	640	861	6.5
Telangana	88	19	21	22	45	33	0.2
Tripura	6	20	17	38	17	23	0.2
Uttar Pradesh	362	616	619	603	827	859	6.5
Uttarakhand	20	6	7	8	7	8	0.1
West bengal	272	545	553	418	674	897	6.8
<b>Total</b>	<b>4,974</b>	<b>7,961</b>	<b>7,345</b>	<b>6,121</b>	<b>11,017</b>	<b>13,188</b>	<b>100</b>

Note: Totals may not tally due to round off.

(P) Provisional

- As GST was implemented w.e.f 01.07.2017, data for 2017-18 is for a period of nine months
- As the amounts have been rounded off to the nearest crore, hence some amounts are zero.

Source: PPAC (Based on 15 major oil &amp; gas companies)

## IV.19: Sales Tax/VAT Payments on Crude Oil &amp; Natural Gas by CPSEs

(Value in ₹ Crore)

State/UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23(P)	% Share during 2022-23
1	2	3	4	5	6	7	8
<b>Sales Tax /VAT on Crude Oil</b>							
Andhra Pradesh	13.63	47.66	16.36	9.75	16.85	23.48	0.5
Assam	578.26	719.80	619.77	418.77	767.04	1,111.58	25.6
Gujarat	548.71	747.91	713.53	476.41	831.48	1,147.34	26.4
<b>Maharashtra</b>	<b>1,304.57</b>	<b>1,581.91</b>	<b>1,355.82</b>	<b>889.52</b>	<b>1,390.80</b>	<b>1,982.77</b>	<b>45.6</b>
Rajasthan	0.05	0.13	0.29	0.23	0.49	0.92	0.0
Tamil Nadu	42.72	74.54	65.96	46.63	76.75	78.86	1.8
West Bengal	-	-	-	0.01	0.01	0.00	0.0
<b>TOTAL</b>	<b>2,487.94</b>	<b>3,171.95</b>	<b>2,771.73</b>	<b>1,841.32</b>	<b>3,083.42</b>	<b>4,344.95</b>	<b>100.0</b>
<b>Sales Tax /VAT on Natural Gas</b>							
Andhra Pradesh	191	348	267	175	226	622	3.7
Assam	178	238	236	119	127	437	2.6
Bihar	-	-	1	5	25	313	1.9
Chandigarh	0	0	0	1	3	6	0.0
Dadra Nagar Haveli & Daman & Diu	0	0	1	1	2	3	0.0
Delhi	11	12	15	13	20	55	0.3
Goa	0	0	0	0	1	179	1.1
<b>Gujarat</b>	<b>2,084</b>	<b>2,544</b>	<b>2,636</b>	<b>2,157</b>	<b>3,433</b>	<b>6,670</b>	<b>40.0</b>
Haryana	114	147	149	89	201	386	2.3
Himachal Pradesh	0	1	1	1	2	3	0.0
Jharkhand	0	0	1	1	10	161	1.0
Karnataka	-	-	-	-	0	2	0.0
Kerala	148	8	23	37	19	22	0.1
Madhya Pradesh	121	162	162	119	318	636	3.8
Maharashtra	672	580	659	412	851	869	5.2
Odisha	0	0	0	2	3	7	0.0
Puducherry	-	-	-	-	-	0	0.0
Punjab	2	6	33	58	113	200	1.2
Rajasthan	147	233	436	425	671	1,059	6.3
Tamil Nadu	43	52	120	108	216	391	2.3
Telangana	5	5	9	4	12	24	0.1
Tripura	44	79	150	205	210	36	0.2
Uttar Pradesh	1,263	1,846	2,171	1,572	2,121	4,304	25.8
Uttarakhand	6	10	14	8	18	28	0.2
West Bengal	0	0	0	0	128	278	1.7
<b>TOTAL</b>	<b>5,030</b>	<b>6,272</b>	<b>7,084</b>	<b>5,515</b>	<b>8,732</b>	<b>16,691</b>	<b>100.0</b>

Note: Totals may not tally due to round off.

P: Provisional

2. As the amounts have been rounded off to the nearest crore, hence some amounts are zero.

Sources: CPSEs (ONGC, OIL, GAIL, IOCL, BPCL, HPCL, CPCL, MRPL, NRL)

## IV.20: Sales Tax/VAT Payments on Petrol by CPSEs

(Value in ₹ Crore)

State/UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23(P)	% Share during 2022-23
1	2	3	4	5	6	7	8
Andaman & Nicobar Islands	6	9	9	7	6	2	0.0
Andhra Pradesh	2,827	3,098	3,147	3,725	5,172	5,601	6.0
Arunachal Pradesh	23	15	8	36	47	67	0.1
Assam	797	962	1,024	1,224	1,201	1,317	1.4
Bihar	1,476	2,233	2,281	1,839	2,256	3,126	3.4
Chandigarh	20	21	20	19	27	25	0.0
Chhattisgarh	904	1,157	1,267	1,378	1,734	1,975	2.1
Delhi	1,766	2,004	1,877	1,645	1,981	1,947	2.1
Goa	201	231	294	293	422	458	0.5
Gujarat	1,703	2,656	2,548	2,419	3,271	3,219	3.5
Haryana	1,747	2,051	2,092	2,147	2,765	2,660	2.9
Himachal Pradesh	119	133	172	372	560	571	0.6
Jammu & Kashmir	474	626	685	556	771	755	0.8
Jharkhand	805	846	935	1,087	1,288	1,561	1.7
Karnataka	4,443	4,880	5,011	5,349	6,506	6,887	7.4
Kerala	2,998	3,523	3,717	3,354	4,520	5,749	6.2
Ladakh	-	0	6	17	28	27	0.0
Madhya Pradesh	2,442	3,327	3,753	4,345	5,391	6,350	6.8
<b>Maharashtra</b>	<b>9,937</b>	<b>10,074</b>	<b>9,644</b>	<b>9,640</b>	<b>9,699</b>	<b>11,594</b>	<b>12.5</b>
Manipur	83	89	92	135	162	186	0.2
Mizoram	26	37	39	38	49	50	0.1
Nagaland	45	50	58	50	68	73	0.1
Odisha	1,246	1,510	1,579	1,993	2,676	3,063	3.3
Puducherry	6	5	3	7	7	5	0.0
Punjab	1,670	2,403	1,861	2,255	2,992	2,427	2.6
Rajasthan	2,854	3,295	3,726	4,628	5,654	5,761	6.2
Sikkim	31	44	48	35	47	59	0.1
Tamil Nadu	5,584	6,537	6,669	6,992	8,018	9,172	9.9
Telangana	2,655	3,205	3,212	3,119	4,621	5,796	6.2
Tripura	67	92	114	104	112	110	0.1
Uttar Pradesh	6,000	6,335	6,830	7,652	8,699	8,220	8.9
Uttarakhand	546	687	667	713	770	757	0.8
West Bengal	1,788	2,268	2,335	2,273	2,704	3,303	3.6
<b>TOTAL</b>	<b>55,290</b>	<b>64,404</b>	<b>65,722</b>	<b>69,445</b>	<b>84,223</b>	<b>92,874</b>	<b>100.0</b>

Note: Totals may not tally due to round off.

P: Provisional

2. As the amounts have been rounded off to the nearest crore, hence some amounts are zero.

Sources: CPSEs (ONGC, OIL, GAIL, IOCL, BPCL, HPCL, CPCL, MRPL, NRL)



## IV.21: Sales Tax/VAT Payments on Diesel by CPSEs

(Value in ₹ Crore)

State/UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23(P)	% Share during 2022-23
1	2	3	4	5	6	7	8
Andaman & Nicobar Islands	23	66	70	62	71	58	0.0
Andhra Pradesh	5,887	6,507	5,806	5,924	7,405	7,901	5.5
Arunachal Pradesh	38	31	17	66	87	90	0.1
Assam	1,261	1,422	1,425	1,690	1,422	1,663	1.2
Bihar	2,769	3,821	3,720	2,730	2,641	4,073	2.9
Chandigarh	10	12	11	14	15	10	0.0
Chhattisgarh	2,229	2,694	2,484	2,626	3,180	3,958	2.8
Delhi	1,229	1,254	980	663	916	1,024	0.7
Goa	360	375	383	359	488	490	0.3
Gujarat	3,533	5,630	5,419	5,216	6,997	8,381	5.9
Haryana	4,999	5,639	4,975	5,216	6,595	6,880	4.8
Himachal Pradesh	188	205	248	492	725	595	0.4
Jammu & Kashmir	622	726	698	660	847	626	0.4
Jharkhand	1,763	1,705	2,118	2,136	2,541	3,229	2.3
Karnataka	7,719	8,271	8,763	8,650	9,964	10,032	7.0
Kerala	3,482	4,006	3,944	3,088	4,003	5,476	3.8
Ladakh	-	0	5	18	33	22	0.0
Lakshdeep	-	-	-	-	-	3	0.0
Madhya Pradesh	4,278	4,782	4,902	5,369	6,027	7,893	5.5
<b>Maharashtra</b>	<b>11,430</b>	<b>13,013</b>	<b>12,672</b>	<b>12,928</b>	<b>15,284</b>	<b>17,691</b>	<b>12.4</b>
Manipur	70	78	81	126	151	141	0.1
Meghalaya	0	0	0	0	0	0	0.0
Mizoram	28	48	50	46	70	36	0.0
Nagaland	39	47	57	64	88	69	0.0
Odisha	2,940	3,976	3,839	4,178	4,894	6,187	4.3
Puducherry	3	3	2	3	3	3	0.0
Punjab	2,470	3,374	2,901	3,958	4,788	4,062	2.9
Rajasthan	5,899	6,820	7,044	7,378	8,298	8,956	6.3
Sikkim	49	84	81	62	79	83	0.1
Tamil Nadu	8,620	10,104	9,677	8,453	10,539	13,141	9.2
Telangana	5,449	6,433	5,897	4,805	7,613	8,555	6.0
Tripura	74	93	110	99	104	80	0.1
Uttar Pradesh	8,651	9,204	9,250	10,742	13,444	14,133	9.9
Uttarakhand	663	811	706	730	972	1,232	0.9
West Bengal	3,727	5,005	4,467	3,874	4,591	5,612	3.9
<b>TOTAL</b>	<b>90,503</b>	<b>106,241</b>	<b>102,804</b>	<b>102,420</b>	<b>124,874</b>	<b>142,385</b>	<b>100.0</b>

Note: Totals may not tally due to round off.

P: Provisional

2. As the amounts have been rounded off to the nearest crore, hence some amounts are zero.

Sources: CPSEs (ONGC, OIL, GAIL, IOCL, BPCL, HPCL, CPCL, MRPL, NRL)

**IV.22: Sales Tax/VAT Payments on ATF by CPSEs**

(Value in ₹ Crore)

State/UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23(P)	% Share during 2022-23
1	2	3	4	5	6	7	8
Andaman & Nicobar Islands	11	16	14	4	4	3	0.1
Andhra Pradesh	7	9	7	3	5	11	0.2
Arunachal Pradesh	5	2	1	2	2	1	0.0
Assam	143	225	202	99	180	308	5.1
Bihar	34	49	57	22	33	75	1.2
Chandigarh	24	28	29	28	45	64	1.1
Chhattisgarh	7	9	9	3	5	9	0.1
Dadra Nagar Haveli & Daman & Diu	1	2	1	1	2	0	0.0
<b>Delhi</b>	<b>860</b>	<b>1,199</b>	<b>1,031</b>	<b>322</b>	<b>759</b>	<b>1,459</b>	<b>24.2</b>
Goa	54	81	76	19	62	120	2.0
Gujarat	155	215	169	73	135	80	1.3
Haryana	60	52	33	23	39	68	1.1
Himachal Pradesh	10	12	10	9	7	18	0.3
Jammu & Kashmir	61	97	75	32	34	10	0.2
Jharkhand	8	10	12	10	33	32	0.5
Karnataka	347	384	536	185	340	523	8.7
Kerala	137	197	47	4	7	22	0.4
Ladakh	-	0	3	6	7	7	0.1
Lakshdeep	-	-	-	-	-	0	0.0
Madhya Pradesh	20	32	28	11	24	48	0.8
Maharashtra	721	849	658	181	423	971	16.1
Manipur	6	13	20	4	6	4	0.1
Mizoram	1	3	2	1	1	1	0.0
Nagaland	1	1	0	0	0	1	0.0
Odisha	18	28	23	9	19	43	0.7
Puducherry	0	0	0	0	0	0	0.0
Punjab	36	55	55	30	62	112	1.9
Rajasthan	102	143	98	65	137	209	3.5
Sikkim	0	0	0	0	0	0	0.0
Tamil Nadu	224	341	402	117	243	539	8.9
Telangana	51	28	16	7	14	29	0.5
Tripura	7	12	10	2	4	2	0.0
Uttar Pradesh	156	211	192	101	168	770	12.8
Uttarakhand	11	17	18	6	8	6	0.1
West Bengal	180	249	315	98	237	486	8.1
<b>TOTAL</b>	<b>3,456</b>	<b>4,568</b>	<b>4,149</b>	<b>1,478</b>	<b>3,044</b>	<b>6,030</b>	<b>100</b>

Note: Totals may not tally due to round off.

P: Provisional

2. As the amounts have been rounded off to the nearest crore, hence some amounts are zero.

Sources: CPSEs (ONGC, OIL, GAIL, IOCL, BPCL, HPCL, CPCL, MRPL, NRL)

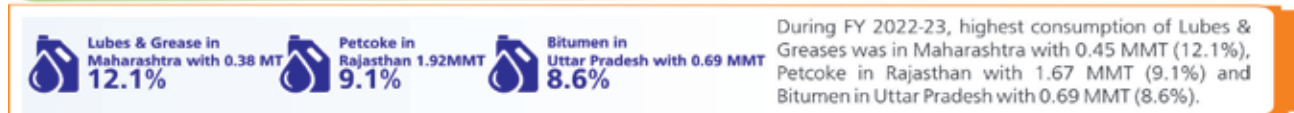
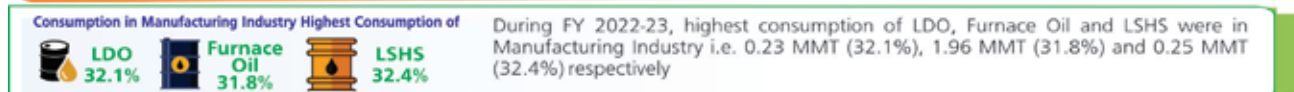
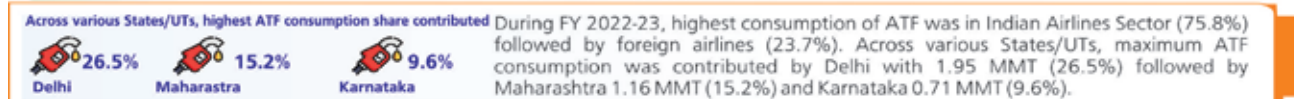
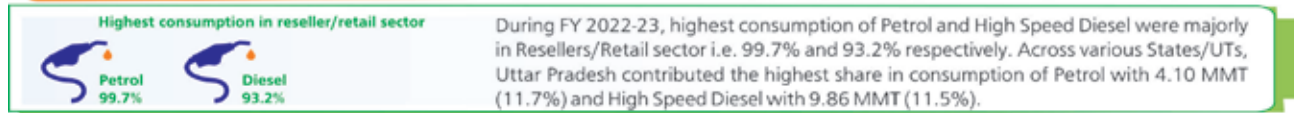
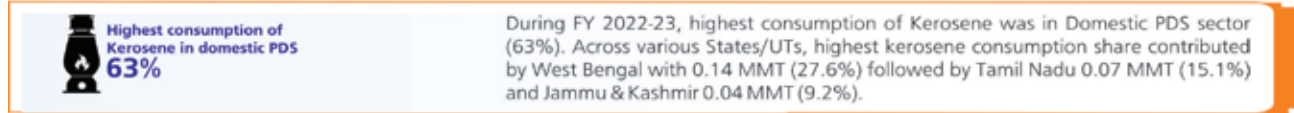
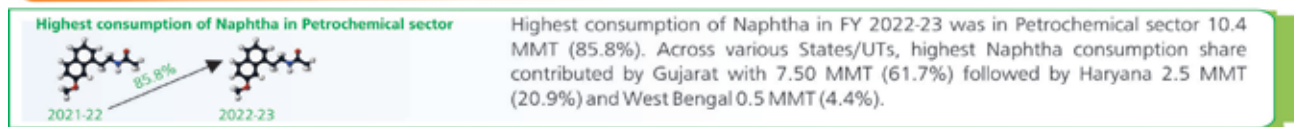
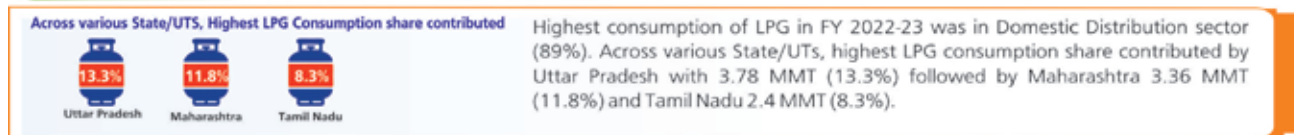
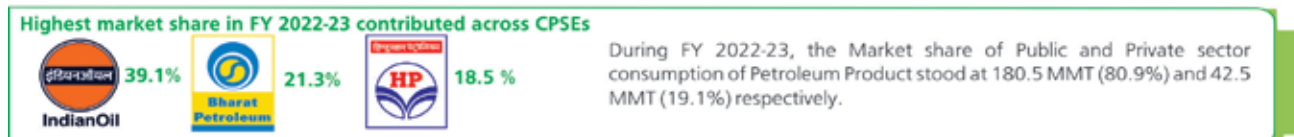
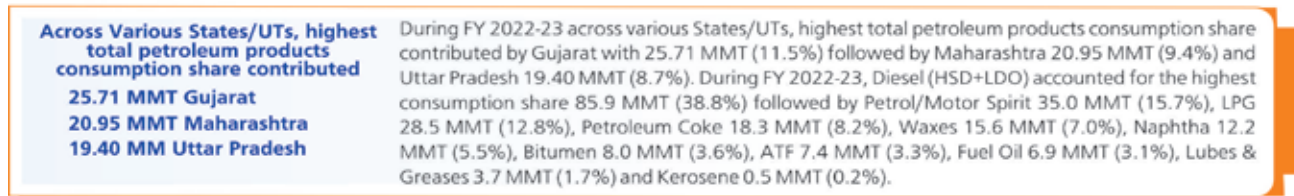
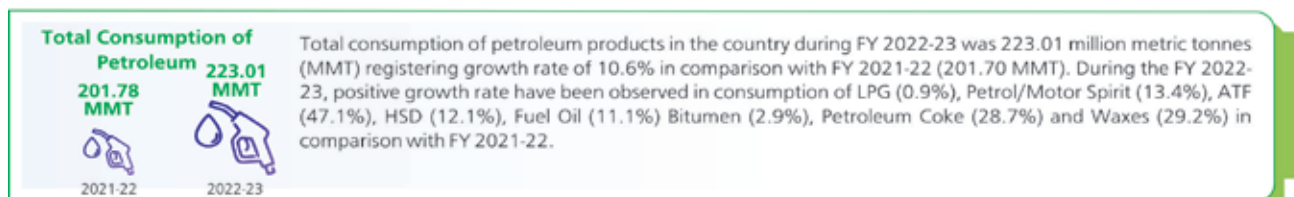
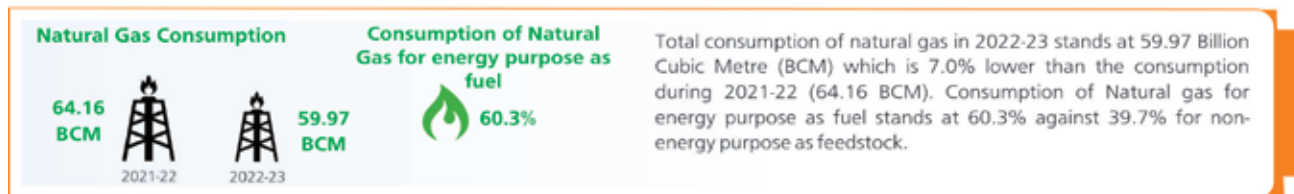
# CHAPTER -V



**Consumption**



## Chapter Highlights





### V.1: Consumption of Natural Gas

(Figures in MMSCM)

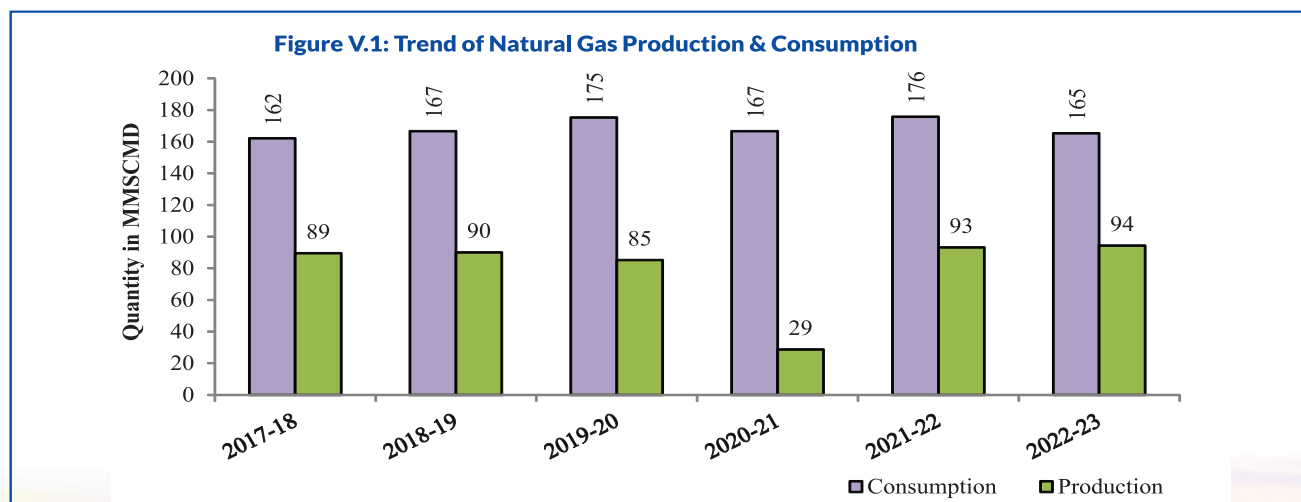
Sector	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share of Total 2022-23
1	2	3	4	5	6	7	8
<b>(a) Energy Purpose</b>							
1. Power	12028	12005	11080	10836	10157	8153	13.9
2. Industrial & Manufacturing	999	1086	701	555	829	865	1.5
3. City or Local Natural Gas Distribution Network	8585	9206	10883	9230	12175	12028	20.5
4. Agriculture (Tea Plantation)	189	192	200	177	156	154	0.3
5. Internal Consumption for Pipeline System	496	541	525	439	486	1764	3.0
6. Refinery	6533	7047	7786	7911	5312	3909	6.7
7. Miscellaneous	3226	3393	4209	4569	9229	8534	14.5
<b>Total (1 to 7) (a)</b>	<b>32056</b>	<b>33470</b>	<b>35384</b>	<b>33717</b>	<b>38344</b>	<b>35407</b>	<b>60.3</b>
<b>(b) Non-Energy Purpose</b>							
8. Fertilizer Industry	14676	14987	16115	17781	18079	19400	33.0
9. Petrochemical	4024	3386	3569	3072	2864	1959	3.3
10. LPG Shrinkage	798	874	858	900	1070	976	1.7
11. Sponge Iron	1278	1124	567	647	1134	960	1.6
<b>Total (8 to 11) (b)</b>	<b>20776</b>	<b>20370</b>	<b>21109</b>	<b>22399</b>	<b>23147</b>	<b>23295</b>	<b>39.7</b>
<b>Total Sectoral Sales (a+b)</b>	<b>52832</b>	<b>53840</b>	<b>56492</b>	<b>56117</b>	<b>61491</b>	<b>58702</b>	<b>100.0</b>
<b>Total Consumption **</b>	<b>59170</b>	<b>60796</b>	<b>64144</b>	<b>60981</b>	<b>64159</b>	<b>59969</b>	<b>-</b>
<b>Total Consumption in MMSCMD</b>	<b>162</b>	<b>167</b>	<b>175</b>	<b>167</b>	<b>176</b>	<b>164</b>	<b>-</b>

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

P : Provisional

- 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 as consumption of gas under non-energy purpose whereas those sectors where natural gas is being used as fuel are classified as consumption of gas under energy purpose
- As per IRES, 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 flow' to 'energy flow'.
- Sector-wise Sales/consumption of natural gas includes RLNG.
- Total may not tally due to rounding off.
- 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 companies.
- Data from the FY 2021-22 has been updated based on Under Reporting exercise carried out at the direction of MoPNG. ONGC, OIL and DGH sectoral consumption data added in table, includes I/C consumption data of these entities which inter-alia includes (i.e I/C) sectors like VAP shrinkage, LPG Shrinkage, Captive Power Generation, supply to power houses, supply to crematoriums & schools etc. and excludes remaining component of I/C

Source: PPAC



## V.2: Product-wise Consumption of Petroleum Products (Calendar Year-wise)

(Figures in TMT)

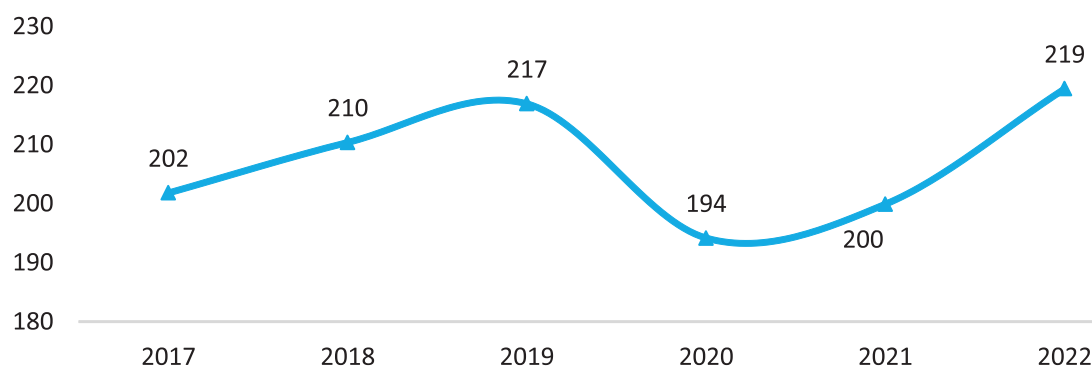
Products	2017	2018	2019	2020	2021	2022 (P)	% Share to Total 2022	% Growth <sup>2</sup>
1	2	3	4	5	6	7	8	9
1. LPG	22942	24207	26276	27384	27834	28627	13.0	2.8
2. Motor Spirit	25393	27665	30061	27268	30742	34196	15.6	11.2
3. Naphtha	12538	14146	13806	14346	13524	12257	5.6	-9.4
4. SKO	4086	3541	2725	1861	1574	750	0.3	-52.3
5. ATF	7449	8222	8182	4262	4921	6821	3.1	38.6
6. HSDO	79298	82801	84092	71891	76677	84505	38.5	10.2
7. LDO	476	580	639	737	1037	799	0.4	-23.0
8. Furnace Oil	6646	6244	5858	5379	5685	6191	2.8	8.9
9. LSHS	65	339	396	373	412	666	0.3	61.4
10. Lubes/Greases	3569	3802	3902	3891	4491	3912	1.8	-12.9
11. Bitumen/Asphalt	5839	6542	6797	6975	7849	8050	3.7	2.6
12. Petroleum Coke	25784	21164	22443	17572	12661	18107	8.3	43.0
13. Waxes	193	259	300	218	229	230	0.1	0.3
14. Others	7501	10814	11394	11980	12240	14303	6.5	16.8
<b>Total Consumption (1 to 14)</b>	<b>201778</b>	<b>210326</b>	<b>216870</b>	<b>194137</b>	<b>199876</b>	<b>219413</b>	<b>100</b>	<b>9.8</b>
15. Refinery Boiler Fuel and Losses (RBF)	20910	21359	22809	23110	23817	25977	-	9.1
<b>Grand Total</b>	<b>222688</b>	<b>231685</b>	<b>239680</b>	<b>217247</b>	<b>223693</b>	<b>245390</b>	<b>-</b>	<b>9.7</b>

Note: Total may not tally due to rounding off.

- Consumption includes sales by oil companies, own consumption & direct private imports.
- Growth rate in 2022 over 2021.

Source: Petroleum Planning &amp; Analysis Cell.

### Figure V.2: Trend of Consumption of Petroleum Products (in MMT)



### V.3: Product-wise Consumption of Petroleum Products (Financial Year-wise)

(Figures in TMT)

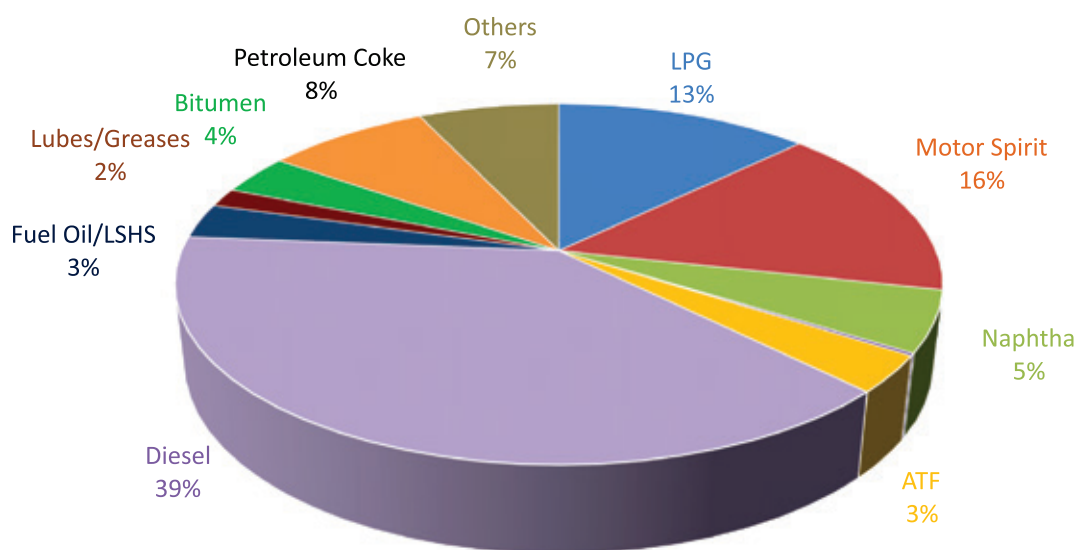
Products	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% to Total Cons. 2022-23	% Growth <sup>2</sup>
1	2	3	4	5	6	7	8	9
1. LPG	23342	24907	26330	27558	28254	28504	12.8	0.9
2. Motor Spirit	26175	28284	29976	27969	30849	34976	15.7	13.4
3. Naphtha	12889	14131	14268	14100	13246	12158	5.5	-8.2
4. SKO	3845	3460	2397	1798	1493	490	0.2	-67.2
5. ATF	7635	8302	7999	3698	5008	7366	3.3	47.1
6. HSDO	81073	83528	82602	72713	76659	85898	38.5	12.1
7. LDO	524	598	628	855	1018	725	0.3	-28.8
8. Furnace Oil (FO)	6605	6195	5912	5208	5815	6181	2.8	6.3
9. LSHS	116	369	390	378	447	773	0.3	73.0
10. Fuel Oil (FO+LSHS)	6721	6564	6302	5587	6262	6954	3.1	11.1
11. Lubes/Greases	3884	3668	3833	4097	4540	3740	1.7	-17.6
12. Bitumen	6086	6708	6720	7524	7816	8041	3.6	2.9
13. Petroleum Coke	25657	21346	21708	15605	14255	18345	8.2	28.7
14. Waxes	8136	11434	11087	12568	12067	15590	7.0	29.2
15. Others	200	287	278	223	231	225	0.1	-2.6
<b>Total Consumption (1 to 15)</b>	<b>206166</b>	<b>213216</b>	<b>214127</b>	<b>194295</b>	<b>201697</b>	<b>223009</b>	<b>100</b>	<b>10.6</b>
16. Refinery fuel and losses (RBF)	21164	21454	23613	22806	24341	25946	-	6.6
<b>Grand Total</b>	<b>227330</b>	<b>234670</b>	<b>237739</b>	<b>217102</b>	<b>226038</b>	<b>248955</b>	<b>-</b>	<b>10.1</b>

Note: Total may not tally due to rounding off.

- Consumption includes sales by oil companies, own consumption & direct private imports.
- Growth rate in 2022-23 over 2021-22.

Source: Petroleum Planning & Analysis Cell.

**Figure V.3: Share of different Petroleum Products in total consumption during 2022 - 23 (%)**



**V.4: Product-wise Consumption of Petroleum Products Across Public & Private Sector**

(Figures in TMT)

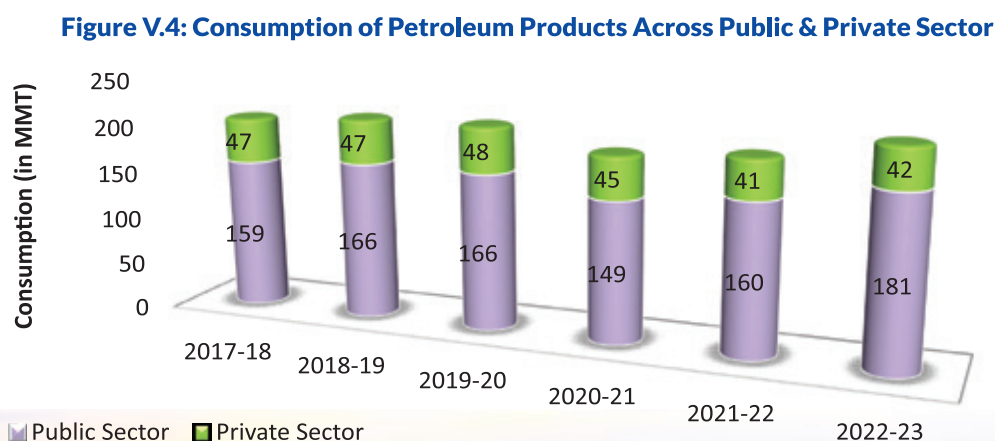
Products	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% to Total Cons. 2022-23	% Growth <sup>2</sup>
1	2	3	4	5	6	7	8	9
<b>A. PUBLIC SECTOR</b>								
1. LPG	22977	24591	26126	27494	28253	28503	12.8	0.9
2. Motor Spirit	24329	25959	27179	25168	27905	32631	14.6	16.9
3. Naphtha	5207	5583	6479	6050	6426	5459	2.4	-15.0
4. SKO	3845	3460	2397	1795	1493	490	0.2	-67.2
5. ATF	6990	7685	7598	3525	4707	6949	3.1	47.6
6. HSDO	74382	75775	73825	64504	68411	81433	36.5	19.0
7. LDO	519	577	602	713	765	625	0.3	-18.4
8. Furnace Oil	5566	5278	4835	4594	5166	5489	2.5	6.3
9. LSHS	99	318	338	330	376	683	0.3	81.3
10. Lubes/Greases	1345	1313	1317	1475	1563	1693	0.8	8.3
11. Bitumen/Asphalt	4883	5683	4995	5356	5093	5211	2.3	2.3
12. Petroleum Coke	5176	5770	5634	4415	5339	6550	2.9	22.7
13. Paraffin Wax	95	92	90	99	100	101	0.0	1.3
14. Others	3324	4095	4291	3858	4732	4705	2.1	-0.6
<b>Total (1 to 14) (A)</b>	<b>158739</b>	<b>166178</b>	<b>165704</b>	<b>149378</b>	<b>160330</b>	<b>180520</b>	<b>80.9</b>	<b>12.6</b>
<b>B. PRIVATE SECTOR</b>								
15. LPG	365	316	204	64	0	0	0.0	0.0
16. Motor Spirit	1846	2326	2797	2801	2944	2345	1.1	-20.3
17. Naphtha	7681	8549	7789	8051	6820	6699	3.0	-1.8
18. SKO	0	0	0	3	0	0	0.0	
19. ATF	645	617	400	172	301	418	0.2	38.9
20. HSDO	6692	7753	8777	8208	8248	4465	2.0	-45.9
21. LDO	4	21	25	142	252	100	0.0	-60.2
22. Furnace Oil	1039	917	1078	614	650	693	0.3	6.7
23. LSHS	18	51	52	48	70	90	0.0	28.6
24. Lubes/Greases	2539	2355	2517	2622	2977	2047	0.9	-31.3
25. Bitumen/Asphalt	1203	1025	1725	2168	2723	2830	1.3	3.9
26. Petroleum Coke	20480	15576	16074	11190	8917	11794	5.3	32.3
27. Paraffin Wax	105	195	188	124	131	123	0.1	-5.5
28. Others	4812	7339	6795	8710	7334	10885	4.9	48.4
<b>Total (15 to 28) (B)</b>	<b>47427</b>	<b>47038</b>	<b>48422</b>	<b>44918</b>	<b>41366</b>	<b>42489</b>	<b>19.1</b>	<b>2.7</b>
<b>Total (A+B)</b>	<b>206166</b>	<b>213216</b>	<b>214126</b>	<b>194295</b>	<b>201697</b>	<b>223010</b>	<b>100.0</b>	<b>10.6</b>

Note: Total may not tally due to rounding off.

P: Provisional

- Consumption includes sales by oil companies, own consumption & direct private imports.
- Growth rate in 2021-22 over 2020-21.

Source: Petroleum Planning &amp; Analysis Cell.





## V.5: State-wise Consumption of Total Petroleum Products

(Figures in TMT)

State/UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share of Total Cons. 2022-23
1	2	3	4	5	6	7	8
1. Andaman & Nicobar Islands	202	212	217	172	190	220	0.1
2. Andhra Pradesh	6953	7820	7699	7266	7553	8037	3.6
3. Arunachal Pradesh	242	248	263	276	302	346	0.2
4. Assam	2517	2744	2823	2710	2923	3103	1.4
5. Bihar	4972	5242	5397	5518	5363	5572	2.5
6. Chandigarh	427	435	436	312	370	415	0.2
7. Chhattisgarh	3587	4110	3667	3421	3598	4156	1.9
8. Dadra & Nagar Haveli And Daman & Diu	637	619	570	542	522	536	0.2
9. Delhi	4999	4891	4621	2911	3405	4322	1.9
10. Goa	779	798	790	556	680	779	0.3
<b>11. Gujarat</b>	<b>19134</b>	<b>21216</b>	<b>22536</b>	<b>21940</b>	<b>24221</b>	<b>25705</b>	<b>11.5</b>
12. Haryana	10974	10523	10223	9853	10546	9454	4.2
13. Himachal Pradesh	1578	1559	1694	1528	1924	2130	1.0
14. Jammu & Kashmir	1444	1503	1487	1301	1500	1668	0.7
15. Jharkhand	3184	3409	3416	3139	3246	3381	1.5
16. Karnataka	12548	13206	13067	11121	12479	15009	6.7
17. Kerala	6145	6339	6534	5461	5902	6879	3.1
18. Ladakh	0	0	13	141	159	176	0.1
19. Lakshadweep	15	15	17	18	18	18	0.0
20. Madhya Pradesh	7398	8006	7860	7283	7534	8346	3.7
21. Maharashtra	20618	21017	20797	17850	19051	20951	9.4
22. Manipur	208	241	255	237	254	314	0.1
23. Meghalaya	484	492	550	409	473	562	0.3
25. Mizoram	125	139	141	130	146	175	0.1
26. Nagaland	143	154	172	163	191	203	0.1
27. Odisha	5687	5930	6030	5927	6154	6643	3.0
28. Puducherry	555	542	517	413	531	820	0.4
29. Punjab	6788	7063	7114	5964	6579	6560	2.9
30. Rajasthan	11267	11403	10921	9179	10242	10770	4.8
31. Sikkim	117	126	130	108	130	152	0.1
32. Tamil Nadu	13939	14421	14116	12195	13068	14525	6.5
33. Telangana	6562	7000	6953	6223	6859	7288	3.3
34. Tripura	235	235	232	230	237	249	0.1
35. Uttar Pradesh	16891	18180	18407	18090	18791	19400	8.7
36. Uttarakhand	1526	1726	1656	1534	1619	1761	0.8
37. West Bengal	8249	8789	9309	8491	8681	8897	4.0
<b>Total Sales (1 to 37)</b>	<b>181127</b>	<b>190352</b>	<b>190627</b>	<b>172610</b>	<b>185440</b>	<b>199519</b>	<b>89.5</b>
38. PVT	20866	16920	19284	18280	12170	15559	7.0
39. SEZ	4174	5945	4216	3405	4088	7932	3.6
<b>Total Consumption</b>	<b>206166</b>	<b>213216</b>	<b>214127</b>	<b>194295</b>	<b>201697</b>	<b>223009</b>	<b>100.0</b>

Note: Total may not tally due to rounding off.

P : Provisional

Source: Petroleum Planning &amp; Analysis Cell.

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APPENDIX

## V.6: State-wise & Product-wise Per Capita Consumption of Petroleum Products

(Figures in Kg)

State/UT & Product	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
<b>State-wise Per Capita Consumption of Petroleum Products</b>						
1. Andaman & Nicobar Islands	530.9	558.0	571.5	451.3	474.5	548.3
2. Andhra Pradesh	140.8	158.4	155.9	147.2	143.0	151.7
3. Arunachal Pradesh	175.3	179.7	190.5	199.5	197.1	223.4
4. Assam	80.8	88.0	90.6	86.9	83.4	87.7
5. Bihar	47.9	50.5	52.0	53.2	43.6	44.6
6. Chandigarh	404.5	412.6	413.3	295.9	305.9	340.3
7. Chhattisgarh	140.4	160.9	143.6	133.9	122.0	139.3
8. Dadra & Nagar Haveli And Daman & Diu	1086.7	1056.5	973.7	924.7	484.3	457.9
9. Delhi	298.4	291.9	275.9	173.8	165.5	206.2
10. Goa	534.5	547.1	541.9	381.1	436.2	496.8
11. Gujarat	316.9	351.4	373.2	363.3	347.0	363.8
12. Haryana	432.9	415.0	403.2	388.6	357.7	316.7
13. Himachal Pradesh	230.2	227.4	247.0	222.8	260.2	286.6
14. Jammu & Kashmir	108.1	112.3	111.9	106.1	111.8	123.5
15. Jharkhand	96.6	103.4	103.6	95.2	80.4	86.8
16. Karnataka	205.3	216.0	213.8	181.9	182.8	223.1
17. Kerala	184.1	189.9	195.7	163.6	165.7	193.1
18. Ladakh	409.0	435.9	441.8	484.1	534.9	587.6
19. Lakshadweep	225.7	235.0	256.6	274.6	258.8	266.2
20. Madhya Pradesh	101.9	110.3	108.3	100.3	89.1	97.6
21. Maharashtra	183.5	187.0	185.1	158.8	152.8	167.1
22. Manipur	76.2	88.5	93.6	86.9	80.2	98.3
23. Meghalaya	163.4	166.0	185.7	138.1	143.7	169.2
24. Mizoram	114.1	127.2	129.2	119.5	120.1	142.5
25. Nagaland	72.2	77.9	86.6	82.1	87.0	91.7
26. Odisha	135.6	141.4	143.7	141.3	134.7	144.4
27. Puducherry	445.5	435.6	415.2	331.7	337.5	510.1
28. Punjab	245.0	255.0	256.8	215.3	216.8	214.8
29. Rajasthan	164.2	166.2	159.1	133.8	129.2	134.4
30. Sikkim	192.7	207.1	214.1	178.0	191.5	222.0
31. Tamil Nadu	193.2	199.9	195.7	169.0	170.9	189.5
32. Telangana	186.0	198.4	197.0	176.3	181.8	192.3
33. Tripura	64.0	64.0	63.1	62.6	58.3	60.7
34. Uttar Pradesh	84.6	91.1	92.2	90.6	81.4	83.2
35. Uttarakhand	150.8	170.6	163.7	151.6	142.0	152.9
36. West Bengal	90.3	96.2	101.9	92.9	88.3	90.2
<b>Grand Total</b>	<b>149.7</b>	<b>157.3</b>	<b>157.5</b>	<b>142.6</b>	<b>149.8</b>	<b>162.1</b>
<b>Product-wise Per Capita Consumption of Petroleum Products</b>						
37. Naphtha	9.0	9.4	9.8	10.2	10.5	8.8
38. MS	21.6	23.4	24.8	23.1	22.6	25.4
39. SKO	3.2	2.9	2.0	1.5	1.1	0.4
40. HSDO	66.9	68.9	68.2	60.0	56.3	62.4
41. LDO	0.4	0.5	0.5	0.7	0.7	0.5
42. F.O ( Regular )	4.9	4.6	4.2	4.0	4.3	4.5
43. LSHS/HHS	0.1	0.3	0.3	0.3	0.3	0.6
<b>All India</b>	<b>149.7</b>	<b>157.3</b>	<b>157.5</b>	<b>142.6</b>	<b>149.8</b>	<b>162.1</b>

Note: Total may not tally due to rounding off. (Consumption data is excluding Pvt. Imports &amp; SEZ sales)

P : Provisional

Source: Petroleum Planning &amp; Analysis Cell.

## V.7: Consumption of Petroleum Products and Market Share of Oil Companies in India

(Figures in TMT)

Year	Consumption	IOCL	BPCL	HPCL	Other	Private	TOTAL
1	2	3	4	5	6	7	8
2017-18	in TMT	80207	39524	35979	3029	47427	206166
	in %	38.9	19.2	17.5	1.5	23.0	100
2018-19	in TMT	83184	41338	37678	3978	47038	213216
	in %	39.0	19.4	17.7	1.9	22.1	100
2019-20	in TMT	81935	41851	37416	4502	48422	214127
	in %	38.3	19.5	17.5	2.1	22.6	100
2020-21 (P)	in TMT	72740	37552	34942	4144	44918	194295
	in %	37.4	19.3	18.0	2.1	23.1	100
2021-22	in TMT	77942	41086	36713	4590	41366	201697
	in %	38.6	20.4	18.2	2.3	20.5	100
2022-23 (P)	in TMT	87152	47592	41267	4509	42489	223009
	in %	39.1	21.3	18.5	2.0	19.1	100

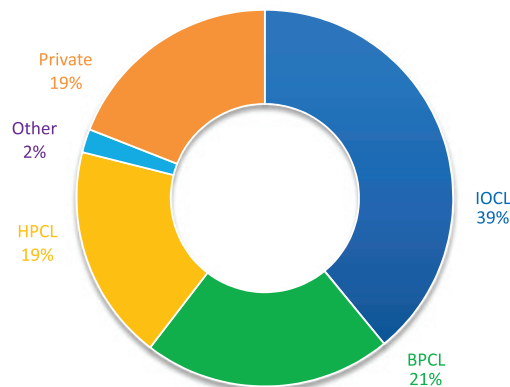
Note:

P: Provisional

- Other companies include CPCL, GAIL, MRPL, NRL & ONGC
- Private includes sales by private oil companies, own consumption & direct private imports
- Total may not tally due to rounding off.

Source: Petroleum Planning &amp; Analysis Cell.

Figure V.5: Market share of oil companies in India during 2021 - 22 (%)



## V.8: Deliveries made to International/Coastal Bunkers

(Figures in TMT)

Items	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% to Total Cons. 2022-23
1	2	3	4	5	6	7	8
<b>INTERNATIONAL BUNKERS</b>							
1. F.O/LSHS	248	247	319	555	659	907	44.0
2. H.S.D	27	35	55	53	43	50	2.4
3. L.D.O	0	0	0	0	0	0	0.0
Total (1 to 3)	275	282	374	609	702	956	46.4
<b>COASTAL BUNKERS</b>							
4. F.O/LSHS	330	422	401	313	351	449	21.8
5. H.S.D	502	635	701	558	542	649	31.5
6. L.D.O	4	5	2	2	4	6	0.3
Total (4 to 6)	836	1062	1104	873	896	1104	53.6
<b>TOTAL BUNKERS</b>							
7. F.O/LSHS	578	669	721	869	1010	1356	65.8
8. H.S.D	528	670	756	611	585	699	33.9
9. L.D.O	4	5	2	2	4	6	0.3
<b>Total (7 to 9)</b>	<b>1110</b>	<b>1343</b>	<b>1479</b>	<b>1482</b>	<b>1598</b>	<b>2060</b>	<b>100.0</b>

P: Provisional

Note: Total may not tally due to rounding off.

Source: Petroleum Planning &amp; Analysis Cell.

**V.9: Sector-wise Consumption (end use) of Liquefied Petroleum Gas (LPG)**

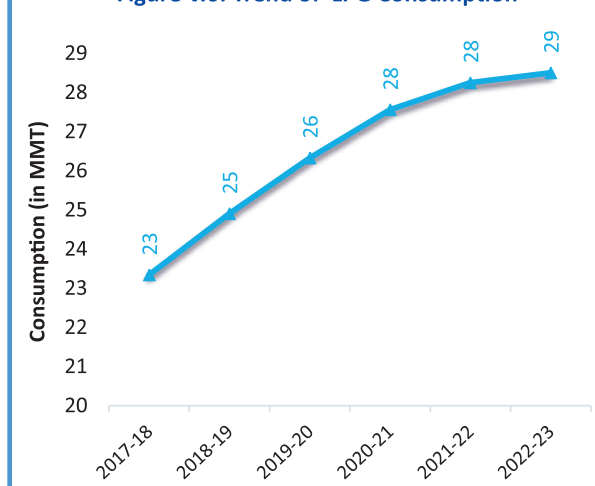
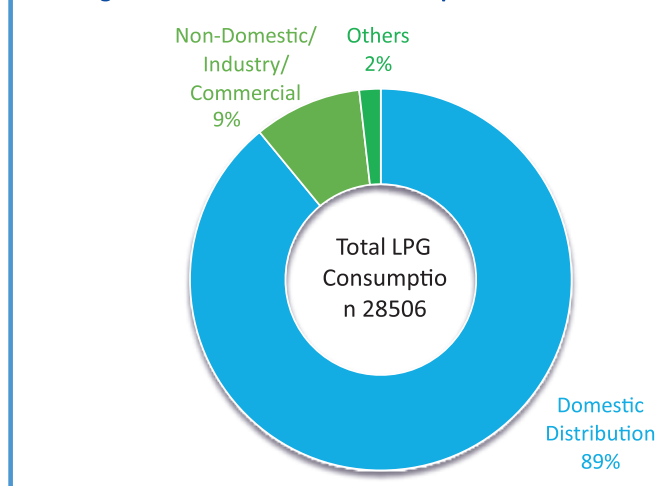
(Figures in TMT)

Sector	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share of Total Cons. 2022-23
1	2	3	4	5	6	7	8
<b>1. Domestic Distribution</b>	<b>20351.8</b>	<b>21728.0</b>	<b>23076.0</b>	<b>25128.1</b>	<b>25501.6</b>	<b>25381.6</b>	<b>89.0</b>
<b>2. Non-Domestic/ Industry/ Commercial</b>	<b>2085.8</b>	<b>2364.4</b>	<b>2614.4</b>	<b>1886.0</b>	<b>2238.8</b>	<b>2606.1</b>	<b>9.1</b>
<b>3. Transport</b>	<b>185.1</b>	<b>181.1</b>	<b>172.8</b>	<b>119.0</b>	<b>123.0</b>	<b>108.4</b>	<b>0.4</b>
(i) Auto LPG	184.4	180.3	171.9	118.4	122.0	106.7	0.4
(ii) Railways	0.7	0.8	0.9	0.7	1.0	1.7	0.0
<b>4. Power Generation</b>	<b>1.3</b>	<b>1.8</b>	<b>1.5</b>	<b>0.4</b>	<b>0.4</b>	<b>0.6</b>	<b>0.0</b>
<b>5. Agriculture Sector</b>	<b>7.5</b>	<b>22.0</b>	<b>25.7</b>	<b>28.1</b>	<b>29.6</b>	<b>21.7</b>	<b>0.1</b>
<b>6. Mining</b>	<b>0.0</b>	<b>0.3</b>	<b>0.1</b>	<b>1.5</b>	<b>3.5</b>	<b>4.9</b>	<b>0.0</b>
<b>7. Manufacturing (Bulk LPG)</b>	<b>204.6</b>	<b>204.2</b>	<b>153.4</b>	<b>215.0</b>	<b>180.0</b>	<b>228.5</b>	<b>0.8</b>
(i) Chemicals	6.0	24.2	20.7	36.0	42.3	63.7	0.2
(ii) Engineering	2.6	3.0	3.0	2.7	2.0	1.2	0.0
(iii) Electronics	3.9	5.5	5.5	5.3	2.0	2.9	0.0
(iv) Mechanical	13.9	18.6	15.4	11.9	10.2	9.0	0.0
(v) Metallurgical	131.6	94.0	61.3	108.6	75.0	60.8	0.2
(vi) Textiles	2.1	2.3	2.6	2.1	2.4	1.4	0.0
(vii) Other Consumer/ Indus- trial Goods	44.4	56.7	45.0	48.4	46.2	89.6	0.3
<b>8. Resellers/Retail</b>	<b>74.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.9</b>	<b>2.5</b>	<b>1.8</b>	<b>0.0</b>
<b>9. Miscellaneous (Bulk)</b>	<b>67.1</b>	<b>88.9</b>	<b>81.9</b>	<b>115.4</b>	<b>174.1</b>	<b>149.8</b>	<b>0.5</b>
<b>10. Total Sales</b>	<b>22977.4</b>	<b>24590.8</b>	<b>26125.7</b>	<b>27494.3</b>	<b>28253.4</b>	<b>28503.4</b>	<b>100.0</b>
<b>11. Pvt Imports</b>	<b>364.5</b>	<b>316.0</b>	<b>204.0</b>	<b>64.2</b>	<b>0.1</b>	<b>0.1</b>	<b>0.0</b>
<b>Total Consumption (10+11)</b>	<b>23341.8</b>	<b>24906.8</b>	<b>26329.8</b>	<b>27558.4</b>	<b>28253.5</b>	<b>28503.5</b>	<b>100</b>

Note: Total may not tally due to rounding off.

P: Provisional

Source: Petroleum Planning &amp; Analysis Cell.

**Figure V.6: Trend of LPG Consumption**

**Figures V.7: Share of LPG Consumption in 2022-23**




### V.10: State-wise Consumption of Liquefied Petroleum Gas (LPG)

State/UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share of Total Cons. 2022-23
1	2	3	4	5	6	7	8
1. Andaman & Nicobar Islands	10.2	11.0	12.2	12.1	13.1	13.6	0.0
2. Andhra Pradesh	1098.5	1150.2	1190.0	1293.0	1325.5	1335.4	4.7
3. Arunachal Pradesh	19.9	21.6	23.2	23.8	25.4	26.9	0.1
4. Assam	372.6	420.9	450.9	505.7	486.3	509.4	1.8
5. Bihar	1127.6	1234.8	1404.4	1643.0	1625.0	1528.3	5.4
6. Chandigarh	55.1	55.7	56.4	46.5	52.6	55.1	0.2
7. Chhattisgarh	257.4	272.5	294.8	344.2	332.0	330.2	1.2
8. Dadra & Nagar Haveli And Daman & Diu	29.1	29.2	31.3	30.5	29.2	33.2	0.1
9. Delhi	807.6	824.9	822.6	733.0	771.1	787.8	2.8
10. Goa	66.0	69.7	71.1	65.4	71.1	74.7	0.3
11. Gujarat	1041.7	1105.2	1173.6	1186.3	1282.0	1404.7	4.9
12. Haryana	740.3	805.0	858.2	869.4	930.8	981.7	3.4
13. Himachal Pradesh	153.0	165.1	180.1	183.8	194.2	196.0	0.7
14. Jammu & Kashmir	188.8	204.7	210.6	210.0	215.8	217.5	0.8
15. Jharkhand	294.1	340.6	378.0	424.7	399.3	393.1	1.4
16. Karnataka	1573.7	1687.3	1769.7	1840.7	1927.9	1996.8	7.0
17. Kerala	931.9	989.2	1033.3	1071.7	1111.4	1133.3	4.0
18. Ladakh	0.0	0.0	1.7	6.5	8.0	8.9	0.0
19. Lakshadweep	0.4	0.5	0.6	0.8	0.8	0.9	0.0
20. Madhya Pradesh	914.4	995.3	1068.2	1137.0	1140.2	1140.4	4.0
21. Maharashtra	2799.1	2989.6	3123.6	3089.1	3307.0	3363.6	11.8
22. Manipur	28.4	35.7	40.8	48.6	51.9	55.6	0.2
23. Meghalaya	21.3	25.1	26.6	27.4	27.7	31.2	0.1
24. Mizoram	21.7	25.1	27.0	29.0	29.6	31.8	0.1
25. Nagaland	22.2	22.6	24.2	24.8	27.5	29.2	0.1
26. Odisha	533.6	548.5	553.1	692.0	638.4	627.2	2.2
27. Puducherry	43.0	44.2	44.9	47.2	47.8	46.9	0.2
28. Punjab	873.9	937.5	980.7	991.5	1027.1	1004.1	3.5
29. Rajasthan	1193.8	1292.5	1389.9	1412.7	1494.1	1534.8	5.4
30. Sikkim	14.0	15.6	16.8	16.2	18.2	20.3	0.1
31. Tamil Nadu	2019.0	2114.3	2178.1	2292.5	2375.6	2369.2	8.3
32. Telangana	891.7	963.5	1001.4	1027.5	1086.9	1123.7	3.9
33. Tripura	44.1	49.2	52.9	60.0	57.7	57.5	0.2
34. Uttar Pradesh	2924	3166	3532	3819	3855	3778.7	13.3
35. Uttarakhand	268.5	288.1	308.2	304.5	321.8	336.8	1.2
36. West Bengal	1597.2	1689.7	1794.9	1983.9	1945.1	1924.7	6.8
<b>Total Sales (1 to 36)</b>	<b>22977</b>	<b>24591</b>	<b>26126</b>	<b>27494</b>	<b>28253</b>	<b>28503.4</b>	<b>100.0</b>
37. Pvt Imports	364.5	316.0	204.0	64.2	0.1	0.1	0.0
<b>Total Consumption</b>	<b>23342</b>	<b>24907</b>	<b>26330</b>	<b>27558</b>	<b>28253</b>	<b>28503.5</b>	<b>100</b>

Note: Total may not tally due to rounding off.

P: Provisional

Source: Petroleum Planning & Analysis Cell.

**V.11: Sector-wise/State-wise Consumption (end use) of Naphtha**

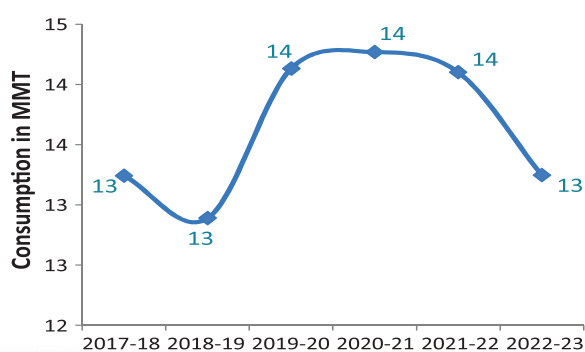
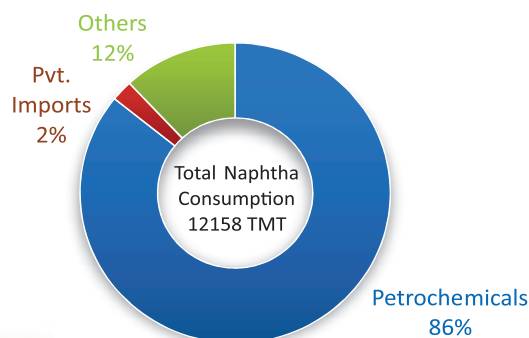
(Figures in TMT)

Sector & State/UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share of Total Cons. 2022-23
1	2	3	4	5	6	7	8
<b>Sector-wise Consumption (end use) of Naphtha</b>							
1. Fertilizers	367.7	351.6	149.7	65.7	0.0	0.0	0.0
2. Petrochemicals	10010.9	10601.6	10874.5	11339.4	11903.7	10434.0	85.8
3. Power	66.5	5.3	0.4	70.2	6.1	19.3	0.2
4. Steel Plants	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5. Others	404.9	461.7	879.6	885.2	799.5	713.7	5.9
<b>Total Sales</b>	<b>10850.1</b>	<b>11420.2</b>	<b>11904.2</b>	<b>12360.4</b>	<b>12709.3</b>	<b>11167.0</b>	<b>91.8</b>
6. Pvt Imports	1768.9	1727.5	1305.5	1133.5	160.7	273.1	2.2
7. SEZ data	269.6	983.6	1058.0	606.5	375.6	717.9	5.9
<b>Total Consumption</b>	<b>12888.6</b>	<b>14131.2</b>	<b>14267.8</b>	<b>14100.4</b>	<b>13245.6</b>	<b>12158.0</b>	<b>100.0</b>
<b>State-wise Consumption (end use) of Naphtha</b>							
8. Andhra Pradesh	30.1	24.7	26.1	26.5	27.7	23.7	0.2
9. Assam	152.5	204.6	303.2	320.1	297.4	217.5	1.8
<b>10. Gujarat</b>	<b>5683.0</b>	<b>6107.4</b>	<b>6710.8</b>	<b>7791.7</b>	<b>7867.7</b>	<b>7496.4</b>	<b>61.7</b>
11. Haryana	3340.1	3444.1	3199.0	3003.9	3446.6	2540.5	20.9
12. Jharkhand	0.0	0.6	1.5	2.6	0.9	0.0	0.0
13. Karnataka	300.5	146.4	157.5	65.7	0.0	0.0	0.0
14. Kerala	4.0	0.0	0.4	3.0	0.1	0.0	0.0
15. Madhya Pradesh	0.0	0.0	1.2	2.8	0.4	0.0	0.0
16. Maharashtra	370.8	363.1	344.7	290.9	279.4	333.7	2.7
17. Odisha	0.1	0.1	0.1	0.3	0.1	0.1	0.0
18. Punjab	0.0	0.0	0.0	0.0	0.0	7.1	0.1
19. Rajasthan	1.5	1.6	0.0	0.0	2.7	5.0	0.0
20. Sikkim	0.0	0.0	1.4	0.0	0.1	0.0	0.0
21. Tamil Nadu	198.2	179.1	1.7	3.7	1.7	0.0	0.0
22. Telangana	0.0	0.0	0.0	0.1	0.0	0.0	0.0
23. Uttar Pradesh	2.0	1.3	0.0	0.0	1.3	8.3	0.1
24. West Bengal	767.3	947.2	1156.8	849.2	783.2	534.8	4.4
<b>Total Sales (8 to 24)</b>	<b>10850.1</b>	<b>11420.2</b>	<b>11904.2</b>	<b>12360.4</b>	<b>12709.3</b>	<b>11167.0</b>	<b>91.8</b>
25. Pvt Imports	1768.9	1727.5	1305.5	1133.5	160.7	273.1	2.2
26. SEZ data	269.6	983.6	1058.0	606.5	375.6	717.9	5.9
<b>Total Consumption</b>	<b>12888.6</b>	<b>14131.2</b>	<b>14267.8</b>	<b>14100.4</b>	<b>13245.6</b>	<b>12158.0</b>	<b>100.0</b>

Note: Total may not tally due to rounding off.

P : Provisional

Source: Petroleum Planning &amp; Analysis Cell.

**Figure V.8: Trend of LPG Consumption**

**Figures V.9: Share of Naphtha Consumption in 2022 - 23**


## V.12: Sector-wise/State-wise Consumption (end use) of Kerosene

(Figures in TMT)

Sector & State/UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share of Total Cons. 2022-23
1	2	3	4	5	6	7	8
<b>Sector-wise Consumption (end use) of Kerosene</b>							
1. Domestic PDS	3633.6	3231.2	2173.7	1586.6	1291.8	308.2	63.0
2. Commercial/Industry	97.0	97.3	86.5	68.6	63.8	54.2	11.1
3. Others	114.5	131.0	136.6	142.6	137.9	127.1	26.0
<b>Grand Total (1 to 3)</b>	<b>3845.1</b>	<b>3459.5</b>	<b>2396.8</b>	<b>1797.9</b>	<b>1493.4</b>	<b>489.6</b>	<b>100.0</b>
<b>State-wise Consumption (end use) of Kerosene</b>							
4. Andaman & Nicobar Islands	3.2	3.0	1.2	0.1	0.0	0.0	0.0
5. Andhra Pradesh	23.4	1.6	0.9	0.7	0.8	1.9	0.4
6. Arunachal Pradesh	11.7	12.0	10.0	10.5	9.7	8.1	1.7
7. Assam	192.0	190.1	138.8	120.3	92.3	10.7	2.2
8. Bihar	381.7	256.6	189.9	165.4	132.2	37.7	7.7
9. Chandigarh	0.2	0.2	0.1	0.1	0.1	0.1	0.0
10. Chhattisgarh	72.3	71.5	54.1	43.8	34.4	7.7	1.6
11. Dadra & Nagar Haveli And Daman & Diu	0.4	0.2	0.1	0.0	0.0	0.0	0.0
12. Delhi	0.8	1.0	0.7	0.1	0.1	0.2	0.0
13. Goa	1.1	1.1	0.5	0.3	0.2	0.0	0.0
14. Gujarat	266.8	197.3	97.6	68.2	44.4	6.6	1.3
15. Haryana	2.4	3.2	2.5	1.5	0.9	0.6	0.1
16. Himachal Pradesh	14.5	14.7	11.9	8.7	5.4	3.7	0.8
17. Jammu & Kashmir	126.9	124.4	118.6	79.0	67.1	44.9	9.2
18. Jharkhand	137.2	117.0	83.5	64.8	53.7	14.8	3.0
19. Karnataka	104.3	99.8	64.5	41.4	26.3	14.7	3.0
20. Kerala	66.7	70.2	58.1	53.1	44.6	24.1	4.9
21. Ladakh	0.0	0.0	1.4	47.3	48.0	44.7	9.1
22. Lakshadweep	0.6	0.6	0.5	0.7	0.5	0.0	0.0
23. Madhya Pradesh	262.5	254.0	185.9	145.9	91.0	2.8	0.6
24. Maharashtra	305.0	200.2	54.0	23.8	14.9	5.8	1.2
25. Manipur	14.6	14.2	10.3	9.1	7.9	2.2	0.4
26. Meghalaya	15.2	15.1	14.9	14.0	12.5	2.1	0.4
27. Mizoram	3.7	3.7	2.8	2.5	2.1	0.1	0.0
28. Nagaland	7.5	7.8	7.1	6.7	6.1	1.0	0.2
29. Odisha	190.2	192.9	162.1	148.1	117.0	22.4	4.6
30. Puducherry	0.5	0.0	0.0	0.0	0.0	0.0	0.0
31. Punjab	1.9	2.3	4.5	1.2	0.7	0.4	0.1
32. Rajasthan	87.8	56.6	14.2	2.5	1.9	1.5	0.3
33. Sikkim	10.5	10.1	8.8	10.2	10.2	9.5	1.9
34. Tamil Nadu	204.7	196.4	153.9	130.4	104.9	73.8	15.1
35. Telangana	79.3	74.3	23.9	2.7	0.7	0.3	0.1
36. Tripura	22.9	22.8	20.4	19.5	17.5	6.5	1.3
37. Uttar Pradesh	707.4	686.4	353.5	23.8	2.5	1.7	0.3
38. Uttarakhand	13.8	11.5	3.8	4.1	3.5	4.0	0.8
39. West Bengal	511.4	546.7	541.7	544.5	539.2	135.2	27.6
<b>Total Sales (4 to 39)</b>	<b>3845.1</b>	<b>3459.5</b>	<b>2396.8</b>	<b>1795.1</b>	<b>1493.4</b>	<b>489.6</b>	<b>100.0</b>
40. Pvt Imports	-	-	-	2.8	-	-	-
<b>Total Consumption</b>	<b>3845.1</b>	<b>3459.5</b>	<b>2396.8</b>	<b>1797.9</b>	<b>1493.4</b>	<b>489.6</b>	<b>-</b>

Note: Total may not tally due to rounding off.

P : Provisional

Source: Petroleum Planning &amp; Analysis Cell.

## V.13: Sector-wise/State-wise Consumption (end use) MS (Petrol)

(Figures in TMT)

Sector & State/UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share of Total Cons. 2021-22
1	2	3	4	5	6	7	8
<b>Sector-wise Consumption (end use) of MS (Petrol)</b>							
1. Retail/Resellers	26050.2	28156.2	29849.3	27847.1	30729.4	34870.3	99.7
2. Others	124.2	128.2	126.1	121.8	119.6	105.7	0.3
<b>Grand Total (1+2)</b>	<b>26174.5</b>	<b>28284.4</b>	<b>29975.5</b>	<b>27969.0</b>	<b>30849.0</b>	<b>34976.0</b>	<b>100.0</b>
<b>State-wise Consumption (end use) of MS (Petrol)</b>							
3. Andaman & Nicobar Islands	16.8	18.1	18.9	13.8	15.7	19.4	0.1
4. Andhra Pradesh	1061.8	1161.9	1278.4	1321.9	1419.4	1504.1	4.3
5. Arunachal Pradesh	39.9	46.2	51.8	50.6	55.4	66.7	0.2
6. Assam	356.7	411.6	445.1	431.9	510.0	611.2	1.7
7. Bihar	697.0	793.0	852.1	848.9	926.7	1034.3	3.0
8. Chandigarh	104.6	122.6	126.8	91.4	110.0	114.4	0.3
9. Chhattisgarh	517.8	559.6	613.1	604.3	660.9	743.4	2.1
10. Dadra & Nagar Haveli And Daman & Diu	42.9	42.8	38.9	30.0	38.6	44.2	0.1
11. Delhi	926.7	903.1	876.0	668.8	693.3	899.5	2.6
12. Goa	174.6	183.6	186.1	145.1	167.0	204.7	0.6
13. Gujarat	1817.2	1976.0	2066.8	1860.2	2134.0	2397.8	6.9
14. Haryana	937.9	978.5	1029.4	1011.6	1113.7	1203.3	3.4
15. Himachal Pradesh	207.9	224.6	238.0	233.1	272.3	306.4	0.9
16. Jammu & Kashmir	249.3	274.7	300.4	273.1	316.3	354.7	1.0
17. Jharkhand	425.2	487.0	526.5	512.5	574.1	660.3	1.9
18. Karnataka	1974.3	2142.7	2270.5	2123.9	2235.0	2648.1	7.6
19. Kerala	1380.9	1462.6	1558.8	1371.1	1495.8	1747.6	5.0
20. Ladakh	-	-	3.6	12.5	16.8	20.3	0.1
21. Lakshadweep	-	-	-	-	0.0	0.7	0.0
22. Madhya Pradesh	1257.4	1372.1	1463.7	1461.1	1542.7	1705.3	4.9
23. Maharashtra	3225.6	3358.1	3462.0	3014.4	3387.6	3815.2	10.9
24. Manipur	54.0	61.2	68.2	62.1	67.5	88.4	0.3
25. Meghalaya	85.5	93.7	99.8	81.3	95.5	124.6	0.4
26. Mizoram	25.4	28.2	31.2	26.0	26.0	35.4	0.1
27. Nagaland	37.3	36.8	39.2	31.9	40.9	51.2	0.1
28. Odisha	703.8	775.9	834.5	782.4	863.9	992.5	2.8
29. Puducherry	129.9	132.9	133.8	108.4	128.5	168.3	0.5
30. Punjab	847.3	879.2	960.2	888.4	1015.8	1133.5	3.2
31. Rajasthan	1440.3	1550.7	1657.0	1549.4	1621.5	1790.4	5.1
32. Sikkim	17.5	19.7	21.1	15.8	19.4	26.5	0.1
33. Tamil Nadu	2420.7	2602.0	2735.4	2580.6	2758.1	3152.9	9.0
34. Telangana	1092.3	1198.8	1288.3	1199.5	1357.3	1541.4	4.4
35. Tripura	47.6	54.1	57.7	53.7	57.5	64.3	0.2
36. Uttar Pradesh	2759.5	3119.2	3319.9	3210.1	3696.1	4103.4	11.7
37. Uttarakhand	286.9	309.2	326.3	293.0	338.4	410.2	1.2
38. West Bengal	812.1	904.1	996.1	997.5	1076.9	1191.1	3.4
<b>Total Sales (3 to 38)</b>	<b>26174.5</b>	<b>28284.4</b>	<b>29975.5</b>	<b>27960.3</b>	<b>30848.9</b>	<b>34976.0</b>	<b>100.0</b>
39. Pvt Imports	-	-	-	8.7	0.0	0.0	-
<b>Total Consumption</b>	<b>26174.5</b>	<b>28284.4</b>	<b>29975.5</b>	<b>27969.0</b>	<b>30849.0</b>	<b>34976.0</b>	<b>-</b>

Note: Total may not tally due to rounding off.

P: Provisional

Source: Petroleum Planning &amp; Analysis Cell.





**V.14: Sector-wise/State-wise Consumption (end use) of Aviation Turbine Fuel (ATF)**

(Figures in TMT)

Sector & State/UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share of Total Cons. 2022-23
1	2	3	4	5	6	7	8
<b>Sector-wise Consumption (end use) of ATF</b>							
1. Foreign airlines	1524.5	1815.8	1853.4	733.3	994.3	1745.9	23.7
2. Indian airlines	4768.7	6216.2	6136.1	2955.3	4002.1	5583.4	75.8
3. Others	1041.6	11.3	9.1	8.3	10.7	35.5	0.5
<b>Total Sales (1 to 3)</b>	<b>7334.8</b>	<b>8043.3</b>	<b>7998.6</b>	<b>3696.9</b>	<b>5007.1</b>	<b>7364.8</b>	<b>100.0</b>
4. Pvt Imports	300.1	258.8	0.0	0.9	0.9	1.3	0.02
<b>Total Consumption</b>	<b>7634.9</b>	<b>8302.1</b>	<b>7998.6</b>	<b>3697.8</b>	<b>5008.0</b>	<b>7366.1</b>	<b>100.0</b>
<b>State-wise Consumption (end use) ATF</b>							
5. Andaman & Nicobar Islands	26.7	25.1	22.3	7.9	12.1	17.3	0.2
6. Andhra Pradesh	70.2	79.6	73.7	38.3	58.1	78.8	1.1
7. Arunachal Pradesh	1.2	1.5	1.2	1.6	1.5	2.0	0.0
8. Assam	139.4	167.8	159.3	105.1	122.6	129.5	1.8
9. Bihar	34.0	38.3	38.5	19.8	26.6	35.5	0.5
10. Chandigarh	23.4	21.1	23.1	31.1	28.8	26.9	0.4
11. Chhattisgarh	35.7	42.8	42.3	21.8	28.5	32.4	0.4
12. Dadra & Nagar Haveli And Daman & Diu	0.9	1.3	1.3	1.2	1.2	1.2	0.0
13. Delhi	1941.5	2064.8	2047.7	982.0	1314.4	1948.4	26.5
14. Goa	142.0	154.0	159.5	48.6	87.7	132.6	1.8
15. Gujarat	241.5	274.8	250.1	117.1	172.0	293.7	4.0
16. Haryana	60.1	40.6	26.0	25.0	27.8	26.4	0.4
17. Himachal Pradesh	7.6	7.8	6.7	4.7	4.4	5.2	0.1
18. Jammu & Kashmir	45.0	50.0	46.0	29.8	53.4	93.7	1.3
19. Jharkhand	47.0	49.5	51.0	15.5	26.7	39.8	0.5
20. Karnataka	543.1	631.8	698.6	376.1	453.1	709.7	9.6
21. Kerala	473.7	475.1	533.1	181.1	302.0	496.5	6.7
22. Ladakh	-	-	1.1	4.1	3.8	7.1	0.1
23. Lakshadweep	-	-	0.0	0.06	0.12	0.2	0.0
24. Madhya Pradesh	63.6	65.6	78.4	49.6	75.9	117.9	1.6
25. Maharashtra	1618.4	1639.0	1399.5	550.6	699.3	1116.9	15.2
26. Manipur	4.8	9.4	10.5	3.6	3.3	10.7	0.1
27. Meghalaya	0.003	0.2	0.3	0.1	0.8	1.0	0.0
28. Mizoram	1.2	1.8	1.8	0.5	0.9	3.3	0.0
29. Nagaland	2.6	3.1	2.9	1.9	5.0	5.3	0.1
30. Odisha	76.7	102.1	92.0	54.2	63.3	83.8	1.1
31. Puducherry	0.5	0.7	0.5	0.0	0.0	0.1	0.0
32. Punjab	135.2	165.4	163.9	97.6	131.8	172.6	2.3
33. Rajasthan	156.6	194.5	171.4	93.2	141.4	157.2	2.1
34. Sikkim		0.1	0.1	0.2	0.8	0.3	0.0
35. Tamil Nadu	530.0	614.3	638.5	250.6	340.6	486.8	6.6
36. Telangana	365.6	531.0	541.1	242.3	314.9	459.1	6.2
37. Tripura	6.8	9.5	9.2	2.8	4.4	13.0	0.2
38. Uttar Pradesh	214.6	243.7	256.3	165.4	211.1	273.1	3.7
39. Uttarakhand	11.9	13.4	15.6	5.6	15.5	28.7	0.4
40. West Bengal	313.2	323.5	435.6	168.2	273.4	358.1	4.9
<b>Total Sales (5 to 40)</b>	<b>7334.8</b>	<b>8043.3</b>	<b>7998.6</b>	<b>3696.9</b>	<b>5007.1</b>	<b>7364.8</b>	<b>100.0</b>
41. Pvt Imports	300.1	258.8	0.0	0.9	0.8	1.3	0.02
<b>Total Consumption</b>	<b>7634.9</b>	<b>8302.1</b>	<b>7998.6</b>	<b>3697.8</b>	<b>5008.0</b>	<b>7366.1</b>	<b>100.0</b>

Note: Total may not tally due to rounding off.

P : Provisional

Source: Petroleum Planning &amp; Analysis Cell.

**V.15: Sector-wise Consumption (end use) of High Speed Diesel (HSD) Oil**

(Figures in TMT)

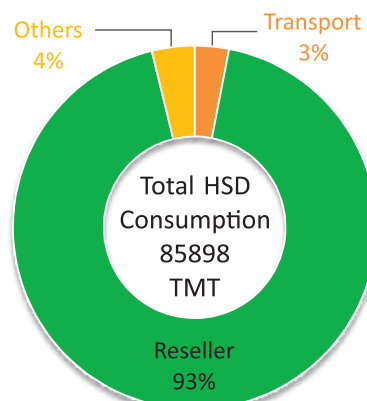
Sector	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share of Total Cons. 2022-23
1	2	3	4	5	6	7	8
<b>1. Transport</b>	<b>5999.1</b>	<b>6209.5</b>	<b>6010.9</b>	<b>3256.7</b>	<b>4089.0</b>	<b>2607.1</b>	<b>3.0</b>
(i) Road Transport	2731.1	2727.4	2659.8	1373.8	1694.1	146.3	0.2
(ii) Aviation	2.9	3.2	3.5	2.3	2.7	1.2	0.0
(iii) Shipping	629.4	763.3	808.4	658.3	643.8	744.6	0.9
(iv) Railways	2635.7	2715.6	2539.3	1222.3	1748.4	1715.0	2.0
<b>2. Agriculture</b>	<b>618.0</b>	<b>638.7</b>	<b>615.9</b>	<b>570.6</b>	<b>530.4</b>	<b>298.6</b>	<b>0.3</b>
<b>3. Power Generation</b>	<b>222.8</b>	<b>222.4</b>	<b>214.0</b>	<b>203.6</b>	<b>213.4</b>	<b>165.9</b>	<b>0.2</b>
<b>4. Mining &amp; Quarrying</b>	<b>1255.1</b>	<b>1465.0</b>	<b>1542.1</b>	<b>1642.2</b>	<b>1540.4</b>	<b>1053.1</b>	<b>1.2</b>
<b>5. Manufacturing Industry</b>	<b>1154.8</b>	<b>1263.7</b>	<b>1334.3</b>	<b>1355.1</b>	<b>1290.6</b>	<b>439.3</b>	<b>0.5</b>
(i) Iron & Steel (Metallurgy)	152.9	148.2	134.9	125.9	136.3	70.3	0.1
(ii) Textile	185.4	254.8	266.4	265.7	235.5	124.4	0.1
(iii) Cement	31.6	25.2	20.0	15.6	15.9	2.9	0.0
(iv) Ceramic & Glass	7.7	7.7	6.9	5.3	5.4	2.6	0.0
(v) Chemicals & Allied	122.4	119.5	123.2	106.0	97.6	57.4	0.1
(vi) Aluminium	16.5	15.5	12.9	15.1	20.3	11.2	0.0
(vii) Civil Engineering	416.3	480.4	582.3	654.7	605.0	86.1	0.1
(vii) Elec./Electronics	13.4	15.0	13.0	8.6	9.5	7.4	0.0
(ix) Mechanical	138.2	135.0	116.6	106.4	114.6	45.1	0.1
(x) Fertilizers	5.1	5.2	6.1	5.2	4.6	3.9	0.0
(xi) Other Consumer/ Industrial Goods	65.2	57.2	51.9	46.6	45.8	28.1	0.0
<b>6. Resellers/Retail</b>	<b>69846.4</b>	<b>71697.2</b>	<b>70704.1</b>	<b>63373.6</b>	<b>66404.4</b>	<b>80025.5</b>	<b>93.2</b>
7. Miscellaneous	1887.0	1938.2	2064.0	2232.3	2552.0	1241.8	1.4
<b>8. Total Sales</b>	<b>80983.2</b>	<b>83434.7</b>	<b>82485.4</b>	<b>72634.2</b>	<b>76620.2</b>	<b>85831.2</b>	<b>99.9</b>
9. Pvt Imports	90.2	93.5	116.7	78.5	38.5	66.6	0.1
<b>Total Consumption (8+9)</b>	<b>81073.4</b>	<b>83528.1</b>	<b>82602.0</b>	<b>72712.7</b>	<b>76658.7</b>	<b>85897.8</b>	<b>100.0</b>

Note: Total may not tally due to rounding off.

P : Provisional

Source: Petroleum Planning &amp; Analysis Cell.

**Figure V.10: Trend of HSD Consumption (in MMT)**

**V.11: Share of HSD Consumption in 2022 - 23**


## V.16: State-wise Consumption of High Speed Diesel (HSD) Oil

(Figures in TMT)

State/UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share of Total Cons. 2022-23
1	2	3	4	5	6	7	8
1. Andaman & Nicobar Islands	140	149	157	132	142	163	0.2
2. Andhra Pradesh	3664	3947	3834	3405	3432	3460	4.0
3. Arunachal Pradesh	146	150	161	175	192	227	0.3
4. Assam	926	985	1024	904	1123	1327	1.5
5. Bihar	2278	2442	2367	2137	2055	2398	2.8
6. Chandigarh	130	192	198	127	171	211	0.2
7. Chhattisgarh	1649	1699	1648	1608	1657	1930	2.2
8. Dadra & Nagar Haveli And Daman & Diu	312	291	234	162	175	213	0.2
9. Delhi	1194	1021	835	499	597	662	0.8
10. Goa	329	316	306	233	276	294	0.3
11. Gujarat	5278	5430	5608	5090	5780	6927	8.1
12. Haryana	5147	4847	4717	4435	4450	4206	4.9
13. Himachal Pradesh	616	646	668	610	777	1003	1.2
14. Jammu & Kashmir	685	697	676	576	699	822	1.0
15. Jharkhand	1766	1901	1968	1742	1661	1755	2.0
16. Karnataka	6610	6905	6602	5574	6204	8042	9.4
17. Kerala	2609	2576	2557	1923	2101	2486	2.9
18. Ladakh	0	0	5	56	68	80	0.1
19. Lakshadweep	13	14	15	16	16	16	0.0
20. Madhya Pradesh	3562	3797	3655	3369	3375	3885	4.5
21. Maharashtra	8672	9292	9529	8031	8322	9291	10.8
22. Manipur	103	116	118	109	119	149	0.2
23. Meghalaya	326	344	356	281	331	397	0.5
24. Mizoram	68	73	75	69	83	101	0.1
25. Nagaland	70	77	90	89	101	110	0.1
26. Odisha	2506	2613	2662	2535	2594	2929	3.4
27. Puducherry	333	314	290	211	300	553	0.6
28. Punjab	3363	3217	3214	2742	3113	3265	3.8
29. Rajasthan	5477	5440	5272	4337	4452	5074	5.9
30. Sikkim	69	78	78	60	74	91	0.1
31. Tamil Nadu	6448	6354	6191	5007	5371	5999	7.0
32. Telangana	3685	3753	3622	3253	3556	3529	4.1
33. Tripura	100	94	87	89	95	101	0.1
34. Uttar Pradesh	8608	9453	9485	9385	9496	9859	11.5
35. Uttarakhand	713	762	744	657	700	780	0.9
36. West Bengal	3391	3449	3439	3008	2962	3497	4.1
<b>37. Total Sales</b>	<b>80983</b>	<b>83435</b>	<b>82485</b>	<b>72634</b>	<b>76620</b>	<b>85831</b>	<b>99.9</b>
38. Pvt Imports	90	93	117	79	39	67	0.1
<b>Total Consumption (37+38)</b>	<b>81073</b>	<b>83528</b>	<b>82602</b>	<b>72713</b>	<b>76659</b>	<b>85898</b>	<b>100</b>

Note: Total may not tally due to rounding off.

P : Provisional

Source: Petroleum Planning &amp; Analysis Cell.

**V.17: Sector-wise Consumption (end use) of Light Diesel Oil (LDO)**

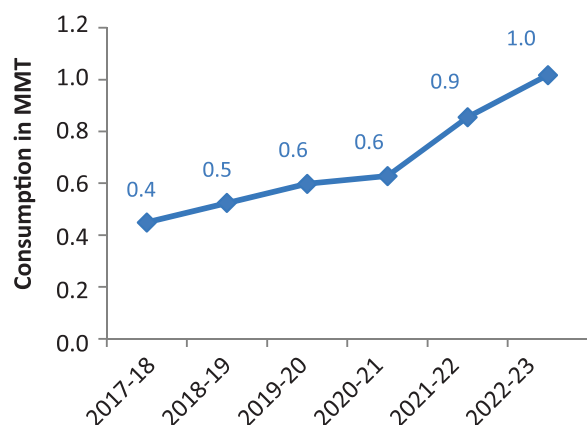
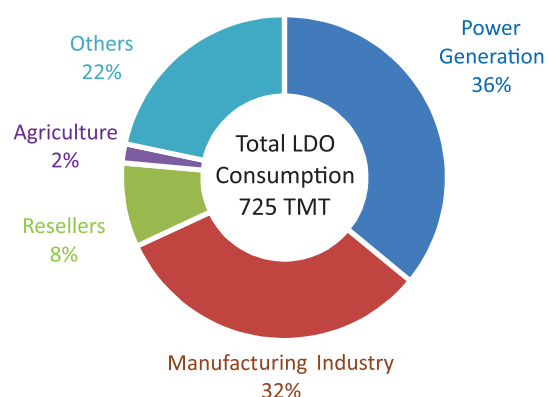
(Figures in TMT)

Sector	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share of Total Cons. 2021-22
1	2	3	4	5	6	7	8
<b>1. Transport</b>	<b>7.2</b>	<b>10.0</b>	<b>4.6</b>	<b>5.0</b>	<b>6.0</b>	<b>7.5</b>	<b>1.0</b>
1.1 Road Transport	2.6	4.5	1.9	1.5	1.6	1.5	0.2
1.2 Shipping	4.1	5.0	2.2	3.2	4.2	5.5	0.8
1.3 Railways	0.5	0.5	0.4	0.3	0.3	0.4	0.1
<b>2. Agriculture</b>	<b>9.3</b>	<b>15.6</b>	<b>12.5</b>	<b>15.3</b>	<b>17.7</b>	<b>13.8</b>	<b>1.9</b>
<b>3. Power Generation</b>	<b>142.9</b>	<b>276.5</b>	<b>342.1</b>	<b>252.3</b>	<b>288.6</b>	<b>260.6</b>	<b>35.9</b>
<b>4. Mining &amp; Quarrying</b>	<b>6.1</b>	<b>22.4</b>	<b>14.4</b>	<b>7.7</b>	<b>10.3</b>	<b>12.5</b>	<b>1.7</b>
<b>5. Manufacturing Industry</b>	<b>148.8</b>	<b>174.8</b>	<b>153.3</b>	<b>308.7</b>	<b>296.8</b>	<b>233.0</b>	<b>32.1</b>
5.1 Civil Engineering	33.2	41.9	43.1	136.6	101.6	66.1	9.1
5.2 Metallurgical	54.7	67.7	64.0	78.2	91.8	87.4	12.1
5.3 Textile & Fibre	2.1	2.4	1.9	3.9	3.1	2.1	0.3
5.4 Cement	8.0	4.8	11.7	17.0	23.7	16.6	2.3
5.5 Ceramic & Glass	0.4	0.4	0.5	0.9	6.2	4.7	0.7
5.6 Chemicals & Allied	10.8	17.4	16.5	50.4	33.5	24.3	3.4
5.7 Aluminium	31.7	28.4	5.4	5.7	6.9	9.3	1.3
5.8 Elec./Electronics	0.7	1.0	0.1	1.1	1.8	2.8	0.39
5.9 Mechanical	2.9	6.1	6.2	8.6	13.7	8.8	1.2
5.10 Other Consumer/Industrial Goods	4.3	4.6	3.8	6.0	14.5	10.8	1.5
<b>6. Resellers</b>	<b>2.6</b>	<b>33.3</b>	<b>37.5</b>	<b>124.8</b>	<b>206.0</b>	<b>60.6</b>	<b>8.4</b>
<b>7. Miscellaneous</b>	<b>206.9</b>	<b>65.3</b>	<b>63.3</b>	<b>128.9</b>	<b>187.2</b>	<b>131.7</b>	<b>18.2</b>
<b>8. Total Sales (1 to 7)</b>	<b>523.8</b>	<b>598.0</b>	<b>627.8</b>	<b>842.7</b>	<b>1012.6</b>	<b>719.7</b>	<b>99.3</b>
<b>9. Pvt Imports</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>12.4</b>	<b>4.9</b>	<b>5.2</b>	<b>0.7</b>
<b>Total Consumption (8+9)</b>	<b>523.8</b>	<b>598.0</b>	<b>627.8</b>	<b>855.1</b>	<b>1017.5</b>	<b>724.9</b>	<b>100.0</b>

Note: Total may not tally due to rounding off.

P : Provisional

Source: Petroleum Planning &amp; Analysis Cell.

**Figure V.12: Trend of LDO Consumption**

**V.13: Share of LDO Consumption in 2022 - 23**




## V.18: State-wise Consumption (end use) of Light Diesel Oil (LDO)

(Figures in TMT)

State/UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share of Total Cons. 2022-23
1	2	3	4	5	6	7	8
1. Andhra Pradesh	17.8	21.9	20.4	35.5	36.2	22.1	3.0
2. Arunachal Pradesh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. Assam	3.1	5.1	3.6	3.8	5.0	3.3	0.5
4. Bihar	30.5	23.7	42.8	40.4	33.7	28.3	3.9
5. Chandigarh	0.7	0.5	0.4	0.4	0.5	0.5	0.1
6. Chhattisgarh	35.6	42.4	42.5	43.2	42.4	49.0	6.8
7. Dadra & Nagar Haveli And Daman & Diu	0.3	0.3	0.6	0.6	1.6	0.8	0.1
8. Delhi	6.5	2.2	0.7	2.1	2.4	0.0	0.0
9. Goa	0.3	0.6	0.2	0.3	1.5	1.2	0.2
10. Gujarat	20.3	34.5	29.4	108.4	146.2	73.2	10.1
11. Haryana	24.2	35.0	25.4	23.1	25.1	21.1	2.9
12. Himachal Pradesh	0.6	0.3	0.2	1.3	1.3	0.3	0.0
13. Jammu & Kashmir	1.8	1.1	0.9	2.7	1.9	0.1	0.0
14. Jharkhand	15.4	19.1	18.9	38.9	49.4	62.6	8.6
15. Karnataka	31.0	17.3	20.2	22.3	24.3	15.9	2.2
16. Kerala	0.8	2.0	5.8	16.5	12.8	8.7	1.2
17. Ladakh	0.0	0.0	0.0	0.1	0.0	0.0	0.0
18. Madhya Pradesh	23.2	34.0	55.2	34.3	28.5	21.7	3.0
19. Maharashtra	88.6	77.8	80.7	140.5	213.4	106.6	14.7
20. Manipur	0.0	0.0	0.1	0.2	0.3	0.1	0.0
21. Meghalaya	0.0	0.0	0.1	0.3	0.4	0.2	0.0
22. Mizoram	0.0	0.0	0.0	0.4	0.2	0.0	0.0
23. Nagaland	0.0	0.1	0.1	0.4	0.7	0.0	0.0
24. Odisha	26.0	48.5	55.9	48.7	59.9	56.7	7.8
25. Puducherry	0.0	0.3	0.1	0.6	0.9	0.5	0.1
26. Punjab	8.2	9.4	9.2	12.3	11.5	8.1	1.1
27. Rajasthan	32.7	61.6	48.6	70.2	82.2	44.2	6.1
28. Sikkim	0.0	0.1	1.7	3.7	5.9	3.8	0.5
29. Tamil Nadu	5.9	14.4	19.5	35.4	35.8	27.8	3.8
30. Telangana	6.2	16.5	14.2	28.8	22.1	28.5	3.9
31. Tripura	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32. Uttar Pradesh	86.5	83.9	85.9	82.0	99.5	83.4	11.5
33. Uttarakhand	2.1	2.3	1.0	7.1	2.9	0.8	0.1
34. West Bengal	55.4	43.4	43.6	38.5	64.2	50.1	6.9
<b>Total Sales (1 to 34)</b>	<b>523.8</b>	<b>598.0</b>	<b>627.8</b>	<b>842.7</b>	<b>1012.6</b>	<b>719.7</b>	<b>99.3</b>
35. Pvt Imports	0.0	0.0	0.0	12.4	4.9	5.2	0.7
<b>Total Consumption</b>	<b>523.8</b>	<b>598.0</b>	<b>627.8</b>	<b>855.1</b>	<b>1017.5</b>	<b>724.9</b>	<b>100.0</b>

Note: Total may not tally due to rounding off.

P : Provisional

Source: Petroleum Planning &amp; Analysis Cell.

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CHAPTER XII

APPENDIX

**V.19: Sector-wise Consumption (end use) of Furnace Oil**

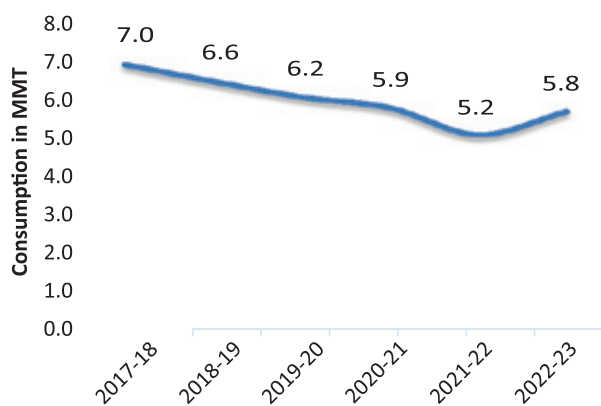
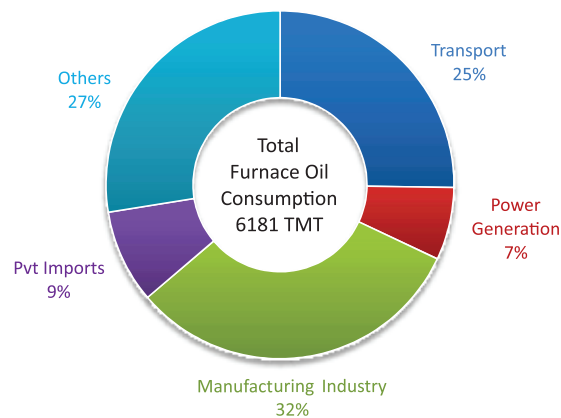
(Figures in TMT)

Sector	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share of Total Cons. 2022-23
1	2	3	4	5	6	7	8
<b>1. Transport</b>	600.8	786.3	849.2	1022.4	1209.0	1560.9	25.3
(i) Road Transport	20.2	110.0	120.5	132.1	172.4	178.3	2.9
(ii) Shipping	580.6	676.3	728.7	890.3	1036.2	1382.2	22.4
(iii) Railways	0.0	0.1	0.0	0.0	0.4	0.4	0.0
Other Transport (incl. Agri. Retail Trade)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>2. Agriculture</b>	49.8	78.5	70.9	80.0	64.8	50.3	0.8
<b>3. Power Generation</b>	313.8	338.8	302.7	226.1	311.5	418.1	6.8
<b>4. Mining &amp; Quarrying</b>	67.9	54.3	84.0	91.7	127.4	94.3	1.5
<b>5. Manufacturing Industry</b>	2345.9	2577.4	2142.5	1874.5	2091.8	1963.8	31.8
(i) Civil Engineering	43.0	52.1	48.8	58.0	52.8	42.1	0.7
(ii) Metallurgical	930.6	885.2	778.5	666.2	758.4	684.4	11.1
(iii) Textile & Fibre	45.7	48.6	41.0	35.7	26.9	14.2	0.2
(iv) Cement	13.7	20.3	25.3	22.1	23.2	20.4	0.3
(v) Ceramic & Glass	134.2	202.5	79.0	59.9	99.3	126.7	2.0
(vi) Chemicals & Allied	242.7	295.2	240.4	226.5	232.7	201.3	3.3
(vii) Aluminium	238.3	386.4	338.6	348.8	390.3	382.2	6.2
(viii) Electrical	2.4	3.3	1.4	1.9	1.5	2.5	0.04
(ix) Mechanical	13.6	27.5	23.0	16.8	15.6	11.6	0.2
(x) Fertilizers	518.4	460.4	386.9	294.9	341.3	317.5	5.1
(xi) Other Consumer/ Industrial Goods)	163.3	196.0	179.7	143.6	149.7	161.0	2.6
<b>6. Resellers</b>	321.2	298.4	289.6	267.8	211.2	153.1	2.5
<b>7. Miscellaneous</b>	2233.5	1449.5	1398.1	1329.9	1388.0	1404.1	22.7
<b>8. Total Sales (1 to 7)</b>	5933.0	5583.1	5137.1	4892.3	5403.7	5644.5	91.3
<b>9. Pvt Imports</b>	671.7	611.4	774.9	316.0	411.4	536.8	8.7
<b>Total Consumption (8+9)</b>	6604.7	6194.5	5912.0	5208.3	5815.1	6181.3	100.0

Note: Total may not tally due to rounding off.

P: Provisional

Source: Petroleum Planning &amp; Analysis Cell.

**Figure V.14: Trend of Furnace Oil Consumption**

**Figure V.15: Share of Furnace Oil Consumption in 2022-23**


## V.20: State-wise Consumption of Furnace Oil

(Figures in TMT)

State/UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share of Total Cons. 2022-23
1	2	3	4	5	6	7	8
1. Andaman & Nicobar Islands	0.0	0.0	0.0	0.1	0.0	0.0	0.0
2. Andhra Pradesh	289.1	283.0	258.5	242.7	239.4	357.0	5.8
3. Arunachal Pradesh	0.3	0.3	0.0	0.0	0.0	0.0	0.0
4. Assam	4.1	4.7	4.9	6.7	6.5	5.6	0.1
5. Bihar	22.9	27.2	28.6	25.9	28.5	25.9	0.4
6. Chandigarh	8.9	4.4	2.0	1.3	1.0	1.5	0.0
7. Chhattisgarh	170.8	199.6	161.4	149.9	165.6	173.1	2.8
8. Dadra & Nagar Haveli And Daman & Diu	107.9	115.6	104.8	124.8	89.2	43.7	0.7
9. Delhi	45.7	0.0	0.0	0.0	0.0	0.0	0.0
10. Goa	35.5	43.7	39.2	30.6	28.1	0.0	0.0
11. Gujarat	781.6	685.4	748.3	823.0	1021.7	1223.4	19.8
12. Haryana	82.7	0.0	0.0	0.0	0.0	0.0	0.0
13. Himachal Pradesh	52.7	47.7	40.4	43.6	40.8	27.6	0.4
14. Jammu & Kashmir	2.7	2.5	4.2	3.5	4.0	3.6	0.1
15. Jharkhand	142.8	141.5	112.2	106.9	122.2	136.3	2.2
16. Karnataka	377.5	354.4	291.8	259.0	271.4	274.6	4.4
17. Kerala	251.9	258.9	278.0	332.7	344.2	422.6	6.8
18. Ladakh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19. Lakshadweep	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20. Madhya Pradesh	111.3	120.9	93.8	85.8	88.2	77.1	1.2
21. Maharashtra	844.8	815.3	766.3	666.6	716.6	667.1	10.8
22. Manipur	0.0	0.1	0.6	0.5	0.5	0.4	0.0
23. Meghalaya	0.6	0.0	0.0	0.0	0.0	0.3	0.0
24. Mizoram	0.0	0.0	0.0	0.0	0.0	0.4	0.0
25. Nagaland	0.0	0.0	0.2	0.1	0.0	0.0	0.0
26. Odisha	761.8	856.1	921.8	901.1	1017.7	1014.3	16.4
27. Puducherry	36.6	39.6	38.9	35.1	37.0	36.3	0.6
28. Punjab	215.4	209.1	171.0	146.7	160.7	138.0	2.2
29. Rajasthan	114.3	8.8	0.0	0.0	0.0	0.0	0.0
30. Sikkim	1.9	0.7	0.0	0.0	0.0	0.0	0.0
31. Tamil Nadu	676.4	655.3	502.7	382.7	433.0	492.6	8.0
32. Telangana	113.4	129.3	109.6	102.2	117.2	139.1	2.3
33. Tripura	0.0	0.0	0.0	0.6	0.1	0.0	0.0
34. Uttar Pradesh	187.9	7.2	0.0	0.0	0.0	0.0	0.0
35. Uttarakhand	93.2	146.0	67.9	72.7	99.0	109.2	1.8
36. West Bengal	398.3	426.0	390.0	347.5	371.2	274.8	4.4
<b>37. Total Sales (1 to 36)</b>	<b>5933.0</b>	<b>5583.1</b>	<b>5137.1</b>	<b>4892.3</b>	<b>5403.7</b>	<b>5644.5</b>	<b>91.3</b>
38. Imports & SEZ State	671.7	611.4	774.9	316.0	411.4	536.8	8.7
<b>Grand Total (37+38)</b>	<b>6604.7</b>	<b>6194.5</b>	<b>5912.0</b>	<b>5208.3</b>	<b>5815.1</b>	<b>6181.3</b>	<b>100.0</b>

Note: Total may not tally due to rounding off.

P: Provisional

Source: Petroleum Planning &amp; Analysis Cell.

**V.21: Sector-wise/State-wise Consumption (end use) of Low Sulphur Heavy Stock**

Sector & State/UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share of Total Cons. 2022-23
1	2	3	4	5	6	7	8
<b>Sector-wise Consumption of Low Sulphur Heavy Stock</b>							
<b>1. Agriculture</b>	<b>1.2</b>	<b>7.9</b>	<b>6.4</b>	<b>6.8</b>	<b>6.5</b>	<b>3.5</b>	<b>0.5</b>
<b>2. Power Generation</b>	<b>0.0</b>	<b>9.3</b>	<b>17.9</b>	<b>10.7</b>	<b>29.7</b>	<b>18.9</b>	<b>2.4</b>
<b>3. Mining</b>	<b>0.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>4. Manufacturing Industry</b>	<b>53.8</b>	<b>175.1</b>	<b>201.9</b>	<b>196.2</b>	<b>191.3</b>	<b>250.3</b>	<b>32.4</b>
(i) Civil Engineering	1.1	3.1	6.1	7.4	7.4	4.3	0.6
(ii) Metallurgical	2.4	60.3	78.7	66.2	66.8	63.8	8.3
(iii) Iron & Steel	37.9	71.9	86.3	93.9	88.3	123.0	15.9
(iv) Textile & Fibre	0.3	2.7	2.5	3.5	6.5	10.1	1.3
(v) Cement	0.4	0.9	0.8	0.9	0.7	0.0	0.0
(vi) Chemicals & Allied	5.7	13.6	12.4	10.2	6.5	3.8	0.5
(vii) Electrical	0.1	0.0	0.7	0.1	0.4	1.4	0.2
(viii) Mechanical	0.1	0.5	0.8	2.3	2.0	2.9	0.4
(ix) Fertilizers	0.5	0.5	1.0	0.5	0.6	2.1	0.3
(x) Other Consumer/ Industrial Goods)	5.3	21.5	12.7	11.3	12.0	38.9	5.0
<b>5. Miscellaneous</b>	<b>46.3</b>	<b>128.7</b>	<b>113.0</b>	<b>116.0</b>	<b>151.9</b>	<b>416.7</b>	<b>53.9</b>
<b>6. Resellers</b>	<b>14.7</b>	<b>48.0</b>	<b>50.3</b>	<b>48.5</b>	<b>67.4</b>	<b>83.6</b>	<b>10.8</b>
<b>Total Sales (1 to 6)</b>	<b>116.3</b>	<b>369.0</b>	<b>389.5</b>	<b>378.2</b>	<b>446.7</b>	<b>773.0</b>	<b>100.0</b>
<b>7. Pvt Imports</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Total Consumption</b>	<b>116.3</b>	<b>369.0</b>	<b>389.5</b>	<b>378.2</b>	<b>446.7</b>	<b>773.0</b>	<b>100.0</b>
<b>State-wise Consumption of Low Sulphur Heavy Stock</b>							
8. Andhra Pradesh	39.1	59.6	69.1	82.0	74.4	75.6	9.8
9. Bihar	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10. Chandigarh	0.1	0.6	0.0	0.0	0.0	0.0	0.0
11. Chhattisgarh	0.0	0.0	0.0	0.0	0.0	0.1	0.0
12. Dadra & Nagar Haveli And Daman & Diu	0.0	0.0	0.0	0.0	0.5	0.2	0.0
13. Delhi	8.5	38.2	13.5	0.0	0.0	0.0	0.0
14. Goa	0.0	0.0	0.0	0.0	4.1	22.7	2.9
15. Gujarat	0.9	0.6	1.3	1.7	20.6	54.0	7.0
16. Haryana	10.1	49.1	57.1	59.1	77.5	82.3	10.7
17. Himachal Pradesh	0.1	0.7	1.3	3.3	4.0	5.6	0.7
18. Jammu & Kashmir	0.0	0.0	0.0	0.0	0.0	0.1	0.0
19. Jharkhand	0.0	0.0	0.0	0.0	0.0	0.1	0.0
20. Karnataka	1.4	0.1	0.0	0.0	0.0	0.1	0.0
21. Kerala	0.0	1.3	2.1	0.1	5.2	7.9	1.0
22. Madhya Pradesh	0.0	0.1		1.6	4.8	1.9	0.2
23. Maharashtra	12.8	3.8	6.2	14.2	47.6	154.3	20.0
24. Odisha	0.0	0.0	0.0	0.0	0.0	13.2	1.7
25. Puducherry	0.2	1.4	1.0	0.0	0.4	1.4	0.2
26. Punjab	10.3	4.3	2.9	2.0	0.9	5.7	0.7
27. Rajasthan	13.5	67.7	78.9	68.0	72.1	82.0	10.6
28. Tamil Nadu	1.7	1.6	0.9	0.7	0.0	43.9	5.7
29. Telangana	2.1	0.6	0.6	0.0	0.0	0.0	0.0
30. Uttar Pradesh	13.0	130.4	148.0	138.1	130.7	142.3	18.4
31. Uttarakhand	2.6	9.1	6.5	7.3	3.8	6.4	0.8
32. West Bengal	0.0	0.0	0.0	0.0	0.1	73.4	9.5
<b>Grand Total (8 to 32)</b>	<b>116.3</b>	<b>369.0</b>	<b>389.5</b>	<b>378.2</b>	<b>446.7</b>	<b>773.0</b>	<b>100.0</b>

Note: Total may not tally due to rounding off.

P: Provisional

Source: Petroleum Planning &amp; Analysis Cell.





## V.22: State-wise Consumption of Lubes & Greases

(Figures in TMT)

State/UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share of Total Cons. 2022-23
1	2	3	4	5	6	7	8
1. Andaman & Nicobar Islands	0.7	0.7	0.7	0.8	0.6	0.8	0.0
2. Andhra Pradesh	30.7	30.8	27.2	31.3	36.3	39.1	1.0
3. Arunachal Pradesh	0.6	0.6	0.5	0.5	0.5	0.7	0.0
4. Assam	30.3	22.3	28.5	39.2	37.8	39.2	1.0
5. Bihar	13.2	14.5	13.7	13.4	13.5	13.6	0.4
6. Chandigarh	1.7	1.7	4.4	2.4	2.7	2.6	0.1
7. Chhattisgarh	19.3	20.5	20.3	20.3	22.7	25.8	0.7
8. Dadra & Nagar Haveli And Daman & Diu	133.0	123.5	147.2	181.2	164.2	191.4	5.1
9. Delhi	16.9	17.2	15.6	13.9	13.8	13.1	0.3
10. Goa	3.7	4.7	4.6	4.6	4.8	5.1	0.1
11. Gujarat	89.0	96.6	96.4	109.3	127.5	125.2	3.3
12. Haryana	50.5	49.9	53.1	50.5	55.4	65.8	1.8
13. Himachal Pradesh	22.8	15.6	12.5	15.1	10.7	12.8	0.3
14. Jammu & Kashmir	8.6	8.8	7.5	7.3	9.5	9.8	0.3
15. Jharkhand	33.5	33.3	30.5	30.1	30.4	33.4	0.9
16. Karnataka	55.6	51.8	46.0	55.0	61.0	61.7	1.7
17. Kerala	40.8	43.6	41.2	45.5	43.9	41.3	1.1
18. Ladakh	0.0	0.0	0.0	0.3	0.3	0.3	0.0
19. Lakshadweep	0.1	0.1	0.1	0.1	0.1	0.0	0.0
20. Madhya Pradesh	39.5	44.8	42.6	41.5	42.1	43.8	1.2
21. Maharashtra	328.7	285.5	303.3	330.2	380.7	451.9	12.1
22. Manipur	0.3	0.4	0.4	0.4	0.5	0.5	0.0
23. Meghalaya	1.1	1.0	0.7	0.8	0.9	1.0	0.0
24. Mizoram	0.1	0.2	0.2	0.1	0.2	0.2	0.0
25. Nagaland	0.5	0.5	0.5	0.6	0.6	0.6	0.0
26. Odisha	23.7	24.2	21.0	22.1	25.3	26.2	0.7
27. Puducherry	2.0	2.0	2.1	1.9	3.1	2.9	0.1
28. Punjab	43.6	49.2	40.9	40.6	42.8	37.6	1.0
29. Rajasthan	48.1	52.5	49.9	59.1	57.7	55.1	1.5
30. Sikkim	0.2	0.1	0.1	0.1	0.1	0.2	0.0
31. Tamil Nadu	111.6	111.1	99.1	132.7	144.3	167.6	4.5
32. Telangana	38.2	40.7	46.3	52.8	43.8	44.0	1.2
33. Tripura	1.0	1.1	0.8	0.9	0.9	0.9	0.0
34. Uttar Pradesh	68.7	76.7	76.4	82.8	89.6	85.6	2.3
35. Uttarakhand	19.9	18.0	17.0	21.9	14.5	15.1	0.4
36. West Bengal	66.8	68.9	65.2	66.5	80.4	77.9	2.1
<b>Total Sales (1 to 36)</b>	<b>1345.1</b>	<b>1312.8</b>	<b>1316.6</b>	<b>1475.4</b>	<b>1563.0</b>	<b>1692.8</b>	<b>45.3</b>
<b>37. Pvt Imports</b>	<b>2538.8</b>	<b>2355.1</b>	<b>2516.8</b>	<b>2621.9</b>	<b>2977.3</b>	<b>2046.7</b>	<b>54.7</b>
<b>Total Consumption</b>	<b>3883.9</b>	<b>3667.9</b>	<b>3833.4</b>	<b>4097.3</b>	<b>4540.3</b>	<b>3739.5</b>	<b>100.0</b>

Note: Total may not tally due to rounding off.

P:Provisional

Source: Petroleum Planning &amp; Analysis Cell.

**V.23: State-wise Consumption of Petcoke**

(Figures in TMT)

State/UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share of Total Cons. 2022-23
1	2	3	4	5	6	7	8
1. Andhra Pradesh	279.2	587.7	541.3	402.1	524.9	776.7	4.2
2. Assam	289.6	267.0	183.4	205.9	182.3	184.0	1.0
3. Bihar	188.6	188.6	194.4	198.0	155.0	185.2	1.0
4. Chandigarh	94.3	28.4	21.8	10.3	1.8	2.9	0.0
5. Chhattisgarh	602.2	927.0	634.0	395.5	442.3	595.1	3.2
6. Dadra & Nagar Haveli And Daman & Diu	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7. Delhi	17.6	0.0	0.0	0.0	0.0	0.0	0.0
8. Goa	11.9	4.0	6.5	12.6	6.3	11.9	0.1
9. Gujarat	1216.4	1480.9	1594.1	904.5	1161.8	1104.8	6.0
10. Haryana	324.7	0.2	0.0	0.0	0.0	0.0	0.0
11. Himachal Pradesh	432.6	356.3	463.0	343.7	532.3	497.0	2.7
12. Jammu & Kashmir	76.9	72.4	73.4	75.3	87.9	87.2	0.5
13. Jharkhand	81.8	96.1	65.2	30.6	9.2	3.5	0.0
14. Karnataka	646.2	833.9	865.2	518.3	804.0	774.6	4.2
15. Kerala	28.9	14.7	15.3	26.7	15.3	20.7	0.1
16. Madhya Pradesh	769.0	869.5	822.2	580.0	725.7	1022.5	5.6
17. Maharashtra	93.6	187.3	125.9	69.6	93.0	124.1	0.7
18. Meghalaya	21.7	3.2	48.1	0.0	0.0	0.0	0.0
19. Odisha	485.5	407.8	356.4	406.5	424.8	520.0	2.8
20. Puducherry	0.1	0.0	0.0	0.0	0.0	0.4	0.0
21. Punjab	1092.4	1317.6	1249.3	783.8	801.8	621.6	3.4
22. Rajasthan	2338.5	2211.1	1835.5	1197.7	1924.6	1670.2	9.1
23. Tamil Nadu	623.0	824.9	815.6	538.7	736.0	830.5	4.5
24. Telangana	42.2	44.7	77.0	75.8	161.3	233.0	1.3
25. Uttar Pradesh	392.2	43.3	108.8	105.0	38.4	43.7	0.2
26. Uttarakhand	68.0	121.2	111.3	73.4	77.8	27.8	0.2
27. West Bengal	33.6	53.8	67.0	115.9	214.7	230.8	1.3
<b>Total Sales (1 to 27)</b>	<b>10250.9</b>	<b>10941.8</b>	<b>10274.7</b>	<b>7070.1</b>	<b>9121.2</b>	<b>9568.2</b>	<b>52.2</b>
28. Pvt Imports	12777.4	7925.6	10674.1	8256.2	4213.4	8663.7	47.2
29. SEZ data	2628.4	2478.5	759.4	278.8	920.9	112.6	0.6
<b>Total Consumption</b>	<b>25656.7</b>	<b>21345.9</b>	<b>21708.2</b>	<b>15605.2</b>	<b>14255.4</b>	<b>18344.5</b>	<b>100.0</b>

Note: Total may not tally due to rounding off.

P : Provisional

Source: Petroleum Planning &amp; Analysis Cell.

## V.24: State-wise Consumption of Bitumen

(Figures in TMT)

State/UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share of Total Cons. 2022-23
1	2	3	4	5	6	7	8
1. Andaman & Nicobar Islands	4.1	4.9	4.7	4.4	6.4	6.7	0.1
2. Andhra Pradesh	206.5	250.0	190.6	207.2	184.3	184.2	2.3
3. Arunachal Pradesh	22.3	16.2	15.0	14.0	17.2	14.5	0.2
4. Assam	30.0	46.5	30.3	23.1	20.6	19.9	0.2
5. Bihar	192.3	217.5	260.1	421.2	361.6	276.8	3.4
6. Chandigarh	5.8	7.3	3.2	1.8	0.8	0.2	0.0
7. Chhattisgarh	198.2	244.9	130.5	162.5	180.5	236.4	2.9
8. Dadra & Nagar Haveli And Daman & Diu	3.6	8.5	5.2	2.4	1.7	3.3	0.0
9. Delhi	1.7	0.7	1.4	3.1	3.7	2.7	0.0
10. Goa	11.9	16.4	12.9	9.0	27.3	26.3	0.3
11. Gujarat	592.2	524.7	374.7	391.2	537.7	741.3	9.2
12. Haryana	156.1	146.1	135.4	253.8	279.3	187.7	2.3
13. Himachal Pradesh	63.0	71.3	64.9	74.4	74.7	64.3	0.8
14. Jammu & Kashmir	52.7	59.8	43.4	37.7	39.8	30.0	0.4
15. Jharkhand	223.5	212.5	170.2	160.3	153.5	217.3	2.7
16. Karnataka	250.4	228.8	190.8	156.5	127.5	110.2	1.4
17. Kerala	234.1	245.1	242.7	269.5	239.0	219.2	2.7
18. Ladakh	0.0	0.0	0.1	13.8	14.3	14.3	0.2
19. Lakshadweep	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20. Madhya Pradesh	262.1	308.8	227.9	259.9	249.0	191.4	2.4
21. Maharashtra	531.9	711.7	653.2	663.3	560.6	585.8	7.3
22. Manipur	2.9	4.1	5.4	3.0	2.4	6.5	0.1
23. Meghalaya	12.0	9.8	4.0	4.3	3.6	3.8	0.0
24. Mizoram	4.8	7.1	3.1	3.1	4.3	2.9	0.0
25. Nagaland	3.1	6.0	7.0	7.3	8.8	5.9	0.1
26. Odisha	116.3	89.8	99.9	112.1	113.0	113.2	1.4
27. Puducherry	3.2	1.6	1.1	1.6	1.2	0.6	0.0
28. Punjab	118.0	168.6	232.2	153.2	149.7	90.5	1.1
29. Rajasthan	294.9	403.0	335.8	309.4	325.1	280.0	3.5
30. Sikkim	3.9	1.8	2.1	1.7	1.4	0.3	0.0
31. Tamil Nadu	424.7	493.7	464.8	517.5	428.0	565.9	7.0
32. Telangana	205.0	202.5	188.2	197.0	153.7	155.8	1.9
33. Tripura	12.6	4.5	4.0	3.5	4.4	5.5	0.1
34. Uttar Pradesh	660.7	854.0	721.9	776.2	770.3	690.3	8.6
35. Uttarakhand	35.2	33.5	44.2	78.6	32.3	31.0	0.4
36. West Bengal	195.9	228.7	227.2	194.9	163.5	210.6	2.6
<b>Total Sales (1 to 36)</b>	<b>5135.6</b>	<b>5830.4</b>	<b>5097.7</b>	<b>5492.4</b>	<b>5241.1</b>	<b>5295.2</b>	<b>65.9</b>
37. Pvt Imports	950.3	877.3	1622.6	2031.5	2575.3	2745.6	34.1
<b>Total Consumption</b>	<b>6085.9</b>	<b>6707.7</b>	<b>6720.4</b>	<b>7523.9</b>	<b>7816.3</b>	<b>8040.8</b>	<b>100.0</b>

Note: Total may not tally due to rounding off.

P : Provisional

Source: Petroleum Planning &amp; Analysis Cell.





# CHAPTER -VI



**Trade-Import & Exports**

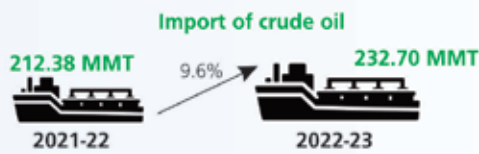
## Chapter Highlights



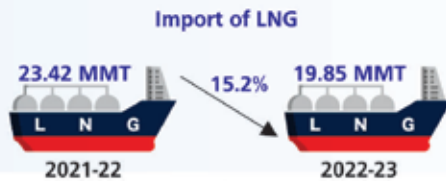
India's trade deficit in the Oil and Gas Trade was higher by 36.9% at ₹ 11,54,707 crore in 2022-23 from ₹ 8,46,817 crore during 2021-22.



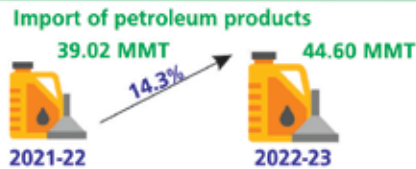
India's import bill on import of Crude Oil, LNG, and Petroleum Products increased by 36.9% in value terms from ₹ 11,78,618 crore in 2021-22 to ₹ 16,13,435 crore in 2022-23. And in quantity term, import of crude oil, LNG and petroleum products increased by 8.1% from 274.82 MMT in 2021-22 to 297.15 MMT during 2022-23.



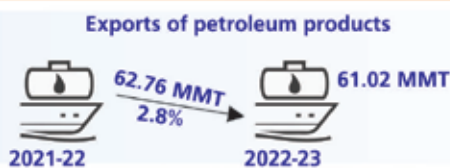
Import of crude oil in the country during 2022-23 was 232.70 MMT valued at ₹ 12,60,372 crore, which was higher by 9.6% as compared to 2021-22, 212.38 MMT valued at ₹ 9,01,262 crores. It was increased by 39.8% in value term over the same period.



Import of LNG in the country during 2022-23 was 19.85 MMT, which is 15.2% less over the imports of LNG 23.42 MMT during 2021-22. However, it increased 36.5% in value terms over the same period.



Import of petroleum products in the country during 2022-23 was 44.60 MMT valued 2,15,854 crore, which was higher by 14.3% over the imports of petroleum products of 39.02 MMT valued 1,76,835 crore during 2021-22. However, it increased by 22.1% in value terms over the same period.



Exports of petroleum products in the country during 2022-23 was 61.02 MMT, which was lower by 2.8% over the exports of petroleum products of 62.76 MMT during 2021-22. However, it increased 38.3% in value terms over the same period.



Crude oil imports by Public Sector Oil Companies accounted for 60.7% during 2022-23 and 44.5% for petroleum product. Public Sector Oil Companies exports of petroleum products accounted for 21.1%.



Self-sufficiency in Crude Oil and Gas is 12.6% and 56.1% respectively. India's Oil and Oil Equivalent Gas (O+OEG) import dependency increased 78.6% in FY2022-23 from 77.0% during the FY2021-22.

**FDI inflows in India US dollar terms decreased by 16.3% during 2022-23 vis-a-vis 2021-22**



FDI inflow received was ₹8762 million in the P&NG Sector contributing 0.2% of total FDI inflow (₹36,74,349 million) in the economy during 2022-23.

## VI.1: India's Oil & Gas Trade and India's overall Trade Balance

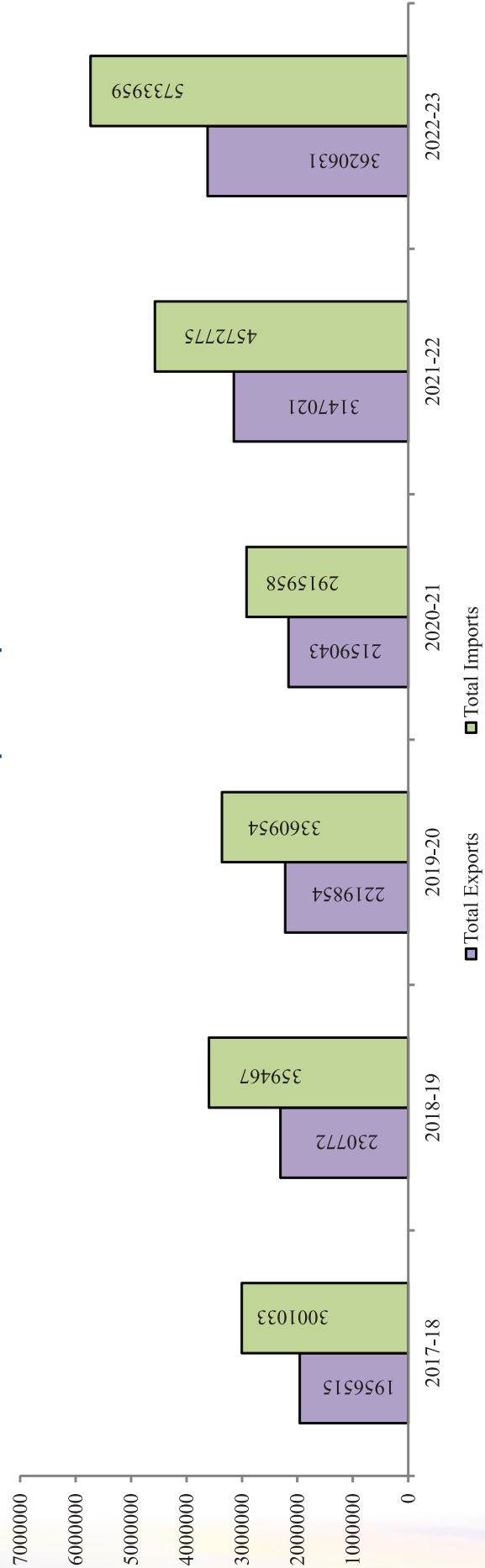
(Value in ₹ Crore)

Year	India's Oil & Gas Trade*				India's Overall Trade				% of Oil & Gas trade to India's total trade			
	Trade Balance		% variation over preceding year		Trade Balance		% variation over preceding year		Exports		Imports	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
1	2	3	4	5	6	7	8	9	10	11	12	13
2017-18	225388	707191	-481803	15.6	21.5	1956515	3001033	-1044519	5.8	16.4	11.5	23.6
2018-19	267697	970736	-703040	18.8	37.3	2307726	3594675	-1286948	18.0	19.8	11.6	27.0
2019-20	254018	911209	-657192	-5.1	-9.1	2219854	3360954	-1141100	-3.8	-6.5	11.4	27.1
2020-21	157168	627537	-470369	-38.1	-31.1	2159043	2915958	-756914	-2.7	-13.2	7.3	21.5
2021-22	331801	1178618	-846817	111.1	87.8	3147021	4572775	-1425753	45.8	56.8	10.5	25.8
2022-23 (P)	458729	1613435	-1154707	38.3	36.9	3620631	5733959	-2113328	15.0	25.4	12.7	28.1

P: Provisional  
\* Contains Crude, LNG & POL imports and POL exports

Source: PPAC &amp; RBI/Ministry of Commerce

### VI.1: India's Total Imports & Exports





## VI.2: Import / Export of Crude Oil and Petroleum Products (Calendar Year-wise)

ITEM	2017			2018			2019			2020			2021			2022 (P)		
	Qty. TMT	Value Rs. Crore	Million USD	Qty. TMT	Value Rs. Crore	Million USD	Qty. TMT	Value Rs. Crore	Million USD	Qty. TMT	Value Rs. Crore	Million USD	Qty. TMT	Value Rs. Crore	Million USD	Qty. TMT	Value Rs. Crore	Million USD
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
<b>Crude Oil Import</b>	<b>216445</b>	<b>528350</b>	<b>81347</b>	<b>226626</b>	<b>775881</b>	<b>112969</b>	<b>224627</b>	<b>726039</b>	<b>103314</b>	<b>201672</b>	<b>460868</b>	<b>62613</b>	<b>209598</b>	<b>779443</b>	<b>105284</b>	<b>228131</b>	<b>1279881</b>	<b>162930</b>
<b>Product Import</b>																		
1. LPG	11888	40241	6155	12192	46758	6833	14521	47000	6672	16196	50818	6867	17208	84814	11426	17643	104011	13241
2. Petrol	174	581	91	355	1783	255	2127	9567	1359	1346	4812	657	1010	5397	724	1069	8846	1094
3. Naphtha	1832	6414	977	2697	12126	1789	1628	6449	913	1350	4490	608	309	1400	191	740	4312	544
4. Aviation Turbine Fuel	288	1089	166	327	1675	244	76	358	52	0	0	0	0	0	0	0	0	0
5. Kerosene	0	0	0	0	0	0	0	0	0	3	12	2	0	0	0	0	0	0
6. Diesel	1441	4491	690	324	1484	219	1990	8472	1205	1673	6138	843	131	508	69	317	3556	451
7. Lubes	2233	10185	1554	2552	13934	2045	2699	12407	1759	2596	10859	1471	3114	19315	2609	2366	18924	2409
8. Fuel Oil	957	2325	356	1645	5428	807	2624	7340	1036	6350	13233	1794	8439	26814	3614	9106	38975	5003
9. Bitumen	911	1725	263	887	2133	316	1290	2997	424	1907	3627	492	2659	7259	982	2609	9358	1193
10. Petcoke	13731	10811	1652	7011	9364	1386	11388	11623	1649	9735	6806	917	3568	6292	847	7781	16343	2079
11. Others <sup>1</sup>	2268	6609	1011	3619	15443	2252	3312	12294	1743	3779	6690	902	2607	11661	1578	1500	10054	1284
<b>12. Product Import (1 to 11)</b>	<b>35722</b>	<b>84472</b>	<b>12914</b>	<b>31608</b>	<b>110127</b>	<b>16147</b>	<b>41654</b>	<b>118507</b>	<b>16812</b>	<b>44935</b>	<b>107485</b>	<b>14552</b>	<b>39045</b>	<b>163459</b>	<b>22041</b>	<b>43131</b>	<b>214380</b>	<b>27299</b>
<b>Total Import</b>	<b>252167</b>	<b>612823</b>	<b>94261</b>	<b>258234</b>	<b>886008</b>	<b>129116</b>	<b>266281</b>	<b>844546</b>	<b>120126</b>	<b>246607</b>	<b>568353</b>	<b>77165</b>	<b>248643</b>	<b>942901</b>	<b>127325</b>	<b>271262</b>	<b>1494261</b>	<b>190229</b>
<b>Product Export</b>																		
13. LPG	348	1430	218	396	1919	280	455	1861	264	443	1745	235	517	2953	397	527	3827	489
14. MS/Petrol	14262	53591	8226	13287	62539	9150	12956	57570	8178	11524	33771	4608	12647	65356	8826	12973	103640	13253
15. Naphtha/NGL	8907	27885	4280	7916	32561	4770	7930	28931	4101	6865	18031	2458	7074	33576	4535	6194	37982	4872
16. Aviation Turbine Fuel	6968	23209	3564	7527	34316	5016	7244	30891	4382	3905	10626	1462	4856	21237	2898	6739	54520	6908
17. SKO/Kerosene	17	65	10	18	95	14	39	174	24	151	436	60	16	76	10	12	103	13
18. HSD/Diesel	28868	92690	14248	28509	124329	18095	30543	125273	17768	30563	79532	10856	31552	135801	18389	30228	241848	30822
19. LDO	149	384	57	99	364	50	-	-	-	-	-	-	0	0	0	1	10	1
20. LOBS/Lube Oil	13	111	17	8	104	15	9	107	15	15	94	13	5	77	10	18	182	23
21. Fuel Oil/LSHS	2363	4757	732	2259	6566	943	1747	4432	626	1008	1688	228	1797	6237	843	1792	7843	991
22. Bitumen	61	109	17	23	75	11	25	83	12	13	43	6	7	30	4	6	29	4
23. Petcoke/CBFS	692	688	106	924	2509	359	768	1969	279	598	295	39	139	508	68	188	402	52
24. Others <sup>2</sup>	3954	10396	1586	2486	8695	1276	2562	7674	1089	2639	6845	925	2133	9165	1239	3400	18972	2401
<b>Total Product Export (13 to 24)</b>	<b>66603</b>	<b>215316</b>	<b>33061</b>	<b>63454</b>	<b>274071</b>	<b>39979</b>	<b>64278</b>	<b>258966</b>	<b>36738</b>	<b>57723</b>	<b>153106</b>	<b>20889</b>	<b>60743</b>	<b>275015</b>	<b>37220</b>	<b>62078</b>	<b>469358</b>	<b>59830</b>
<b>Net Import</b>	<b>185565</b>	<b>397507</b>	<b>61200</b>	<b>194780</b>	<b>611937</b>	<b>89137</b>	<b>202003</b>	<b>585580</b>	<b>83388</b>	<b>188884</b>	<b>415247</b>	<b>56275</b>	<b>187900</b>	<b>667886</b>	<b>90105</b>	<b>209184</b>	<b>1024903</b>	<b>130399</b>

Note:

1. Other imports include Paraffin Wax, Petroleum Jelly, LSWR, Aviation Gas, MTBE, Reformate, etc.

2. Other exports include VGO, Benzene, MTO, Sulphur, etc.

Source: Petroleum Planning &amp; Analysis Cell



### VI.3: Import / Export of Crude Oil and Petroleum Products

(Figures in TMT)

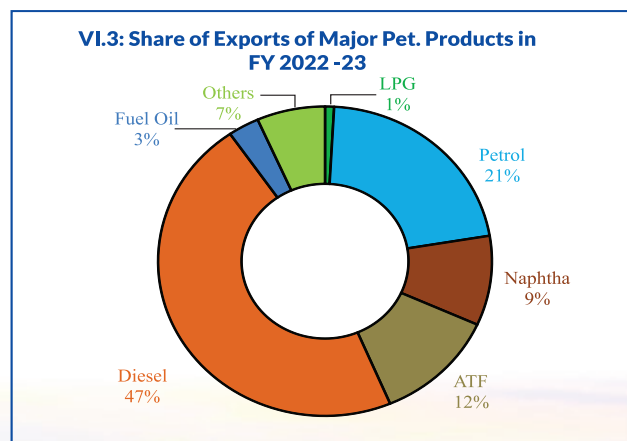
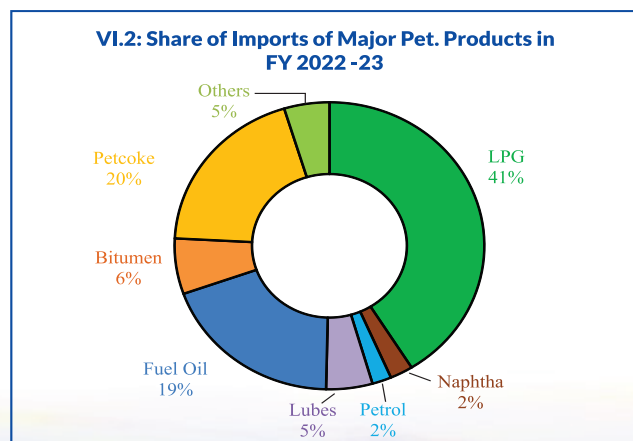
Import/Export	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Growth in 2022-23 over 2021-22
1	2	3	4	5	6	7	8
<b>1. Crude Oil Import</b>	<b>220433</b>	<b>226498</b>	<b>226955</b>	<b>196461</b>	<b>212382</b>	<b>232700</b>	<b>9.6</b>
<b>2. LNG Imports</b>	<b>20177</b>	<b>21545</b>	<b>24417</b>	<b>25055</b>	<b>23417</b>	<b>19852</b>	<b>-15.2</b>
<b>3. Petroleum Product Import (5 to 15)</b>	<b>35461</b>	<b>33348</b>	<b>43788</b>	<b>43248</b>	<b>39017</b>	<b>44598</b>	<b>14.3</b>
<b>4. Product Imports</b>							
5. LPG	11380	13235	14809	16476	17043	18335	7.6
6. Petrol	174	670	2146	1351	671	1069	59.3
7. Naphtha	2212	2082	1662	1199	237	897	278.4
8. Aviation Turbine Fuel	300	259	65	0	0	0	0.0
9. Kerosene	0	0	0	3	0	0	0.0
10. Diesel	1361	555	2796	648	43	322	642.3
11. Lubes	2539	2457	2675	2693	3058	2152	-29.6
12. Fuel Oil	1213	1419	4583	6454	8980	8563	-4.7
13. Bitumen	950	877	1630	2055	2581	2797	8.4
14. Petcoke	12777	7926	10674	8256	4213	8664	105.6
15. Others <sup>1</sup>	2556	3869	2749	4112	2189	1799	-17.8
<b>16. Total Import (1+2+3)</b>	<b>276070</b>	<b>281391</b>	<b>295159</b>	<b>264763</b>	<b>274815</b>	<b>297151</b>	<b>8.1</b>
<b>17. Product Export</b>							
18. LPG	359	417	463	452	513	540	5.2
19. Petrol	14036	12885	12710	11606	13482	13127	-2.6
20. Naphtha	8951	6963	8897	6509	6861	5714	-16.7
21. Aviation Turbine Fuel	7183	7389	6906	3544	5186	7264	40.1
22. Kerosene	17	19	176	15	14	11	-24.4
23. Diesel	29735	27931	31653	30576	32407	28496	-12.1
24. Lubes	13	8	8	15	10	14	33.2
25. Fuel Oil	2525	2197	1527	1177	1757	1841	4.8
26. Bitumen	64	23	25	7	6	9	42.3
27. Petcoke/CBFS	561	1124	465	577	187	284	51.9
28. Others <sup>2</sup>	3387	2140	2854	2290	2330	3717	59.5
<b>29. Export of Petroleum Products (18-28)</b>	<b>66833</b>	<b>61096</b>	<b>65685</b>	<b>56769</b>	<b>62755</b>	<b>61015</b>	<b>-2.8</b>
<b>30. Net Import (29-16)</b>	<b>209238</b>	<b>220295</b>	<b>229474</b>	<b>207995</b>	<b>212061</b>	<b>236136</b>	<b>11.4</b>
<b>31. Net Petroleum Product Export (29-3)</b>	<b>31372</b>	<b>27747</b>	<b>21898</b>	<b>13521</b>	<b>23738</b>	<b>16417</b>	<b>-30.8</b>

P: Provisional

1: Other imports include Paraffin Wax, Petroleum Jelly, LSWR, Aviation Gas, MTBE &amp; Reformate.

2: Other exports include VGO, Benzene, MTO &amp; Sulphur.

Source: Petroleum Planning &amp; Analysis Cell.



**VI.4: Import / Export of Crude Oil and Petroleum Products**

(Value in ₹ Crore)

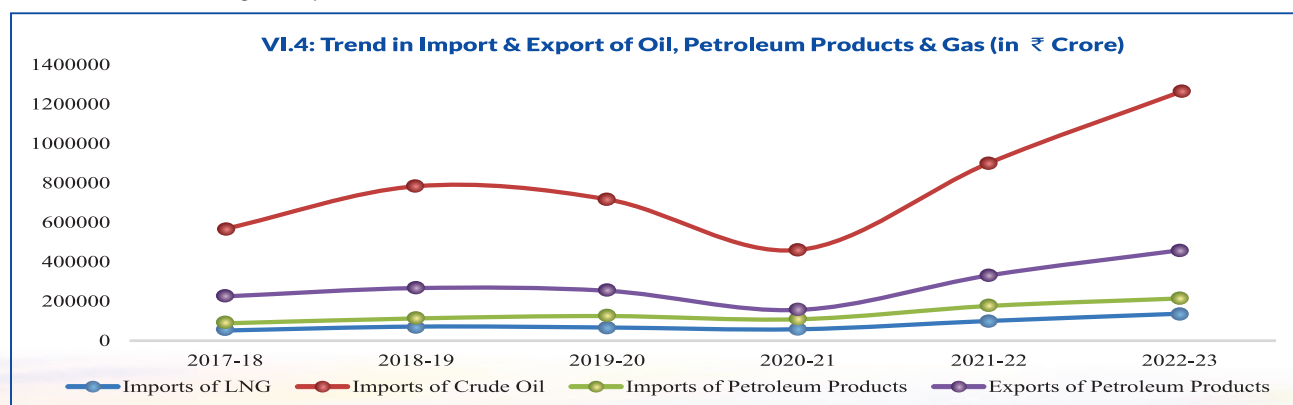
Import/Export	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Growth in 2022-23 over 2021-22
1	2	3	4	5	6	7	8
<b>1. Crude Oil Import</b>	<b>566450</b>	<b>783183</b>	<b>717001</b>	<b>459779</b>	<b>901262</b>	<b>1260372</b>	<b>39.8</b>
<b>2. LNG Imports</b>	<b>52366</b>	<b>73888</b>	<b>68467</b>	<b>58329</b>	<b>100521</b>	<b>137210</b>	<b>36.5</b>
<b>3. Petroleum Product Import (5 to 15)</b>	<b>88374</b>	<b>113665</b>	<b>125742</b>	<b>109430</b>	<b>176835</b>	<b>215854</b>	<b>22.1</b>
<b>4. Product Import</b>							
5. LPG	37875	49939	50347	53752	91468	107191	17.2
6. Petrol	581	3104	9610	4950	3895	8846	127.1
7. Naphtha	8161	9665	6678	3844	1499	4781	219.0
8. Aviation Turbine Fuel	1159	1392	309	0	0	0	0.0
9. Kerosene	0	0	0	12	0	0	0.0
10. Diesel	4269	2486	11619	1960	253	3584	1316.7
11. Lubes	12075	13349	11869	12170	19704	18449	-6.4
12. Fuel Oil	3231	4782	11791	14312	32815	33474	2.0
13. Bitumen	1902	2149	3634	4325	7678	9945	29.5
14. Petcoke	11100	10350	9713	6410	8203	18157	121.3
15. Others <sup>1</sup>	8020	16449	10172	7695	11319	11425	0.9
<b>16. Total Import (1+2+3)</b>	<b>707191</b>	<b>970736</b>	<b>911209</b>	<b>627537</b>	<b>1178618</b>	<b>1613435</b>	<b>36.9</b>
<b>17. Product Export</b>							
18. LPG	1501	1976	1970	1797	3214	3891	21.1
19. Petrol	54580	60419	54512	36530	81649	102800	25.9
20. Naphtha	29075	28893	31509	18643	37231	33357	-10.4
21. Aviation Turbine Fuel	25348	34030	28458	9377	27112	58598	116.1
22. Kerosene	68	98	560	48	77	100	30.6
23. Diesel	99492	123882	123919	81611	164741	230826	40.1
24. Lubes	118	106	96	93	114	205	79.0
25. Fuel Oil	5291	6537	3811	2318	6633	7834	18.1
26. Bitumen	119	72	89	23	28	42	52.2
27. Petcoke/CBFS	687	3255	1096	292	553	648	17.1
28. Others <sup>2</sup>	9110	8429	7998	6436	10449	20427	95.5
<b>29. Export of Petroleum Products (18-28)</b>	<b>225388</b>	<b>267697</b>	<b>254018</b>	<b>157168</b>	<b>331801</b>	<b>458729</b>	<b>38.3</b>
<b>30. Net Import (29-16)</b>	<b>481803</b>	<b>703040</b>	<b>657192</b>	<b>470369</b>	<b>846817</b>	<b>1154707</b>	<b>36.4</b>
<b>31. Net Petroleum Product Export (29-3)</b>	<b>137014</b>	<b>154031</b>	<b>128276</b>	<b>47738</b>	<b>154966</b>	<b>242875</b>	<b>56.7</b>

P: Provisional

1: Other imports include Paraffin Wax, Petroleum Jelly, LSWR, Aviation Gas, MTBE &amp; Reformate.

2: Other exports include VGO, Benzene, MTO &amp; Sulphur.

Source: Petroleum Planning &amp; Analysis Cell.



## VI.5: Import / Export of Crude Oil and Petroleum Products

(Value in Million US\$)

Import/Export	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Growth in 2022-23 over 2021-22
1	2	3	4	5	6	7	8
<b>1. Crude Oil Import</b>	<b>87803</b>	<b>111915</b>	<b>101376</b>	<b>62248</b>	<b>120675</b>	<b>157531</b>	<b>30.5</b>
<b>2. LNG Imports</b>	<b>8121</b>	<b>10558</b>	<b>9663</b>	<b>7881</b>	<b>13472</b>	<b>17114</b>	<b>27.0</b>
<b>3. Petroleum Product Import (5 to 15)</b>	<b>13637</b>	<b>16341</b>	<b>17689</b>	<b>14770</b>	<b>23656</b>	<b>26912</b>	<b>13.8</b>
<b>4. Product Import</b>							
5. LPG	5849	7178	7070	7242	12235	13344	9.1
6. Petrol	91	445	1357	674	519	1094	110.7
7. Naphtha	1261	1391	941	518	199	593	197.5
8. Aviation Turbine Fuel	178	200	45	0	0	0	0.0
9. Kerosene	0	0	0	2	0	0	0.0
10. Diesel	660	360	1632	265	34	454	1239.7
11. Lubes	1860	1910	1673	1647	2642	2301	-12.9
12. Fuel Oil	499	696	1650	1936	4379	4202	-4.0
13. Bitumen	293	309	510	586	1029	1237	20.2
14. Petcoke	1709	1494	1374	861	1097	2263	106.3
15. Others <sup>1</sup>	1237	2358	1438	1038	1521	1425	-6.3
<b>16. Total Import (1+2+3)</b>	<b>109561</b>	<b>138814</b>	<b>128728</b>	<b>84899</b>	<b>157803</b>	<b>201557</b>	<b>27.7</b>
<b>17. Product Export</b>							
18. LPG	231	283	277	241	430	486	13.0
19. Petrol	8464	8641	7708	4977	10879	12868	18.3
20. Naphtha	4505	4137	4439	2530	4984	4184	-16.0
21. Aviation Turbine Fuel	3931	4867	4021	1287	3661	7285	99.0
22. Kerosene	10	14	78	7	10	13	22.5
23. Diesel	15426	17675	17481	11132	22088	28861	30.7
24. Lubes	18	15	13	12	15	26	67.2
25. Fuel Oil	817	923	537	313	890	973	9.3
26. Bitumen	18	10	13	3	4	5	39.1
27. Petcoke/CBFS	107	463	155	39	74	81	8.9
28. Others <sup>2</sup>	1412	1208	1128	865	1402	2542	81.3
<b>29. Export of Petroleum Products (18 to 28)</b>	<b>34940</b>	<b>38236</b>	<b>35848</b>	<b>21406</b>	<b>44438</b>	<b>57323</b>	<b>29.0</b>
<b>30. Net Import (29-16)</b>	<b>74622</b>	<b>100578</b>	<b>92880</b>	<b>63493</b>	<b>113365</b>	<b>144234</b>	<b>27.2</b>
<b>31. Net Petroleum Product Export (29-3)</b>	<b>21303</b>	<b>21895</b>	<b>18159</b>	<b>6636</b>	<b>20782</b>	<b>30411</b>	<b>46.3</b>

P: Provisional

1: Other imports include Paraffin Wax, Petroleum Jelly, LSWR, Aviation Gas, MTBE &amp; Reformate.

2: Other exports include VGO, Benzene, MTO &amp; Sulphur.

Source: Petroleum Planning &amp; Analysis Cell.

**VI.6: Product-wise Volume of Imports by Public & Private Sector**

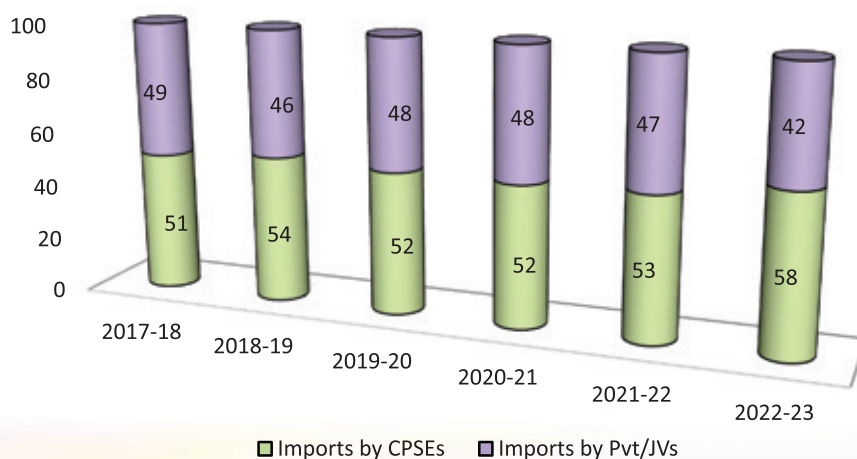
(Figures in TMT)

Products	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
<b>A. PUBLIC SECTOR</b>						
<b>1. Crude Oil Imports</b>	<b>117371</b>	<b>124665</b>	<b>121102</b>	<b>105506</b>	<b>114318</b>	<b>141234</b>
2 LPG	11015	12919	14605	16412	17043	18335
3 Petrol	174	670	2146	1343	671	1069
4 Naphtha	162	140	145	66	0	0
5 ATF	0	0	65	0	0	0
6 Diesel	1270	462	2679	557	0	249
7 Lubes	0	102	158	71	81	106
8 Fuel Oil	116	225	122	188	114	8
9 Bitumen	0	0	7	23	5	52
10 Others <sup>1</sup>	50	62	43	18	155	35
<b>11. Total Product Import (2 to 10)</b>	<b>12786</b>	<b>14580</b>	<b>19969</b>	<b>18677</b>	<b>18069</b>	<b>19854</b>
<b>12. Total Imports (11)</b>	<b>130157</b>	<b>139245</b>	<b>141071</b>	<b>124184</b>	<b>132387</b>	<b>161089</b>
<b>B. PRIVATE/JVs SECTOR</b>						
<b>13. Crude Oil Imports</b>	<b>103062</b>	<b>101832</b>	<b>105852</b>	<b>90955</b>	<b>98063</b>	<b>91466</b>
14. LPG	364	316	204	64	0	0
15. Petrol	0	0	0	9	0	0
16. Naphtha	2050	1941	1517	1133	237	897
17. ATF	300	259	0	0	0	0
18. Kerosene	0	0	0	3	0	0
19. Diesel	90	93	117	91	43	73
20. Lubes	2539	2355	2517	2622	2977	2047
21. Fuel Oil	1097	1195	4461	6267	8867	8555
22. Bitumen	950	877	1623	2032	2575	2746
23. Petcoke	12777	7926	10674	8256	4213	8664
24. Others <sup>1</sup>	2506	3807	2706	4094	2034	1764
<b>25. Total Product Import (14 to 24)</b>	<b>22675</b>	<b>18769</b>	<b>23819</b>	<b>24570</b>	<b>20947</b>	<b>24744</b>
<b>26. Total Imports (13+25)</b>	<b>125737</b>	<b>120601</b>	<b>129671</b>	<b>115525</b>	<b>119011</b>	<b>116210</b>
<b>27. Total (12+26)</b>	<b>255894</b>	<b>259846</b>	<b>270742</b>	<b>239709</b>	<b>251398</b>	<b>277298</b>

P: Provisional, BORL was merged with BPCL during FY 2022-23. Subsequently, data related to BOR<sup>2</sup> is categorized as Jain Venture (JV) until FY 2021-22 and as Public Sector undertaking (PSU) thereafter from 2022-23.

1: Other imports include Paraffin Wax, Petroleum Jelly, LSWR, Aviation Gas, MTBE & Reformate.

Source: Petroleum Planning & Analysis Cell.

**VI. 5: Share of Public & PVTs/JVs Sector in Imports (Crude Oil + Petroleum Products)**




## VI.7: Product-wise Volume of Exports by Public & Private Sector

(Figures in TMT)

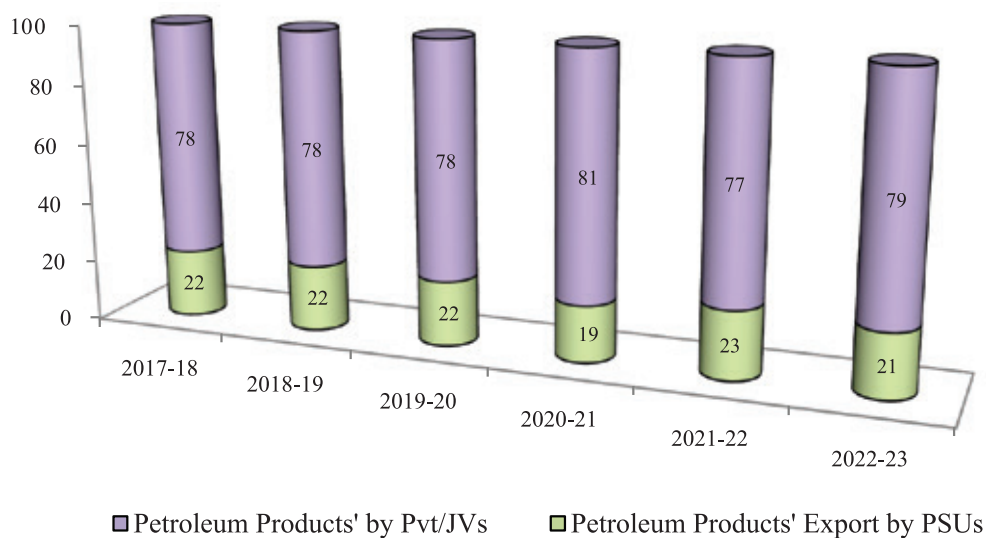
Products	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
<b>A. PUBLIC SECTOR</b>						
1. LPG	359	417	463	452	513	540
2. MS/ Petrol	794	873	690	842	1809	1703
3. Naphtha/ NGL	4466	3101	4089	2537	2422	2506
4. Aviation Turbine Fuel	1641	1585	1228	575	903	1804
5. SKO/ Kerosene	17	19	176	15	14	11
6. HSD/ Diesel	4211	4845	5667	4720	6551	3455
7. LDO	18	99	0	0	0	1
8. LOBS/ Lube Oil	13	8	8	15	10	14
9. Fuel Oil/LSHS	2525	1849	1492	951	1147	1595
10. Bitumen	64	23	25	7	6	9
11. Petcoke/CBFS	0	0	0	0	44	0
12. Others <sup>1</sup>	854	494	329	537	778	1243
<b>13. Total (1 to 12)</b>	<b>14962</b>	<b>13312</b>	<b>14168</b>	<b>10649</b>	<b>14197</b>	<b>12881</b>
<b>B. PRIVATE/JVs SECTOR</b>						
14. MS/ Petrol	13242	12012	12020	10764	11674	11424
15. Naphtha/ NGL	4485	3862	4808	3972	4439	3208
16. Aviation Turbine Fuel	5542	5804	5678	2970	4283	5460
17. HSD/ Diesel	25506	22988	25986	25856	25856	25039
18. Fuel Oil/LSHS		348	35	227	610	246
19. Petcoke/CBFS	561	1124	465	577	143	284
20. Others <sup>1</sup>	2533	1646	2525	1753	1553	2473
<b>21. Total (14 to 20)</b>	<b>51870</b>	<b>47783</b>	<b>51517</b>	<b>46119</b>	<b>48557</b>	<b>48134</b>
<b>22. Total Exports (13+21)</b>	<b>66833</b>	<b>61096</b>	<b>65685</b>	<b>56769</b>	<b>62755</b>	<b>61015</b>

P: Provisional, BORL was merged with BPCL during FY 2022-23. Subsequently, data related to BOR<sup>2</sup> is categorized as Jain Venture (JV) until FY 2021-22 and as Public Sector undertaking (PSU) thereafter from 2022-23.

1: Other imports include Paraffin Wax, Petroleum Jelly, LSWR, Aviation Gas, MTBE & Reformate.

Source: Petroleum Planning & Analysis Cell.

### VI.6: Share of Public & PVTs/JVs Sector in Export of Petroleum Products



## VI.8: Product-wise Value of Imports by Public &amp; Private Sector

(Value in ₹ Crore)

Products	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
<b>A. PUBLIC SECTOR</b>						
<b>1. Crude Oil</b>	<b>310815</b>	<b>443629</b>	<b>396186</b>	<b>254432</b>	<b>492179</b>	<b>786911</b>
2. LPG	36626	48636	49617	53501	91465	107187
3. Petrol	581	3104	9610	4911	3894	8845
4. Naphtha	593	668	616	207	0	0
5. ATF	0	0	309	0	0	0
6. Diesel	3921	2016	11116	1654	0	2925
7. Lubes	0	553	753	361	563	919
8. Fuel Oil	284	761	345	508	371	54
9. Bitumen	0	0	18	78	16	210
10. Others <sup>1</sup>	300	439	315	112	772	310
<b>11. Total Product Import (2 to 10)</b>	<b>42305</b>	<b>56178</b>	<b>72699</b>	<b>61332</b>	<b>97082</b>	<b>120452</b>
<b>12. Total PSUs Imports (1+11)</b>	<b>353120</b>	<b>499808</b>	<b>468885</b>	<b>315763</b>	<b>589260</b>	<b>907363</b>
<b>B. PRIVATE/JVs SECTOR</b>						
<b>13. Crude Oil</b>	<b>255635</b>	<b>339553</b>	<b>320815</b>	<b>205347</b>	<b>409083</b>	<b>473461</b>
14. LPG	1250	1303	730	251	3	4
15. Petrol	0	0	0	39	1	1
16. Naphtha	7569	8997	6062	3637	1499	4781
17. ATF	1159	1392	0	0	0	0
18. Kerosene	0	0	0	12	0	0
19. Diesel	348	470	503	306	253	659
20. Lubes	12075	12796	11116	11809	19141	17530
21. Fuel Oil	2947	4021	11446	13804	32444	33420
22. Bitumen	1902	2149	3615	4248	7662	9735
23. Petcoke	11100	10350	9713	6410	8203	18157
24. Others <sup>1</sup>	7719	16009	9857	7583	10548	11115
<b>25. Total Product Import (14 to 24)</b>	<b>46069</b>	<b>57487</b>	<b>53042</b>	<b>48098</b>	<b>79753</b>	<b>95402</b>
<b>26. Total Pvt. Imports (13+25)</b>	<b>301704</b>	<b>397041</b>	<b>373857</b>	<b>253445</b>	<b>488836</b>	<b>568863</b>
<b>27. Total Imports (12+26)</b>	<b>654824</b>	<b>896848</b>	<b>842743</b>	<b>569208</b>	<b>1078097</b>	<b>1476226</b>

P: Provisional, BORL was merged with BPCL during FY 2022-23. Subsequently, data related to BOR<sup>2</sup> is categorized as Jain Venture (JV) until FY 2021-22 and as Public Sector undertaking (PSU) thereafter from 2022-23.

1: Other imports include Paraffin Wax, Petroleum Jelly, LSWR, Aviation Gas, MTBE & Reformate.

Source: Petroleum Planning & Analysis Cell.

## VI.9: Product-wise Exports by Public & Private Sector

(Value in ₹ Crore)

Products	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
<b>A. PUBLIC SECTOR</b>						
1. LPG	1501	1976	1970	1797	3214	3891
2. MS/ Petrol	3240	4237	3123	2768	11446	14000
3. Naphtha/ NGL	14356	12698	14448	7205	13074	14262
4. Aviation Turbine Fuel	5771	7317	5083	1566	5282	14555
5. SKO/ Kerosene	68	98	560	48	77	100
6. HSD/ Diesel	14777	22097	23068	12790	35448	30265
7. LDO	37	364	0	0	0	13
8. LOBS/ Lube Oil	118	106	96	93	114	205
9. Fuel Oil/LSHS	5291	5648	3700	1876	4213	6394
10. Bitumen	119	72	89	23	28	42
11. Petcoke/CBFS	0	0	0	0	33	0
12. Others <sup>1</sup>	2673	1528	1004	1541	3845	9078
<b>13. Total (1 to 12)</b>	<b>47952</b>	<b>56140</b>	<b>53141</b>	<b>29708</b>	<b>76775</b>	<b>92805</b>
<b>B. PRIVATE/JVs SECTOR</b>						
14. MS/ Petrol	51340	56182	51389	33761	70203	88800
15. Naphtha/ NGL	14719	16195	17061	11437	24157	19095
16. Aviation Turbine Fuel	19577	26713	23375	7811	21829	44043
17. HSD/ Diesel	84677	101422	100851	68821	129293	200549
18. Fuel Oil/LSHS	0	889	111	443	2420	1440
19. Petcoke/CBFS	687	3255	1096	292	520	648
20. Others <sup>1</sup>	6437	6901	6994	4894	6604	11348
<b>21. Total (14 to 20)</b>	<b>177436</b>	<b>211557</b>	<b>200876</b>	<b>127460</b>	<b>255026</b>	<b>365923</b>
<b>22. Total (13+21)</b>	<b>225388</b>	<b>267697</b>	<b>254018</b>	<b>157168</b>	<b>331801</b>	<b>458729</b>

P: Provisional, BORL was merged with BPCL during FY 2022-23. Subsequently, data related to BOR<sup>2</sup> is categorized as Jain Venture (JV) until FY 2021-22 and as Public Sector undertaking (PSU) thereafter from 2022-23.

1: Other exports include VGO, Benzene, MTO & Sulphur.

Source: Petroleum Planning & Analysis Cell.

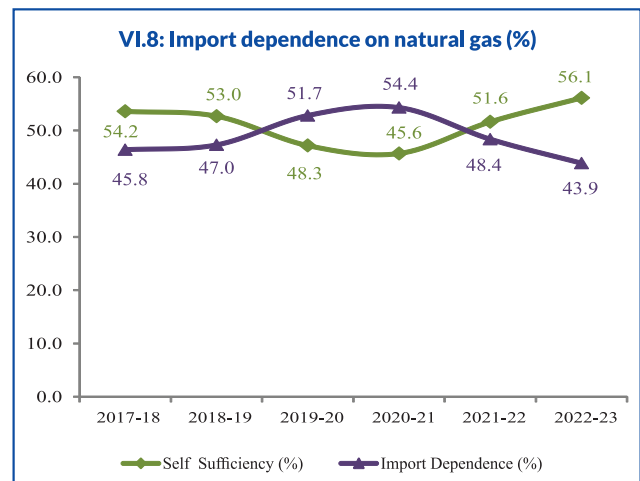
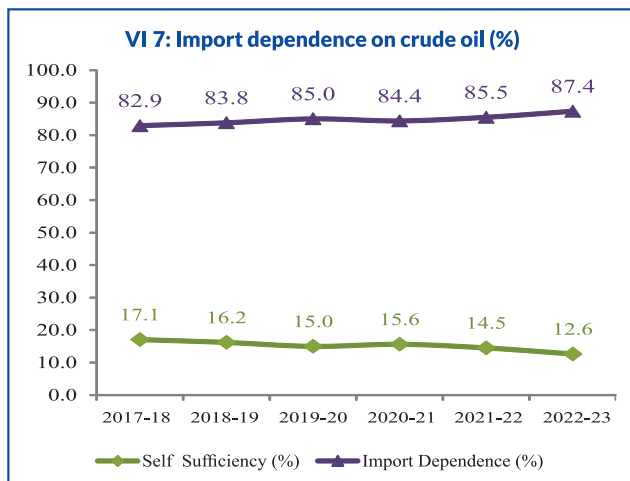
## VI.10: Oil & Gas Import Dependency

Elements	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
<b>1. Import dependence on crude oil (in MMT)</b>						
2. Total Consumption	206.2	213.2	214.1	194.3	201.7	223.0
3. Indigenous crude oil processing	32.8	31.7	29.3	28.0	27.0	26.4
4. Products from Indigenous crude	30.6	29.6	27.3	26.1	25.2	24.7
5. Products from Fractionators	4.6	4.9	4.8	4.2	4.1	3.5
6. Total Indigenous production (4+5)	35.2	34.5	32.1	30.3	29.3	28.2
7. Self Sufficiency (%)	17.1	16.2	15.0	15.6	14.5	12.6
<b>8. Import Dependence (%)</b>	<b>82.9</b>	<b>83.8</b>	<b>85.0</b>	<b>84.4</b>	<b>85.5</b>	<b>87.4</b>
<b>9. Import dependence on natural gas (in BCM)</b>						
10. Total Consumption	58.5	60.6	62.6	61.0	64.2	60.0
11. Indigenous gas production	31.7	32.1	30.3	27.8	33.1	33.7
12. Import of LNG	26.7	28.5	32.4	33.2	31.0	26.3
13. Self Sufficiency (%)	54.2	53.0	48.3	45.6	51.6	56.1
<b>14. Import Dependence (%)</b>	<b>45.78</b>	<b>47.03</b>	<b>51.67</b>	<b>54.44</b>	<b>48.36</b>	<b>43.86</b>
<b>15. Import dependence on oil and oil equivalent gas (O+OEG)(in MMTOE)</b>						
16. Total Consumption	280.2	289.3	293.6	269.2	280.3	299.0
17. Indigenous O+OEG production	69.4	69.1	64.6	60.3	64.5	63.9
<b>18. Self Sufficiency (%)</b>	<b>24.8</b>	<b>23.9</b>	<b>22.0</b>	<b>22.4</b>	<b>23.0</b>	<b>21.4</b>
<b>19. Import Dependence (%)</b>	<b>75.2</b>	<b>76.1</b>	<b>78.0</b>	<b>77.6</b>	<b>77.0</b>	<b>78.6</b>

**Note:**

- SION norms has been taken as 93.3% of crude oil processed for working out products output from indigenous crude oil processed.
- For converting production of petroleum products from fractionators, SION norms has been taken as 93.3%.
- Net production and consumption of natural gas is inclusive of internal gas consumption but excluding flare and loss.
- 1 BCM of Natural gas =1 Mtoe

Source: Petroleum Planning & Analysis Cell.





### VI.11: Annual Growth of Foreign Direct Investment Equity Inflows

YEAR	FDI Inflow in P&NG Sector										% share of P&NG in All sector's FDI	FDI Inflow All Sectors		% FDI Growth in All Sector
	Oil Refinery		Oil Exploration		Others (Fuels)		Total		in ₹ Million			in US \$ Million		
	in ₹ Million	in US \$ Million	in ₹ Million	in US \$ Million	in ₹ Million	in US \$ Million	in ₹ Million	in US \$ Million	8	9		11	12	
1	2	3	4	5	6	7	8	9	10	11	12	13		
2017-18	278	4	1690	26	602	9	2570	40	0.1	2888885	60974	1.3		
2018-19	334	5	5726	84	4114	61	10174	149	0.2	3098667	62001	1.7		
2019-20	3168	45	895	12	55592	749	59654	806	1.1	3535584	74391	20.0		
2020-21	361	5	667	9	6642	89	7669	103	0.1	4425688	81973	10.2		
2021-22	289	4	135	2	3778	51	4202	56	0.1	4371881	84835	3.5		
2022-23 (P)	0	0	1247	16	7515	92	8762	108	0.2	3674349	70970	-16.3		

**Note:** Total FDI inflow includes equity inflow, equity capital of unincorporated bodies, re-invested earnings, and other capital. Sector/State/Country-wise details are maintained only for equity component of FDI inflow. P: Provisional

Source: Foreign Direct Investment Cell, Department for Promotion of Industry and Internal Trade

Figure VI.9: Sectorial Share of FDI inflow during 2022-23

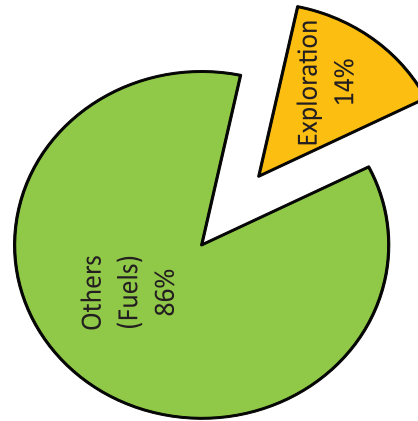
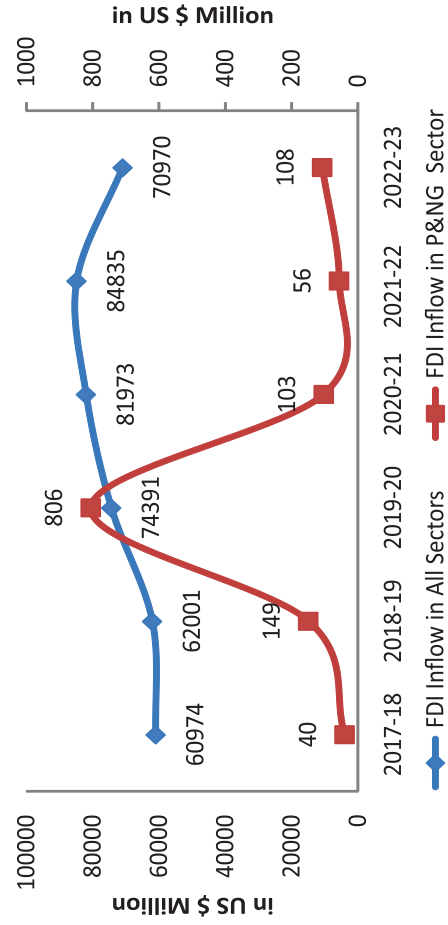


Figure VI.10 : Trend of FDI inflow in the India in all Sector vis-a-vis PNG Sector





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# CHAPTER -VII



**Energy**

## Chapter Highlights

During FY 2021-22, Oil & Gas Sector contributed to economic activities with Gross Value Added (at current prices) of ₹3,18,660 crore vis-à-vis ₹ 2,42,021 crore in FY 2020-21 thus registering a positive growth rate of 31.7%. In addition, it is to note that contribution of Oil & Gas Sector in total GVA (at current prices) has increased from 1.3% in 2020-21 to 1.5% in 2021-22.

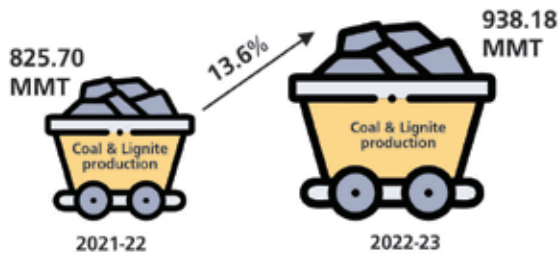
Contribution of Oil & Gas Sector in total GVA (at current prices)



During FY 2021-22, Oil & Gas Sector contributed in economic activities with Gross Value Added [at constant prices (2011-12)] of ₹ 2,67,025 crore vis-à-vis ₹2,95,713 crore in FY 2020-21 thus registering a negative growth rate of 9.7%. In addition, it is to note that contribution of Oil & Gas Sector in total GVA [at constant prices (2011-12)] has increased from 4.2% in 2020-21 to 8.8% in 2021-22.



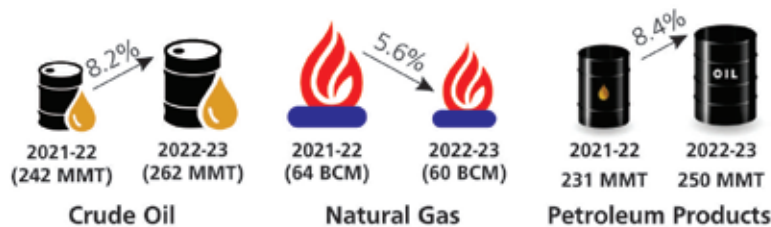
### Coal & Lignite production in India



### Gross Electricity Generation in India



### Total availability of Oil, Petroleum products in India





## VII.1: Gross Value Added by Economic Activity at Current Prices

(Value in ₹ crore)

Sectors	2017-18	2018-19	2019-20	2020-21	2021-22 (P)
1	2	3	4	5	6
1. Petroleum & Natural Gas	95817	112579	108280	78976	128702
2. Manufacture of coke and refined petroleum products	201980	156019	125114	163045	189958
<b>3. Total (1+2)</b>	<b>297797</b>	<b>268598</b>	<b>233394</b>	<b>242021</b>	<b>318660</b>
4. Railways	116584	123596	135376	129709	146600
5. Transport by other means	617201	665683	704468	553853	815270
6. Storage	16194	18597	19796	20556	21590
7. Communication & Services related to broadcasting	247549	258179	292918	318652	381836
8. Electricity	332024	339857	382689	374881	396198
9. Gas	23885	27941	29441	29361	41510
10. Water Supply	41927	49659	55751	59444	74960
11. Other Utility Services	27881	32002	35119	37119	42937
<b>12. Gross Value Added (GVA) by Economic Activity</b>	<b>15505665</b>	<b>17175128</b>	<b>18381117</b>	<b>18188780</b>	<b>21438883</b>
<b>13. Contribution of P&amp; NG in total GVA (%)</b>	<b>1.92</b>	<b>1.56</b>	<b>1.27</b>	<b>1.33</b>	<b>1.49</b>
<b>Growth Rate (%)</b>					
14. Petroleum & Natural Gas	-17.02	17.49	-3.82	-27.06	62.96
15. Manufacture of coke and refined petroleum products	12.13	-22.76	-19.81	30.32	16.51
<b>16. Total</b>	<b>0.74</b>	<b>-9.81</b>	<b>-13.11</b>	<b>3.70</b>	<b>31.67</b>
17. Railways	9.18	6.01	9.53	-4.19	13.02
18. Transport by other means	8.64	7.86	5.83	-21.38	47.20
19. Storage	117.60	14.84	6.45	3.84	5.03
20. Communication & Services related to broadcasting	-0.10	4.29	13.46	8.79	19.83
21. Electricity	21.29	2.36	12.60	-2.04	5.69
22. Gas	24.95	16.98	5.37	-0.27	41.38
23. Water Supply	4.17	18.44	12.27	6.62	26.10
24. Other Utility Services	23.31	14.78	9.74	5.70	15.67
<b>25. Gross Value Added (GVA) by Economic Activity</b>	<b>11.03</b>	<b>10.77</b>	<b>7.02</b>	<b>-1.05</b>	<b>17.87</b>

Note: Growth rate % of particular year over the previous year performance

P: Provisional

Source: National Statistical Office, MoSPI

## VII.2: Gross Value Added at by Economic Activity at Constant Price

(Value in ₹ crore)

Sectors	2017-18	2018-19	2019-20	2020-21	2021-22 (P)
1	2	3	4	5	6
1. Petroleum & Natural Gas	131373	121891	127115	112417	116707
2. Manufacture of coke and refined petroleum products	223738	152497	126381	183296	150318
<b>3. Total (1+2)</b>	<b>355111</b>	<b>274389</b>	<b>253496</b>	<b>295713</b>	<b>267025</b>
4. Railways	87886	91350	82303	65754	83107
5. Transport by other means	501039	528628	545690	418839	541667
6. Storage	12976	13784	14021	13687	18114
7. Communication & Services related to broadcasting	198344	197215	219178	220902	242204
8. Electricity	207882	221446	224576	212597	231209
9. Gas	15029	16863	16450	15381	16608
10. Water Supply	28973	33184	35560	35713	42686
11. Other Utility Services	20765	22655	24212	24066	25607
<b>12. Gross Value Added (GVA) by Economic Activity</b>	<b>12034171</b>	<b>12733798</b>	<b>13236100</b>	<b>12681482</b>	<b>13798025</b>
<b>13. Contribution of P&amp; NG in total GVA (%)</b>	<b>2.95</b>	<b>2.15</b>	<b>1.92</b>	<b>2.33</b>	<b>1.94</b>
<b>Growth Rate (%)</b>					
14. Petroleum & Natural Gas	-16.92	-7.22	4.29	-11.56	3.82
15. Manufacture of coke and refined petroleum products	0.71	-31.84	-17.13	45.03	-17.99
<b>16. Total</b>	<b>-6.62</b>	<b>-22.73</b>	<b>-7.61</b>	<b>16.65</b>	<b>-9.70</b>
17. Railways	6.97	3.94	-9.90	-20.11	26.39
18. Transport by other means	7.77	5.51	3.23	-23.25	29.33
19. Storage	112.71	6.23	1.72	-2.38	32.34
20. Communication & Services related to broadcasting	-2.72	-0.57	11.14	0.79	9.64
21. Electricity	12.20	6.52	1.41	-5.33	8.75
22. Gas	6.26	12.20	-2.45	-6.50	7.98
23. Water Supply	0.56	14.53	7.16	0.43	19.53
24. Other Utility Services	13.71	9.10	6.87	-0.60	6.41
<b>25. Gross Value Added (GVA) by Economic Activity</b>	<b>6.23</b>	<b>5.81</b>	<b>3.94</b>	<b>-4.19</b>	<b>8.80</b>

Note: Growth rate % of particular year over the previous year performance

P: Provisional

Source: National Statistical Office, MoSPI

### VII.3: Gross Production of Various Energy Sources in India

YEAR	Coal & Lignite Sector					Petroleum Sector				Power Sector						Gross Electricity Generation		
	Coal		Lignite		Grand Total	Natural Gas	Crude Oil	Petroleum Products	Thermal			Hydro	Nuclear	ORS*	Total		Non-Utilities	
	Cooking	Non-Cooking	Total	Total					Steam	Diesel	Gas							Total
1	2	3	4=2+3	5	6=4+5	7	8	9	10	11	12	13=10 to 12	14	15	16	17=13 to 16	18	19
2017-18	40.15	635.25	675.40	46.64	722.04	32.65	35.68	254.40	986.59	0.35	50.21	1037.15	126.12	38.35	101.84	1303.45	179.78	1483.23
2018-19	41.13	687.59	728.72	44.28	773.00	32.87	34.20	262.36	1022.27	0.22	49.83	1072.31	134.89	37.81	126.76	1371.78	213.07	1584.85
2019-20	52.84	676.26	729.10	42.21	771.31	31.18	32.17	262.94	994.20	0.20	48.44	1042.84	155.77	46.47	138.34	1383.42	239.57	1622.98
2020-21	44.79	671.30	716.08	37.90	753.98	28.67	30.49	233.51	981.44	0.22	50.94	1032.61	150.30	43.03	147.25	1373.19	224.83	1598.01
2021-22	51.70	726.51	778.21	47.49	825.70	34.02	29.69	254.31	1078.58	0.21	36.02	1114.81	151.63	47.11	170.91	1484.46	209.31	1693.77
2022-23 (P)	60.76	832.43	893.19	44.99	938.18	34.45	29.18	266.54	1182.10	0.32	23.89	1206.22	162.10	45.86	203.55	1617.73	226.00	1843.73

P: Provisional GWh: Giga Watt hour (106 x Kilo Watt hour) \*: Other renewable sources

Source : M/o Coal, M/o Power, CEA and Oil Companies.

### VII.4: Imports & Exports of Various Energy Sources in India

Year	Coal			Lignite			Natural Gas			Crude Oil			Petroleum Products			Electricity		
	Import	Export	Net Import	Import	Export	Net Import	Import	Export	Net Import	Import	Export	Net Import	Import	Export	Net Import	Import	Export	Net Import
1	2	3	4=3-2	5	6	7=6-5	8	9	10	11	12=11-10	13	14	15	16	17	18	19
2016-17	190.95	1.77	189.18	0.02	0.01	0.01	23.56	213.93	36.29	65.51	-29.23	5.62	6.71	-1.09	5.62	6.71	-1.09	-1.09
2017-18	208.27	1.50	206.77	0.01	0.00	0.01	26.73	220.43	35.46	66.83	-31.37	5.07	7.20	-2.13	5.07	7.20	-2.13	-2.13
2018-19	235.24	1.31	233.93	0.02	0.04	-0.02	28.55	226.50	33.35	61.10	-27.75	4.40	8.47	-4.07	4.40	8.47	-4.07	-4.07
2019-20	248.55	0.67	247.88	0.05	0.09	-0.04	32.35	226.95	43.79	65.69	-21.90	6.35	9.49	-3.14	6.35	9.49	-3.14	-3.14
2020-21	215.25	2.95	212.31	0.02	0.19	-0.17	33.20	196.46	43.25	56.77	-13.52	9.55	9.57	-0.03	9.55	9.57	-0.03	-0.03
2021-22	208.63	1.32	207.31	0.01	0.81	-0.80	31.03	212.38	39.02	62.75	-23.74	7.97	9.25	-1.28	7.97	9.25	-1.28	-1.28
2022-23 (P)	237.67	1.16	236.51	0.02	0.33	-0.31	26.30	232.70	44.60	61.01	-16.42	7.84	10.25	-2.41	7.84	10.25	-2.41	-2.41

P: Provisional

Source : M/o Coal, M/o Power, CEA and Oil Companies.

## VII.5: Consumption of Various Energy Sources in India

Year	Coal	Lignite	Total Coal & Lignite	Natural Gas	Crude Oil	Petroleum Products	Electricity
	(TMT)			(MMSCM)	(TMT)		(GWh)
1	2	3	4=2+3	5	6	7	8
2017-18	898.52	46.32	944.84	58465	251.93	206.17	1123.43
2018-19	968.25	45.81	1014.06	60603	257.20	213.22	1209.97
2019-20	955.27	43.15	998.42	62609	254.39	214.13	1248.09
2020-21	906.14	38.51	944.65	60981	221.77	194.30	1230.21
2021-22	1027.84	49.09	1076.93	64159	241.70	201.70	1316.76
<b>2022-23 (P)</b>	<b>1115.04</b>	<b>46.85</b>	<b>1161.88</b>	<b>59969</b>	<b>255.23</b>	<b>223.01</b>	<b>1403.40</b>

Note: Consumption of Crude oil in terms of Crude oil processed NA: Not Available P: Provisional

Source : M/o Coal, M/o Power, CEA and Oil Companies.

## VII.6: Availability of Various Energy Sources in India

Year	Coal	Lignite	Total Coal & Lignite	Natural Gas	Crude Oil	Petroleum Products	Electricity
	(TMT)			(MMSCM)	(TMT)		(GWh)
1	2	3	4=2+3	5	6	7	8
2017-18	896.09	46.98	943.06	58465	256.12	223.03	1232.51
2018-19	958.25	42.72	1000.97	60603	260.70	234.61	1307.68
2019-20	978.32	42.21	1020.53	62609	259.12	241.04	1323.05
2020-21	901.79	37.21	939.00	60981	226.95	219.99	1314.02
2021-22	1028.86	45.90	1074.76	64159	242.07	230.57	1413.90
<b>2022-23 (P)</b>	<b>1117.79</b>	<b>43.18</b>	<b>1160.97</b>	<b>59969</b>	<b>261.91</b>	<b>250.04</b>	<b>1507.00</b>

Note: NA: Not Available P: Provisional

1. Availability of Coal & Lignite is equal to sum of Production (Coking + Non-coking), Change of Vendible Stock (closing stock-Opening stock) and net imports (Imports-Exports)
2. Availability of Natural Gas is equal to sum of net production of gas and imports of LNG
3. Availability of Crude oil is equal to sum of gross production and imports of crude oil.
4. Availability of Petroleum products is equal to sum of production of petroleum products and net imports (Imports- Exports) of petroleum products.
5. Net Availability of Electricity is sum of Gross Electricity Generated from Utilities - Consumption in Power Station Auxiliaries + Purchases from Non-Utilities + Net Import from Other Countries

Source : M/o Coal, M/o Power, CEA and Oil Companies.



## VII.7: Availability of Petroleum Products (Product-wise)

(Figures in MMT)

Items		2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1		2	3	4	5	6	7
LPG	Production	12.38	12.79	12.82	12.07	12.24	12.83
	Imports	11.38	13.24	14.81	16.48	17.04	18.34
	Export	0.36	0.42	0.46	0.45	0.51	0.54
	Availability	23.40	25.60	27.17	28.10	28.77	30.63
Motor Spirit	Production	37.78	38.04	38.62	35.78	40.24	42.82
	Imports	0.17	0.67	2.15	1.35	0.67	1.07
	Export	14.04	12.88	12.71	11.61	13.48	13.13
	Availability	23.92	25.82	28.05	25.52	27.43	30.76
Naphtha	Production	20.01	19.79	20.68	19.40	19.99	17.04
	Imports	2.21	2.08	1.66	1.20	0.24	0.90
	Export	8.95	6.96	8.90	6.51	6.86	5.71
	Availability	13.27	14.90	13.44	14.09	13.37	12.22
Kerosene	Production	4.41	4.07	3.21	2.39	1.92	0.95
	Imports	0.00	0.00	0.00	0.00	0.00	0.00
	Export	0.02	0.02	0.18	0.02	0.01	0.01
	Availability	4.39	4.05	3.03	2.38	1.90	0.94
ATF	Production	14.59	15.48	15.24	7.09	10.29	15.00
	Imports	0.30	0.26	0.06	0.00	0.00	0.00
	Export	7.18	7.39	6.91	3.54	5.19	7.26
	Availability	7.71	8.35	8.40	3.55	5.11	7.74
Diesel (HSD+L-DO)	Production	108.47	111.24	111.84	101.17	107.98	114.42
	Imports	1.36	0.56	2.80	0.65	0.04	0.32
	Export	29.74	27.93	31.65	30.58	32.41	28.50
	Availability	80.09	83.86	82.98	71.24	75.62	86.25
Fuel Oils	Production	9.49	10.03	8.61	7.24	8.33	9.24
	Imports	1.21	1.42	4.58	6.45	8.98	8.56
	Export	2.53	2.20	1.53	1.18	1.76	1.84
	Availability	8.17	9.26	11.66	12.52	15.55	15.96
Lube Oils	Production	1.04	0.95	0.93	1.07	1.17	1.30
	Imports	2.54	2.46	2.67	2.69	3.06	2.15
	Export	0.01	0.01	0.01	0.01	0.01	0.01
	Availability	3.56	3.40	3.60	3.75	4.22	3.44
Bitumen	Production	5.28	5.80	5.24	5.25	5.11	5.14
	Imports	0.95	0.88	1.63	2.05	2.58	2.80
	Export	0.06	0.02	0.03	0.01	0.01	0.01
	Availability	6.16	6.66	6.85	7.29	7.69	7.93
Petroleum Coke	Production	14.75	14.68	15.53	12.66	15.51	16.04
	Imports	12.78	7.93	10.67	8.26	4.21	8.66
	Export	0.56	1.12	0.47	0.58	0.19	0.28
	Availability	26.97	21.48	25.74	20.33	19.53	24.42
Others	Production	26.21	29.50	30.22	29.39	31.53	31.76
	Imports	2.56	3.87	2.75	4.11	2.19	1.80
	Export	3.39	2.14	2.85	2.29	2.33	3.72
	Availability	25.38	31.23	30.11	31.22	31.38	29.84
Total Petroleum Products	Production	254.40	262.36	262.94	233.51	254.31	266.54
	Imports	35.46	33.35	43.79	43.25	39.02	44.60
	Export	66.83	61.10	65.69	56.77	62.75	61.01
	Availability	223.03	234.61	241.04	219.99	230.57	250.12

Note: Availability of Petroleum products is equal to sum of production of petroleum products and net imports (Imports- Exports) of petroleum products.  
P: Provisional

Source: Oil Companies & Petroleum Planning & Analysis Cell.



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APPENDIX

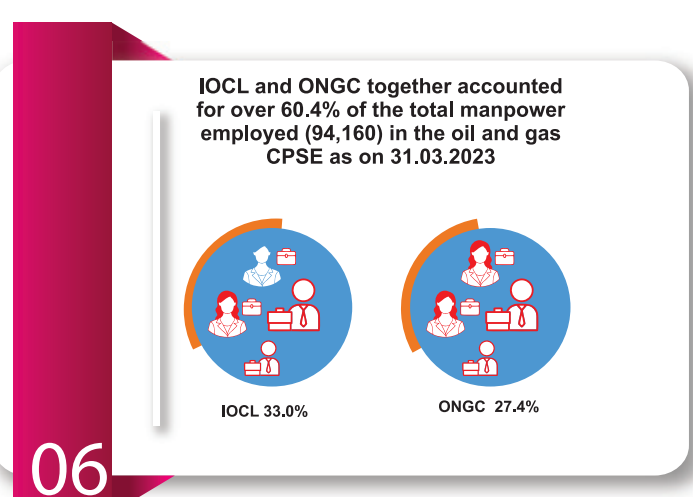
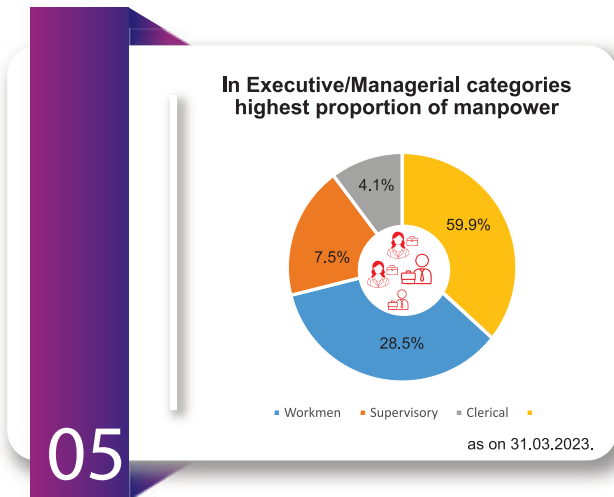
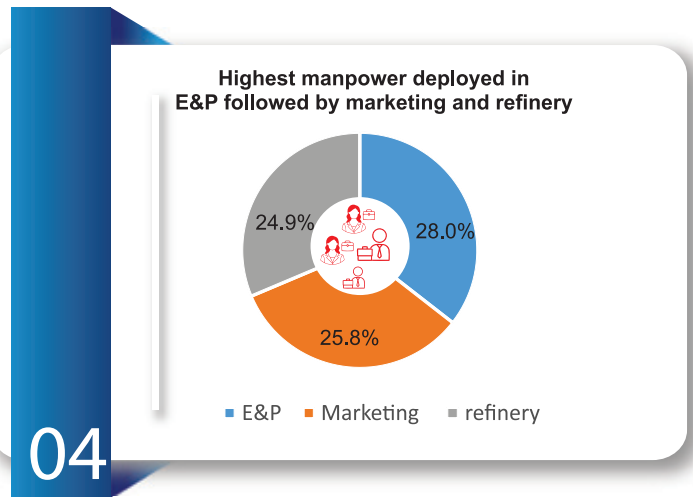
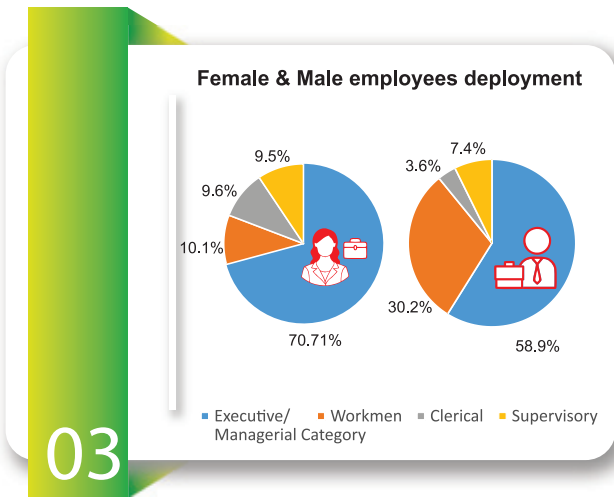
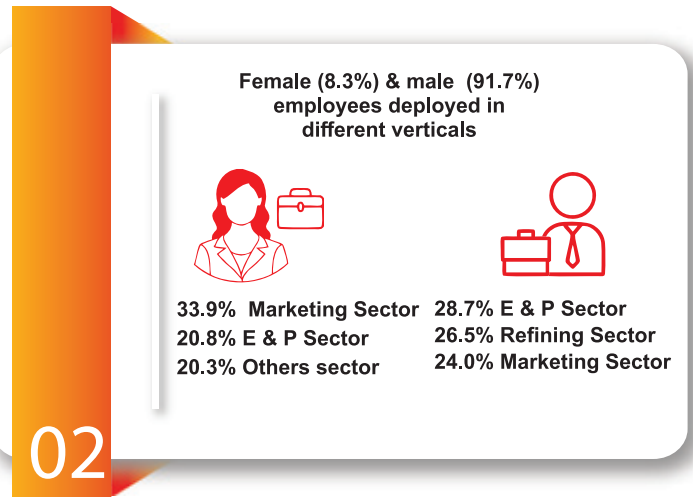
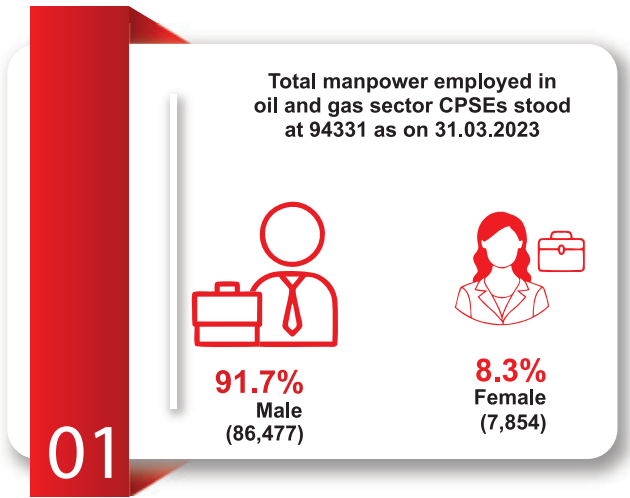


# CHAPTER -VIII



## MANPOWER

Chapter Highlights





### VIII.1: Sector-wise Manpower Employed in Oil & Gas CPSEs in India (as on 31<sup>st</sup> March)

(Figures in Number)

Sector	2017	2018	2019	2020	2021	2022	2023 (P)	% Share During 2023
1	2	3	4	5	6	7	8	9
1. Exploration & Production	33150	31823	31019	29987	28381	27219	26411	28.0
2. Refining	25038	25198	25690	25317	24302	23840	24313	25.8
3. Marketing	30698	29994	29657	28380	25900	24718	23446	24.9
4. Pipelines	5689	5869	6101	6205	6138	5901	6083	6.4
5. Research & Development	1986	1960	1898	1843	1657	1544	1582	1.7
6. Others	13492	13033	12368	12100	11650	11964	12496	13.2
<b>TOTAL (1 to 6)</b>	<b>110053</b>	<b>107877</b>	<b>106733</b>	<b>103832</b>	<b>98028</b>	<b>95186</b>	<b>94331</b>	<b>100</b>

Note: Figures exclude 'Expatriates/Foreign Experts/on Contract' manpower

Source: Central Public Sector Enterprises (ONGC, OVL, OIL, GAIL, IOCL, BPCL, HPCL, CPCL, NRL, MRPL, BLL, EIL)

### VIII.2: Category-wise Manpower Employed in Oil & Gas CPSEs in India (as on 31<sup>st</sup> March)

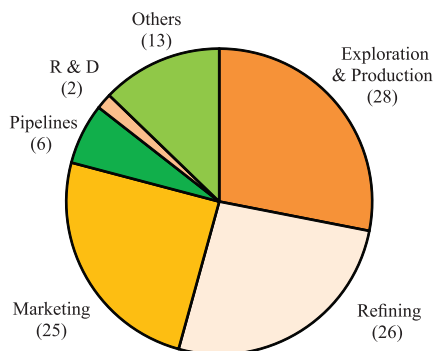
(Figures in Number)

Category	2017	2018	2019	2020	2021	2022	2023 (P)	% Share of Total 2023
1	2	3	4	5	6	7	8	9
1. Executive/Managerial	59962	59890	60182	59114	57058	56059	56502	59.9
2. Supervisory	9988	9614	9008	8751	8241	7641	7113	7.5
3. Clerical	5392	5457	5275	5088	4723	4103	3831	4.1
4. Workmen	34711	32916	32268	30879	28006	27383	26885	28.5
<b>TOTAL (1 to 4)</b>	<b>110053</b>	<b>107877</b>	<b>106733</b>	<b>103832</b>	<b>98028</b>	<b>95186</b>	<b>94331</b>	<b>100</b>

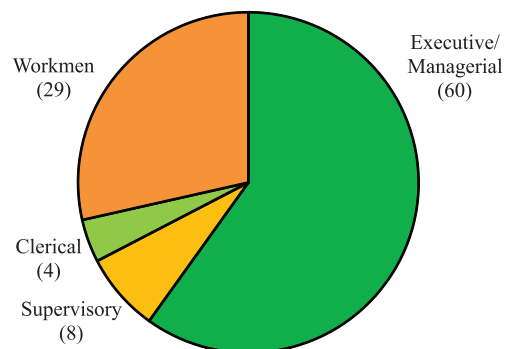
Note: Figures exclude 'Expatriates/Foreign Experts/on Contract' manpower

Source: Central Public Sector Enterprises (ONGC, OVL, OIL, GAIL, IOCL, BPCL, HPCL, CPCL, NRL, MRPL, BLL, EIL)

**Figure VIII.1: Sector - wise Manpower (in %) as on 31.03.2023**



**Figure VIII.2: Category - wise Manpower (in %) as on 31.03.2023**



### VIII.3: Category-wise and Sector-wise Manpower Employed in Oil & Gas CPSEs in India (as on 31<sup>st</sup> March)

(Figures in Number)

Category	2017	2018	2019	2020	2021	2022	2023 (P)
1	2	3	4	5	6	7	8
1. Executive/Managerial	19394	18574	18128	17304	16046	14832	14150
2. Supervisory	2157	1947	1713	1594	1480	1337	1125
3. Clerical	574	550	541	550	535	541	552
4. Workman	11025	10752	10637	10539	10320	10509	10584
<b>A. Total Manpower in Exploration &amp; Production (1 to 4)</b>	<b>33150</b>	<b>31823</b>	<b>31019</b>	<b>29987</b>	<b>28381</b>	<b>27219</b>	<b>26411</b>
5. Executive/Managerial	10410	10789	11084	11022	10932	10982	12021
6. Supervisory	2958	2809	2699	2575	2252	1953	1910
7. Clerical	679	684	684	685	664	527	490
8. Workman	10991	10916	11223	11035	10454	10378	9892
<b>B. Total Manpower in Refining (5 to 8)</b>	<b>25038</b>	<b>25198</b>	<b>25690</b>	<b>25317</b>	<b>24302</b>	<b>23840</b>	<b>24313</b>
9. Executive/Managerial	15805	16162	16730	16632	16157	16109	15829
10. Supervisory	3515	3540	3452	3426	3295	3097	2824
11. Clerical	2870	2625	2461	2277	1710	1442	1265
12. Workman	8508	7667	7014	6045	4738	4070	3528
<b>C. Total Manpower in Marketing (9 to 12)</b>	<b>30698</b>	<b>29994</b>	<b>29657</b>	<b>28380</b>	<b>25900</b>	<b>24718</b>	<b>23446</b>
13. Executive/Managerial	4081	4250	4485	4545	4538	4404	4458
14. Supervisory	222	265	232	251	267	299	313
15. Clerical	162	345	393	393	740	617	654
16. Workman	1224	1009	991	1016	593	581	658
<b>D. Total Manpower in Pipeline (13 to 16)</b>	<b>5689</b>	<b>5869</b>	<b>6101</b>	<b>6205</b>	<b>6138</b>	<b>5901</b>	<b>6083</b>
17. Executive/Managerial	1672	1663	1636	1572	1432	1337	1396
18. Supervisory	91	84	67	67	54	56	47
19. Clerical	34	28	26	28	25	16	14
20. Workman	189	185	169	176	146	135	125
<b>E. Total Manpower in Research &amp; Development (17 to 20)</b>	<b>1986</b>	<b>1960</b>	<b>1898</b>	<b>1843</b>	<b>1657</b>	<b>1544</b>	<b>1582</b>
21. Executive/Managerial	8600	8452	8119	8039	7953	8395	8648
22. Supervisory	1045	969	845	838	893	899	894
23. Clerical	1073	1225	1170	1155	1049	960	856
24. Workman	2774	2387	2234	2068	1755	1710	2098
<b>F. Total Manpower in Marketing (21 to 24)</b>	<b>13492</b>	<b>13033</b>	<b>12368</b>	<b>12100</b>	<b>11650</b>	<b>11964</b>	<b>12496</b>
<b>Total Manpower in Oil &amp; Gas CPSEs (A+B+C+D+E+F)</b>	<b>110053</b>	<b>107877</b>	<b>106733</b>	<b>103832</b>	<b>98028</b>	<b>95186</b>	<b>94331</b>

Note: Figures exclude 'Expatriates/Foreign Experts/on Contract' manpower

Source: Central Public Sector Enterprises (ONGC, OVL, OIL, GAIL, IOCL, BPCL, HPCL, CPCL, NRL, MRPL, BLL, EIL)

## VIII.4: Gender-wise &amp; Sector-wise Manpower Employed in Oil &amp; Gas CPSEs (as on 31.03.2023)

(Figures in Number)

Sector/Category/CPSE	ONGC*	OIL	GAIL	IOCL	BPCL	HPCL	CPCL	MRPL	NRL	Balmer Lawrie	EIL	Total (P)
1	2	3	4	5	6	7	8	9	10	11	12	13
<b>Male Employees</b>												
1. Exploration & Production	21388	3333	22	0	26	9	0	0	0	0	0	24778
2. Refining	163	0	0	13031	3511	2450	1322	1853	629	0	0	22959
3. Marketing	54	0	421	11823	4171	4042	15	101	118	0	36	20781
4. Pipelines	77	355	1583	3134	239	367	0	0	31	0	0	5786
5. Research & Development	639	28	11	381	45	100	12	4	1	9	42	1272
6. Others	1539	2554	2466	0	82	653	41	366	177	768	2255	10901
<b>A. Total Male Employees in Oil &amp; Gas CPSEs (1 to 6)</b>	<b>23860</b>	<b>6270</b>	<b>4503</b>	<b>28369</b>	<b>8074</b>	<b>7621</b>	<b>1390</b>	<b>2324</b>	<b>956</b>	<b>777</b>	<b>2333</b>	<b>86477</b>
<b>7. Share of Male Manpower (%) (A/C%)</b>	<b>92.2</b>	<b>92.8</b>	<b>93.5</b>	<b>91.2</b>	<b>92.7</b>	<b>89.6</b>	<b>94.8</b>	<b>91.1</b>	<b>93.0</b>	<b>89.2</b>	<b>88.3</b>	<b>91.7</b>
<b>Female Employees</b>												
8. Exploration & Production	1538	89	3	0	2	1	0	0	0	0	0	1633
9. Refining	6	0	0	822	142	152	56	136	40	0	0	1354
10. Marketing	6	0	18	1671	473	483	0	8	2	0	4	2665
11. Pipelines	4	25	89	153	2	24	0	0	0	0	0	297
12. Research & Development	169	4	2	80	12	30	4	1	0	2	6	310
13. Others	305	371	200	0	8	193	16	81	30	92	299	1595
<b>B. Total Female Employees in Oil &amp; Gas CPSEs (8 to 13)</b>	<b>2028</b>	<b>489</b>	<b>312</b>	<b>2726</b>	<b>639</b>	<b>883</b>	<b>76</b>	<b>226</b>	<b>72</b>	<b>94</b>	<b>309</b>	<b>7854</b>
<b>14. Share of Female Manpower (%) (B/C%)</b>	<b>7.8</b>	<b>7.2</b>	<b>6.5</b>	<b>8.8</b>	<b>7.3</b>	<b>10.4</b>	<b>5.2</b>	<b>8.9</b>	<b>7.0</b>	<b>10.8</b>	<b>11.7</b>	<b>8.3</b>
<b>C. Total Manpower in Oil &amp; Gas CPSEs (A+B)</b>	<b>25888</b>	<b>6759</b>	<b>4815</b>	<b>31095</b>	<b>8713</b>	<b>8504</b>	<b>1466</b>	<b>2550</b>	<b>1028</b>	<b>871</b>	<b>2642</b>	<b>94331</b>
<b>15. Share of Total Manpower (%)</b>	<b>27.4</b>	<b>7.2</b>	<b>5.1</b>	<b>33.0</b>	<b>9.2</b>	<b>9.0</b>	<b>1.6</b>	<b>2.7</b>	<b>1.1</b>	<b>0.9</b>	<b>2.8</b>	<b>100.0</b>

Notes: Figures exclude Expatriates/Foreign Experts/on Contract manpower

P: Provisional

\*: OVLs Manpower included in ONGC's Others

Source: Central Public Sector Enterprises (ONGC, OVL, OIL, GAIL, IOCL, BPCL, HPCL, CPCL, NRL, MRPL, BLL, EIL)

**VIII.5: Gender-wise & Category-wise Manpower Employed in Oil & Gas CPSEs (as on 31.03.2023)**

(Figures in Number)

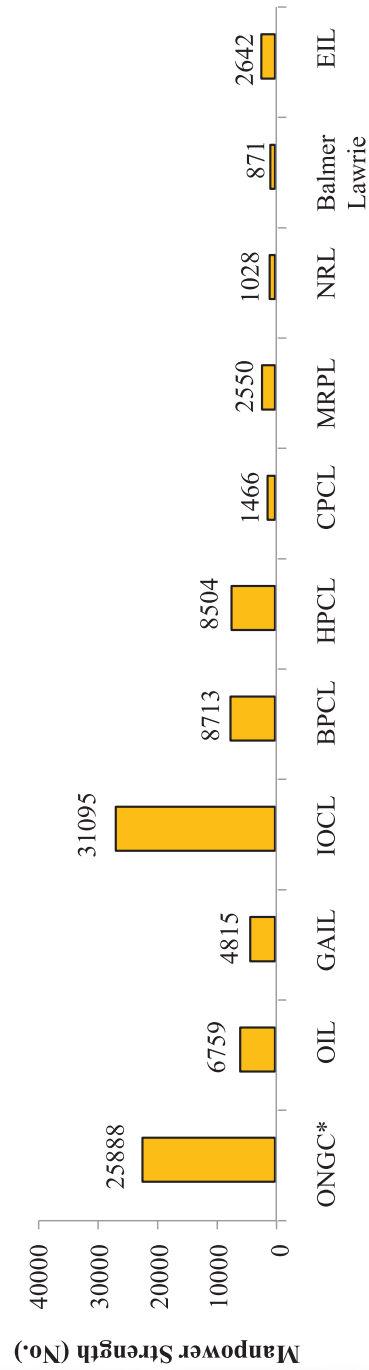
Sector/Category/CPSE	ONGC*	OIL	GAIL	IOCL	BPCL	HPCL	CPCL	MRPL	NRL	Balmer Lawrie	EIL	Total (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
<b>Male Employees</b>												
1. Executive/Managerial	14233	1556	3732	16539	5105	5103	457	1045	534	422	2220	50946
2. Supervisory	870	575	422	3860	0	0	235	185	0	164	57	6368
3. Clerical	385	429	313	883	347	581	18	0	34	29	56	3075
4. Workmen	8372	3710	36	7087	2622	1937	680	1094	388	162	0	26088
<b>A. Total Male Employees (1 to 4)</b>	<b>23860</b>	<b>6270</b>	<b>4503</b>	<b>28369</b>	<b>8074</b>	<b>7621</b>	<b>1390</b>	<b>2324</b>	<b>956</b>	<b>777</b>	<b>2333</b>	<b>86477</b>
<b>Female Employees</b>												
5. Executive/Managerial	1422	216	281	1946	478	715	29	62	57	61	289	5556
6. Supervisory	78	66	15	519	0	0	32	0	0	21	14	745
7. Clerical	173	83	16	143	155	156	8	0	8	8	6	756
8. Workmen	355	124	0	118	6	12	7	164	7	4	0	797
<b>B. Total Female Employees (5 to 8)</b>	<b>2028</b>	<b>489</b>	<b>312</b>	<b>2726</b>	<b>639</b>	<b>883</b>	<b>76</b>	<b>226</b>	<b>72</b>	<b>94</b>	<b>309</b>	<b>7854</b>
<b>Total Manpower Employed in Oil &amp; Gas CPSEs (A+B)</b>	<b>25888</b>	<b>6759</b>	<b>4815</b>	<b>31095</b>	<b>8713</b>	<b>8504</b>	<b>1466</b>	<b>2550</b>	<b>1028</b>	<b>871</b>	<b>2642</b>	<b>94331</b>

Notes: Figures exclude 'Expatriates/Foreign Experts/on Contract' manpower

P: Provisional

Source: Central Public Sector Enterprises (ONGC, OVL, OIL, GAIL, IOCL, BPCL, HPCL, CPCL, NRL, MRPL, BLL, EIL)

\*: OVLs Manpower included in ONGC's Others

**Figures VIII.3: Regular Manpower Employed in CPSEs as on 31.03.2023**




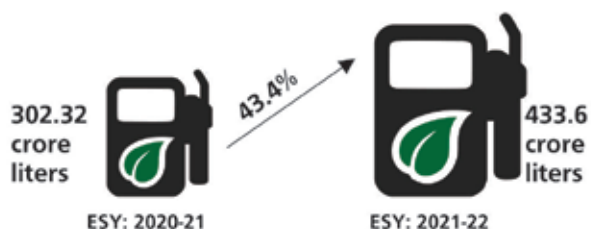
# CHAPTER -IX



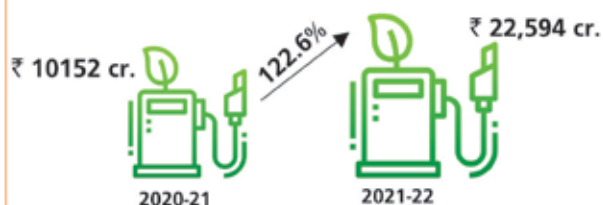
## BIOFUELS

## Chapter Highlights

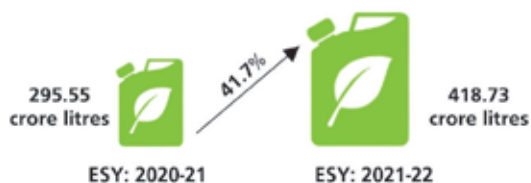
### Ethanol Blending with Petrol by Oil's CPSEs



### Forex currency saved by ethanol blending in India



### Ethanol received by Oil's CPSEs under the Ethanol blending Programme



### Bio-Diesel Blending with Diesel by Oil's CPSEs during FY 2022-23



6.07 Crore Litres

### Total number of Retail Outlets selling Biofuels blended Petrol/Diesel in India



### Total 46 CBG plants commissioned and initiated sale of CBG as on 31.03.2023



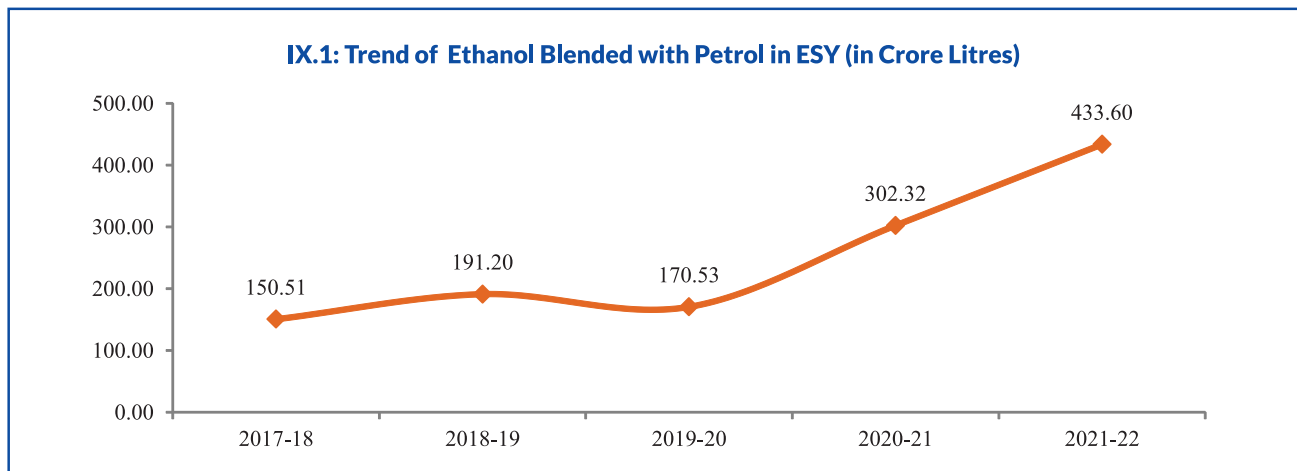
### IX.1: Ethanol Blended with Petrol

Company Name	Unit	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7	8
<b>As per Financial Year-wise</b>							
IOCL	Crore Litres	40.30	79.80	74.90	93.33	136.10	202.26
	%	2.67	4.96	4.44	5.96	7.97	10.57
BPCL	Crore Litres	19.54	49.96	45.72	59.51	97.30	143.10
	%	1.99	4.79	4.17	5.86	8.68	10.59
HPCL	Crore Litres	19.30	53.50	46.10	58.84	95.03	129.60
	%	2.11	5.50	4.90	6.19	9.03	10.59
Total CPSEs	Crore Litres	79.14	183.26	166.72	211.68	328.43	474.96
	%	2.33	5.05	4.50	6.0	8.46	10.58
<b>As per Ethanol Supply Year (ESY) Year-wise</b>							
IOCL	Crore Litres	67.61	84.89	78.02	128.96	184.64	138.35
	%	4.30	5.00	5.10	8.00	10.02	11.75
BPCL	Crore Litres	37.56	51.98	45.60	87.07	130.42	94.88
	%	3.70	4.70	4.70	8.00	10.00	11.72
HPCL	Crore Litres	45.34	54.34	46.91	86.28	118.54	87.01
	%	4.80	5.30	5.10	8.36	10.04	11.75
Total CPSEs	Crore Litres	150.51	191.20	170.53	302.32	433.60	320.24
	%	4.20	5.00	5.00	8.10	10.02	11.74

ESY: Ethanol Supply Year (1st December to 30th November). P: Provisional

Note: From ESY 22-23, ESY has been changed to 1st Nov to 31st Oct and ESY 22-23 is for the period of Dec'22 to Oct'23. Data for the ESY 2022-23 is upto June,2023.

Source: Oil Companies



### IX.2: Saving of Foreign Currency by Ethanol Blending

Year	Ethanol blended (PSU OMCs) in KL	Blended Motor Spirit Sale (Actual) PSU OMC in TMT	Motor spirit saved in TMT	Petrol FOB price\$/bbl	RBI (Rs/\$)	Approx total revenue saved (Cr ₹)
1	2	3	4	5	6	7
2017-18	1465587	25308	1039	79.01	67.84	4732
2018-19	1912048	27204	1355	68.53	70.37	5555
2019-20	1705290	24194	1209	46.64	73.86	3539
2020-21	3023401	26456	2143	75.58	73.75	10152
<b>2021-22</b>	<b>4335945</b>	<b>30654</b>	<b>3073</b>	<b>110.9</b>	<b>78.00</b>	<b>22594</b>

ESY: Ethanol Supply Year (1st December to 30th November); P: Provisional

Source: PPAC

## IX.3: State-wise Percentage of Ethanol Blended with Petrol (Sales) by CPSEs

(Figures in %)

State/UT	'As per Financial Year-wise												
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	
	1	2	3	4	5	6	7	8	9	10	11	12	13
Andhra Pradesh	1.75	6.13	4.76	4.78	8.33	10.27	4.42	6.09	3.36	8.46	10.16	11.89	
Andaman & Nikobar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Arunachal Pradesh	0.00	0.00	0.00	0.00	0.44	8.67	0.00	0.00	0.00	0.00	0.00	11.25	
Assam	0.00	0.00	0.00	0.00	4.51	8.31	0.00	0.00	0.00	0.00	5.78	11.54	
Bihar	6.48	6.45	6.56	8.80	7.94	11.49	6.38	6.61	8.19	8.04	10.56	11.91	
Chandigarh	2.97	5.90	6.00	8.99	9.49	10.40	1.52	6.73	8.87	8.88	9.82	11.16	
Chhattisgarh	0.00	1.21	4.22	7.67	8.91	9.42	0.00	3.76	6.22	8.39	9.31	10.95	
Dadar & Nagar Haveli and Daman & Diu	-	-	-	6.43	8.69	10.94	-	-	-	8.90	10.04	11.87	
Delhi	5.03	8.53	5.48	9.90	9.02	10.59	8.47	6.63	7.28	9.35	10.42	11.53	
Goa	0.01	7.50	3.19	6.14	8.76	9.67	4.60	4.62	4.83	8.96	9.27	11.35	
Gujarat	1.03	4.76	5.07	7.86	9.65	11.05	3.22	5.95	6.35	9.48	10.47	11.64	
Haryana	2.63	6.39	8.10	9.74	8.78	11.35	5.92	8.48	9.53	9.72	10.53	11.82	
Himachal Pradesh	2.58	4.12	4.60	9.13	8.36	9.36	0.20	4.84	7.86	9.40	9.18	10.92	
Jammu & Kashmir	0.00	0.00	0.00	0.02	8.49	11.22	0.00	0.00	0.00	6.99	9.81	11.58	
Jharkhand	0.00	0.00	0.11	5.20	8.86	10.52	0.00	0.10	3.77	6.11	8.81	11.89	
Karnataka	2.70	7.71	6.62	7.60	9.64	11.27	6.71	6.95	7.26	8.97	10.51	11.84	
Lakshadweep	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Kerala	0.02	0.19	0.11	0.98	6.44	10.36	0.00	0.16	0.05	4.41	9.67	11.91	
Ladakh	0.00	0.00	0.00	0.00	0.81	2.51	0.00	0.00	0.00	4.11	2.07	4.87	
Madhya Pradesh	0.01	3.06	4.54	7.42	9.17	10.60	1.05	5.09	6.32	8.58	10.25	11.81	
Maharashtra	2.74	9.07	5.73	6.93	9.10	10.85	7.87	6.64	5.67	8.98	10.48	11.91	
Manipur	0.00	0.00	0.00	0.00	6.96	7.81	0.00	0.00	0.00	0.00	5.27	10.89	
Meghalaya	0.00	0.00	0.00	0.00	6.02	8.92	0.00	0.00	0.00	0.00	6.30	11.18	
Mizoram	0.00	0.00	0.00	0.00	2.95	8.10	0.00	0.00	0.00	0.00	5.73	11.11	
Nagaland	0.00	0.00	0.00	0.00	0.35	7.30	0.00	0.00	0.00	0.00	4.31	10.89	
Odisha	0.07	0.12	0.15	1.03	5.86	9.67	0.00	0.13	0.37	3.99	9.04	11.15	
Pondicherry	0.33	0.73	0.73	1.76	5.98	9.43	0.06	1.01	0.41	4.37	8.84	11.79	
Punjab	3.72	6.44	7.32	9.51	9.41	10.35	6.28	7.75	9.14	9.92	10.33	11.76	
Rajasthan	0.00	0.45	1.75	2.43	8.78	10.45	0.06	2.02	1.41	6.73	10.03	11.57	
Sikkim	0.00	0.00	0.00	0.00	1.34	5.79	0.00	0.00	0.00	0.00	4.00	9.00	
Tamil Nadu	0.19	1.22	1.45	3.16	7.03	10.26	0.30	2.07	1.05	7.71	10.09	11.80	
Telangana	1.66	8.18	3.77	5.30	9.12	10.55	7.38	5.37	3.14	8.21	10.23	11.82	
Tripura	0.00	0.00	0.00	0.00	2.34	8.29	0.00	0.00	0.00	0.00	7.24	11.20	
Uttar Pradesh	8.17	9.13	8.64	9.64	10.01	11.18	8.93	8.91	9.48	9.85	10.74	11.96	
Uttarakhand	5.50	7.59	8.53	9.81	9.18	10.65	5.02	8.34	9.69	9.31	10.31	11.92	
West Bengal	0.98	1.61	1.14	1.30	4.38	10.00	1.24	1.77	1.14	2.39	8.75	11.42	
<b>Total</b>	<b>2.33</b>	<b>5.05</b>	<b>4.50</b>	<b>5.99</b>	<b>8.46</b>	<b>10.58</b>	<b>4.22</b>	<b>4.98</b>	<b>5.00</b>	<b>8.10</b>	<b>10.02</b>	<b>11.74</b>	

ESY: Ethanol Supply Year (1st December to 30th November). P: Provisional

Note: From ESY 22-23, ESY has been changed to 1st Nov to 31st Oct and ESY 22-23 is for the period of Dec'22 to Oct'23. Data for the ESY 2022-23 is upto June, 2023.

Source: Oil Companies



## IX.4: Quantity of Bio Diesel Blended with Diesel

(Figures in Crore Litres)

Company Name	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share in 2022-23
1	2	3	4	5	6	7	8
IOCL	2.29	3.70	4.10	0.23	0.05	3.63	59.8
BPCL	0.82	1.60	1.26	0.02	0.01	0.86	14.2
HPCL	1.24	2.78	5.05	0.27	0.02	1.58	26.0
<b>Total CPSEs</b>	<b>4.35</b>	<b>8.08</b>	<b>10.41</b>	<b>0.52</b>	<b>0.08</b>	<b>6.07</b>	<b>100.0</b>

Source: Oil Companies

P: Provisional

## IX.5: Ethanol received by CPSE OMCs under Ethanol Blending Programme

(Figures in Crore Litres)

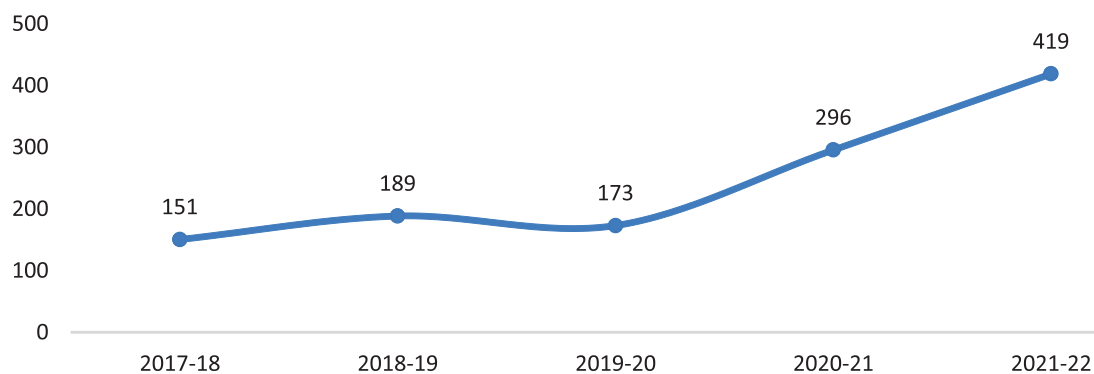
Company Name	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	% Share in 2022-23
1	2	3	4	5	6	7	8
<b>As per Financial Year-wise</b>							
IOCL	41.20	82.00	76.70	97.27	143.02	203.35	43.6
BPCL	18.51	48.70	44.85	60.04	96.90	137.02	29.6
HPCL	21.57	56.72	48.42	64.29	87.92	120.57	26.8
<b>Total CPSEs</b>	<b>81.28</b>	<b>187.42</b>	<b>169.97</b>	<b>221.60</b>	<b>327.84</b>	<b>460.94</b>	<b>100.00</b>
<b>As per Ethanol Supply Year (ESY) Year-wise</b>							
IOCL	67.61	84.11	80.39	125.89	178.47	155.97	42.6
BPCL	37.56	50.46	44.35	85.36	126.91	94.05	30.3
HPCL	45.34	54.00	48.30	84.30	113.35	89.73	27.1
<b>Total CPSEs</b>	<b>150.51</b>	<b>188.57</b>	<b>173.03</b>	<b>295.55</b>	<b>418.73</b>	<b>339.75</b>	<b>100.00</b>

Note: Difference between ethanol received and blending issue to stock &amp; inventories etc. P: Provisional

ESY: Ethanol Supply Year (1st December to 30th November). From ESY 22-23, ESY has been changed to 1st Nov to 31st Oct and ESY 22-23 is for the period of Dec'22 to Oct'23. Data for the ESY 2022-23 is upto June,2023.

Source: Oil Companies

### IX.2: Trend of Ethanol received by CPSEs in ESY (in Crore Litres)

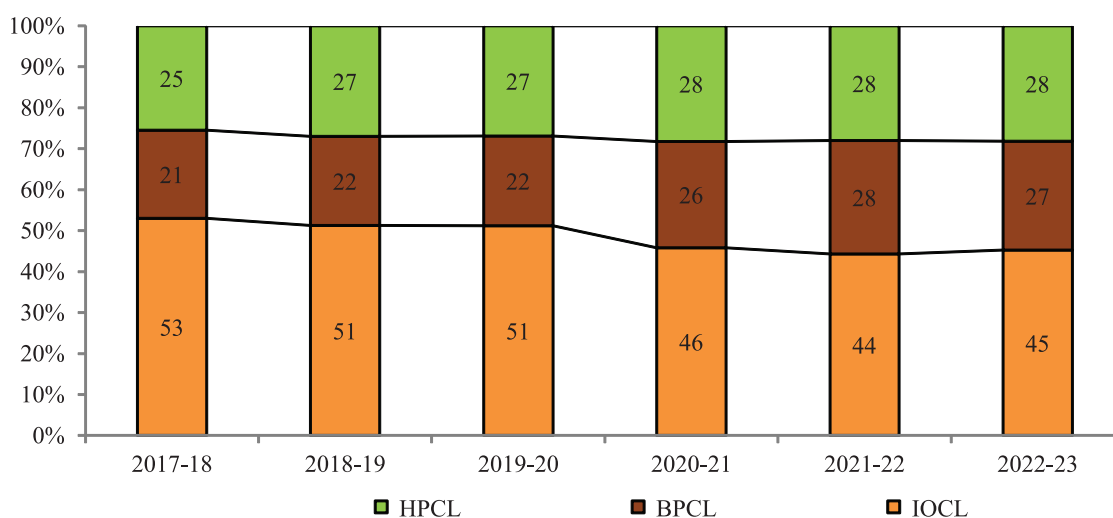


**IX.6: Number of Retail Outlets selling Biofuels blended Petrol/Diesel**

Company Name	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23(P)	% Share in 2022-23
1	2	3	4	5	6	7	8
IOCL	17070	23622	25587	27442	29976	33666	45.25
BPCL	6907	10029	10940	15509	18719	19777	26.58
HPCL	8200	12418	13408	16878	18946	20958	28.17
<b>Total CPSEs</b>	<b>32177</b>	<b>46069</b>	<b>49935</b>	<b>59829</b>	<b>67641</b>	<b>74401</b>	<b>100</b>

P: Provisional

Source: Oil Companies

**IX.3: CPSEs Share (in %) in Retail Outlets selling Biofuels blended Petrol/Diesel**

**IX.7: Status on CBG as on 31.03.2023**

Parameter	Units	IOCL	HPCL	BPCL	GAIL	IGL	Total
1	2	3	4	5	6	7	8=3 to 7
No. of CBG plants commissioned and initiated sale of CBG	No. of plants	22	4	8*	9	3	46
Start of CBG sale from retail outlet(s)	Nos. of ROs	46	25	41	1	-	113
Sale of CBG in 2022-23	Tons	5822	77	6	5322	-	11227
Sale of CBG in CGD network	GA Nos.	-	-	-	16	-	16
Injection of CBG in CGD network	Nos.	-	-	-	3	-	3

Note: \* 6 plants are producing biogas.

Source: GP Section, MoPNG

IX.8: State-wise/UT-wise Ethanol received by CPSE OMCs under Ethanol Blending Programme

(Figures in Crore Litres)

State/UT	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
	2	3	4	5	6	7	8	9	10	11	12	13
	As per Financial Year-wise						As per Ethanol Supply Year (ESY) Year-wise					
Andhra Pradesh	2.60	9.66	7.76	8.84	14.62	19.05	6.49	10.16	5.34	13.51	17.59	14.61
Andman & Nikobar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arunachal Pradesh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Assam	0.00	0.00	0.00	0.00	1.30	5.58	0.00	0.00	0.00	0.00	4.09	4.92
Bihar	6.33	7.11	7.45	9.62	11.38	12.90	6.28	6.84	8.39	9.90	14.19	9.81
Chandigarh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chhattisgarh	0.00	0.94	3.45	6.34	7.82	8.38	0.00	3.26	4.70	7.62	7.73	6.50
Dadar & Nagar Haveli and Daman & Diu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Delhi	6.87	10.71	6.75	7.73	8.87	11.95	10.91	8.40	6.69	7.02	11.62	8.44
Goa	0.00	1.96	0.85	1.27	2.11	2.52	1.17	1.21	0.79	2.12	2.55	1.78
Gujarat	2.18	10.59	11.14	15.64	19.25	25.46	6.68	13.36	12.36	18.41	22.37	17.24
Haryana	3.97	9.97	12.54	15.06	14.88	27.55	7.35	12.38	13.07	14.44	21.84	19.30
Himachal Pradesh	0.00	0.00	0.11	2.37	2.72	2.79	0.00	0.07	1.62	2.75	2.73	1.95
Jammu & Kashmir	0.00	0.00	0.00	0.01	0.70	1.03	0.00	0.00	0.00	0.52	0.90	0.71
Jharkhand	0.00	0.00	0.17	3.49	4.58	7.45	0.00	0.07	2.41	4.17	6.23	5.68
Karnataka	6.91	21.32	19.61	20.76	25.34	35.56	17.81	19.40	18.77	24.71	33.44	24.37
Lakshadweep	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kerala	0.00	0.00	0.00	1.90	15.25	19.98	0.00	0.00	0.00	8.97	19.59	15.73
Ladakh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Madhya Pradesh	0.00	5.54	7.99	12.89	14.86	18.52	1.79	9.31	10.24	13.77	17.39	13.47
Maharashtra	12.45	40.79	25.80	28.82	39.94	60.40	35.99	29.78	21.92	39.48	55.98	40.13
Manipur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Meghalaya	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mizoram	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nagaland	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Odisha	0.00	0.00	0.00	1.16	7.09	11.12	0.00	0.00	0.35	4.43	10.06	8.81
Pondicherry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Punjab	4.58	8.44	10.47	12.63	15.33	17.71	6.56	10.40	11.53	14.20	16.72	12.19
Rajasthan	0.00	0.93	3.27	4.76	17.78	21.61	0.10	4.10	2.67	12.91	20.45	15.68
Sikkim	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tamil Nadu	0.58	4.34	4.87	11.24	27.51	41.59	0.99	7.48	3.52	23.27	35.76	32.82
Telangana	2.55	13.08	5.94	8.62	14.94	20.31	10.90	8.88	4.65	14.23	18.45	14.65
Tripura	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uttar Pradesh	29.65	37.65	37.79	43.96	52.54	72.64	34.01	38.70	40.15	53.19	63.93	50.05
Uttarakhand	1.50	2.35	2.43	2.66	2.74	2.90	2.00	2.45	2.44	2.82	2.71	2.18
West Bengal	1.13	2.03	1.56	1.86	6.28	13.96	1.47	2.30	1.44	3.10	12.42	18.73
<b>Total CPSEs</b>	<b>81.30</b>	<b>187.42</b>	<b>169.96</b>	<b>221.60</b>	<b>327.84</b>	<b>460.94</b>	<b>150.51</b>	<b>188.57</b>	<b>173.03</b>	<b>295.55</b>	<b>418.73</b>	<b>339.75</b>

ESY: Ethanol Supply Year (1st December to 30th November). P: Provisional

Note: From ESY 22-23, ESY has been changed to 1st Nov to 31st Oct and ESY 22-23 is for the period of Dec'22 to Oct'23. Data for the ESY 2022-23 is upto June, 2023.

Source: Oil Companies

**IX.9: State-wise Ethanol Producing Plants and Capacity (as on 30.06.2023)**

State	Grain Based Distilleries		Molasses Based Distilleries		Total	
	No.of Distilleries	KLPD	No.of Distilleries	KLPD	No.of Distilleries	KLPD
1	2	3	4	5	6=2+4	7=3+5
Andhra Pradesh	16	1209	8	400	416	1609
Assam	2	105	0	0	2	105
Bihar	8	1400	8	580	588	1980
Chhattisgarh	3	140	0	0	3	140
Gujarat	1	100	12	585	586	685
Haryana	17	1963	4	295	312	2258
Himachal Pradesh	3	285	0	0	3	285
Jharkhand	2	425	0	0	2	425
Karnataka	7	745	39	6386	6393	7131
Madhya Pradesh	13	1140	5	300	313	1440
Maharashtra	29	1315	131	9535	9564	10850
Orissa	3	135	0	0	3	135
Punjab	18	2390	4	490	508	2880
Rajasthan	9	389	0	0	9	389
Sikkim	1	65	0	0	1	65
Tamilnadu	0	0	12	605	605	605
Telangana	3	365	3	225	228	590
Uttar Pradesh	6	440	68	8248	8254	8688
Uttarakhand	0	0	3	250	250	250
West Bengal	4	610	0	0	4	610
<b>Total Capacity</b>	<b>145</b>	<b>13221</b>	<b>297</b>	<b>27899</b>	<b>442</b>	<b>41120</b>

Note: Ethanol production capacity is estimated

KLPD: Kilo Litres Per Day.

Source: Directorate of Sugar and Vegetable Oils, Ministry of Consumer Affairs, Food and Public Distribution





# CHAPTER -X



## CPSEs: Key Financial Indicators

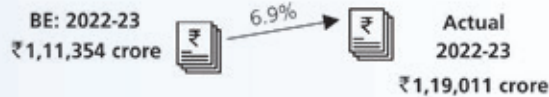
## Chapter Highlights

### Total budgeted Internal and Extra Budgetary Resources (IEBR)

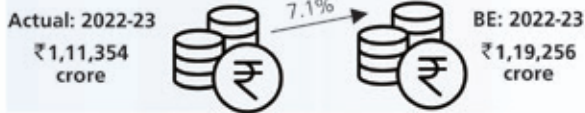


Total budgeted Internal and Extra Budgetary Resources (IEBR) for 12 major CPSE's under the Ministry of Petroleum and Natural Gas in FY 2023-24 is ₹ 1,06,401 crore, is 4.66% lower as compared to FY 2022-23 (₹ 1,11,354 crore)..

### IEBR



Total IEBR for 12 major CPSE's under the Ministry of Petroleum and Natural Gas in FY 2023-24 is ₹ 1,06,401 crore which is 6.9% higher as compared to BE of FY 2022-23 (₹ 1,11,354 crore). BE CAPEX in FY 2023-24 is ₹ 1,06,901 is 10.6% lower as compared to actual ₹ 1,19,256 Cr.

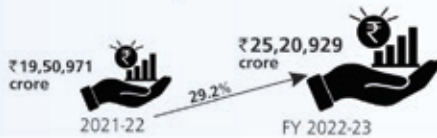


Actual Capital expenditure (CAPEX) for the FY 2022-23 is ₹ 1,19,256 crore which is 7.1% of the total BE of FY 2022-23 (₹ 1,11,354 crore).



Total Dividend paid to Central Government, State Government and other Stakeholders during FY 2022-23 is ₹ 31,428 crore which is 32.2% lower over the dividend paid during the FY 2021-22 (₹ 46,323 crore). During FY 2022-23, Total dividend paid to the Central Government by the Oil & Gas CPSEs is ₹ 15,673 crore. ONGC (₹ 10,372 crore), IOCL (₹ 1,745 crore) and GAIL (₹ 1,581 crore), are the top three contributors in dividend payment.

### Gross Turnover by the Oil & Gas CPSEs



Gross Turnover by the Oil & Gas CPSEs for the FY 2022-23 (₹ 25,20,929 crore) is 29.2% higher as compared to FY 2021-22 (₹ 19,50,971 crore) in which IOCL (₹ 9,38,560 crore), BPCL (₹ 5,32,105 crore) and HPCL (₹ 4,64,684 crore), are the top three contributors.



### Total Gross profit of Oil & Gas CPSEs during the FY 2022-23

₹ 82,612 crore

Total Gross profit of Oil & Gas CPSEs during the FY 2022-23 (₹ 82,612 crore) is 36.2% lower as compared to FY 2021-22 (₹ 1,29,526 crore). Total profit earned after tax (Net Profit) by the Oil & Gas CPSEs for the FY 2022-23 (₹ 64,149 crore) which is 39.7% lower than the profit earned after tax in FY 2021-22 (₹ 1,06,403 crore). ONGC (₹ 38,829 crore), IOCL (₹ 8,242 crore) and GAIL (₹ 5,302 crore), are the top three CPSEs with highest profit in the PNG Sector during the FY 2022-23.

## X.1: Budget Outlay & Actual Expenditure of CPSEs (as per Union Budget)

(Value in ₹ crore)

CPSEs	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23		2023-24	
	Actual	Actual	Actual	Actual	Actual	BE	Actual	% Achievement over BE (M/L*100)	BE
1	2	3	4	5	6	7	8	9	10
<b>A. CPSE-wise Internal &amp; Extra Budget Resources</b>									
1. Oil & Natural Gas Co. Ltd.	72,902	29,450	29,538	26,859	27,741	29,950	30,208	100.9	30,125
2. ONGC Videsh Ltd.	6,798	5,827	5,435	5,734	4,681	8,180	2,704	33.1	3,229
3. Oil India Ltd.	8,154	3,181	4,247	13,332	4,367	4,302	5,534	128.6	4,896
4. Gail Authority India Ltd.	3,680	7,143	4,562	6,253	7,148	7,500	9,099	121.3	7,750
5. Indian Oil Corporation Ltd.	21,457	28,208	31,421	28,684	30,391	28,549	37,287	130.6	30,395
6. Bharat Petroleum Corporation Limited	8,998	10,993	11,064	11,064	11,860	10,000	12,120	121.2	10,000
7. Hindustan Petroleum Corporation Ltd.	7,210	12,438	16,311	14,700	16,771	14,500	14,084	97.1	10,210
8. Mangalore Refinery & Petrochemicals Ltd	1,281	1,072	1,318	2,179	674	815	625	76.7	820
9. Chennai Petroleum Corporation Ltd.	1,020	1,314	961	583	636	584	638	109.3	548
10. Numaligarh Refinery Ltd.	420	465	529	1,029	3,605	6,774	6,596	97.4	8,290
11. Balmer Lawrie & Co. Ltd.	83	132	46	43	22	40	52	129.3	40
12. Engineers India Ltd.	*	87	171	733	70	160	62	38.9	98
<b>13. Total (I&amp;EBR) (1 to 12)</b>	<b>1,32,004</b>	<b>1,00,309</b>	<b>1,05,603</b>	<b>1,11,194</b>	<b>1,07,968</b>	<b>1,11,354</b>	<b>1,19,011</b>	<b>106.9</b>	<b>1,06,401</b>
<b>B. Sector-wise Internal &amp; Extra Budget Resources</b>									
14. Exploration & Production Sector	95,455	49,613	44,769	52,994	46,376	50,536	48,273	95.5	46,757
15. Refining & Marketing Sector	32,794	46,990	56,668	51,446	54,948	53,876	61,806	114.7	52,749
16. Petro-Chemicals Sector	3,672	3,487	3,949	5,979	6,551	6,742	8,817	130.8	6,756
17. Engineering Sector	83	219	217	776	93	200	114	57.0	138
<b>18. Total (I&amp;EBR) (14 to 17)</b>	<b>1,32,004</b>	<b>1,00,309</b>	<b>1,05,603</b>	<b>1,11,194</b>	<b>1,07,968</b>	<b>1,11,354</b>	<b>1,19,011</b>	<b>106.9</b>	<b>1,06,401</b>
19. Gross Budgetary Support (GBS)	400	1,207	1,552	728	590	0	245	-	500
<b>20. Total CAPEX (18+19)</b>	<b>1,32,404</b>	<b>1,01,515</b>	<b>1,07,155</b>	<b>1,11,922</b>	<b>1,08,557</b>	<b>1,11,354</b>	<b>1,19,256</b>	<b>107.1</b>	<b>1,06,901</b>

Source: Central Public Sector Enterprises/Budget Documents and IFD, MoPNG



## X.2: Financial Performance of CPSEs under the Ministry of Petroleum and Natural Gas during FY 2022-23

Performance Parameters	Unit	ONGC	OVL	OIL	GAIL	IOCL	BPCL	HPCL	MRPL	CPCL	NRL	Balmer Lawrie	EIL
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Cash and Bank Balance at year end	₹ crore	21,634	6,359	1,351	174	773	2,120	539	7	9	43	448	1,028
2. Revenue from Operations (Net)	₹ crore	1,55,517	11,676	23,273	1,44,250	8,39,472	4,73,125	4,40,403	1,08,856	90,908	26,732	2,310	3,284
3. Authorised Capital	₹ crore	15,000	25,000	2,000	10,000	15,000	11,935	2,500	6,200	400	5,000	300	400
4. Paid up Capital	₹ crore	6,290	15,000	1,084	6,575	14,121	2,129	1,419	1,753	149	1,471	171	281
5. Govt. equity in the CPSE	%	58.89	0.00	56.66	51.52	51.50	52.98	0.00	0.00	0.00	0.00	0.00	51.32
6. Gross Turnover	₹ crore	1,55,517	12,414	23,273	1,43,976	9,38,560	5,32,105	4,64,684	1,24,686	90,801	29,786	2,383	3,284
7. Profit After Tax	₹ crore	38,829	1,700	6,810	5,302	8,242	1,870	-8,974	2,638	3,534	3,703	154	342
8. Debt equity ratio	Ratio	0.03	0.67	0.35	0.22	0.98	0.69	1.80	1.70	0.67	0.29	0.00	0.00
9. Reserves & Surpluses	₹ crore	2,51,556	41,663	33,281	49,079	1,20,986	49,867	26,294	8,082	6,132	9,405	1,185	1,825
10. Net worth	₹ crore	2,57,846	56,663	31,601	50,860	1,18,906	51,966	27,713	0	6,281	11,427	1,356	2,106
11. Dividend Payable (Accrual)	₹ crore	14,153	75	2,169	3,068	4,131	868	0.0	0	402	1,118	128	169
12. Dividend as a %age of Equity (11/4)*100	%	225.00	0.50	200.00	46.66	29.26	1.67	0.00	0.00	270.00	76.00	75.00	60.00
13. Dividend as a %age of PAT (11/7)*100	%	36.45	4.41	31.85	57.87	50.13	46.40	0.00	0.00	11.38	30.20	83.35	49.28
14. EPS	₹	30.86	11.34	62.80	8.04	5.98	8.78	-63.26	15.05	237.31	25.17	9.00	6.09
15. Payout Ratio	%	36.45	4.41	31.85	57.90	50.10	45.56	0.00	0.00	11.38	30.20	83.35	49.28
16. Long Term Borrowings	₹ crore	3,950	33,820	11,161	7,837	58,158	28,693	49,753	14,994	2,159	2,959	0	0
17. Short Term Borrowings	₹ crore	3,269	4,391	0	6,472	74,338	7,162	14,764	1,714	2,076	303	0	0

Note:

1. Revenue from Operation (Net) means Revenue from Operations excluding Excise Duty
2. Gross Turnover means Sales of Products & Services (before discount) and includes Excise Duty
3. Reserves & Surpluses means Other Equity as appearing in Financial Statements
4. Net Worth means Net Worth as per Companies Act 2013
5. GAIL's Long term Debt o/s as on 31.03.2023 (including Foreign currency and INR loan) on standalone basis.
6. Balmer Lawrie: There is no direct holding by Govt. of India in Balmer Lawrie & Co. Ltd. Balmer Lawrie Investments Ltd., a Government Company holds 61.8% of shares in Balmer Lawrie & Co. Ltd. Central Govt. holds 59.67% in Balmer Lawrie Investments Ltd.

Source: Central Public Sector Enterprises

### X.3: Dividend Paid (Payment-Basis) by CPSEs under the Ministry of Petroleum and Natural Gas

(Value in ₹ crore)

Name of CPSE	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
<b>1. Oil &amp; Natural Gas Corp. Ltd. (2+3)</b>	<b>7,764</b>	<b>9,595</b>	<b>7,234</b>	<b>2,202</b>	<b>11,448</b>	<b>17,612</b>
2. Dividend to Central Government of India	5275	6290	4394	1330	6916	10372
3. Dividend to other Stakeholder	2489	3305	2840	872	4532	7240
<b>4. ONGC Videsh Ltd.</b>	<b>210</b>	<b>300</b>	<b>510</b>	<b>300</b>	<b>600</b>	<b>480</b>
5. Dividend to other Stakeholder	210	300	510	300	600	480
<b>6. Oil India Ltd. (7+8)</b>	<b>1,419</b>	<b>1,078</b>	<b>1,166</b>	<b>553</b>	<b>1,166</b>	<b>2,115</b>
7. Dividend to Central Government of India	938	685	666	313	661	1198
8. Dividend to other Stakeholder	480	393	500	240	505	916
<b>9. GAIL India Ltd. ( 10+11)</b>	<b>1,750</b>	<b>1,734</b>	<b>3,286</b>	<b>2,238</b>	<b>3,996</b>	<b>3,068</b>
10. Dividend to Central Government of India	942	920	1702	1155	2056	1581
11. Dividend to other Stakeholder	809	814	1583	1083	1940	1488
<b>12. Indian Oil Corp. Ltd. (13+14+15)</b>	<b>9,712</b>	<b>9,910</b>	<b>4,843</b>	<b>8,340</b>	<b>9,640</b>	<b>3,305</b>
13. Dividend to Central Government of India	5535	5383	2545	5091	5091	1745
14. Dividend to State Government	11	11	6	8	11	4
15. Dividend to other Stakeholder	4166	4516	2292	3242	4538	1556
<b>16. Bharat Petroleum Corp. Ltd. (17+18+19)</b>	<b>3,182</b>	<b>3,905</b>	<b>5,315</b>	<b>4,045</b>	<b>15,261</b>	<b>1,302</b>
17. Dividend to Central Government of India	1,729	2,091	2,821	2,413	7,814	690
18. Dividend to State Government	27	34	46	30	136	11
19. Dividend to other Stakeholder	1,425	1,780	2,448	1,602	7,310	601
<b>20. Hindustan Petroleum Corp. Ltd. (21+22)</b>	<b>2,321</b>	<b>1,371</b>	<b>1,432</b>	<b>1,486</b>	<b>3,227</b>	<b>1,986</b>
21. Dividend to Central Government of India	57	0	0	0	0	0
22. Dividend to other Stakeholder	2264	1371	1432	1486	3227	1986
<b>23. Mangalore Refinery &amp; Petrochemicals Ltd.</b>	<b>1,052</b>	<b>526</b>	<b>175</b>	<b>0</b>	<b>0</b>	<b>0</b>
24. Dividend to other Stakeholder	1,052	526	175	0	0	0
<b>25. Chennai Petroleum Corp. Ltd. (26+27)</b>	<b>313</b>	<b>275</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>30</b>
26. Dividend to Central Government of India	0	0	0	0	0	0
27. Dividend to other Stakeholder	313	275	0	0	0	30
<b>28. Numaligarh Refinery Ltd. (29+30)</b>	<b>1,810</b>	<b>1,214</b>	<b>1,324</b>	<b>2,759</b>	<b>736</b>	<b>1,251</b>
29. Dividend to State Government	223	150	163	341	182	325
30. Dividend to other Stakeholder	1,586	1,064	1,161	2,418	554	925
<b>31. Balmer Lawrie Ltd.</b>	<b>80</b>	<b>114</b>	<b>125</b>	<b>128</b>	<b>103</b>	<b>111</b>
32. Dividend to other Stakeholder	80	114	125	128	103	111
<b>33. Engineers India Ltd. (34+35)</b>	<b>190</b>	<b>300</b>	<b>275</b>	<b>177</b>	<b>146</b>	<b>169</b>
34. Dividend to Central Government of India	99	156	142	91	75	87
35. Dividend to other Stakeholder	90	144	133	86	71	82
<b>36. Total Dividend Paid (37+38+39)</b>	<b>29,801</b>	<b>30,323</b>	<b>25,685</b>	<b>22,227</b>	<b>46,323</b>	<b>31,428</b>
on which						
37. Dividend to Central Government of India	14,576	15,525	12,270	10,393	22,614	15,673
38. Dividend to State Government	262	195	215	379	329	340
39. Dividend to other Stakeholder	14,964	14,603	13,200	11,456	23,380	15,415
<b>40. Tax on Dividend</b>	<b>5,369</b>	<b>5,781</b>	<b>4,665</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>41. Total Dividend Paid incl. Dividend on Tax (36+40)</b>	<b>35,170</b>	<b>36,103</b>	<b>30,350</b>	<b>22,227</b>	<b>46,323</b>	<b>31,428</b>

Note: 1. Total may not tally due to round-off

P:Provisional

2. Dividend paid excludes Dividend Distribution Tax.

Source: Central Public Sector Enterprises



### X.4: Dividend Payable (Accrual-Basis) by CPSEs under the Ministry of Petroleum and Natural Gas

(Value in ₹ crore)

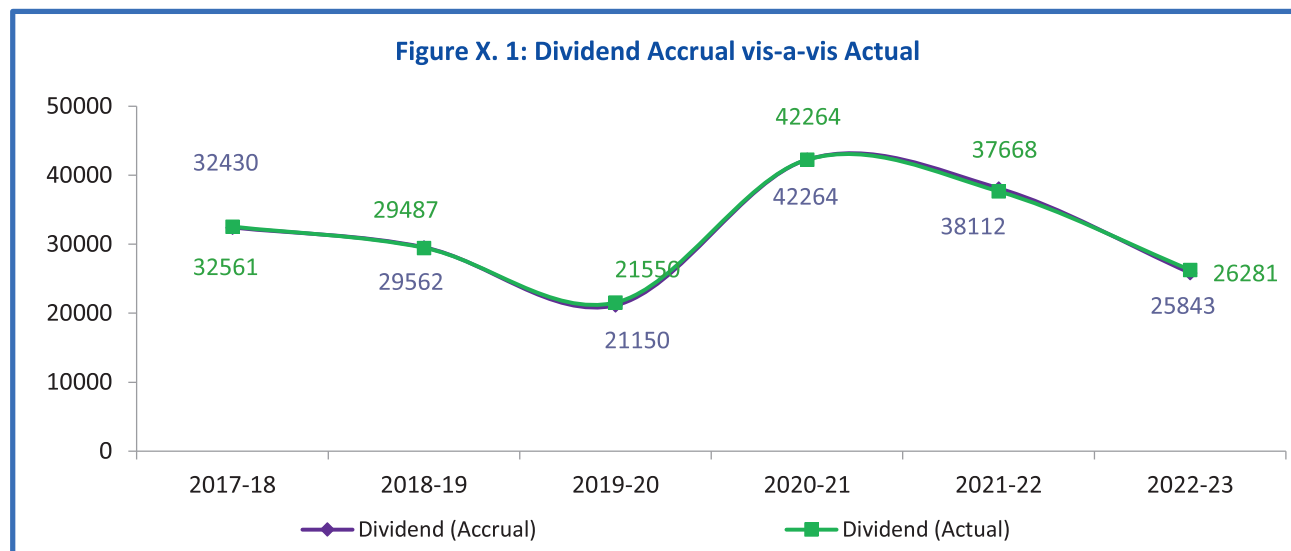
Name of CPSE	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
1. Oil & Natural Gas Corp. Ltd.	8,470	8,806	6,290	4,529	13,209	<b>14,153</b>
2. ONGC Videsh Ltd.	300	510	300	600	480	<b>75</b>
3. Oil India Ltd.	1,173	1,154	1,149	542	1,545	<b>2,169</b>
4. GAIL India Ltd.	1,750	1,734	3,286	2,238	3,996	<b>3,068</b>
<b>5. Indian Oil Corp. Ltd.</b>	<b>11,169</b>	<b>8,909</b>	<b>3,902</b>	<b>11,017</b>	<b>11,568</b>	<b>4,131</b>
6. Bharat Petroleum Corp. Ltd.	4,555	4,122	3,579	17,137	3,471	<b>868</b>
7. Hindustan Petroleum Corp. Ltd.	2,590	2,423	1,486	3,227	1,986	<b>0</b>
8. Mangalore Refinery & Petrochemicals Ltd.	526	175	0	0	0	<b>0</b>
9. Chennai Petroleum Corp. Ltd.	275	0	0	0	30	<b>402</b>
10. Numaligarh Refinery Ltd.	1,361	1,251	1,103	2,759	1,103	<b>1,118</b>
11. Balmer Lawrie Ltd.	138	151	128	103	111	<b>128</b>
12. Engineers India Ltd.	253	253	325	112	169	<b>169</b>
<b>Total Dividend Payable (1 to 12)</b>	<b>32,561</b>	<b>29,487</b>	<b>21,550</b>	<b>42,264</b>	<b>37,668</b>	<b>26,281</b>

Note: Dividend payable (Accrual Basis) is including dividend on shares held by "BPCL trust for investment in shares" & "BPCL ESPS Trust".

HPCL: Nil dividend for FY 2022-23 on account of net loss for the year and restrictions in companies act 2013 on distribution of dividend out of Reserves & Surplus under rule 3 of the act.

Source: Central Public Sector Enterprises P: Provisional

Figure X. 1: Dividend Accrual vis-a-vis Actual



**X.5: Gross Turnover by CPSEs under the Ministry of Petroleum and Natural Gas**

(Value in ₹ crore)

Name of CPSEs	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
1. Oil & Natural Gas Corp. Ltd.	85004	109655	96214	68141	110345	<b>1,55,517</b>
2. ONGC Videsh Ltd.	12910	17577	17164	12931	18274	<b>11,874</b>
3. Oil India Ltd.	10656	13735	12129	8618	14530	<b>23,273</b>
4. GAIL India Ltd.	53690	74808	71730	56529	91426	<b>1,43,976</b>
<b>5. Indian Oil Corp. Ltd.</b>	<b>5,07,751</b>	<b>6,08,510</b>	<b>5,74,077</b>	<b>5,21,051</b>	<b>7,37,480</b>	<b>9,38,560</b>
6. Bharat Petroleum Corp. Ltd.	276401	336384	326393	300830	431285	<b>5,32,105</b>
7. Hindustan Petroleum Corp. Ltd.	243227	295713	286250	269243	372642	<b>4,64,684</b>
8. Mangalore Refinery & Petrochemicals Ltd.	63067	72283	60728	50739	86067	<b>1,24,686</b>
9. Chennai Petroleum Corp. Ltd.	44135	52177	48624	41814	60402	<b>90,801</b>
10. Numaligarh Refinery Ltd.	15922	18509	14072	18548	23546	<b>29,786</b>
11. Balmer Lawrie Ltd.	1830	1854	1612	1593	2105	<b>2,383</b>
12. Engineers India Ltd.	1788	2444	3203	3105	2870	<b>3,284</b>
<b>Total Gross Turnover (1 to 12)</b>	<b>13,16,380</b>	<b>16,03,649</b>	<b>15,12,196</b>	<b>13,53,143</b>	<b>19,50,971</b>	<b>25,20,929</b>

Source: Central Public Sector Enterprises

P:Provisional

**X.6: Profit Earned After Tax by CPSEs under the Ministry of Petroleum and Natural Gas**

(Value in ₹ crore)

Name of CPSEs	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 (P)
1	2	3	4	5	6	7
<b>1. Oil &amp; Natural Gas Corp. Ltd.</b>	<b>19,945</b>	<b>26,765</b>	<b>13,464</b>	<b>11,246</b>	<b>40,306</b>	<b>38,829</b>
2. ONGC Videsh Ltd.	981	1682	454	1891	1589	<b>1,700</b>
3. Oil India Ltd.	2668	2590	2584	1742	3887	<b>6,810</b>
4. GAIL India Ltd.	4618	6026	6621	4890	10364	<b>5,302</b>
5. Indian Oil Corp. Ltd.	21346	16894	1313	21836	24184	<b>8,242</b>
6. Bharat Petroleum Corp. Ltd.	7976	7132	2683	19042	11363	<b>1,870</b>
7. Hindustan Petroleum Corp. Ltd.	6357	6029	2637	10664	6383	<b>-8,974</b>
8. Mangalore Refinery & Petrochemicals Ltd.	2224	332	-2740	-761	2955	<b>2,638</b>
9. Chennai Petroleum Corp. Ltd.	913	-213	-2078	238	1342	<b>3,534</b>
10. Numaligarh Refinery Ltd.	2045	1968	1381	3036	3562	<b>3,703</b>
11. Balmer Lawrie Ltd.	185	189	177	116	123	<b>154</b>
12. Engineers India Ltd.	378	370	430	259	344	<b>342</b>
<b>Total Profit Earned After Tax (1 to 12)</b>	<b>69,619</b>	<b>69,763</b>	<b>26,927</b>	<b>74,198</b>	<b>1,06,403</b>	<b>64,149</b>

Source: Central Public Sector Enterprises

P:Provisional

Note: BPCL: FY 2015-16 PAT was restated on account of transition to Ind AS and FY 2017-18 PAT was restated on account of merger of PCCKL.

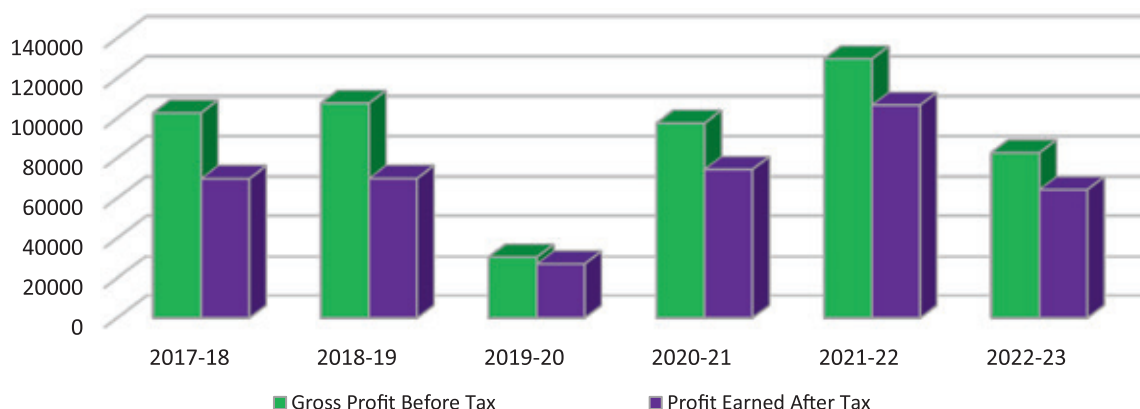
### X.7: Gross Profit & Loss Before Tax by CPSEs under the Ministry of Petroleum and Natural Gas

(Value in ₹ crore)

Name of CPSEs 1	2017-18 2	2018-19 3	2019-20 4	2020-21 5	2021-22 6	2022-23 (P) 7
<b>1. Oil &amp; Natural Gas Corp. Ltd.</b>	<b>28,893</b>	<b>40,029</b>	<b>20,388</b>	<b>16,403</b>	<b>41,040</b>	<b>50,395</b>
2. ONGC Videsh Ltd.	1103	5249	3675	2338	4294	<b>2,125</b>
3. Oil India Ltd.	3710	3916	2120	723	4987	<b>8,857</b>
4. GAIL India Ltd.	6958	9085	7943	6386	13590	<b>6,584</b>
5. Indian Oil Corp. Ltd.	32564	25127	-3694	29716	31733	<b>9,698</b>
6. Bharat Petroleum Corp. Ltd.	11286	10440	2671	22618	15672	<b>2,217</b>
7. Hindustan Petroleum Corp. Ltd.	9202	9339	1573	14247	8204	<b>-11,915</b>
8. Mangalore Refinery & Petrochemicals Ltd.	3351	581	-3958	-915	2708	<b>4,239</b>
9. Chennai Petroleum Corp. Ltd.	1458	-298	-3016	1277	1832	<b>4,809</b>
10. Numaligarh Refinery Ltd.	3142	3052	1735	4083	4848	<b>4,953</b>
11. Balmer Lawrie Ltd.	261	280	232	157	170	<b>211</b>
12. Engineers India Ltd.	568	568	676	351	448	<b>440</b>
<b>Total Profit &amp; Loss (1 to 12)</b>	<b>1,02,479</b>	<b>1,07,367</b>	<b>30,345</b>	<b>97,383</b>	<b>1,29,526</b>	<b>82,612</b>

Source: Central Public Sector Enterprises P:Provisional

#### X.2: Gross Profit vis-a-vis Net Profit



# CHAPTER -XI



## International Petroleum Statistics



## Chapter Highlights



**4.37 Thousand million barrels of reserves in 2022 in India.**

Out of 1,564 Thousand million barrels World's Proven Crude Oil reserves, India has 4.37 Thousand million barrels of reserves in 2022.



**1.44 Trillion cubic meters reserves in 2022 in India.**

Out of 210 Trillion cubic meters World's Proven Natural gas reserves India has 1.44 Trillion cubic meters reserves in 2022.

### Highest share in the global Crude Oil Production



**United States**  
18.9%



**Saudi Arabia**  
12.9%



**Russia**  
11.9%

India accounted for 737 Thousand barrels daily (b/d) production of Crude Oil holding 22<sup>nd</sup> position in the world in 2022. The World Production of Crude Oil accounted for 93,848 Thousand b/d in 2022, higher by 4.2% vis-à-vis 2021 (90,076 Thousand b/d). United States had highest share in crude oil production with 17,770 thousand b/d (18.9%) of total World oil production, followed by Saudi Arabia (12.9%) and Russia (11.9%).

### Highest share in the global Natural Production



**United States**  
24.2%



**Russia**  
15.3%



**Iran**  
6.4%

India accounted for 29.8 Billion Cubic Meters (BCM) Gas Production holding 23<sup>rd</sup> position in the world in 2022. The World Natural gas production accounted for 4,044 BCM in 2022, which is marginally lower by 0.2% vis-à-vis 2021 (4,053 BCM). United States is having highest share in the global natural gas production with 979 BCM i.e. 24.2% of total World gas production, followed by Russia (15.3%) and Iran (6.4%).

### Highest share in Production of Petroleum Product



**United States**  
21.3%



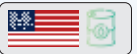
**China**  
14.3%



**Russia**  
6.6%

India accounted for 6.2% (5,690 thousand b/d) of World's production of petroleum products holding 4<sup>th</sup> position in 2022. The World Output of Petroleum Products accounted for 91,123 thousand b/d in 2022, 2.2% higher vis-à-vis 2021 (89,187 thousand b/d). United States is having highest share in production of petroleum products with 19,384 thousand b/d i.e. 21.3% of the World output of petroleum products, followed by China (14.3%) and Russia (6.6%).

### Highest share in consumption Crude Oil



**United States**  
19.7%



**China**  
14.7%



**India**  
5.3%

India accounted for 5.3% (5,690 thousand b/d) of World's consumption of Crude Oil holding 3<sup>rd</sup> highest consumption after United States (19,140 thousand b/d i.e. 19.7%) and China (14,295 thousand b/d i.e. 14.7%) in 2022. Further, the World Consumption of Crude Oil accounted for 97,309 thousand b/d in 2022, 3.1% higher vis-à-vis 2021 (94,372 thousand b/d).

### Highest share in consumption Natural Gas



**United States**  
22.4%



**Russia**  
10.4%



**China**  
9.5%

India accounted for 1.5% (58.2 BCM) of World's natural gas consumption holding 15<sup>th</sup> position in the world in 2022. The World Natural Gas Consumption accounted for 3,941 BCM in 2022, 3.1% lower vis-à-vis 2021 (4,067 BCM). United States is leading in natural gas consumption with share of 22.4% (881 BCM) of total world natural gas consumption followed by Russia (408 BCM i.e. 10.4%) and China (376 BCM i.e. 9.5%).

**World refining capacity of 1,01,902 thousand b/d**



**India refining capacity of 5,045 thousand b/d**



India with refining capacity of 5,045 thousand b/d constituted for 5.0% of the World refining capacity and stands at 4<sup>th</sup> position in the world in 2022. The World Oil Refining capacity accounted for 1,01,902 thousand b/d in 2022, registering a 0.5% positive growth of vis-à-vis 2021 (1,01,367 thousand b/d).

## Chapter Highlights

### Highest share of import Crude Oil



India accounted for 10.3% (4,581 thousand b/d) of World's imports of Crude Oil stands as third highest importer after China (10,189 thousand b/d i.e. 22.8%) and United States (6,278 thousand b/d i.e. 14.1%) in 2022. World import of Crude Oil accounted for 44,640 thousand b/d in 2022, higher by 4.6% vis-à-vis 2021 (42,670 thousand b/d).



Japan is leading in the import of LNG

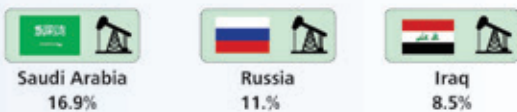
India holds 6<sup>th</sup> position accounting for 5.2% (28.4 BCM) of World's imports of LNG in 2022. Japan is leading among all Countries in the import of LNG accounting for 18.1% (98.3 BCM) of total World import of LNG (542 BCM).



India stood at 5<sup>th</sup> position and 7<sup>th</sup> position in the imports and exports of petroleum products respectively in 2022.

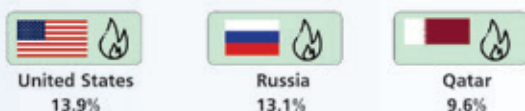
India stood at 5<sup>th</sup> position (1,057 thousand b/d) and 7<sup>th</sup> position (1,312 thousand b/d) globally in the imports and exports of petroleum products respectively in 2022. Singapore is the highest importer of petroleum products with share of 7% (1,944 thousand b/d) out of World imports of petroleum products (27,717 thousand b/d). United States is the highest exporter of petroleum products accounting for 19.9% (5,973 thousand b/d) out of World exports of petroleum products (30,012 thousand b/d).

### Highest share of export of Crude Oil



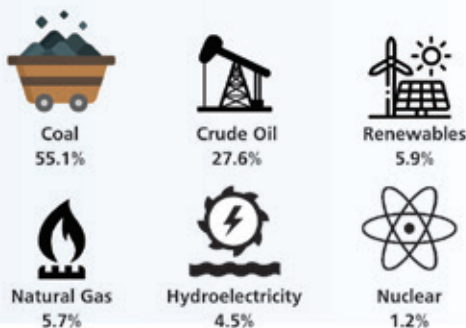
OPEC Countries accounted for 21,389 thousand b/d contributing 49.2% in World crude oil export (43,477 thousand b/d) in 2022. Among all countries, Saudi Arabia is leading in the crude oil export with 16.9% (7,364 thousand b/d) followed by Russia (11%) and Iraq (8.5%).

### Highest share of export of Natural Gas

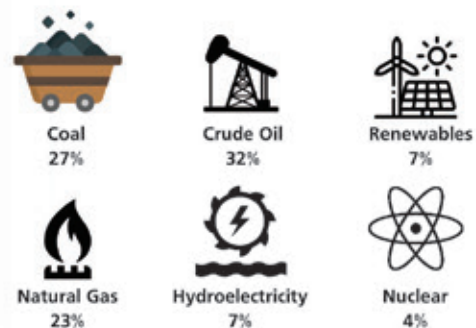


World exports of natural gas accounted for 1,408 BCM, 2.1% lower vis-a-vis 2021 (1,437 BCM) in 2022. Among all countries, United States is having highest export share of 13.9% (196 BCM) followed by Russia (13.1%) and Qatar (9.6%).

### India Primary Energy Consumption



### World Primary Energy Consumption



**XI.1: World Energy Outlook-2022**

Total Primary Energy Consumption (Exajoules)		Refining Capacity (Thousand barrels daily)	
<b>World</b>	<b>604</b>	<b>World</b>	<b>101902</b>
<b>India (Rank 3)</b>	<b>36</b>	<b>India (Rank 4)</b>	<b>5045</b>
<b>Top Five Countries</b>		<b>Top Five Countries</b>	
China	159	US	18061
US	96	China	17259
India	36	Russian Federation	6821
Russian Federation	29	India	5045
Japan	18	South Korea	3363
Production - Oil (Thousand barrels daily)		Consumption- Oil (Thousand barrels daily)	
<b>World</b>	<b>93848</b>	<b>World</b>	<b>97309</b>
<b>India (Rank 22)</b>	<b>737</b>	<b>India (Rank 3)</b>	<b>5185</b>
<b>Top Five Countries</b>		<b>Top Five Countries</b>	
US	17770	US	19140
Saudi Arabia	12136	China	14295
Russian Federation	11202	India	5185
Canada	5576	Saudi Arabia	3876
Iraq	4520	Russian Federation	3570
Production - Natural Gas (BCM)		Consumption- Natural Gas (BCM)	
<b>World</b>	<b>4044</b>	<b>World</b>	<b>3941</b>
<b>India (Rank 23)</b>	<b>30</b>	<b>India (Rank 15)</b>	<b>58</b>
<b>Top Five Countries</b>		<b>Top Five Countries</b>	
US	979	US	881
Russian Federation	618	Russian Federation	408
Iran	259	China	376
China	222	Iran	229
Canada	185	Canada	122
Crude Oil Imports (Thousand barrels daily)		Crude Oil Exports (Thousand barrels daily)	
<b>World</b>	<b>44640</b>	<b>World</b>	<b>43477</b>
<b>India (Rank 3)</b>	<b>4581</b>	<b>India</b>	<b>-</b>
<b>Top Five Countries</b>		<b>Top Five Countries</b>	
China	10189	Saudi Arabia	7364
United States	6278	Russia	4780
India	4581	Iraq	3712
South Korea	2752	United States	3604
Japan	2733	Canada	3350
Petroleum Product Imports (Thousand barrels daily)		Petroleum Product Exports (Thousand barrels daily)	
<b>World</b>	<b>27717</b>	<b>World</b>	<b>30012</b>
<b>India (Rank 5)</b>	<b>1057</b>	<b>India (Rank 7)</b>	<b>1312</b>
<b>Top Five Countries</b>		<b>Top Five Countries</b>	
Singapore	1944	United States	5973
United States	2040	Russia	2277
Netherlands	1792	Netherlands	2193
China	1485	Singapore	1487
India	1057	Saudi Arabia	1468
Natural Gas Imports (BCM)		Natural Gas Exports (BCM)	
<b>World</b>	<b>1313</b>	<b>World</b>	<b>1408</b>
<b>India (Rank 15)</b>	<b>29</b>	<b>India</b>	<b>-</b>
<b>Top Five Countries</b>		<b>Top Five Countries</b>	
China	145	United States	196
Germany	125	Russia	184
Japan	88	Qatar	135
United States	77	Norway	118
Italy	66	Australia	107

Source: Energy Institute Statistical Review of World Energy 2023 and OPEC Annual Statistical Bulletins, 2023

## XI.2: Economic Indicators of OPEC Nations' during 2022

Country	Export of Crude Oil	Export of Natural Gas	Exports of Petroleum Products	Imports of Petroleum Products	Value of Petroleum Exports	Value of Total Export	Petroleum Exports as % of total Exports	Proven Crude Oil Reserves	Gas Reserves	Crude Oil Production	Natural Gas Marketed Production	Production of Petroleum Products	Refinery Throughput	Crude Refining Capacity	Oil Demand
	(Thousand b/d)	BCM	(Thousand b/d)	(Thousand b/d)	(Million \$)	(Million \$)		(Million Barrels)	(BCM)	(Thousand b/d)	BCM	(Thousand b/d)	(Thousand b/d)	(Thousand b/d)	(Thousand b/d)
1	2	3	4	5	6	7	8=6/7%	9	10	11	12	13	14	15	16
Algeria	477	48.9	509	11	32513	69256	46.9	12200	4504	1020	100.5	644	669	677	431
Angola	1085	7.5	22	67	41241	50120	82.3	2550	129	1137	5.5	48	44	80	152
Congo	243	0.0	5	0	8297	10800	76.8	1811	284	262	0.4	17	18	21	8
Equatorial Guinea	81	5.7	0	5	3111	7900	39.4	1100	39	81	8.1	na	na	na	5
Gabon	185	0.0	10	5	6812	15405	44.2	2000	26	191	0.5	20	20	25	45
Iran	901	18.8	383	91	42619	77413	55.1	208600	33988	2554	262.3	1737	1752	2237	1793
Iraq	3712	0.0	172	113	120571	138291	87.2	145019	3714	4453	9.8	834	702	1116	828
Kuwait	1879	0.0	711	29	95352	110370	86.4	101500	1784	2707	13.9	983	842	1005	469
Libya	920	2.5	99	128	33255	37686	88.2	48363	1505	981	23.8	148	144	634	192
Nigeria	1388	32.2	0	525	53457	68119	78.5	36967	5913	1138	44.3	6	5	486	518
Saudi Arabia	7364	0.0	1468	360	326289	442569	73.7	267192	9514	10591	122.9	2768	2702	3291	3172
U.A.E	2717	7.3	903	249	94677	532797	17.8	113000	8210	3064	55.6	953	1046	1227	958
Venezuela	434	0.0	176	88	15379	17686	87.0	303221	5511	716	24.4	266	550	2276	272
<b>Total OPEC</b>	<b>21389</b>	<b>123</b>	<b>4459</b>	<b>1672</b>	<b>873573</b>	<b>1578410</b>	<b>55.3</b>	<b>1243523</b>	<b>75121</b>	<b>28895</b>	<b>672</b>	<b>8423</b>	<b>8493</b>	<b>13074</b>	<b>8842</b>

Note:

- Totals may not add up due to rounding off.
  - Crude oil exports may include lease condensate and volume of oil in transit.
- Source: OPEC Annual Statistical Bulletin, 2022



**XI.3: World Proven Oil Reserves (Country-wise)**

(Figures in Thousand million barrels)

S. No.	Country	2017	2018	2019	2020	2021	2022 (P)	% Share of Total 2022
1	2	3	4	5	6	7	8	9
1	Venezuela	302.81	303.81	303.81	303.56	303.47	<b>303.22</b>	19.4
2	Saudi Arabia	266.26	267.03	267.07	267.08	267.19	<b>267.19</b>	17.1
3	IR Iran	155.60	155.60	208.60	208.60	208.60	<b>208.60</b>	13.3
4	Iraq	147.22	145.02	145.02	145.02	145.02	<b>145.02</b>	9.3
5	United Arab Emirates	97.80	97.80	105.00	107.00	111.00	<b>113.00</b>	7.2
6	Kuwait	101.50	101.50	101.50	101.50	101.50	<b>101.50</b>	6.5
7	Russia	80.00	80.00	80.00	80.00	80.00	<b>80.00</b>	5.1
8	United States	39.16	43.82	44.19	35.84	41.15	<b>55.25</b>	3.5
9	Libya	48.36	48.36	48.36	48.36	48.36	<b>48.36</b>	3.1
10	Nigeria	37.45	36.97	36.89	36.91	37.05	<b>36.97</b>	2.4
11	Kazakhstan	30.00	30.00	30.00	30.00	30.00	<b>30.00</b>	1.9
12	China	25.63	25.93	26.15	26.02	26.49	<b>27.00</b>	1.7
13	Qatar	25.24	25.24	25.24	25.24	25.24	<b>25.24</b>	1.6
14	Brazil	12.63	12.84	13.44	12.72	11.89	<b>13.24</b>	0.8
15	Algeria	12.20	12.20	12.20	12.20	12.20	<b>12.20</b>	0.8
16	Ecuador	8.27	8.27	8.27	8.27	8.27	<b>8.27</b>	0.5
17	Norway	7.92	8.65	8.52	7.90	7.75	<b>7.57</b>	0.5
18	Azerbaijan	7.00	7.00	7.00	7.00	7.00	<b>7.00</b>	0.4
19	Mexico	6.54	5.81	5.33	5.50	5.62	<b>5.56</b>	0.4
20	Oman	5.37	5.37	5.37	5.37	5.37	<b>5.37</b>	0.3
21	Sudan	5.00	5.00	5.00	5.00	5.00	<b>5.00</b>	0.3
22	Canada	5.42	5.19	4.91	4.92	4.86	<b>4.73</b>	0.3
23	Vietnam	4.40	4.40	4.40	4.40	4.40	<b>4.40</b>	0.3
24	<b>India</b>	<b>4.50</b>	<b>4.42</b>	<b>4.42</b>	<b>4.61</b>	<b>4.49</b>	<b>4.37</b>	<b>0.3</b>
25	Malaysia	3.60	3.60	3.60	3.60	3.60	<b>3.60</b>	0.2
26	Egypt	3.33	3.33	3.08	3.08	3.30	<b>3.30</b>	0.2
27	Argentina	2.16	2.02	2.39	2.48	2.41	<b>2.84</b>	0.2
28	Angola	8.38	8.16	7.78	7.23	2.52	<b>2.55</b>	0.2
29	Syrian Arab Republic	2.50	2.50	2.50	2.50	2.50	<b>2.50</b>	0.2
30	Indonesia	3.31	3.17	3.15	2.48	2.44	<b>2.25</b>	0.1
<b>Rest of World</b>		<b>31.75</b>	<b>30.63</b>	<b>30.18</b>	<b>29.84</b>	<b>28.48</b>	<b>28.32</b>	<b>1.8</b>
<b>Total World</b>		<b>1491.33</b>	<b>1493.63</b>	<b>1553.39</b>	<b>1544.23</b>	<b>1547.17</b>	<b>1564.44</b>	<b>100.0</b>
of which: OPEC		1183.67	1182.53	1241.28	1242.38	1241.82	<b>1243.52</b>	79.5
OECD		66.22	70.55	70.28	61.29	65.38	<b>78.83</b>	5.0

**Notes:** 1. Total may not add up due to rounding off.

P: Provisional

2. Total proved reserves of oil - Generally taken to be those quantities that geological and engineering information indicate with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions. The data series for total proved oil does not necessarily meet the definitions, guidelines and practices used for determining proved reserves at company level, for instance as published by the US Securities and Exchange Commission, nor does it necessarily represent BP's view of proved reserves by country.

Source : OPEC Annual Statistical Bulletins 2023

## XI.4: World Proven Gas Reserves (Country-wise)

(Figures in Billion cubic metres)

S. No.	Country	2017	2018	2019	2020	2021	2022 (P)	% Share of Total 2022
1	2	3	4	5	6	7	8	9
1	Russia	50508	49571	49084	47759	47759	<b>47759</b>	22.7
2	IR Iran	33810	33330	33899	33988	33988	<b>33988</b>	16.2
3	Qatar	23861	23846	23831	23831	23831	<b>23831</b>	11.3
4	Turkmenistan	13950	13437	13171	13171	12602	<b>16396</b>	7.8
5	United State	12408	13950	13950	13950	13950	<b>13950</b>	6.6
6	Saudi Arabia	8715	8260	8366	8437	8507	<b>9514</b>	4.5
7	United Arab Emirates	6091	6091	7726	7730	8200	<b>8210</b>	3.9
8	Nigeria	5627	5675	5761	5750	5848	<b>5913</b>	2.8
9	Venezuela	5707	5674	5674	5590	5541	<b>5511</b>	2.6
10	Algeria	4504	4504	4504	4504	4504	<b>4504</b>	2.1
11	Iraq	3744	3729	3714	3714	3714	<b>3714</b>	1.8
12	China	2786	2779	2834	2922	2893	<b>3142</b>	1.5
13	Mozambique	2840	2840	2840	2840	2840	<b>2840</b>	1.4
14	Australia	3193	3193	2846	2716	2587	<b>2587</b>	1.2
15	Canada	1980	2094	2471	2471	2471	<b>2464</b>	1.2
16	Egypt	2221	2221	2209	2209	2209	<b>2209</b>	1.1
17	Malaysia	2346	2290	2213	2206	2172	<b>2172</b>	1.0
18	Norway	2334	2226	2165	2095	2072	<b>2081</b>	1.0
19	Azerbaijan	1074	1435	1917	1917	1917	<b>1917</b>	0.9
20	Uzbekistan	1846	1846	1846	1846	1846	<b>1846</b>	0.9
21	Kazakhstan	1830	1830	1830	1830	1830	<b>1830</b>	0.9
22	Kuwait	1784	1784	1784	1784	1784	<b>1784</b>	0.8
23	Libya	1505	1505	1505	1505	1505	<b>1505</b>	0.7
<b>24</b>	<b>India</b>	<b>1284</b>	<b>1340</b>	<b>1381</b>	<b>1372</b>	<b>1373</b>	<b>1374</b>	<b>0.7</b>
25	Indonesia	2783	1408	1233	1118	1063	<b>1008</b>	0.5
26	Oman	705	677	674	673	673	<b>673</b>	0.3
27	Pakistan	502	615	603	612	656	<b>656</b>	0.3
28	Brazil	370	368	365	338	379	<b>420</b>	0.2
29	Argentina	355	372	400	376	392	<b>411</b>	0.2
30	Ukraine	384	358	349	338	338	<b>338</b>	0.2
<b>Rest of World</b>		<b>6989</b>	<b>6321</b>	<b>6107</b>	<b>5753</b>	<b>5713</b>	<b>5516</b>	<b>2.6</b>
<b>Total World</b>		<b>208036</b>	<b>205569</b>	<b>207252</b>	<b>205345</b>	<b>205157</b>	<b>210063</b>	<b>100.0</b>
of which: OPEC		72261	71288	73626	73651	74242	<b>75121</b>	35.8
OECD		22012	22567	22246	21965	21247	<b>25051</b>	11.9

Notes: 1. Total may not add up due to rounding off.

P: Provisional

2. Total proved reserves of natural gas - Generally taken to be those quantities that geological and engineering information indicates with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions. The data series for natural gas does not necessarily meet the definitions, guidelines and practices used for determining proved reserves at company level, for instance as published by the US Securities and Exchange Commission, nor does it necessarily represent bp's view of proved reserves by country.

Source: OPEC Annual Statistical Bulletins 2023

**XI.5: World Crude Oil Production (Country-wise)**

(Figures in Thousand barrels daily)

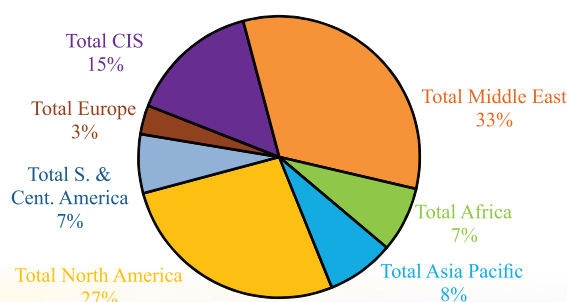
S. No.	Country	2017	2018	2019	2020	2021	2022 (P)	% Share of Total 2022
1	2	3	4	5	6	7	8	9
1	US	13142	15323	17139	16492	16679	17770	18.9
2	Saudi Arabia	11892	12261	11832	11039	10954	12136	12.9
3	Russian Federation	11374	11562	11679	10666	11000	11202	11.9
4	Canada	4813	5244	5372	5130	5414	5576	5.9
5	Iraq	4538	4632	4779	4114	4102	4520	4.8
6	China	3846	3802	3848	3901	3994	4111	4.4
7	United Arab Emirates	3880	3894	3984	3679	3640	4020	4.3
8	Iran	4854	4620	3407	3120	3653	3822	4.1
9	Brazil	2731	2691	2890	3030	2990	3107	3.3
10	Kuwait	3009	3050	2976	2721	2704	3028	3.2
11	Mexico	2227	2072	1921	1912	1928	1944	2.1
12	Norway	1972	1851	1763	2006	2028	1901	2.0
13	Kazakhstan	1813	1900	1903	1796	1805	1769	1.9
14	Qatar	1783	1798	1737	1703	1736	1768	1.9
15	Algeria	1540	1511	1487	1332	1353	1474	1.6
16	Nigeria	1966	2004	2100	1827	1634	1450	1.5
17	Angola	1671	1519	1420	1325	1177	1190	1.3
18	Libya	929	1165	1228	425	1269	1088	1.2
19	Oman	971	978	971	951	971	1064	1.1
20	United Kingdom	1005	1092	1118	1049	874	778	0.8
21	Colombia	854	865	886	781	736	754	0.8
22	India	898	893	851	794	766	737	0.8
23	Venezuela	2207	1641	1037	660	676	731	0.8
24	Argentina	590	591	620	601	628	706	0.8
25	Azerbaijan	793	796	775	714	726	685	0.7
26	Indonesia	837	808	781	742	692	644	0.7
27	Egypt	660	674	653	632	608	613	0.7
28	Malaysia	718	713	672	622	577	567	0.6
29	Ecuador	531	517	531	479	473	481	0.5
30	Australia	322	343	458	454	444	420	0.4
<b>Rest of World</b>		<b>4153</b>	<b>4104</b>	<b>4154</b>	<b>3933</b>	<b>3845</b>	<b>3792</b>	<b>4.0</b>
<b>Total World</b>		<b>92519</b>	<b>94914</b>	<b>94972</b>	<b>88630</b>	<b>90076</b>	<b>93848</b>	<b>100</b>
of which: OECD		24811	27247	29084	28235	28493	29514	31.4
Non-OECD		67708	67666	65887	60396	61582	64333	68.6
OPEC		37163	36997	34965	30915	31748	34038	36.3
Non-OPEC		55356	57917	60007	57715	58328	59809	63.7
European Union		465	448	414	393	369	343	0.4

**Notes:** 1. Total may not add up due to rounding off.

P: Provisional

2. Production Includes crude oil, shale oil, oil sands, condensates (lease condensate or gas condensates that require further refining) and NGLs (natural gas liquids - ethane, LPG and naphtha separated from the production of natural gas). Excludes liquid fuels from other sources such as biofuels and synthetic derivatives of coal and natural gas. This also excludes liquid fuel adjustment factors such as refinery processing gain. Excludes oil shales/kerogen extracted in solid form.

Source: Energy Institute Statistical Review of World Energy 2023

**Figures XI.1: Region-wise Distribution of Crude Oil Production-2022 (%)**


## XI.6: World Natural Gas Production (Country-wise)

(Figures in Billion cubic metres)

S. No.	Country	2017	2018	2019	2020	2021	2022 (P)	% Share of Total 2022
1	2	3	4	5	6	7	8	9
1	US	746.2	840.9	928.1	916.1	944.1	978.6	24.20
2	Russian Federation	635.6	669.1	679.0	638.4	702.1	618.4	15.29
3	Iran	213.9	224.9	232.9	249.5	256.7	259.4	6.41
4	China	149.2	161.4	176.7	194.0	209.2	221.8	5.48
5	Canada	171.3	176.8	169.6	165.6	172.3	185.0	4.57
6	Qatar	170.5	175.2	177.2	174.9	177.0	178.4	4.41
7	Australia	110.3	127.4	146.1	145.9	148.2	152.8	3.78
8	Norway	123.7	121.3	114.3	111.5	114.3	122.8	3.04
9	Saudi Arabia	109.3	112.1	111.2	113.1	114.5	120.4	2.98
10	Algeria	93.0	93.8	87.0	81.4	101.1	98.2	2.43
11	Malaysia	79.6	76.1	77.5	72.2	78.0	82.4	2.04
12	Turkmenistan	58.7	61.5	63.2	66.0	79.3	78.3	1.94
13	Egypt	48.8	58.6	64.9	58.5	67.8	64.5	1.60
14	United Arab Emirates	54.3	52.9	56.2	50.6	58.3	58.0	1.43
15	Indonesia	72.7	72.8	67.6	59.5	59.3	57.7	1.43
16	Uzbekistan	53.6	58.3	57.5	47.1	50.9	48.9	1.21
17	Oman	32.3	36.3	36.7	36.9	40.2	42.1	1.04
18	Argentina	37.1	39.4	41.6	38.3	38.6	41.6	1.03
19	Mexico	38.3	37.9	36.7	35.5	38.4	40.4	1.00
20	Nigeria	47.2	48.3	49.3	49.4	45.2	40.4	1.00
21	United Kingdom	41.9	40.6	39.3	39.6	32.8	38.2	0.94
22	Azerbaijan	17.8	18.8	23.9	25.9	31.8	34.1	0.84
23	India	27.7	27.5	26.9	23.8	28.5	29.8	0.7
24	Venezuela	38.6	31.6	25.6	21.6	28.1	29.2	0.72
25	Pakistan	34.7	34.2	32.7	30.6	32.7	28.7	0.71
26	Trinidad & Tobago	31.9	34.0	34.6	29.5	24.7	26.0	0.64
27	Kazakhstan	36.4	39.2	33.5	30.6	26.7	26.0	0.64
28	Thailand	35.9	34.7	35.8	32.7	31.5	25.6	0.63
29	Bangladesh	26.6	26.6	25.3	23.7	23.6	23.3	0.58
30	Brazil	27.2	25.2	25.7	24.2	24.3	23.0	0.57
<b>Rest of World</b>		<b>307.6</b>	<b>298.4</b>	<b>291.8</b>	<b>274.0</b>	<b>273.2</b>	<b>269.8</b>	<b>6.67</b>
<b>Total World</b>		<b>3671.9</b>	<b>3855.8</b>	<b>3968.4</b>	<b>3860.6</b>	<b>4053.4</b>	<b>4043.8</b>	<b>100.0</b>
of which: OECD		1328.2	1434.5	1516.9	1488.7	1523.5	1589.1	39.30
Non-OECD		2343.7	2421.3	2451.6	2371.9	2529.9	2454.7	60.70
European Union		76.8	69.0	61.0	47.8	44.3	41.1	1.02

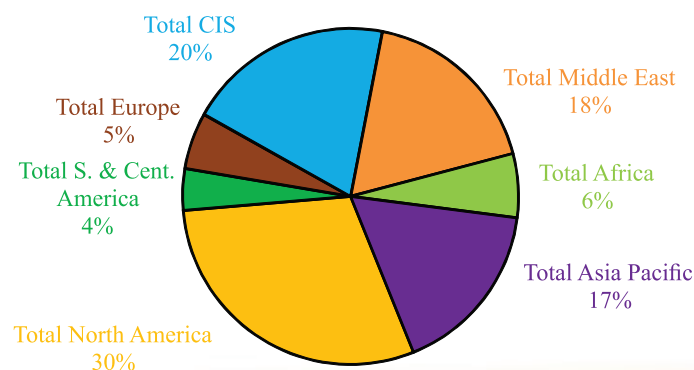
Notes: 1. Total may not add up due to rounding off.

P: Provisional

2. Excludes gas flared or recycled. Includes natural gas produced for Gas-to-Liquids transformation.

Source: Energy Institute Statistical Review of World Energy 2023

Figures XI.2: Region-wise Distribution of Natural Gas Production-2022 (%)





## XI.7: World Output of Petroleum Products (Country-wise)

(Figures in Thousand barrels daily)

S. No.	Country	2017	2018	2019	2020	2021	2022 (P)	% Share of Total 2022
1	2	3	4	5	6	7	8	9
1	United States	20298	20693	20432	17489	18642	19384	21.3
2	China	11059	11608	12501	12952	13537	13013	14.3
3	Russia	6147	6264	6257	5912	6160	5985	6.6
4	<b>India</b>	<b>5426</b>	<b>5675</b>	<b>5665</b>	<b>5120</b>	<b>5426</b>	<b>5690</b>	<b>6.2</b>
5	South Korea	3302	3389	3397	3130	3149	3363	3.7
6	Japan	3469	3291	3279	2726	2730	2924	3.2
7	Saudi Arabia	2630	2817	2586	2177	2548	2768	3.0
8	Germany	2158	2065	2076	1973	1981	2101	2.3
9	Canada	2009	1889	2191	1966	2026	2093	2.3
10	Brazil	1787	1764	1787	1839	1903	2017	2.2
11	IR Iran	1680	1691	1705	1577	1673	1737	1.9
12	Italy	1607	1549	1521	1268	1401	1519	1.7
13	Thailand	1225	1250	1366	1418	1295	1331	1.5
14	Spain	1360	1398	1356	1150	1215	1305	1.4
15	Netherlands	1282	1302	1329	1183	1256	1237	1.4
16	United Kingdom	1290	1254	1262	1025	1034	1157	1.3
17	Singapore	1322	1242	1236	1150	1192	1090	1.2
18	Kuwait	883	891	886	780	845	983	1.1
19	United Arab Emirates	1043	1027	1005	925	1041	953	1.0
20	Indonesia	997	1022	1024	1049	927	952	1.0
21	France	1304	1232	1121	805	769	892	1.0
22	Mexico	846	677	660	638	754	865	0.9
23	Turkey	658	589	772	732	784	851	0.9
24	Iraq		718	747	587	740	834	0.9
25	Algeria	609	621	660	614	621	644	0.7
26	Egypt	506	519	570	596	587	622	0.7
27	Belgium	731	702	734	579	646	600	0.7
28	Poland	554	592	600	564	555	594	0.7
29	Malaysia	545	494	574	512	447	566	0.6
30	Argentina	517	511	521	487	520	541	0.6
<b>Rest of World</b>		<b>15693</b>	<b>15417</b>	<b>14665</b>	<b>12860</b>	<b>12783</b>	<b>12512</b>	<b>13.7</b>
<b>Total World</b>		<b>92937</b>	<b>94153</b>	<b>94485</b>	<b>85783</b>	<b>89187</b>	<b>91123</b>	<b>100</b>
of which: OECD		45341	45102	45023	39111	407666	42492	46.6
OPEC		8596	8781	8499	7157	7943	8423	9.2

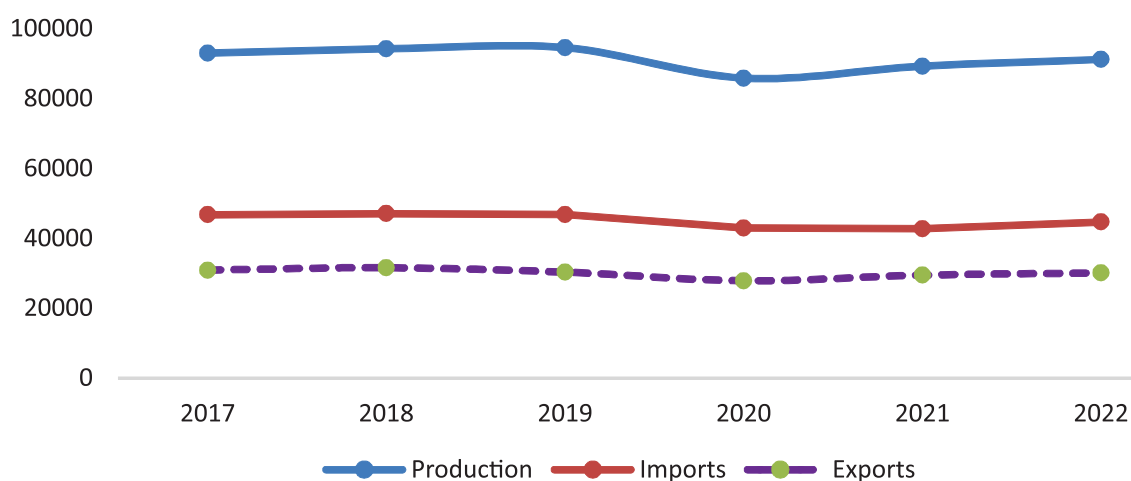
Notes: Data may include products from GTL and condensate units.

Na: Not Available

P: Provisional

Source : Energy Institute Statistical Review of World Energy 2023

### Figures XI.3: Trends in Production, Imports & Exports of World Petroleum Products (in '000'b/d)



### XI.8: World Crude Oil Consumption (Country-wise)

(Figures in Thousand barrels daily)

S. No.	Country	2017	2018	2019	2020	2021	2022 (P)	% Share of Total 2022
1	2	3	4	5	6	7	8	9
1	US	18845	19417	19424	17183	18785	19140	19.7
2	China	13003	13643	14322	14408	14893	14295	14.7
3	India	4724	4974	5150	4700	4798	5185	5.3
4	Saudi Arabia	4052	3871	3642	3445	3610	3876	4.0
5	Russian Federation	3343	3376	3438	3294	3483	3570	3.7
6	Japan	3949	3815	3692	3276	3339	3337	3.4
7	South Korea	2804	2800	2789	2630	2816	2858	2.9
8	Brazil	2485	2368	2361	2218	2394	2512	2.6
9	Canada	2408	2476	2487	2124	2210	2288	2.4
10	Mexico	2038	1918	1814	1601	1749	2098	2.2
11	Germany	2374	2255	2270	2049	2042	2075	2.1
12	Iran	1628	1700	1780	1700	1735	1912	2.0
13	Indonesia	1565	1616	1582	1400	1461	1585	1.6
14	France	1540	1538	1527	1306	1428	1420	1.5
15	United Kingdom	1588	1564	1528	1184	1217	1317	1.4
16	Thailand	1255	1282	1294	1158	1173	1277	1.3
17	Spain	1260	1286	1287	1056	1156	1268	1.3
18	Italy	1274	1300	1259	1039	1158	1222	1.3
19	Singapore	1320	1339	1312	1264	1248	1199	1.2
20	United Arab Emirates	990	988	960	904	990	1126	1.2
21	Turkey	1022	989	999	937	1003	1042	1.1
22	Australia	1063	1076	1064	916	941	1008	1.0
23	Taiwan	1033	1040	987	947	990	909	0.9
24	Western Africa	683	792	820	796	866	906	0.9
25	Malaysia	797	804	867	725	779	894	0.9
26	Netherlands	938	918	888	846	845	885	0.9
27	Iraq	830	786	756	622	700	772	0.8
28	Egypt	801	721	686	598	644	750	0.8
29	Poland	646	663	679	640	676	724	0.7
30	Argentina	672	645	567	504	632	678	0.7
<b>Rest of World</b>		<b>15546</b>	<b>15751</b>	<b>15728</b>	<b>13669</b>	<b>14611</b>	<b>15181</b>	<b>15.6</b>
<b>Total World</b>		<b>96476</b>	<b>97711</b>	<b>97959</b>	<b>89139</b>	<b>94372</b>	<b>97309</b>	<b>100</b>
of which: OECD		46298	46645	46346	40801	43673	45108	46.4
Non-OECD		50179	51066	51612	48338	50699	52202	53.6
European Union		11400	11390	11359	9933	10460	10802	11.1

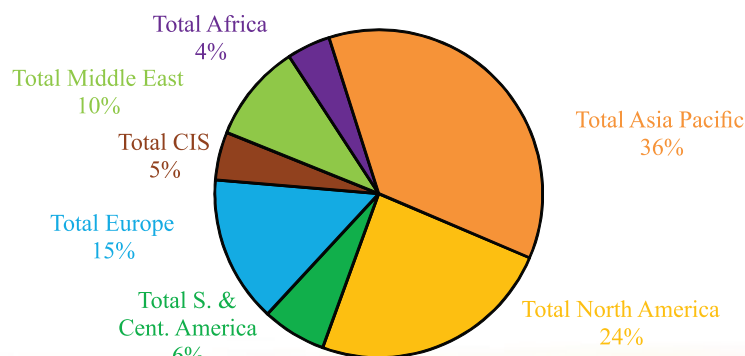
Notes: 1. Total may not add up due to rounding off.

P: Provisional

2. Inland demand plus international aviation and marine bunkers and refinery fuel and loss. Consumption of bio gasoline (such as ethanol) and biodiesel are excluded while derivatives of coal and natural gas are included.

Source: Energy Institute Statistical Review of World Energy 2023

Figures XI.4: Region-wise Distribution of Crude Oil Consumption-2022 (%)



**XI.9: World Natural Gas Consumption (Country-wise)**

(Figures in Billion cubic metres)

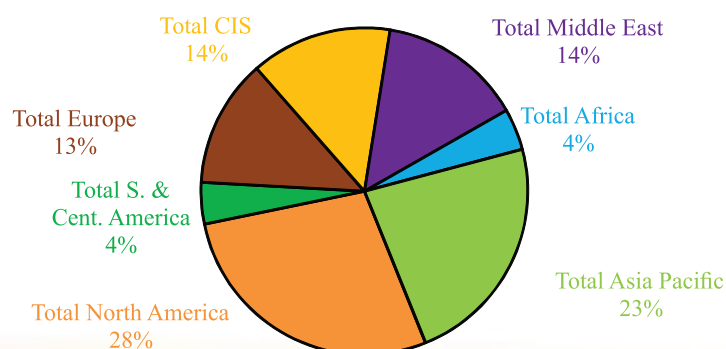
S. No.	Country	2017	2018	2019	2020	2021	2022 (P)	% Share of Total 2022
1	2	3	4	5	6	7	8	9
1	US	740.0	822.0	851.0	832.9	835.8	881.2	22.4
2	Russian Federation	431.1	454.5	444.3	423.5	474.6	408.0	10.4
3	China	241.3	283.9	308.4	336.6	380.3	375.7	9.5
4	Iran	205.0	212.6	218.4	236.8	236.5	228.9	5.8
5	Canada	109.8	116.2	116.9	113.6	117.0	121.6	3.1
6	Saudi Arabia	109.3	112.1	111.2	113.1	114.5	120.4	3.1
7	Japan	117.0	115.7	108.1	104.1	103.6	100.5	2.5
8	Mexico	86.0	90.3	93.4	94.5	97.3	96.6	2.5
9	Germany	87.7	85.9	89.3	87.1	91.7	77.3	2.0
10	United Kingdom	78.5	78.6	77.7	73.1	77.8	72.0	1.8
11	United Arab Emirates	67.2	66.1	69.7	64.7	70.8	69.8	1.8
12	Italy	71.6	69.2	70.8	67.6	72.4	65.3	1.7
13	South Korea	49.8	57.8	56.0	57.5	62.4	61.9	1.6
14	Egypt	55.9	59.6	59.0	58.3	62.2	60.7	1.5
15	<b>India</b>	<b>53.6</b>	<b>58.0</b>	<b>59.2</b>	<b>60.4</b>	<b>62.1</b>	<b>58.2</b>	<b>1.5</b>
16	Turkey	51.6	47.2	43.4	46.2	57.3	51.2	1.3
17	Malaysia	45.0	44.7	45.2	43.6	49.4	49.4	1.3
18	Uzbekistan	44.8	44.4	44.6	43.6	46.5	48.3	1.2
19	Argentina	48.3	48.7	46.6	43.9	45.9	45.7	1.2
20	Algeria	39.5	43.4	45.1	43.4	47.7	44.3	1.1
21	Thailand	50.1	50.0	50.9	46.9	47.0	44.3	1.1
22	Australia	37.3	37.2	44.1	42.5	39.9	41.6	1.1
23	France	44.8	42.8	43.7	40.6	43.0	38.4	1.0
24	Pakistan	40.7	43.6	44.5	41.2	44.9	38.4	1.0
25	Turkmenistan	24.8	28.4	27.7	34.3	36.8	37.5	1.0
26	Indonesia	43.2	44.5	44.0	37.5	37.1	37.0	0.9
27	Qatar	41.2	40.7	41.9	38.5	40.0	36.7	0.9
28	Spain	31.7	31.5	36.0	32.5	34.3	33.1	0.8
29	Brazil	37.6	35.9	35.7	31.4	40.4	32.0	0.8
30	Venezuela	38.6	31.6	25.6	21.6	28.1	29.2	0.7
<b>Rest of World</b>		<b>529.1</b>	<b>538.5</b>	<b>553.4</b>	<b>548.8</b>	<b>569.8</b>	<b>536.1</b>	<b>13.6</b>
<b>Total World</b>		<b>3652.1</b>	<b>3835.6</b>	<b>3905.8</b>	<b>3860.3</b>	<b>4067.1</b>	<b>3941.3</b>	<b>100.0</b>
of which: OECD		1678.5	1767.1	1809.1	1769.9	1812.8	1796.6	45.6
Non-OECD		1973.6	2068.4	2096.7	2090.5	2254.3	2144.7	54.4
European Union		385.9	378.7	392.5	380.0	397.0	343.4	8.7

Notes: 1. Total may not add up due to rounding off.

P: Provisional

2. Excludes gas flared or recycled. Includes natural gas produced for Gas-to-Liquids transformation.

Source: Energy Institute Statistical Review of World Energy 2023

**Figures XI.5: Region-wise Distribution of Natural Gas Consumption-2022 (%)**


## XI.10: World Oil Refining Capacity (Country-wise)

(Figures in Thousand barrels daily\*)

S. No.	Country	2017	2018	2019	2020	2021	2022(P)	% Share of Total 2022
1	2	3	4	5	6	7	8	9
1	US	18598	18808	18974	18143	17941	18061	17.7
2	China	15231	15655	16199	16691	16990	17259	16.9
3	Russian Federation	6545	6551	6676	6736	6861	6821	6.7
4	India	4699	4972	4994	5018	5005	5045	5.0
5	South Korea	3298	3346	3393	3334	3363	3363	3.3
6	Saudi Arabia	2826	2835	2905	2947	2977	3312	3.3
7	Japan	3343	3343	3343	3285	3285	3164	3.1
8	Iran	2220	2330	2495	2475	2610	2670	2.6
9	Brazil	2285	2285	2290	2290	2303	2304	2.3
10	Germany	2069	2062	2062	2062	2121	2121	2.1
11	Canada	1970	1939	2054	2065	1954	1954	1.9
12	Italy	1900	1900	1900	1900	1900	1794	1.8
13	Spain	1562	1564	1586	1586	1591	1591	1.6
14	Mexico	1546	1558	1558	1558	1558	1558	1.5
15	Venezuela	1303	1303	1303	1303	1303	1303	1.3
16	Singapore	1514	1514	1514	1514	1461	1302	1.3
17	United Kingdom	1227	1227	1227	1251	1251	1251	1.2
18	United Arab Emirates	1229	1229	1307	1331	1246	1246	1.2
19	Thailand	1235	1235	1235	1245	1245	1244	1.2
20	Netherlands	1299	1299	1291	1244	1238	1241	1.2
21	France	1245	1245	1245	1245	1140	1140	1.1
22	Kuwait	736	736	736	800	800	1118	1.1
23	Indonesia	1111	1094	1111	1094	1094	1104	1.1
24	Taiwan	1083	1083	1083	1131	1131	1083	1.1
25	Malaysia	625	625	625	625	955	955	0.9
26	Iraq	779	849	919	919	919	919	0.9
27	Egypt	810	795	795	795	795	825	0.8
28	Turkey	596	818	822	822	822	822	0.8
29	Algeria	657	657	657	657	657	657	0.6
30	Belgium	776	776	776	776	645	645	0.6
<b>Rest of World</b>		<b>14648</b>	<b>14715</b>	<b>14896</b>	<b>14951</b>	<b>14206</b>	<b>14030</b>	<b>13.8</b>
<b>Total World</b>		<b>98965</b>	<b>100348</b>	<b>101971</b>	<b>101793</b>	<b>101367</b>	<b>101902</b>	<b>100</b>
of which: OECD		44684	45154	45503	44543	43654	43416	42.6
Non-OECD		54280	55195	56468	57250	57713	58486	57.4
European Union		12757	12735	12748	12643	12313	12210	12.0

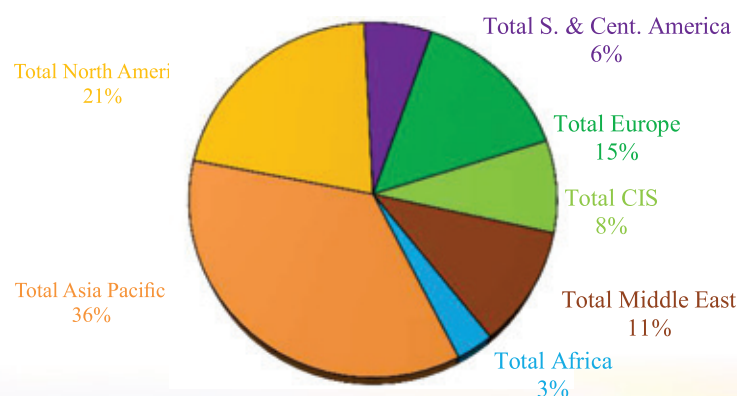
Notes: Total may not add up due to rounding off.

P: Provisional

\*: Atmospheric distillation capacity at year end on a calendar-day basis.

Source: Energy Institute Statistical Review of World Energy 2023

Figures XI.6: Region-wise Distribution of Refinery Capacity-2022 (%)





**XI.11: World Oil Refinery Throughput (Country-wise)**

(Figures in Thousand barrels daily\*)

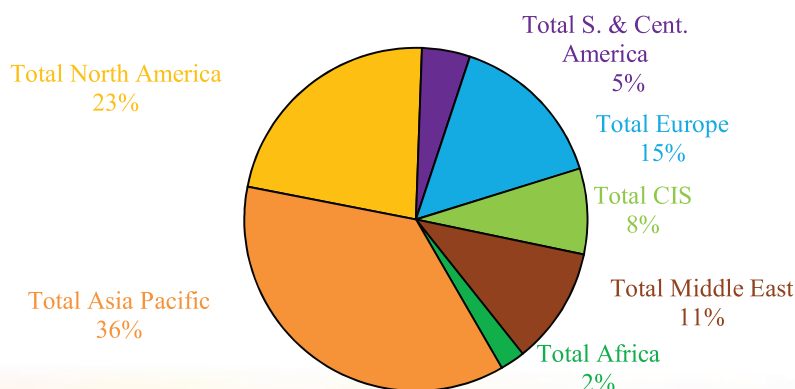
S. No.	Country	2017	2018	2019	2020	2021	2022(P)	% Share of Total 2022
1	2	3	4	5	6	7	8	9
1	US	16590	16969	16563	14212	15148	15927	19.4
2	China	11844	12574	13433	13824	14461	13892	17.0
3	Russian Federation	5703	5864	5824	5504	5723	5533	6.8
4	India	5010	5154	5119	4493	4792	5082	6.2
5	Saudi Arabia	2802	2770	2649	2397	2766	2940	3.6
6	South Korea	3061	3031	2922	2679	2634	2811	3.4
7	Japan	3214	3059	3046	2492	2488	2694	3.3
8	Iran	1897	2087	2101	2193	2344	2397	2.9
9	Germany	1870	1752	1763	1990	1997	2111	2.6
10	Brazil	1741	1733	1751	1769	1818	1935	2.4
11	Canada	1757	1653	1822	1585	1653	1696	2.1
12	Italy	1399	1346	1355	1105	1224	1316	1.6
13	Spain	1326	1363	1318	1105	1143	1273	1.6
14	Netherlands	1180	1192	1217	1103	1151	1129	1.4
15	Thailand	1064	1093	990	982	976	1021	1.2
16	United Kingdom	1073	1041	1044	880	889	1018	1.2
17	United Arab Emirates	1119	1096	1037	936	939	983	1.2
18	Singapore	994	974	1000	861	871	888	1.1
19	Indonesia	885	916	918	826	824	845	1.0
20	France	1149	1085	978	665	683	828	1.0
21	Mexico	767	612	592	591	712	816	1.0
22	Taiwan	848	889	890	726	770	815	1.0
23	Kuwait	686	679	663	539	643	807	1.0
24	Turkey	542	472	673	655	691	736	0.9
25	Egypt	508	522	565	605	600	629	0.8
26	Algeria	573	601	569	585	588	606	0.7
27	Malaysia	570	566	586	491	571	584	0.7
28	Poland	508	540	546	516	497	579	0.7
29	Iraq	527	596	633	536	510	572	0.7
30	Belgium	685	663	693	545	577	558	0.7
<b>Rest of World</b>		<b>10164</b>	<b>10194</b>	<b>9547</b>	<b>8530</b>	<b>8822</b>	<b>8917</b>	<b>10.9</b>
<b>Total World</b>		<b>82056</b>	<b>83086</b>	<b>82807</b>	<b>75920</b>	<b>79505</b>	<b>81938</b>	<b>100</b>
of which: OECD		39096	38914	38507	33765	35034	36819	44.9
Non-OECD		42960	44172	44300	42156	44471	45119	55.1
European Union		10907	10733	10542	9489	9702	10272	12.5

Notes: Total may not add up due to rounding off.

P: Provisional

\*: Atmospheric distillation capacity on a calendar-day basis.

Source: Energy Institute Statistical Review of World Energy 2023

**Figures XI.7: Region-wise Distribution of Refinery Throughput-2022 (%)**


## XI.12: World Imports of Crude Oil (Country-wise)

(Figures in Thousand barrels daily\*)

S. No.	Country	2017	2018	2019	2020	2021	2022(P)	% Share of Total 2022
1	2	3	4	5	6	7	8	9
1	China	8426	9260	10180	10853	10301	<b>10189</b>	22.8
2	United States	7969	7768	6801	5875	6114	<b>6278</b>	14.1
<b>3</b>	<b>India</b>	<b>4431</b>	<b>4544</b>	<b>4507</b>	<b>4035</b>	<b>4202</b>	<b>4581</b>	<b>10.3</b>
4	South Korea	3041	3034	2924	2660	2613	<b>2752</b>	6.2
5	Japan	3235	3056	3023	2472	2493	<b>2733</b>	6.1
6	Germany	1832	1720	1737	1666	1641	<b>1776</b>	4.0
7	Spain	1332	1365	1339	1105	1134	<b>1281</b>	2.9
8	Italy	1340	1253	1275	1014	1145	<b>1257</b>	2.8
9	Netherlands	1092	1097	1153	998	1060	<b>1071</b>	2.4
10	Thailand	906	942	932	837	863	<b>914</b>	2.0
11	United Kingdom	894	892	910	713	727	<b>836</b>	1.9
12	Singapore	982	919	848	753	793	<b>835</b>	1.9
13	France	1149	1061	976	666	683	<b>822</b>	1.8
14	Turkey	520	423	627	591	634	<b>674</b>	1.5
15	Canada	807	743	852	766	662	<b>648</b>	1.5
16	Belgium	689	667	696	551	579	<b>558</b>	1.3
17	Greece	478	491	461	459	473	<b>442</b>	1.0
18	Sweden	401	402	344	375	364	<b>378</b>	0.8
19	Malaysia	209	210	284	248	131	<b>317</b>	0.7
20	Indonesia	344	336	209	232	206	<b>311</b>	0.7
21	Belarus	365	368	363	321	320	<b>285</b>	0.6
22	Brazil	150	186	189	134	166	<b>274</b>	0.6
23	Bahrain	223	220	226	179	183	<b>215</b>	0.5
24	United Arab Emirates	68	42	53	163	187	<b>187</b>	0.4
25	South Africa	403	437	417	307	220	<b>187</b>	0.4
26	Romania	159	170	178	142	140	<b>179</b>	0.4
27	Australia	335	361	328	238	194	<b>163</b>	0.4
28	Chile	177	173	185	147	164	<b>146</b>	0.3
29	Bulgaria	-	117	141	97	91	<b>142</b>	0.3
30	Philippines	198	230	162	130	108	<b>130</b>	0.3
31	Rest of World	4557	4538	4445	4161	4079	<b>4079</b>	9.1
<b>Total World</b>		<b>46709</b>	<b>47025</b>	<b>46765</b>	<b>42888</b>	<b>42670</b>	<b>44640</b>	<b>100</b>
of which: OECD		27650	26914	26011	22467	22764	<b>23853</b>	53.4

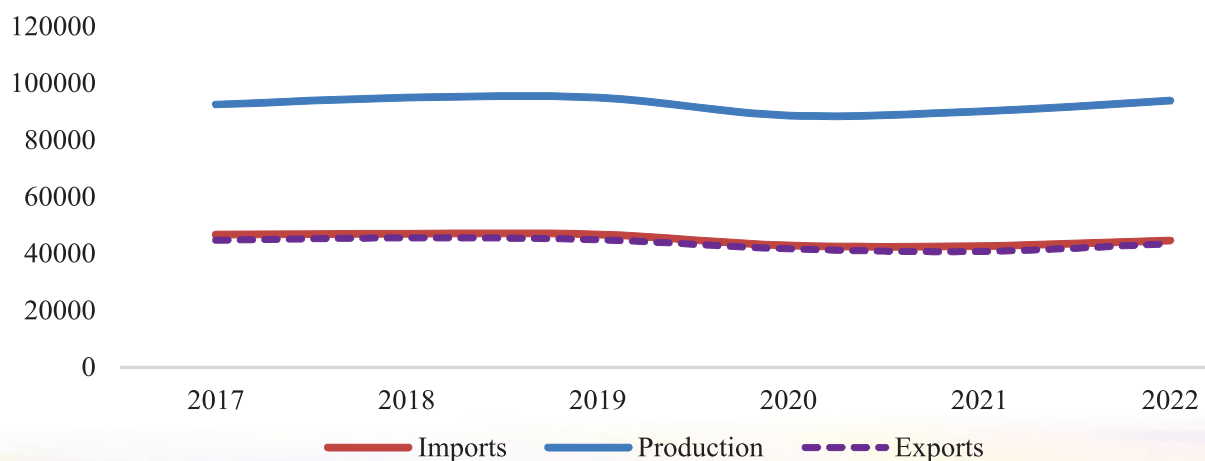
Notes: Total may not add up due to rounding off.

P: Provisional

1. Data may include lease condensate and volumes of oil in transit.

Source: OPEC Annual Statistical Bulletins 2023

### Figures XI.8: Trends in Production, Imports & Exports of World Crude Oil (in '000'b/d)



**XI.13: World Imports of Natural Gas (Country-wise)**

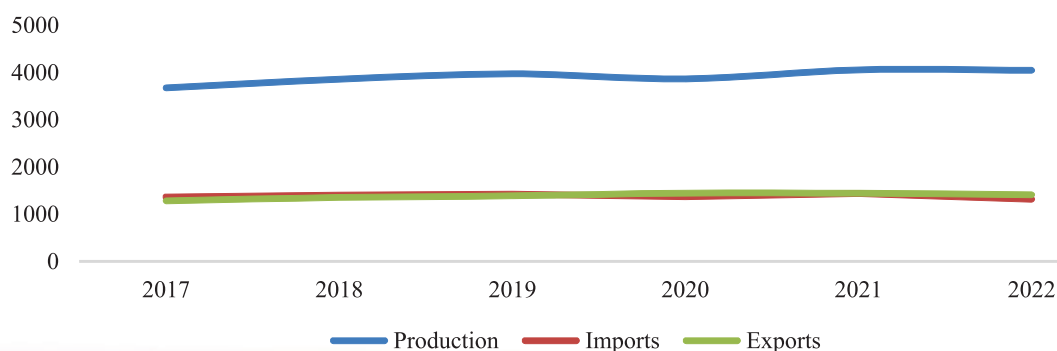
(Figures in Billion Standard Cubic Metres)

S. No.	Country	2017	2018	2019	2020	2021	2022(P)	% Share of Total 2022
1	2	3	4	5	6	7	8	9
1	China	92.02	121.28	129.73	136.52	162.82	<b>145.25</b>	11.1
2	Germany	153.56	162.39	158.90	155.49	154.45	<b>124.53</b>	9.5
3	Japan	120.50	119.37	111.31	107.29	98.78	<b>87.64</b>	6.7
4	United States	85.90	81.80	77.64	72.24	79.52	<b>77.19</b>	5.9
5	Italy	69.62	67.88	70.91	66.23	72.73	<b>66.45</b>	5.1
6	Mexico		55.31	59.43	58.82	61.27	<b>57.42</b>	4.4
7	Netherlands	54.23	60.90	59.29	59.92	57.43	<b>56.92</b>	4.3
8	Belgium	45.56	43.64	43.37	42.70	41.00	<b>55.50</b>	4.2
9	South Korea	48.65	58.02	53.81	53.56	60.95	<b>55.06</b>	4.2
10	France	48.26	49.32	54.67	46.14	45.41	<b>50.36</b>	3.8
11	United Kingdom	47.62	48.18	47.62	43.93	51.07	<b>49.86</b>	3.8
12	Turkey	55.10	50.01	45.21	48.13	58.70	<b>48.85</b>	3.7
13	Spain	34.62	34.82	37.19	32.49	36.97	<b>36.29</b>	2.8
14	Austria	51.98	49.51	51.37	45.08	41.46	<b>29.70</b>	2.3
15	<b>India</b>	<b>26.74</b>	<b>29.59</b>	<b>31.50</b>	<b>33.90</b>	<b>31.10</b>	<b>29.12</b>	<b>2.2</b>
16	Canada	25.27	23.18	26.07	23.64	24.21	<b>21.79</b>	1.7
17	United Arab Emirates	26.03	26.05	22.50	22.65	21.55	<b>21.77</b>	1.7
18	Belarus	17.60	18.81	18.75	17.34	18.30	<b>17.99</b>	1.4
19	Thailand	13.83	14.20	14.37	14.39	16.05	<b>17.13</b>	1.3
20	Singapore	13.42	14.50	14.44	15.57	15.86	<b>15.12</b>	1.2
21	Poland	44.76	45.17	44.79	41.04	39.36	<b>13.74</b>	1.0
22	Pakistan	6.57	8.97	10.70	9.76	11.00	<b>11.93</b>	0.9
23	Iraq	1.46	4.10	6.10	7.20	9.74	<b>9.43</b>	0.7
24	Russia	18.15	15.10	19.00	8.59	9.10	<b>8.70</b>	0.7
25	Brazil	10.72	10.81	9.66	9.82	17.60	<b>8.57</b>	0.7
26	Kuwait	4.78	4.42	4.51	5.34	7.02	<b>7.48</b>	0.6
27	Bulgaria	3.12	2.97	3.24	3.21	3.16	<b>5.75</b>	0.4
28	Malaysia	-	2.35	4.19	3.95	2.87	<b>4.97</b>	0.4
29	Egypt	-	3.06	0	2.15	4.11	<b>4.15</b>	0.3
30	Jordan	-	4.03	2.77	4.17	3.45	<b>3.53</b>	0.3
31	Rest of World	332.08	295.09	320.81	316.87	340.55	<b>315.76</b>	24.1
<b>Total World</b>		<b>1360.14</b>	<b>1403.52</b>	<b>1424.13</b>	<b>1371.59</b>	<b>1434.77</b>	<b>1312.68</b>	<b>100</b>
of which: OECD		1024.70	1033.66	10442.41	989.55	1009.66	<b>919.57</b>	70.1
OPEC		37.00	40.48	34.39	35.21	38.32	<b>38.68</b>	2.9

Notes: Total may not add up due to rounding off.

P: Provisional

Source: OPEC Annual Statistical Bulletins 2023

**Figures XI.9: Trends in Production, Imports & Exports of World Natural Gas (in BCM)**


**XI.14: World Imports of Petroleum Products (Country-wise)**

(Figures in Thousand barrels daily)

S. No.	Country	2017	2018	2019	2020	2021	2022(P)	% Share of Total 2022
1	2	3	4	5	6	7	8	9
1	Singapore	2621	2335	2244	2088	1977	1944	7.0
2	United States	2175	2174	2340	1988	2360	2040	7.4
3	Netherlands	1926	1865	1798	1559	1745	1792	6.5
4	China	1369	1398	1389	1318	1428	1485	5.4
5	<b>India</b>	<b>844</b>	<b>776</b>	<b>969</b>	<b>1066</b>	<b>1003</b>	<b>1057</b>	<b>3.8</b>
6	Mexico	846	1090	1138	932	1004	1031	3.7
7	South Korea	891	958	995	963	1080	1018	3.7
8	Japan	924	976	896	919	1012	914	3.3
9	France	861	896	939	926	967	876	3.2
10	Malaysia	760	752	679	795	790	813	2.9
11	Indonesia	576	642	728	533	518	809	2.9
12	Australia	606	625	634	590	678	785	2.8
13	Germany	880	867	907	752	806	769	2.8
14	United Kingdom	700	754	704	523	543	602	2.2
15	Brazil	698	640	725	606	738	583	2.1
16	Belgium	576	621	564	530	561	554	2.0
17	Nigeria	392	442	460	466	488	525	1.9
18	Turkey	556	573	444	382	400	431	1.6
19	Saudi Arabia	487	898	319	353	361	360	1.3
20	Spain	400	362	365	308	310	329	1.2
21	Morocco	272	293	294	267	291	311	1.1
22	Italy	347	363	322	270	271	300	1.1
23	United Arab Emirates	344	351	266	120	129	249	0.9
24	Canada	274	305	310	192	208	219	0.8
25	Egypt	318	278	264	149	203	184	0.7
26	Ukraine	201	213	222	221	241	183	0.7
27	Ecuador	134	194	188	165	170	168	0.6
28	Libya	131	137	144	147	133	128	0.5
29	Iraq	116	89	96	77	107	113	0.4
30	IR Iran	96	101	98	92	99	91	0.3
<b>Rest of World</b>		<b>8205</b>	<b>7563</b>	<b>7495</b>	<b>6766</b>	<b>6928</b>	<b>7054</b>	<b>25.5</b>
Total World		29523	29529	28934	26062	27549	27717	100
of which: OECD		14061	14508	14449	12775	13891	13852	50.0
OPEC		1890	2424	1684	1519	1505	1672	6.0

Notes: Total may not add up due to rounding off.

P: Provisional

Source: OPEC Annual Statistical Bulletins 2023



**XI.15: World Exports of Crude Oil (Country-wise)**

(Figures in Thousand barrels daily)

S. No.	Country	2017	2018	2019	2020	2021	2022(P)	% Share of Total 2022
1	2	3	4	5	6	7	8	9
1	Saudi Arabia	6968	7372	7038	6659	6227	<b>7364</b>	16.9
2	Russia	5058	5207	5241	4617	4510	<b>4780</b>	11.0
3	Iraq	3802	3862	3968	3428	3440	<b>3712</b>	8.5
4	United States	1158	2048	2982	3206	2963	<b>3604</b>	8.3
5	Canada	2893	3178	3342	3139	3188	<b>3350</b>	7.7
6	United Arab Emirates	2379	2296	2414	2418	2305	<b>2717</b>	6.2
7	Kuwait	2010	2050	1986	1826	1740	<b>1879</b>	4.3
8	Norway	1361	1254	1234	1502	1563	<b>1558</b>	3.6
9	Nigeria	1811	1979	2008	1879	1592	<b>1388</b>	3.2
10	Brazil	1127	1147	1301	1401	1292	<b>1346</b>	3.1
11	Kazakhstan	1371	1401	1411	1417	1323	<b>1315</b>	3.0
12	Angola	1577	1421	1319	1220	1080	<b>1085</b>	2.5
13	Mexico	1264	1283	1200	1199	1091	<b>1012</b>	2.3
14	Oman	803	808	839	860	897	<b>922</b>	2.1
15	Libya	792	999	1036	347	1091	<b>920</b>	2.1
16	IR Iran	2125	1850	651	404	763	<b>901</b>	2.1
17	United Kingdom	693	818	834	726	604	<b>540</b>	1.2
18	Colombia	642	595	609	539	422	<b>487</b>	1.1
19	Algeria	633	571	584	439	446	<b>477</b>	1.1
20	Qatar	466	477	485	464	474	<b>475</b>	1.1
21	Azerbaijan	615	609	559	500	483	<b>441</b>	1.0
22	Venezuela	1596	1273	847	487	448	<b>438</b>	1.0
23	Ecuador	380	367	398	352	316	<b>313</b>	0.7
24	Australia	180	215	249	253	257	<b>244</b>	0.6
25	Congo	261	307	309	282	251	<b>243</b>	0.6
26	Malaysia	345	358	287	280	209	<b>203</b>	0.5
27	Gabon	188	174	207	196	181	<b>185</b>	0.4
28	Bahrain	155	157	156	151	152	<b>152</b>	0.3
29	Sudans	99	115	138	135	138	<b>116</b>	0.3
30	Equatorial Guinea	-	121	110	115	93	<b>81</b>	0.2
<b>Rest of World</b>		<b>1949</b>	<b>1259</b>	<b>1158</b>	<b>1259</b>	<b>1255</b>	<b>1229</b>	<b>2.8</b>
<b>Total World</b>		<b>44699</b>	<b>45571</b>	<b>44900</b>	<b>41700</b>	<b>40794</b>	<b>43477</b>	<b>100</b>
of which: OECD		7716	8913	9939	10092	9744	<b>10355</b>	23.8
OPEC		24267	24274	22478	19701	19656	<b>21389</b>	49.2

Notes: Total may not add up due to rounding off.

P: Provisional

Source: OPEC Annual Statistical Bulletins 2023



## XI.16: World Exports of Natural Gas (Country-wise)

(Figures in Billion Cubic Metres)

S. No.	Country	2017	2018	2019	2020	2021	2022(P)	% Share of Total 2022
1	2	3	4	5	6	7	8	9
1	United States	89.31	102.16	131.88	149.64	188.38	<b>195.83</b>	13.9
2	Russia	229.42	248.47	258.24	236.88	242.81	<b>184.40</b>	13.1
3	Qatar	126.19	126.77	129.34	127.46	134.52	<b>134.52</b>	9.6
4	Norway	123.09	119.95	113.25	112.27	111.46	<b>118.45</b>	8.4
5	Australia	74.80	91.58	100.25	102.43	106.80	<b>107.49</b>	7.6
6	Canada	85.12	79.64	76.63	70.93	79.56	<b>84.92</b>	6.0
7	Germany	31.54	78.40	67.99	76.25	71.30	<b>53.31</b>	3.8
8	Algeria	53.89	51.42	42.78	39.46	54.76	<b>48.92</b>	3.5
9	Belgium	28.55	25.22	24.61	24.63	22.71	<b>43.43</b>	3.1
10	Netherlands	56.13	54.48	47.66	39.98	43.28	<b>41.27</b>	2.9
11	Malaysia	36.76	33.65	35.56	34.21	37.58	<b>40.95</b>	2.9
12	Turkmenistan	37.70	36.40	36.37	32.00	39.69	<b>35.69</b>	2.5
13	Nigeria	32.51	28.63	35.95	35.59	38.46	<b>32.19</b>	2.3
14	Indonesia	29.82	29.62	24.86	24.25	23.54	<b>23.45</b>	1.7
15	Azerbaijan	8.86	9.19	11.30	13.31	19.28	<b>22.92</b>	1.6
16	United Kingdom	11.35	7.61	8.04	9.60	6.82	<b>22.50</b>	1.6
17	Austria	43.37	41.58	40.15	38.62	36.71	<b>21.54</b>	1.5
18	IR Iran	12.93	12.24	12.35	11.52	18.43	<b>18.79</b>	1.3
19	Oman	11.15	13.12	13.43	12.81	13.36	<b>16.89</b>	1.2
20	France	6.04	5.93	10.79	9.10	5.79	<b>14.63</b>	1.0
21	Egypt	1.33	2.45	5.89	2.82	10.52	<b>12.04</b>	0.9
22	Myanmar	12.15	11.31	12.24	11.37	11.35	<b>11.37</b>	0.8
23	Trinidad & Tobago	14.61	16.38	16.80	14.24	9.28	<b>11.28</b>	0.8
24	Bolivia	15.39	13.84	11.75	11.81	12.90	<b>10.90</b>	0.8
25	Kazakhstan	14.22	17.55	17.84	12.64	12.15	<b>9.93</b>	0.7
26	Angola	5.25	5.49	5.90	6.37	5.08	<b>7.54</b>	0.5
27	United Arab Emirates	8.78	8.94	9.26	8.77	7.85	<b>7.28</b>	0.5
28	Brunei	8.92	8.27	8.59	7.99	7.30	<b>6.15</b>	0.4
29	China	3.47	3.40	3.64	5.44	5.73	<b>6.02</b>	0.4
30	Libya	4.47	5.51	4.68	4.03	4.69	<b>5.74</b>	0.4
<b>Rest of World</b>		<b>152.03</b>	<b>162.87</b>	<b>199.14</b>	<b>306.56</b>	<b>243.74</b>	<b>253.34</b>	<b>18.0</b>
<b>Total World</b>		<b>1279.82</b>	<b>1349.89</b>	<b>1385.28</b>	<b>1443.32</b>	<b>1437.43</b>	<b>1407.85</b>	<b>100.0</b>
of which: OECD		574.12	629.85	645.66	658.26	695.26	<b>730.30</b>	51.9
OPEC		124.19	116.47	116.62	110.02	132.34	<b>122.94</b>	8.7

Notes: Total may not add up due to rounding off.

P: Provisional

Source: OPEC Annual Statistical Bulletins 2023

**XI.17: World Exports of Petroleum Products (Country-wise)**

(Figures in Thousand barrels daily)

S. No.	Country	2017	2018	2019	2020	2021	2022(P)	% Share of Total 2022
1	2	3	4	5	6	7	8	9
1	United States	5218	5553	5489	5292	5573	<b>5973</b>	19.9
2	Russia	2479	2510	2554	2417	2385	<b>2277</b>	7.6
3	Netherlands	2333	2306	2247	1918	2258	<b>2193</b>	7.3
4	Singapore	2088	1777	1622	1440	1426	<b>1487</b>	5.0
5	Saudi Arabia	1438	1971	1300	1017	1344	<b>1468</b>	4.9
6	South Korea	1367	1432	1409	1259	1206	<b>1346</b>	4.5
7	India	1411	1344	1360	1216	1284	<b>1312</b>	4.4
8	China	1169	1276	1460	1324	1289	<b>1148</b>	3.8
9	Malaysia	632	663	646	775	877	<b>938</b>	3.1
10	United Arab Emirates	654	916	882	840	891	<b>903</b>	3.0
11	Kuwait	640	630	637	527	604	<b>711</b>	2.4
12	Germany	483	461	449	454	522	<b>562</b>	1.9
13	Italy	636	579	557	462	531	<b>526</b>	1.8
14	Belgium	624	622	608	502	541	<b>513</b>	1.7
15	Japan	575	548	609	385	401	<b>510</b>	1.7
16	Algeria	570	532	506	503	493	<b>509</b>	1.7
17	Qatar	639	579	466	433	456	<b>466</b>	1.6
18	United Kingdom	506	483	451	395	392	<b>452</b>	1.5
19	Canada	491	444	473	409	430	<b>414</b>	1.4
20	IR Iran	270	272	285	281	333	<b>383</b>	1.3
21	Spain	471	453	420	398	396	<b>359</b>	1.2
22	France	435	424	367	278	278	<b>296</b>	1.0
23	Norway	433	416	428	388	379	<b>295</b>	1.0
24	Sweden	350	347	230	201	250	<b>282</b>	0.9
25	Brazil	133	171	217	284	246	<b>253</b>	0.8
26	Bahrain	242	239	250	214	218	<b>234</b>	0.8
27	Mexico	156	141	115	139	170	<b>199</b>	0.7
28	Venezuela	-	226	97	70	67	<b>176</b>	0.6
29	Iraq	20	46	107	151	158	<b>172</b>	0.6
30	Romania	-	102	101	91	82	<b>101</b>	0.3
<b>Rest of World</b>		<b>4357</b>	<b>4041</b>	<b>3898</b>	<b>3706</b>	<b>3890</b>	<b>3554</b>	<b>11.8</b>
<b>Total World</b>		<b>30819</b>	<b>31504</b>	<b>30240</b>	<b>27769</b>	<b>29370</b>	<b>30012</b>	<b>100</b>
of which: OECD		15872	15964	15638	14173	15041	<b>15577</b>	51.9
OPEC		3899	4673	3885	3483	4034	<b>4459</b>	14.9

Notes: Total may not add up due to rounding off.

P: Provisional

Source: OPEC Annual Statistical Bulletins 2023

## XI.18: Spot Reference Basket and Corresponding Components Spot Prices

(Figures in US \$/bbl.)

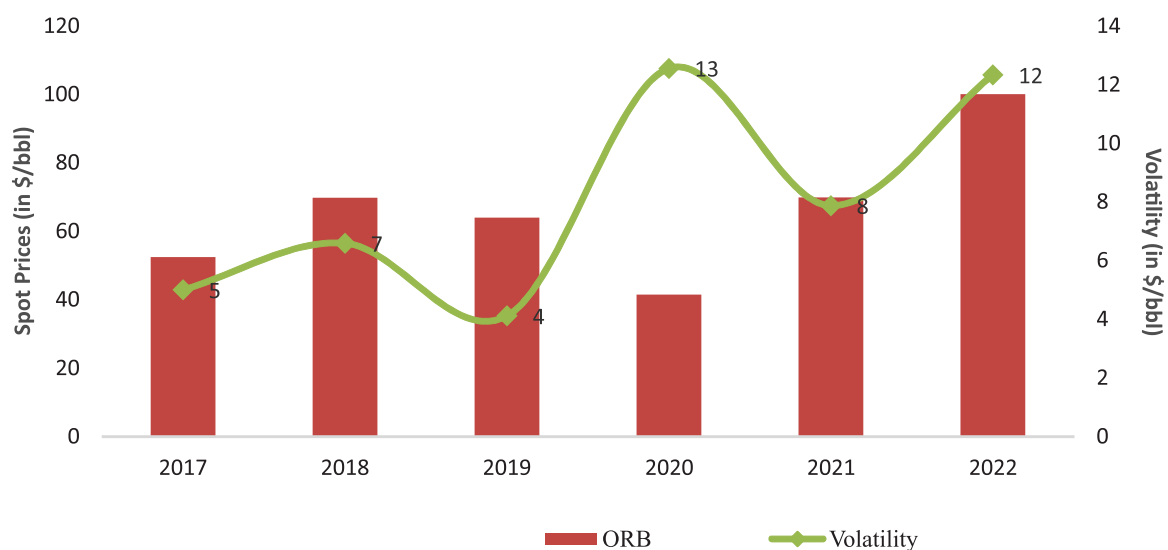
Country	Crude	2017	2018	2019	2020	2021	2022 (P)	% Variation in 2022 over 2021
1	2	3	4	5	6	7	8	9=(8-7)/7%
Algeria	Saharan Blend	54.12	71.44	64.49	42.12	70.89	<b>104.24</b>	47.0
Angola	Girassol	54.47	71.72	66.11	42.64	71.31	<b>103.66</b>	45.4
Congo	Djeno	52.77	68.59	61.80	35.77	63.35	<b>93.65</b>	47.8
Equatorial Guinea	Zafiro	54.04	71.36	65.74	41.54	71.09	<b>102.88</b>	44.7
Gabon	Rabi Light	53.16	70.30	63.18	40.22	70.34	<b>100.64</b>	43.1
IR Iran	Iran Heavy	51.71	67.97	61.85	40.77	69.80	<b>99.92</b>	43.2
Iraq	Basrah Light	51.87	68.62	63.64	41.55	69.86	<b>97.33</b>	39.3
Kuwait	Kuwait Export	51.60	68.90	64.25	41.49	70.50	<b>101.19</b>	43.5
Libya	Es Sider	52.82	69.78	63.81	40.06	69.16	<b>101.28</b>	46.4
Nigeria	Bonny Light	54.55	72.11	65.63	41.53	70.63	<b>103.63</b>	46.7
Saudi Arabia	Arab Light	52.59	70.59	64.96	41.91	70.65	<b>101.64</b>	43.9
United Arab Emirates	Murban	54.82	72.20	64.72	42.98	70.09	<b>98.89</b>	41.1
Venezuela	Merey	47.63	64.47	54.04	28.12	51.45	<b>76.96</b>	49.6
<b>OPEC</b>	<b>ORB</b>	<b>52.43</b>	<b>69.78</b>	<b>64.04</b>	<b>41.47</b>	<b>69.89</b>	<b>100.08</b>	<b>43.2</b>
ORB	Volatility <sup>1</sup>	5.00	6.59	4.11	12.55	7.87	<b>12.33</b>	-
ORB	Coefficient of variation <sup>2</sup> %	9.54	9.44	6.43	30.26	11.26	<b>12.32</b>	-

Notes:

- Standard deviation of daily prices.
- Ratio of volatility to annual average price.

Source : OPEC Annual Statistical Bulletins 2023

### Figure XI.10: Trend of OPEC reference Basket Spot Prices (in \$/bbl)





**XI.19: Crude Oil Spot Prices**

(Figures in US \$/bbl.)

Country	Crude	2017	2018	2019	2020	2021	2022 (P)	% Variation in 2022 over 2021
1	2	3	4	5	6	7	8	9=(8-7)/7%
Algeria	Zarzaitine	54.08	71.35	64.42	41.72	70.72	<b>102.96</b>	69.5
Angola	Cabinda	54.30	71.15	65.34	42.29	71.00	<b>103.00</b>	67.9
Egypt	Suex Mix	51.56	68.47	62.61	40.23	67.77	<b>96.15</b>	68.5
Indonesia	Minas	48.99	65.44	60.25	41.08	68.75	<b>96.94</b>	67.4
Iran	Iran Light	52.36	69.10	62.74	40.36	67.90	<b>96.28</b>	68.2
Libya	Brega	53.62	70.65	63.76	40.12	69.39	<b>101.67</b>	73.0
Malaysia	Miri	56.93	75.90	69.30	47.15	71.26	<b>110.93</b>	51.1
Malaysia	Tapis	56.33	73.78	69.15	43.24	72.82	<b>111.57</b>	68.4
Mexico	Isthmus	54.60	68.74	63.00	36.61	66.20	<b>91.85</b>	80.8
Mexico	Maya	47.00	62.71	57.51	36.20	64.42	<b>87.31</b>	78.0
Nigeria	Forcados	54.58	72.56	66.19	41.56	70.81	<b>104.76</b>	70.4
Norway	Ekosfisk	54.49	71.86	65.24	42.33	71.65	<b>105.26</b>	69.3
Norway	Oseberg	55.04	72.34	65.38	42.36	71.78	<b>106.10</b>	69.5
Oman	Oman	53.32	70.10	64.00	43.20	69.46	<b>96.38</b>	60.8
Qatar	Dukhan	54.12	71.22	63.65	42.44	69.92	<b>99.25</b>	64.8
Russia	Urals	53.27	70.13	64.38	41.83	69.45	<b>78.47</b>	66.0
Saudi Arabia	Arab Heavy	50.96	68.79	63.85	41.45	69.98	<b>99.75</b>	68.8
United Kingdom	Brent	54.17	71.22	64.19	41.67	70.80	<b>101.10</b>	69.9
United Kingdom	Forties	54.20	71.21	64.66	41.38	71.23	<b>102.87</b>	72.1
U.S.A	WTI	50.82	65.16	57.02	39.43	68.17	<b>94.55</b>	72.9
UAE	Dubai	53.08	69.68	63.48	42.31	69.38	<b>96.32</b>	64.0

Source : OPEC Annual Statistical Bulletins 2023

**XI.20: Spot Prices of Petroleum Products in Major Markets**

(Figures in US \$/bbl.)

Product	Specifications	2017	2018	2019	2020	2021	2022 (P)	% Variation in 2022 over 2021
1	2	3	4	5	6	7	8	9=(8-7)/7%
<b>US Gulf</b>								
Gasoline	Regular unleaded 87	68.57	80.17	72.70	47.80	86.72	<b>123.34</b>	81.4
Gas Oil	0.2% sulphur	62.31	80.99	74.61	44.92	73.94	<b>122.10</b>	64.6
Fuel Oil	3.0 % sulphur	47.05	60.17	52.55	34.72	59.84	<b>76.84</b>	72.4
<b>Singapore</b>								
Gasoline	Premium unleaded 87	69.51	81.30	74.15	47.61	81.66	<b>117.52</b>	71.5
Gas Oil	0.05% sulphur	65.69	84.05	77.22	48.36	75.96	<b>130.65</b>	57.1
Fuel Oil	380 centistokes	49.24	64.74	56.70	37.53	62.07	<b>76.63</b>	65.4
<b>Rotterdam</b>								
Gasoline	Premium unleaded 98	75.13	87.34	79.52	51.34	85.89	<b>136.26</b>	67.3
Gas Oil	10ppm sulphur	66.35	85.94	79.50	49.17	78.31	<b>142.32</b>	59.3
Fuel Oil	3.5% sulphur	44.31	59.04	48.90	33.27	60.09	<b>75.42</b>	80.6

Note: US Gulf and Singapore apply to cargo. Rotterdam prices apply to barge size lots.

Source : OPEC Annual Statistical Bulletins 2023



## XI.21: Oil Trade Movements

(Figures in Thousand Barrels daily)

Country/Year	2017	2018	2019	2020	2021	2022(P)	% share in Total 2022
1	2	3	4	5	6	7	8
<b>Imports</b>							
US	10147	9928	9142	7865	8475	<b>8330</b>	12.1
Europe	14968	14338	14324	12817	12929	<b>14383</b>	20.9
China	10241	11028	11873	13032	12724	<b>12156</b>	17.7
India	4920	5196	5394	4898	5302	<b>5752</b>	8.4
Japan	4142	3940	3780	3310	3350	<b>3465</b>	5.0
Rest of World	25625	25580	25694	23064	23776	<b>24729</b>	35.9
<b>Total World</b>	<b>70043</b>	<b>70010</b>	<b>70207</b>	<b>64986</b>	<b>66556</b>	<b>68815</b>	<b>100</b>
<b>Exports</b>							
Canada	4233	4498	4666	4418	4663	<b>4699</b>	6.8
Mexico	1283	1302	1252	1247	1216	<b>1172</b>	1.7
US	5881	7039	8010	8138	7959	<b>8761</b>	12.7
S. & Cent. America	3993	3711	3457	3503	3003	<b>2959</b>	4.3
Europe	3384	3349	3225	2822	2983	<b>2684</b>	3.9
Russia	8981	8026	8090	7398	7816	<b>7948</b>	11.5
Other CIS	2232	2051	2107	2070	2110	<b>1976</b>	2.9
Saudi Arabia	8352	8462	8349	8011	7780	<b>8874</b>	12.9
Middle East	16208	16038	14943	13685	14160	<b>15387</b>	22.4
North Africa	2594	2765	2794	1837	2335	<b>2073</b>	3.0
West Africa	4490	4516	4743	4243	3921	<b>3557</b>	5.2
Asia Pacific (ex Japan)	6549	6440	6603	6150	6625	<b>6548</b>	9.5
Rest of World	1863	1811	1968	1463	1986	<b>2177</b>	3.2
<b>Total World</b>	<b>70043</b>	<b>70008</b>	<b>70207</b>	<b>64985</b>	<b>66557</b>	<b>68815</b>	<b>100</b>

### Notes:

Note: Bunker fuel use is not included as exports. Intra-area movements (for example, between countries within Europe) are excluded.

Source: Energy Institute Statistical Review of World Energy 2023

**XI.22: World Primary Energy Consumption by Fuel: 2022**

(Figures in Exajoules)

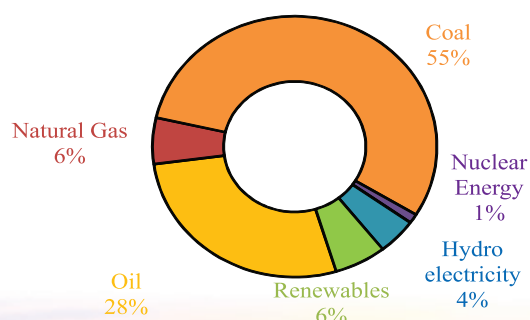
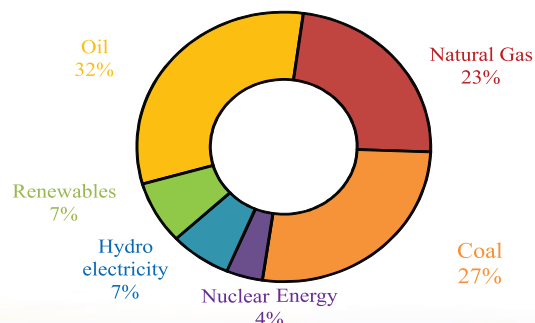
S. No.	Country	Oil	Natural Gas	Coal	Nuclear Energy	Hydro electricity	Renewables	Total
1	2	3	4	5	6	7	8	9
1	China	28.16	13.53	88.41	3.76	12.23	13.30	159.39
2	US	36.15	31.72	9.87	7.31	2.43	8.43	95.91
3	<b>India</b>	<b>10.05</b>	<b>2.09</b>	<b>20.09</b>	<b>0.42</b>	<b>1.64</b>	<b>2.15</b>	<b>36.44</b>
4	Russian Federation	7.05	14.69	3.19	2.01	1.86	0.08	28.89
5	Japan	6.61	3.62	4.92	0.47	0.70	1.53	17.84
6	Canada	4.27	4.38	0.39	0.78	3.74	0.59	14.14
7	Brazil	5.01	1.15	0.59	0.13	4.01	2.53	13.41
8	South Korea	5.47	2.23	2.87	1.59	^	0.52	12.71
9	Germany	4.26	2.78	2.33	0.31	0.16	2.45	12.30
10	Iran	3.69	8.24	0.08	0.06	0.07	^	12.16
11	Saudi Arabia	7.15	4.33	^	-	-	^	11.50
12	Indonesia	3.06	1.33	4.38	-	0.26	0.74	9.77
13	Mexico	4.12	3.48	0.25	0.10	0.34	0.45	8.73
14	France	2.91	1.38	0.21	2.65	0.42	0.81	8.39
15	United Kingdom	2.67	2.59	0.21	0.43	^	1.36	7.31
16	Turkey	2.10	1.84	1.75	-	0.63	0.69	7.01
17	Italy	2.47	2.35	0.31	-	0.26	0.76	6.14
18	Australia	2.07	1.50	1.55	-	0.16	0.70	5.98
19	Spain	2.66	1.19	0.17	0.53	0.17	1.04	5.76
20	Thailand	2.39	1.60	0.71	-	0.06	0.31	5.06
21	United Arab Emirates	2.19	2.51	0.10	0.18	-	0.07	5.05
22	Malaysia	1.73	1.78	0.94	-	0.31	0.09	4.84
23	South Africa	1.06	0.16	3.31	0.09	^	0.16	4.82
24	Taiwan	1.77	1.01	1.58	0.21	^	0.16	4.78
25	Vietnam	1.03	0.28	2.05	-	0.90	0.33	4.59
26	Poland	1.46	0.65	1.81	-	^	0.39	4.31
27	Egypt	1.52	2.19	^	-	0.13	0.10	3.98
28	Argentina	1.38	1.64	^	0.07	0.22	0.24	3.60
29	Pakistan	0.99	1.38	0.64	0.20	0.33	0.06	3.60
30	Netherlands	1.78	0.98	0.23	^	^	0.51	3.54
	Rest of World	33.46	23.29	8.43	2.79	9.47	4.60	82.09
	<b>Total World</b>	<b>190.69</b>	<b>141.89</b>	<b>161.47</b>	<b>24.13</b>	<b>40.68</b>	<b>45.18</b>	<b>604.04</b>
	of which: OECD	87.98	64.68	28.9	16.12	13.22	23.53	234.42
	Non-OECD	102.71	77.21	132.58	8.01	27.46	21.64	369.62
	European Union	22.13	12.36	6.98	5.48	2.6	8.63	58.18

Notes: Total may not add up due to rounding off.

^: Less than 0.05.

1. Primary energy comprises commercially traded fuels, including modern renewables used to generate electricity.
2. Energy from all sources of non-fossil power generation is accounted for on an input-equivalent basis.
3. Conversion factor used for Oil as per product basket of 1 Mtoe = 0.0431 Exajoules, for all other fuels 1 Mtoe = 0.0419 Exajoules.
4. All figures are provisional

Source: Energy Institute Statistical Review of World Energy 2023

**Figure XI.11: Distribution of India's Primary Energy Consumption by Fuel during 2022 (%)**

**Figure XI.12: Distribution of World's Primary Energy Consumption by Fuel during 2022 (%)**


## XI.23: Primary Energy Consumption of the World

(Figures in Exajoules)

S. No.	Country	2017	2018	2019	2020	2021	2022(P)	% Share of Total 2022
1	2	3	4	5	6	7	8	9
1	China	131.94	138.30	144.74	149.45	157.94	<b>159.39</b>	26.4
2	US	92.95	96.35	95.67	88.57	93.40	<b>95.91</b>	15.9
<b>3</b>	<b>India</b>	<b>30.94</b>	<b>32.69</b>	<b>33.52</b>	<b>31.76</b>	<b>34.51</b>	<b>36.44</b>	<b>6.0</b>
4	Russian Federation	29.31	30.39	30.16	29.07	31.48	<b>28.89</b>	4.8
5	Japan	19.05	18.95	18.51	17.15	17.94	<b>17.84</b>	3.0
6	Canada	14.54	14.67	14.59	13.71	13.84	<b>14.14</b>	2.3
7	Brazil	12.47	12.51	12.72	12.22	12.85	<b>13.41</b>	2.2
8	South Korea	12.41	12.62	12.48	12.00	12.56	<b>12.71</b>	2.1
9	Germany	14.01	13.66	13.31	12.41	12.78	<b>12.30</b>	2.0
10	Iran	10.75	11.11	11.73	12.16	12.10	<b>12.16</b>	2.0
11	Saudi Arabia	11.45	11.17	10.70	10.41	10.76	<b>11.50</b>	1.9
12	Indonesia	7.04	7.72	8.22	7.61	7.76	<b>9.77</b>	1.6
13	Mexico	8.26	8.16	8.06	7.43	7.99	<b>8.73</b>	1.4
14	France	9.84	10.03	9.81	8.84	9.40	<b>8.39</b>	1.4
15	United Kingdom	8.11	8.08	7.91	7.10	7.20	<b>7.31</b>	1.2
16	Turkey	6.43	6.36	6.60	6.49	6.96	<b>7.01</b>	1.2
17	Italy	6.64	6.67	6.55	5.95	6.34	<b>6.14</b>	1.0
18	Australia	5.77	5.85	6.05	5.71	5.73	<b>5.98</b>	1.0
19	Spain	5.79	5.89	5.73	5.18	5.55	<b>5.76</b>	1.0
20	Thailand	5.17	5.33	5.34	4.97	5.01	<b>5.06</b>	0.8
21	United Arab Emirates	4.43	4.37	4.47	4.22	4.71	<b>5.05</b>	0.8
22	Malaysia	4.28	4.35	4.47	4.30	4.58	<b>4.84</b>	0.8
23	South Africa	5.31	5.11	5.33	4.99	5.00	<b>4.82</b>	0.8
24	Taiwan	4.86	4.93	4.84	4.70	4.98	<b>4.78</b>	0.8
25	Vietnam	3.48	3.91	4.34	4.34	4.34	<b>4.59</b>	0.8
26	Poland	4.34	4.39	4.27	4.08	4.41	<b>4.31</b>	0.7
27	Egypt	3.84	3.84	3.77	3.54	3.79	<b>3.98</b>	0.7
28	Argentina	3.57	3.54	3.34	3.13	3.48	<b>3.60</b>	0.6
29	Pakistan	3.39	3.50	3.54	3.52	3.90	<b>3.60</b>	0.6
30	Netherlands	3.78	3.69	3.68	3.56	3.65	<b>3.54</b>	0.6
	Rest of World	81.45	82.91	82.94	77.92	82.47	<b>82.09</b>	13.6
	<b>Total World</b>	<b>565.60</b>	<b>581.05</b>	<b>587.39</b>	<b>566.49</b>	<b>597.41</b>	<b>604.04</b>	<b>100</b>
	of which: OECD	236.88	240.39	238.25	221.69	232.38	<b>234.42</b>	38.8
	Non-OECD	328.72	340.66	349.14	344.80	365.03	<b>369.62</b>	61.2
	European Union	62.95	62.88	61.86	57.25	60.28	<b>58.18</b>	9.6

Notes: Total may not add up due to rounding off.

P: Provisional

1. Primary energy comprises commercially traded fuels, including modern renewables used to generate electricity.
2. Energy from all sources of non-fossil power generation is accounted for on an input-equivalent basis.
3. Conversion factor used for Oil as per product basket of 1 Mtoe = 0.0431 Exajoules, for all other fuels 1 Mtoe = 0.0419 Exajoules.

Source: Energy Institute Statistical Review of World Energy 2023

**XI.24: Per Capita Primary Energy Consumption International Comparison 2022**

(Figures in Kg. Oil Equivalent)

S. No.	Country	Oil	Natural Gas	Coal	Nuclear Energy	Hydro electricity	Renewables	Total	Population (Million) Mid-2022
1	2	3	4	5	6	7	8	9	10
1	China	390	193	1260	54	174	190	2261	1674
2	US	2520	2275	708	524	174	605	6806	333
3	<b>India</b>	<b>165</b>	<b>35</b>	<b>338</b>	<b>7</b>	<b>28</b>	<b>36</b>	<b>609</b>	<b>1417</b>
4	Russian Federation	1134	2430	528	332	308	13	4744	144
5	Japan	1218	686	933	89	133	290	3349	126
6	Canada	2553	2694	240	480	2301	363	8631	39
7	Germany	1395	329	169	37	1149	725	3805	83
8	South Korea	2460	1031	1327	735	14	241	5808	52
9	Brazil	460	309	259	34	18	272	1352	215
10	Iran	966	2220	22	16	19	5	3248	89
11	Saudi Arabia	4520	2816	-	-	-	7	7343	37
12	France	1079	482	1589	-	94	268	3513	66
13	Indonesia	347	301	22	9	29	39	747	276
14	United Kingdom	999	487	74	936	148	286	2930	68
15	Turkey	727	726	59	120	14	381	2027	85
16	Mexico	382	344	328	-	118	129	1301	128
17	Italy	973	952	126	-	105	308	2464	59
18	Australia	1862	1388	1434	-	148	648	5478	26
19	Spain	1302	599	86	267	86	524	2863	47
20	Thailand	830	572	254	-	21	111	1788	67
21	South Africa	838	989	39	71	-	28	1965	61
22	Taiwan	1730	1831	967	-	319	93	4940	23
23	United Arab Emirates	2616	406	8404	229	76	406	12138	9
24	Poland	1252	735	1150	153	36	116	3442	33
25	Vietnam	239	67	488	-	214	79	1086	100
26	Malaysia	891	408	1137	-	13	245	2694	38
27	Pakistan	345	511	12	-	30	23	921	102
28	Egypt	136	166	5	7	22	24	360	236
29	Netherlands	1298	1861	863	270	445	81	4817	18
30	Singapore	7509	4253	998	174	-	2213	15146	6
	Rest of World	336	241	87	29	98	48	838	2309
	<b>Total World</b>	<b>556</b>	<b>425</b>	<b>484</b>	<b>72</b>	<b>122</b>	<b>135</b>	<b>1794</b>	<b>7963</b>

Notes: Total may not add up due to rounding off.

1. Primary energy comprises commercially traded fuels, including modern renewables used to generate electricity.

2. Energy from all sources of non-fossil power generation is accounted for on an input-equivalent basis.

3. Conversion factor used for Oil as per product basket of 1 Mtoe = 0.0431 Exajoules, for all other fuels 1 Mtoe = 0.0419 Exajoules.

4. Population 2022 data have been taken from "Population Reference Bureau"

5. All figures are provisional

Source: Energy Institute Statistical Review of World Energy 2023



**XI.25: Per-Capita Primary Energy Consumption Growth: International Comparison**

(Figures in Gigajoule per capita)

S. No.	Country	2017	2018	2019	2020	2021	2022(P)
1	2	3	4	5	6	7	8
1	China	93.6	97.6	101.8	104.9	110.8	<b>111.8</b>
2	US	281.8	290.1	286.2	263.7	277.2	<b>283.5</b>
<b>3</b>	<b>India</b>	<b>22.8</b>	<b>23.9</b>	<b>24.2</b>	<b>22.7</b>	24.5	<b>25.7</b>
4	Russian Federation	201.5	208.6	207.0	199.6	217.0	<b>199.7</b>
5	Japan	150.4	150.1	147.1	136.9	144.0	<b>143.9</b>
6	Canada	397.8	396.2	388.7	361.8	362.7	<b>367.8</b>
7	Germany	169.6	164.8	160.1	149.0	153.2	<b>147.5</b>
8	South Korea	240.9	244.2	240.8	231.5	242.4	<b>245.3</b>
9	Brazil	59.8	59.5	60.1	57.3	60.0	<b>62.3</b>
10	Iran	127.2	129.8	135.5	139.3	137.6	<b>137.3</b>
11	Saudi Arabia	335.0	318.9	298.8	289.1	299.2	<b>315.7</b>
12	France	153.5	156.0	152.4	137.0	145.7	<b>129.8</b>
13	Indonesia	26.6	28.9	30.5	28.0	28.3	<b>35.5</b>
14	United Kingdom	122.8	121.6	118.4	105.9	107.0	<b>108.4</b>
15	Turkey	78.4	76.8	79.1	77.2	82.1	<b>82.2</b>
16	Mexico	67.3	65.8	64.5	59.0	63.1	<b>68.4</b>
17	Italy	110.6	111.4	109.7	99.9	107.0	<b>104.1</b>
18	Australia	234.5	234.3	238.5	222.6	221.2	<b>228.5</b>
19	Spain	124.3	126.0	121.6	109.4	117.0	<b>121.0</b>
20	Thailand	73.0	75.0	74.9	69.5	69.9	<b>70.6</b>
21	South Africa	93.7	89.1	91.8	84.8	84.2	<b>80.5</b>
22	Taiwan	205.5	207.7	203.6	197.5	208.8	<b>200.2</b>
23	United Arab Emirates	488.2	478.0	485.6	453.9	503.4	<b>534.9</b>
24	Poland	112.7	114.0	110.8	106.3	115.2	<b>108.2</b>
25	Vietnam	37.1	41.2	45.3	44.9	44.6	<b>46.7</b>
26	Malaysia	133.8	134.4	136.2	129.6	136.4	<b>142.5</b>
27	Pakistan	15.7	15.9	15.8	15.5	16.9	<b>15.3</b>
28	Egypt	37.7	37.0	35.7	33.0	34.7	<b>35.9</b>
29	Netherlands	220.0	213.7	211.8	204.1	208.8	<b>201.6</b>
30	Singapore	593.3	588.7	571.2	555.3	551.9	<b>529.5</b>
<b>Total World</b>		<b>74.4</b>	<b>75.6</b>	<b>75.6</b>	<b>72.2</b>	<b>75.5</b>	<b>75.7</b>
of which: OECD		175.5	177.1	174.6	161.8	169.1	<b>169.9</b>
Non-OECD		52.6	53.9	54.6	53.3	55.9	<b>56.0</b>
European Union		141.9	141.5	139.0	128.6	135.4	<b>130.1</b>

**Notes:** Total may not add up due to rounding off.

P: Provisional

1. Primary energy comprises commercially traded fuels, including modern renewables used to generate electricity.
2. Energy from all sources of non-fossil power generation is accounted for on an input-equivalent basis.

Source: Energy Institute Statistical Review of World Energy 2023

**XI.26: World Imports of LNG (Country-wise)**

(Figures in Billion Cubic Metres)

S. No.	Country	2017	2018	2019	2020	2021	2022(P)	% Share of Total 2022
1	2	3	4	5	6	7	8	9
1	Japan	113.90	113.00	105.50	101.70	101.30	<b>98.30</b>	18.1
2	China	52.90	73.50	84.70	94.00	109.90	<b>93.20</b>	17.2
3	South Korea	51.40	60.20	55.60	55.40	64.10	<b>63.90</b>	11.8
4	France	10.90	12.70	23.20	19.10	17.60	<b>35.10</b>	6.5
5	Spain	16.60	15.00	22.00	20.90	20.40	<b>28.80</b>	5.3
<b>6</b>	<b>India</b>	<b>26.00</b>	<b>30.50</b>	<b>32.40</b>	<b>36.60</b>	<b>33.50</b>	<b>28.40</b>	<b>5.2</b>
7	Taiwan	22.70	22.90	22.80	24.30	26.70	<b>27.40</b>	5.1
8	United Kingdom	6.60	7.20	17.10	18.60	14.90	<b>25.30</b>	4.7
9	Turkey	10.90	11.40	12.90	14.80	13.90	<b>15.10</b>	2.8
10	Italy	8.30	8.20	13.50	12.50	9.50	<b>14.30</b>	2.6
11	Belgium	1.30	3.30	7.30	6.40	5.50	<b>12.40</b>	2.3
12	Thailand	5.20	6.00	6.70	7.50	9.20	<b>11.40</b>	2.1
13	Pakistan	6.10	9.40	11.80	10.60	12.20	<b>9.70</b>	1.8
14	Kuwait	4.80	4.30	5.10	5.70	7.70	<b>8.40</b>	1.5
15	Singapore	4.10	4.50	5.00	5.70	5.00	<b>5.20</b>	1.0
16	Malaysia	2.00	1.80	3.30	3.60	2.40	<b>3.80</b>	0.7
17	Chile	4.40	4.30	3.30	3.70	4.50	<b>3.30</b>	0.6
18	Argentina	4.60	3.60	1.80	1.80	3.70	<b>2.30</b>	0.4
19	Brazil	1.70	2.90	3.20	3.30	10.10	<b>2.30</b>	0.4
20	United Arab Emirates	3.00	1.00	1.60	1.50	1.70	<b>0.90</b>	0.2
21	US	2.20	2.10	1.50	1.30	0.60	<b>0.70</b>	0.1
22	Mexico	6.60	6.90	6.60	2.50	0.90	<b>0.60</b>	0.1
23	Canada	0.40	0.60	0.50	0.80	0.70	<b>0.10</b>	^
24	Rest of Europe	0.10	†	†	0.10	0.10	<b>0.10</b>	^
Rest of World		140.50	138.10	142.30	139.30	140.90	<b>149.70</b>	27.6
<b>Total World</b>		<b>393.30</b>	<b>430.40</b>	<b>484.20</b>	<b>490.00</b>	<b>515.70</b>	<b>542.40</b>	<b>100</b>

Notes: Total may not add up due to rounding off. ^: Less than 0.05. †: Less than 0.05 P: Provisional

Source: Energy Institute Statistical Review of World Energy 2023

# CHAPTER -XII



## Infrastructure Projects

## Chapter Highlights



Projects executed by Oil & Gas CSPEs in 2022-23  
**472**

Total number of projects under implementation by Oil & Gas CSPEs in 2022-23 was 472. The approved project cost for these 472 projects stands at ₹5,26,300 crore.



Total number of mega projects

135 mega projects (≥500 Cr.)  
₹ 4, 89,758 crore.

Total number of mega projects (₹500 Cr. & above) under implementation by Oil & Gas CSPEs stood at 135 in 2022-23. The approved project cost for these 135 mega projects stands at ₹4, 89,758 crore.

Cost of Medium Projects (₹ 100 Cr. to ₹ 500 Cr.)

₹ 29,966



₹ 29,293

Total number of medium projects (₹100 Cr. to ₹500 Cr.) in Oil & Gas sector stood at 117 nos. (₹29,966 crore) in 2022-23 higher by 2.6% against 114 nos. during 2021-22 (₹29,293 crore).

CPSE with maximum no. of ongoing projects



IndianOil  
111 numbers



ONGC  
29 numbers



HPCL  
29 numbers

CPSEs-wise, there are total of 252 projects costing ₹100 crore & above under implementation by Oil & Gas CSPEs with an approved cost of ₹5,19,724 crore. Out of 252 projects, IOCL was having maximum number of projects (111 numbers) among all Oil & Gas CPSEs, followed by ONGC (29 numbers) and HPCL (29 numbers).

Sectors with maximum no. of ongoing projects



80

CGD



49

Refinery



46

Marketing

Out of 252 ongoing projects, CGD sector is having maximum number of projects (80 numbers) followed by refinery sector (49 projects), pipelines (46 projects) and marketing sector (43 numbers).

State with maximum no. of ongoing projects



Gujarat 21



Uttar Pradesh 20



Maharashtra 20

Out of these 252 ongoing projects, Gujarat is having maximum number (21 numbers) followed by Uttar Pradesh (20 numbers), Maharashtra (20 numbers) and Andhra Pradesh (19 projects).

MEGA PROJECTS



19

MEDIUM PROJECTS



22

SMALL PROJECTS



82

123 numbers of projects costing ₹38,627 crores got completed during the FY 2022-23. Out of 123 projects, 19 are mega projects (more than ₹500 crores); 22 are medium projects (₹100 crore to ₹500 crore) and 82 small projects (₹5 crore to ₹100 crores).

MEGA PROJECTS



19

MEDIUM PROJECTS



22

SMALL PROJECTS



82

Out of these 123 projects completed during the FY 2022-23, 41 projects pertain to ₹100 crore & above and in this category, maximum projects completed by IOCL (16 projects) costing 14,593 followed by HPCL (8 projects) costing 7,135 and ONGC (6 projects) costing ₹8,508. Sector-wise, maximum projects completed in the Marketing Sector (13 projects) followed by Pipelines Sector (12 projects) and Refinery Sector (9 projects) during the FY 2022-23.



## XII.1: Overall Summary of Oil & Gas CPSEs Projects

Cost Category	2017-18			2018-19			2019-20			2020-21			2021-22			2022-23		
	New Projects added	Total No. of Projects	Approved Project Cost (₹ crore)	New Projects added	Total No. of Projects	Approved Project Cost (₹ crore)	New Projects added	Total No. of Projects	Approved Project Cost (₹ crore)	New Projects added	Total No. of Projects	Approved Project Cost (₹ crore)	New Projects added	Total No. of Projects	Approved Project Cost (₹ crore)	New Projects added	Total No. of Projects	Approved Project Cost (₹ crore)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Mega projects (Costing Rs. > 500 crore)	17	74	207,053	19	86	230,028	28	106	309,109	27	108	393,877	24	128	492,791	17	135	489,758
Medium Projects (Costing between Rs. 100 to Rs. 500 crore)	44	93	20,856	34	114	26,209	25	117	28,433	24	119	30,202	13	114	29,293	25	117	29,966
Small Projects (Costing between Rs. 5 crore & Rs. 100 crore)	378	378	9,351	73	380	10,808	95	332	9,257	66	269	7,869	80	264	7,653	61	220	6,576
<b>Total</b>	<b>439</b>	<b>545</b>	<b>237,260</b>	<b>126</b>	<b>580</b>	<b>267,045</b>	<b>148</b>	<b>555</b>	<b>346,798</b>	<b>117</b>	<b>496</b>	<b>431,948</b>	<b>117</b>	<b>506</b>	<b>529,737</b>	<b>103</b>	<b>472</b>	<b>526,300</b>

### Note :

1. Data as on 31st March of each financial year
2. Projects costing ₹ 5 crore & above are considered

Source: Ministry Monitoring Cell, MoPNG



## XIII.2: Total Number of Ongoing Oil &amp; Gas CPSEs Projects - CPSE wise

CPSE Name	2017-18			2018-19			2019-20			2020-21			2021-22			2022-23		
	New Projects added	Total No. of Projects	Approved Project Cost (₹ crore)	New Projects added	Total No. of Projects	Approved Project Cost (₹ crore)	New Projects added	Total No. of Projects	Approved Project Cost (₹ crore)	New Projects added	Total No. of Projects	Approved Project Cost (₹ crore)	New Projects added	Total No. of Projects	Approved Project Cost (₹ crore)	New Projects added	Total No. of Projects	Approved Project Cost (₹ crore)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
APGDCL	-	-	-	-	-	-	-	-	-	-	-	-	2	2	1,071	-	2	1,071
BPCL	4	15	14,173	8	21	24,854	3	19	26,842	13	27	33,077	3	26	30,518	3	27	19,592
CPCL	1	5	5,822	-	3	2,344	-	2	2,279	-	2	2,279	1	2	32,001	-	1	31,580
GAIL	8	14	22,038	6	19	26,360	2	22	27,647	6	28	45,280	4	30	62,377	-	26	59,214
GAIL GAS	-	1	749	4	5	1,571	-	5	3,296	4	4	1,170	8	12	9,945	-	12	9,945
HPCL	8	15	32,059	4	17	33,486	5	21	80,127	10	27	91,228	3	29	94,258	5	29	91,040
IGGL	-	-	-	-	-	-	-	-	-	-	-	-	1	1	9,265	-	1	9,265
IOCL	30	65	51,203	29	88	71,552	34	112	104,268	15	108	181,926	6	105	189,537	20	111	202,234
ISPRL	-	1	2,397	-	1	2,397	-	-	-	-	-	-	-	-	-	-	-	-
MRPL	1	4	2,750	-	4	2,750	-	3	2,526	1	3	2,591	1	4	2,711	-	2	320
NRL	-	2	1,153	-	1	122	2	2	2,096	-	2	2,096	3	5	25,180	-	5	25,180
OIL	2	9	3,520	1	8	2,710	1	7	2,493	-	7	2,580	1	6	2,168	3	7	3,246
ONGC	7	36	92,044	1	33	88,089	6	30	85,967	2	19	61,853	4	20	63,053	11	29	67,037
<b>Total</b>	<b>61</b>	<b>167</b>	<b>227,909</b>	<b>53</b>	<b>200</b>	<b>256,237</b>	<b>53</b>	<b>223</b>	<b>337,541</b>	<b>51</b>	<b>227</b>	<b>424,079</b>	<b>37</b>	<b>242</b>	<b>522,084</b>	<b>42</b>	<b>252</b>	<b>519,724</b>

Note :

1. Data as on 31st March of each financial year
2. Projects costing ₹ 100 crore & above are considered

Source: Ministry Monitoring Cell, MoPNG



### XII.3: Total Number of Ongoing Oil & Gas CPSEs Projects- Sector wise

Sector Name	2017-18			2018-19			2019-20			2020-21			2021-22			2022-23		
	New Projects added	Total No. of Projects	Approved Project Cost (₹ crore)	New Projects added	Total No. of Projects	Approved Project Cost (₹ crore)	New Projects added	Total No. of Projects	Approved Project Cost (₹ crore)	New Projects added	Total No. of Projects	Approved Project Cost (₹ crore)	New Projects added	Total No. of Projects	Approved Project Cost (₹ crore)	New Projects added	Total No. of Projects	Approved Project Cost (₹ crore)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Exploration and Production	8	33	85,197	2	31	81,263	4	29	81,489	1	17	57,335	4	17	55,706	11	26	60,023
Infrastructure and Others	-	4	6,957	-	3	6,457	1	3	4,217	2	5	5,063	-	5	5,063	1	6	5,273
Refinery	7	37	72,903	11	42	88,469	13	50	144,727	13	51	204,965	7	53	242,619	6	49	226,437
Petro-chemical	-	-	-	-	-	-	-	-	-	1	1	911	1	2	9,708	-	2	9,708
Marketing	31	46	10,637	13	54	15,047	3	49	13,948	9	46	16,663	5	43	21,397	10	43	21,877
Pipeline	13	44	50,934	5	45	57,548	7	42	57,031	8	45	84,692	7	47	106,146	8	46	109,315
CGD	2	3	1,280	22	25	7,453	25	50	36,130	17	62	54,451	13	75	81,446	6	80	87,092
<b>Total</b>	<b>61</b>	<b>167</b>	<b>227,909</b>	<b>53</b>	<b>200</b>	<b>256,237</b>	<b>53</b>	<b>223</b>	<b>337,541</b>	<b>51</b>	<b>227</b>	<b>424,079</b>	<b>37</b>	<b>242</b>	<b>522,084</b>	<b>42</b>	<b>252</b>	<b>519,724</b>

**Note:**

1. Data as on 31st March of each financial year
2. Projects costing ₹ 100 crore & above are considered

Source: Ministry Monitoring Cell, MoPNG

**XII.4: Total Number of Ongoing Oil & Gas CPSEs Projects- State wise**

State Name	2017-18			2018-19			2019-20			2020-21			2021-22			2022-23		
	New Proj- erts added	Total No. of Proj- erts	Ap- proved Project Cost (₹ crore)	New Proj- erts added	Total No. of Proj- erts	Ap- proved Project Cost (₹ crore)	New Proj- erts added	Total No. of Proj- erts	Ap- proved Project Cost (₹ crore)	New Proj- erts added	Total No. of Proj- erts	Ap- proved Project Cost (₹ crore)	New Proj- erts added	Total No. of Proj- erts	Ap- proved Project Cost (₹ crore)	New Proj- erts added	Total No. of Proj- erts	Ap- proved Project Cost (₹ crore)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Andhra Pradesh	3	6	22,462	3	8	23,574	3	10	26,570	5	15	27,486	3	17	28,332	3	19	29,945
Arunachal Pradesh	-	1	248	-	1	248	-	-	-	-	-	-	-	-	-	-	-	-
Assam	3	16	9,703	2	16	9,791	2	13	10,967	1	10	4,708	5	13	17,783	3	11	17,668.56
Bihar	2	3	2,012	5	8	3,488	7	14	9,022	2	15	24,099	1	14	22,324	1	12	21,796.29
Chandigarh (UT)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chhattisgarh	2	2	421	-	2	421	-	1	121	-	1	121	1	1	456	-	1	456
Delhi (UT)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Goa	-	-	-	1	1	208	-	1	249	-	1	208	-	1	208	-	1	208.36
Gujarat	4	15	10,551	3	16	11,626	3	14	14,318	4	14	31,720	3	16	37,322	7	21	40,164.15
Haryana	1	2	3,262	8	10	7,942	7	16	12,957	2	16	44,028	2	17	44,124	2	18	45,493.14
Himachal Pradesh	-	1	356	-	1	356	-	-	-	1	1	428	-	1	428	-	1	427.94
Jammu and Kashmir (UT)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Jharkhand	1	3	1,012	2	4	1,433	2	6	2,294	-	6	2,294	3	9	4,050	1	9	4,319.59
Karnataka	2	6	3,620	3	9	4,859	-	8	6,299	4	10	5,436	3	12	7,726	-	9	4,955.28
Kerala	1	6	9,174	2	7	20,558	3	8	26,884	-	7	22,474	3	6	19,161	-	5	8,128.17
Madhya Pradesh	3	4	624	1	4	609	1	5	850	2	5	1,041	2	6	2,695	-	5	2,459.4
Maharashtra	6	11	9,090	3	13	7,486	-	12	7,465	7	17	15,389	2	15	29,341	8	20	27,790.8
Manipur	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Meghalaya	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nagaland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Odisha	3	8	6,972	4	11	13,421	3	14	18,474	6	18	31,716	2	18	32,464	-	17	31,773.84

Contd...

State Name	2017-18			2018-19			2019-20			2020-21			2021-22			2022-23		
	New Proj- icts added	Total No. of Proj- icts	Ap- proved Project Cost (₹ crore)	New Proj- icts added	Total No. of Proj- icts	Ap- proved Project Cost (₹ crore)	New Proj- icts added	Total No. of Proj- icts	Ap- proved Project Cost (₹ crore)	New Proj- icts added	Total No. of Proj- icts	Ap- proved Project Cost (₹ crore)	New Proj- icts added	Total No. of Proj- icts	Ap- proved Project Cost (₹ crore)	New Proj- icts added	Total No. of Proj- icts	Ap- proved Project Cost (₹ crore)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Puducherry (UT)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Punjab	-	1	125	-	1	125	-	2	298	1	3	1,690	1	4	1,895	2	5	2316.27
Rajasthan	-	-	-	1	1	230	1	2	43,359	1	3	43,508	-	3	43,508	1	4	44082.7
Sikkim	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tamil Nadu	4	11	7,536	-	9	4,319	2	9	8,124	2	11	10,443	2	11	40,918	5	13	44319.82
Telangana	-	-	-	1	1	611	-	1	611	-	1	611	-	1	611	-	1	611
Tripura	1	3	409	-	2	277	-	2	277	-	1	133	-	-	-	2	2	865.33
Uttar Pradesh	7	9	3,374	8	17	6,733	4	21	8,815	4	18	7,666	1	19	8,579	2	20	9154.75
Uttarakhand	1	1	160	1	2	295	1	3	471	1	4	545	1	5	2,242	-	5	2241.61
West Bengal	4	9	9,698	-	7	8,886	2	8	7,538	2	6	10,480	2	8	16,577	1	9	17586.81
Western Offshore	5	15	37,934	1	15	38,100	5	17	39,342		10	24,093	1	9	23,691	1	9	23829.04
Projects in Multi- ple States	8	34	89,166	4	34	90,642	7	36	92,237	6	34	113,761	5	36	137,649	3	35	139130.13
<b>Total</b>	<b>61</b>	<b>167</b>	<b>227,909</b>	<b>53</b>	<b>200</b>	<b>256,237</b>	<b>53</b>	<b>223</b>	<b>337,541</b>	<b>51</b>	<b>227</b>	<b>424,079</b>	<b>37</b>	<b>242</b>	<b>522,084</b>	<b>42</b>	<b>252</b>	<b>519,724</b>

**Note :**

1. Data as on 31st March of each financial year
  2. Projects costing ₹ 100 crore & above are considered
- Source: Ministry Monitoring Cell, MoPNG



## XII.5: Overall Summary of Oil & Gas CPSEs Completed Projects

Cost Category	2017-18		2018-19		2019-20		2020-21		2021-22		2022-23	
	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)
1	2	3	4	5	6	7	8	9	10	11	12	13
Mega projects (Costing Rs. > 500 crore)	7	15,282	10	23,221	26	57,266	6	12,206	12	20,523	19	31,302
Medium Projects (Costing between Rs. 100 to Rs. 500 crore)	13	2,697	25	4,982	19	3,818	16	3,668	21	5,210	22	5,367
Small Projects (Costing between Rs. 5 crore & Rs. 100 crore)	65	1,108	133	2,787	121	3,041	82	2,000	98	2,197	82	1,959
<b>TOTAL</b>	<b>85</b>	<b>19,086</b>	<b>168</b>	<b>30,990</b>	<b>166</b>	<b>64,125</b>	<b>104</b>	<b>17,874</b>	<b>131</b>	<b>27,930</b>	<b>123</b>	<b>38,627</b>

**Note :**

1. Data as on 31st March of each financial year
2. Projects costing ₹ 5 crore & above are considered

Source: Ministry Monitoring Cell, MoPNG

### XII.6: Completed Oil & Gas CPSEs Projects - CPSE wise

CPSE Name	2017-18		2018-19		2019-20		2020-21		2021-22		2022-23	
	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)
1	2	3	4	5	6	7	8	9	10	11	12	13
APGDCL	-	-	-	-	-	-	-	-	-	-	-	-
BPCL	2	1,839	6	1,196	5	7,118	4	4,197	2	1,811	5	2,310
CPCL	2	3,420	1	258	-	-	1	1,858	1	315	-	-
GAIL	1	200	2	651	2	4,197	1	114	4	2,634	3	2,875
GAIL GAS	-	-	-	-	1	2,127	-	-	-	-	-	-
HPCL	2	275	2	530	4	1,419	1	1,700	6	6,323	8	7,135
IGGL	-	-	-	-	-	-	-	-	-	-	-	-
IOCL	6	2,912	8	7,653	19	21,837	10	3,663	14	7,959	16	14,593
MRPL	-	-	1	172	1	171	-	-	2	2,447	-	-
NRL	1	1,031	1	122	-	-	-	-	-	-	1	377
OIL	2	1,568	2	606	-	-	2	623	2	345	2	870
ONGC	4	6,731	11	12,917	13	24,217	3	3,719	2	3,900	6	8,508
ISPRL	-	-	1	4,098	-	-	-	-	-	-	-	-
<b>Total</b>	<b>20</b>	<b>17,978</b>	<b>35</b>	<b>28,203</b>	<b>45</b>	<b>61,085</b>	<b>22</b>	<b>15,874</b>	<b>33</b>	<b>25,733</b>	<b>41</b>	<b>36,668</b>

**Note :**

1. Data as on 31st March of each financial year
2. Projects costing ₹ 100 crore & above are considered

Source: Ministry Monitoring Cell, MoPNG

**XII.7: Completed Oil & Gas CPSEs Projects - Sector wise**

Sector Name	2017-18		2018-19		2019-20		2020-21		2021-22		2022-23	
	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)
1	2	3	4	5	6	7	8	9	10	11	12	13
Exploration and Production	5	7,931	8	10,234	13	24,217	4	3,576	2	3,743	3	6,264
Infrastructure and Others	1	368	1	4,098	-	-	-	-	-	-	3	2,244
Refinery	6	6,555	3	4,497	12	24,998	6	7,695	10	9,909	9	9,108
Petrochemical	-	-	-	-	-	-	-	-	-	-	-	-
Marketing	5	851	9	1,950	12	2,731	8	1,574	11	3,780	13	5,041
Pipeline	3	2,272	13	7,253	7	7,012	4	3,030	9	8,035	12	13,827
CGD	-	-	1	170	1	2,127	-	-	1	265	1	185
<b>Total</b>	<b>20</b>	<b>17,978</b>	<b>35</b>	<b>28,203</b>	<b>45</b>	<b>61,085</b>	<b>22</b>	<b>15,874</b>	<b>33</b>	<b>25,733</b>	<b>41</b>	<b>36,668</b>

**Note :**

1. Data as on 31st March of each financial year
2. Projects costing ₹ 100 crore & above are considered

Source: Ministry Monitoring Cell, MoPNG

### XII.8: Completed Oil & Gas CPSEs Project - State wise

State Name	2017-18		2018-19		2019-20		2020-21		2021-22		2022-23	
	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)
1	2	3	4	5	6	7	8	9	10	11	12	13
Andhra Pradesh	1	83	1	247	1	407	1	385	1	303	6	1,492
Arunachal Pradesh	-	-	1	248	-	-	-	-	-	-	-	-
Assam	2	1,291	4	910	4	6,421	2	623	5	1708	1	126
Bihar	-	-	1	130	1	136	1	1,774	3	918	-	-
Chandigarh (UT)	-	-	-	-	-	-	-	-	-	-	-	-
Chhattisgarh	-	-	1	300	-	-	1	136	-	-	-	-
Delhi (UT)	-	-	-	-	-	-	-	-	-	-	-	-
Goa	-	-	-	-	-	-	-	-	-	-	-	-
Gujarat	2	479	7	1,771	4	4,879	1	208	2	446	5	2,007
Haryana	-	-	1	170	1	3,529	-	-	1	300	2	1,085
Himachal Pradesh	-	-	1	300	-	-	-	-	-	-	-	-
Jammu and Kashmir (UT)	-	-	-	-	-	-	-	-	-	-	-	-
Jharkhand	1	191	-	-	-	-	-	-	1	162	1	249
Karnataka	-	-	2	293	2	2,297	1	176	3	2827	-	-
Kerala	1	125	2	472	1	5,246	1	3,289	1	527	1	1,236
Madhya Pradesh	1	85	-	-	1	141	1	147	1	320	-	-
Maharashtra	1	1,714	1	120	2	1,277	4	1,044	3	5554	4	2,012
Manipur	-	-	-	-	-	-	-	-	-	-	-	-
Meghalaya	-	-	-	-	-	-	-	-	-	-	-	-
Nagaland	-	-	-	-	-	-	-	-	-	-	-	-
Odisha	1	239	-	-	2	3,230	2	565	1	690	1	5,648
Puducherry (UT)	-	-	-	-	-	-	-	-	-	-	-	-

Contd...

CHAPTER I

CHAPTER II

CHAPTER III

CHAPTER IV

CHAPTER V

CHAPTER VI

CHAPTER VII

CHAPTER VIII

CHAPTER IX

CHAPTER X

CHAPTER XI

CHAPTER XII

APPENDIX

State Name	2017-18		2018-19		2019-20		2020-21		2021-22		2022-23	
	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)	No. of Completed Projects	Anticipated Project Cost of completed projects (₹ crore)
1	2	3	4	5	6	7	8	9	10	11	12	13
Punjab	-	-	-	-	1	153	-	-	1	149	1	185
Rajasthan	-	-	-	-	-	-	-	-	-	-	1	230
Sikkim	-	-	-	-	-	-	-	-	-	-	-	-
Tamil Nadu	2	3,420	3	741	-	-	2	1,972	3	1009	1	124
Telangana	-	-	-	-	-	-	-	-	-	-	-	-
Tripura	1	215	-	-	1	143	1	133	-	-	-	-
Uttar Pradesh	-	-	-	-	5	1,986	-	-	2	384	2	995
Uttarakhand	-	-	-	-	-	-	-	-	-	-	2	291
West Bengal	2	341	1	4,190	4	4,321	-	-	-	-	2	584
Western Offshore	1	707	3	10,910	7	15,167	2	3,585	1	3596	3	7,821
Projects in Multiple States	4	9,087	6	7,403	8	11,750	2	1,836	4	6,842	8	12,584
<b>Grand Total</b>	<b>20</b>	<b>17,978</b>	<b>35</b>	<b>28,203</b>	<b>45</b>	<b>61,085</b>	<b>22</b>	<b>15,874</b>	<b>33</b>	<b>25,733</b>	<b>41</b>	<b>36,668</b>

**Note:**

1. Data as on 31st March of each financial year
2. Projects costing ₹ 100 crore & above are considered

Source: Ministry Monitoring Cell, MoPNG



# **APPENDICES**

**Abbreviations**
**(I) Companies/Organisations**

AFPC, Syria	Al Furat Petroleum Company, Syria.
AGC	Assam Gas Company
BL	Balmer Lawrie & Co. Ltd.
BLIL	Balmer Lawrie Investments Ltd.
BORL	Bharat Oman Refinery Ltd.
BP	British Petroleum
BPCL	Bharat Petroleum Corporation Ltd.
CAIRN	Cairn India Limited
CPCL	Chennai Petroleum Corporation Ltd.
DGCIS	Directorate General of Commercial Intelligence and Statistics
DGH	Directorate General of Hydrocarbons
DNPL	Duliajan Numaligarh Pipeline Limited
EIL	Engineers India Ltd
GAIL	Gail (India) Limited
GOI	Government of India
GPOC, South Sudan	Greater Pioneer Operating Company, South Sudan
HMEL	HPCL Mittal Energy Ltd.
HPCL	Hindustan Petroleum Corporation Ltd.
IEC, Russia.	Imperial Energy Corporation, Russia.
IOCL	Indian Oil Corporation Ltd.
ISPRL	Indian Strategic Petroleum Reserves Limited.
MECL	Mansarovar Energy Colombia Ltd.
MoPNG	Ministry of Petroleum & Natural Gas
MoSPI	Ministry of Statistics And Programme Implementation
MRPL	Mangalore Refinery & Petrochemical Ltd.
NEL	Nyara Energy Ltd. (Formerly known as Essar Oil Ltd.)
NRL	Numaligarh Refinery Ltd.
OIL	Oil India Limited
OMC	Oil Marketing Company.
ONGC	Oil & Natural Gas Corporation Ltd.
OPEC	Organization of the Petroleum Exporting Countries
OVL	ONGC Videsh Ltd
P&NG	Petroleum & Natural Gas
PPAC	Petroleum Planning & Analysis Cell.
RBI	Reserve Bank of India.
RIL	Reliance Industries Ltd.



## (II) Petroleum Products

ATF	Aviation Turbine Fuel.
CBFS	Carbon Black Feed Stock
CBM	Coal bed Methane
CNG	Compressed Natural Gas.
EBP	Ethanol Blended Petrol
FO	Furnace Oil
HHS	Hot Heavy Stock
HSD	High Speed Diesel.
HSDO	High Speed Diesel Oil
HSFO	Heavy/High Sulphur Fuel Oil
LABFS	Linear Alkyl Benzene Feed Stock
LDF	Light Distillate Feedstock
LDO	Light Diesel Oil
LNG	Liquefied Natural Gas
LO	Lubricating Oil
LOBS	Lube Oil Base Stocks.
LPG	Liquefied Petroleum Gas.
LSHS	Low Sulphur Heavy Stock
LSWR	Low Sulphur Waxy Residue.
Mogas	Motor Gasoline.
Motor Spirit	Petrol
MS	Motor Spirit/Petrol
MTBE	Methyl Tertiary Butyl Ether
MTO	Mineral Turpentine Oil
NGL	Natural Gas Liquids
Pet-coke	Petroleum Coke.
PNG	Piped Natural Gas
RFO	Residual Fuel Oil
RPO	Rubber Process Oil.
SKO	Superior Kerosene Oil
VGO	Vacuum Gas Oil



**(III) Prefixes Used in Metric Tables**

Prefix	Meaning
Centi	One Hundredth (1/100=0.01)
Deci	One Tenth (1/10=0.1)
Deka	Ten(10)
Hecto	One Hundred (100)
Kilo	One Thousand (1,000)
Mega	One Million (1,000,000)
Milli	One Thousandth (1/1000=0.001)
Unit	One (1)

**(IV) Others**

A&AA	Assam & Assam Arakan
A.N Islands	Andaman Nicobar Islands
ACG, Azerbaijan	Azeri-Chirag-Deepwater Gunashli, Azerbaijan
Addl.	Additional
bbl.	Barrel
BCM	Billion Cubic Meter
BE	Budgetary Estimates.
BMC	Bombay Municipal Corporation.
Bn.Cu.Mtr.	Billion Cubic Meters
BPA	Bassein Platform A
BPB	Bassein Platform B
CAGR	Compound Annual Growth Rate
CEA.	Chief Economic Advisor
CGD	City Gas Distribution
China Hong Kong SAR	China Hong Kong Special Administrative Region
CIF	Cost Insurance Freight
CIS	Commonwealth of Independent States
CPSEs	Central Public Sector Enterprises
CRBC	Central Region Basin Coast
CSR	Corporate Social Responsibility
CST	Central Sales Tax
Cyl.	Cylinder
DBTL	Direct Benefit Transfer of LPG
Dom.	Domestic
DVPL	Dahej-Vijaipur Pipeline
DWT	Dead Weight Tonnage
EPS	Earning per share
ERBC	Eastern Region Basin cost
FDI	Foreign Direct Investment
FDZ	Free Delivery Zone
FOB	Free on Board
FPC	Federal Power Commission
GBS	Gross Budgetary Support
GCV	Gross Calorific Value
GDP	Gross Domestic Product
GNOP	Greater Nile Oil Project
GREP	Gas Rehabilitation and Expansion
GVA	Gross Value Added
HELP	Hydrocarbon Exploration Licensing Policy
HVJ	Hazira-Vijaipur-Jagdishpur
I&EBR	Internal and Extra Budgetary Resources

**(IV) Others (Contd.)**

Int. Con.	Internal Consumption
JV	Joint Venture
K.Cal	Kilocalories
K.g	Kilogram.
KG - D6	Krishna Godavari Dhirubhai 6
Kl	Kilo litre
KM	Kilometer
LK	Line kilometer
ltr	Litre.
M.Sq.Km	Million square kilometer
MMSCMD	Million Metric Standard Cubic Meter per day
MMT	Million Metric Tonnes
MMTOE	Million Metric Ton of Oil Equivalent
MMTPA	Million Metric Tonnes Per Annum
Mn. Tonne	Million Tonne.
MST	Manufacturers' Sales Tax
MT	Metric Ton
MUT	Mumbai-Uran Trunk
MWh	Megawatt Hour
n.a	Not Available
NCV	Net Calorific Value
NE	North East.
NELP	New Exploration Licensing Policy
NNI	Net National Income
NRBC	Northern Region Basin Coast
OEG	Oil Equivalent of Gas
PAT	Profit after Tax.
PDS	Public Distribution System
PMUY	Pradhan Mantri Ujjwala Yojana.
PPP	Purchasing Power Parity
PSC	Production Sharing Contract
R.E.S.	Renewable Energy Source
R/P ratio	Reserves-to-Production Ratio
RBF	Refinery Boiler Fuel and Losses
RE	Revised Estimate
RON	Research Octane Number
RSP	Retail Selling Price
S.& Cent. America	South & Central America
S.E.Z	Special Economic Zone
SAD	Special Additional Duty
SCM	Standard Cubic Meter.
SDR	Special Drawing Right
SION	Standard Input Output Norms
SKM	Square Kilometer
SRBC	Southern Region Basin Coast
t/w/d	Tonne/Well/Day
TCF	Trillion Cubic Feet
TMT	Thousand Metric Tonnes
TMTPA	Thousand Metric Tonnes per Annum.
Tr.Cu.ft.	Trillion Cubic Feet
VAT	Value Added Tax
Vol.	Volume
WPI	Wholesale Price Index
WRBC	Western Region Basin Coast



**Conversion Factors  
(V) Metric Units**

**Linear**

10 Millimetres	1 Centimetre.
10 Centimetres	1 Decimetre
10 Decimetres	1 Metre
10 Metres	1 Decametre
10 Decametres	1 Hectometre
10 Hectometres	1 Kilometre

**Area**

100 Sq. Millimetres	1 Sq. Centimetre
100 Sq. Centimetres	1 Sq. Decimetre
100 Sq. Decimetres	1 Sq. Metre
100 Sq. Metres	1 Sq. Decametre-1 Acre.
100 Sq. Acres	1 Sq. Hectometre-1 Hectare.
100 Hectares	1 Sq. Kilometre.

**Weight**

10 Milligrams	1 Centigram
10 Centigrams	1 Decigram
10 Decigrams	1 Gram
10 Grams	1 Decagram
10 Decagrams	1 Hectogram
10 Hectograms	1 Kilogram.
100 Kilograms	1 Quintal
1000 Kilograms	1 Metric Tonne.

**Capacity**

10 Millilitres	1 Centilitre
10 Centilitres	1 Decilitre
10 Decilitres	1 Litre
10 Litres	1 Decalitre
10 Decalitres	1 Hectolitre
10 Hectolitres	1 Kilolitre

**Volume**

1000 Cubic Millimetres	1 Cubic Centimetre
1000 Cubic Centimetres	C
1000 Cubic Decimetres	1 Cubic Metre



**(VI) Linear and Square Measures****Length**

1 Inch	25.4 Millimetres (mm)
	0.0254 Metres.
1 Foot	12 Inches.
	0.333333 Yard
	0.3048 Metre (m).
1 Yard	36 Inches.
	3 Feet
	0.9144 Metre (m)
1 Metre	39.3701 Inches.
	3.28084 Feet
	1.09361 Yards
	0.001 Kilometre (km.)
1 Kilometre	1000 Metre (m)
	0.621371 Mile
1 Mile	1760 Yard
	1.60934 Kilometre (km.)
1 International	6076.12 Feet
1 Nautical Mile	1.852 Kilometre (km)
	1.5152 Statute mile

**Area**

1 Square Inch	645.16 Square Millimetres (mm <sup>2</sup> ).
1 Square Foot	0.0929030 Square Metre (m <sup>2</sup> ).
1 Square Yard	9 Square Feet.
	0.836127 Square Metre (m <sup>2</sup> ).
1 Square Metre	10.7639 Square Feet.
	1.19599 Square Yards.
1 Acre	4840 Square Yards
	4046.86 Sq. Metres (m <sup>2</sup> )
	0.404686 Hectares.
1 Hectare	10,000 Square Metres (m <sup>2</sup> ).
	2.47105 Acres.
	0.01 Square Kilometre (km <sup>2</sup> )
1 Square Kilometre	100 Hectares.
	0.386102 Square Mile.
1 Square Mile	640 Acres.
	258.999 Hectares
	2.58999 Square Kilometre (km <sup>2</sup> ).

**(VII) Mass and Weights**

1 Ounce	28.3495 Grams (g).
1 Pound	0.453592 Kilogram (Kg.)
	0.00892857 Hundred Weight
1 Kilogram	2.20462 Pounds.
	0.01 Quintal
1 Hundred Weight (Cwt)	112 Pounds.
	50.8023 Kilograms (Kg.)
1 American (Short) Ton	2000 Pounds.
	0.892857 Long Ton
	0.97185 Tonnes
1 Tonne (Metric Ton)	2204.62 Pounds
	1000 Kilograms (Kg.)
	1.10231 Short tons
	0.984207 Long Ton
1 Imperial (Long) Ton	2240 Pounds
	1.12 Short Tons.
	1.01605 Tonnes.

**(VIII) Energy and Power**

1 International Table (IT) Calorie	4.1868 Joules (J).
115 C calorie	4.1855 Joules (J)
1 Thermochemical Calorie	4.184 Joules (J)
1 Kilo Calories (IT)	1000 Calories
	3.96832 British Thermal Units
	1.163 Watt Hours
	1 Thermie
1 Kilowatt Hour	3412.14 British Thermal Units
	859.845 Kilo Calories
	3.6 Megajoules (MJ)
	1.34102 Horse Power Hours.
1 Therm	100,000 British Thermal Units (BTU).
	105.506 Megajoules (MJ)
	29.3071 Kilowatt Hours
	25.1996 Thermies
	25200 Kilocalories
1Metric Horsepower (Pferdestaerke or Cheval Vapeur)	735.499 watts (W).
	542.476 Foot Pounds Force/Second.
	0.986320 Imperial Horse Power
1 Imperial Horsepower	745.700 Watts (W)
	550 Foot Pounds Force/Second
	1.01387 Metric Horse Power.
1 Kilowatt	737.562 Foot Pounds Force/Second
	1.35962 Metric Horsepower
	1.34102 Imperial Horsepower.
	1000 Watts.
1 BTU	0.252 Kilocalories
	1.055 Kilojoules





### (IX) Cubic Measures Volume

1 Cubic Inch	16.3871 Cubic Centimetres (cm <sup>3</sup> )
1 Pint	0.568261 Cubic Decimetres (dm <sup>3</sup> ) or Litres.
1 Litre	61.024 Cubic Inches
	1.75975 Pints
	1 Cubic Decimeter (dm <sup>3</sup> )
	0.264172 American Gallons
	0.219963 Imperial Gallons
0.0353147 Cubic Foot	
1 Hectolitre	100 Cubic Decimetres (dm <sup>3</sup> ) or
	100 Litres
1 American Gallon	231 Cubic Inches
	3.78541 Cubic Decimetres or Litres
	0.832674 Imperial Gallon.
	0.133681 Cubic Foot.
	0.0238095 American Barrel.
0.00378541 Cubic Metre (M <sup>3</sup> )	
1 Imperial Gallon	277.420 Cubic Inches
	4.54609 Cubic Decimetres (dm <sup>3</sup> ) or Litres
	1.20095 American Gallon
	0.160544 Cubic Foot
	0.02894 American Barrel
0.00454609 Cubic Metre (m <sup>3</sup> )	
1 Cubic Foot	28.3168 Cubic Decimetres (dm <sup>3</sup> ) or Litres
	7.48052 American Gallons
	6.22883 Imperial Gallons
	0.17811 American Barrel
	0.0283168 Cubic Metre (m <sup>3</sup> )
1 Americal Barrel	9702 Cubic Inches
	158.987 Cubic Decimetres (dm <sup>3</sup> ) or Litres
	42 American Gallons
	34.9726 Imperial Gallons
	5.6146 Cubic Feet
0.158987 Cubic Metre (M <sup>3</sup> )	
1 Cubic Metres	1000 Litres.
	264.172 American Gallons
	219.969 Imperial Gallons
	35.3147 Cubic Feet
1 Kilolitre	1000 Cubic Decimetres (dm <sup>3</sup> ) or Litres
	6.28981 Americal Barrels.
1 Gross Ton (Shipping)	2.83168 Cubic Metres or 100 Cubic Feet
	or Permanently Enclosed Space
1 Ton of Liquefied Methane	Approx. 16 Barrels
	Approx. 1400 Cubic Metres of Natural
	Gas depending upon Methane Content

CHAPTER I

CHAPTER II

CHAPTER III

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CHAPTER X

CHAPTER XI

CHAPTER XII

APPENDIX



**(X) Product Conversion Factor**  
**(Conversion Factor from Volume to Tonnes at Natural Temp.)**

Product	Litres to Metric Tonnes	Tonnes per K.L	American Barrels to Metric Tonnes
Aviation Spirit 100/130	1421	0.7034	8.94
Aviation Spirit 144/145	1449	0.6901	9.11
Aviation Spirit 73 ON	1432	0.6983	9.01
Motor Spirit 79 ON	1427	0.7008	8.98
Motor Spirit 80 ON	1427	0.7008	8.98
Motor Spirit 93 ON	1386	0.7215	8.72
Motor Spirit 95 ON	1359	0.7358	8.55
Motor Spirit 83 ON/87 ON	1411	0.7087	8.88
JP-4	1384	0.7225	8.71
JP-5	1273	0.7855	8.01
Aviation Turbine Fuel	1288	0.7764	8.10
Naphtha	1467	0.6817	9.23
Power Alcohol	1286	0.7776	8.09
Benzol	1154	0.8666	7.26
SBP Spirit/Hexane	1457	0.6863	9.16
Mineral Turpentine (Laws 140/205)	1302	0.7680	8.19
Liquefied Petroleum Gas	1785	0.5602	11.23
Superior Kerosene	1285	0.7782	8.08
Inferior Kerosene	1265	0.7905	7.96
Power Kerosene (Vap. Oil)	1251	0.7994	7.87
High Speed Diesel	1210	0.8263	7.61
Light Diesel Oil	1172	0.8532	7.37
Malarial Oil	1172	0.8532	7.37
Special Larvicides	1175	0.8511	7.39
Furnace Oil	1071	0.9337	6.74
Tea Drier Oil	1071	0.9337	6.74
Hot Heavy Stock/LSHS	1017	0.9833	6.40
Refinery Gas/Ref. Boiler Fuel	1071	0.9337	6.74
Lubricants/Greases	1114	0.8977	7.01
Jute Batching Oil/Wash Oils	1167	C	7.34
Bitumen	1002	0.9980	6.30
SBP/Alcohol Mixture	1414	0.7072	8.89
Methanol Mixture	1106	0.9042	6.96
Carbon Black Feed Stock	1134	0.8818	7.13
Carburetor Testing Fluid	1388	0.7205	8.73
Benzene	1131	0.8812	7.05
Toluene	1148	0.8711	7.19
Demineralised Water	1002	0.9930	6.30
S. Glass Kleanzit	1003	0.9970	6.31
Miscellaneous	1114	0.8977	7.01
Wax/P. Coke/Chemicals	1114	0.8977	7.01
Aromex	1221	0.8190	7.68
Linear Alkyl Benzene Feed Stock	1205	0.8239	7.88





**(XI) Volume per Metric Ton of Petroleum Products**

Products	Kilolitre	Imperial Gallon	U.S. Gallon	Barrel
Liquefied Petroleum Gas	1.8519	407.365	489.213	11.648
Aviation Spirit	1.3699	301.332	361.873	8.613
Natural Gasoline	1.3514	297.265	356.990	8.496
Motor Spirit	1.3514	297.265	356.990	8.496
Kerosene	1.2346	271.569	326.137	7.764
Jet Fuel	1.2346	271.569	326.137	7.764
Distillate Fuel Oil	1.1494	252.415	293.522	6.988
Lubricating Oil	1.1111	252.845	303.647	7.231
Fuel Oil N.O.S.	1.0939	241.727	290.301	6.911
Residual Fuel Oils	1.0526	231.551	278.071	6.623
Asphalt and Bitumen	0.9615	211.515	254.013	6.050
Crude Oil	1.1856	260.910	313.340	7.441

Source: Energy Statistics Year book. Please refer the <https://unstats.un.org/unsd/energy/yearbook/conversion.htm>

**(XII) Conversion Factors for Duty Reduction from 150 C to 29.50 C**

Product	Conversion Factor
Aviation Spirit 100/130	0.9827
Aviation Spirit 114/145	0.982
Aviation Spirit 73 Clear	0.9824
Aviation Turbine Fuel	0.9862
Motor Spirit 83	0.983
Motor Spirit 93	0.9836
High Speed Diesel Oil	0.9879
Kerosene	0.9864
Light Diesel Oil	0.9877
Furnace Oil	0.9899
Special Boiling Point Spirit 55/115	0.9820
Special Boiling Point Spirit 64/69	0.9806
Solvent 1425	0.9820
Hexane	0.9806

Source: Statistical Review of World Energy – updated July 2021.

**(XIII) Crude Oil Conversions\***

To convert the following into	Metric Tonnes	Barrels	Kilolitres	1000 Imp. Gallon	1000 U.S Gallon
Metric Tons	1	7.33	1.16	0.256	0.308
Barrels	0.136	1	0.159	0.035	0.042
Kilolitres	0.863	6.29	1	0.220	0.264
1,000 Imp. Gallons	3.91	28.6	4.55	1	1.201
1,000 U.S. Gallons	3.25	23.8	3.79	0.833	

\* Based on World Average Gravity (Excluding Natural Gas liquids)

**(XIV) Natural Gas Conversions**

1 SCM (Standard Cubic Meter)	= 1 cubic metre @ 1 atmosphere pressure and 15.56 ° C	
1 Cubic Metre	= 35.31 Cubic feet	
1 BCM(Billion Cubic Metre) / Year of gas (consumption or production)	= 2.74 MMSCMD	365 Days a Year
1 TCF (Trillion Cubic Feet) of Gas Reserve	= 3.88 MMSCMD	100% Recoverable for 20 years @ 365 days/ annum)
1 MMTPA of LNG	=3.60 MMSCMD	Molecular Weight of 18 @ 365 days/ annum)
1 MT of LNG	=1314 SCM	Molecular Weight of 18
Gross Calorific Value (GCV)	10000 Kcal/ SCM	
Net Calorific Value (NCV)	90% of GCV	
1 Million BTU (MMBTU)	= 25.2 SCM	@10000 Kcal/SCM; 1 MMBTU= 252,000 Kcal)
Specific Gravity of Gas	0.62	Molecular Weight of Dry Air=28.964 gm/ mole)
Density of Gas	=0.76 Kg/SCM	Molecular Weight of Gas 18 gm/mol
Gas required for 1 MW of Power generation	=4128 SCM per Day	@50% efficiency of Combined Cycle Operation; at a station heat rate of 860 Kcal/Kwh~ 1720 Kcal/Kwh@50% Thermal Efficiency)
Power Generation from 1 MMSCMD Gas	=242 MW	@50% efficiency of Combined Cycle Operation; at a station heat rate of 860 Kcal/Kwh~ 1720 Kcal/Kwh@50% Thermal Efficiency)

Source: PPAC

**(XV) Other Conversion****Crude oil\***

From	To convert				
	tonnes (metric)	kilolitres	barrels	US gallons	tonnes/year
	Multiply by				
Tonnes (metric)	1	1.165	7.33	307.86	-
Kilolitres	0.8581	1	6.2898	264.17	-
Barrels	0.1364	0.159	1	42	-
US gallons	0.00325	0.0038	0.0238	1	-
Barrels/day	-	-	-	-	49.8

**Products**

From	To convert			
	barrels to tonnes	tonnes to barrels	kilolitres to tonnes	tonnes to kilolitres
	Multiply by			
Liquefied petroleum gas (LPG)	0.086	11.60	0.542	1.844
Gasoline	0.120	8.35	0.753	1.328
Kerosene	0.127	7.88	0.798	1.253
Gas oil/ diesel	0.134	7.46	0.843	1.186
Residual fuel oil	0.157	6.35	0.991	1.010
Product basket	0.125	7.98	0.788	1.269

**Natural Gas (NG) and Liquefied Natural Gas (LNG)**

From	To					
	billion cubic metres NG	billion cubic feet NG	million tonnes oil equivalent	million tonnes LNG	trillion British thermal units	million barrels oil equivalent
	Multiply by					
1 billion cubic metres NG	1	35.3	0.90	0.74	35.7	6.60
1 billion cubic feet NG	0.028	1	0.025	0.021	1.01	0.19
1 million tonnes oil equivalent	1.11	39.2	1	0.82	39.7	7.33
1 million tonnes LNG	1.36	48.0	1.22	1	48.6	8.97
1 trillion British thermal units	0.028	C	0.025	0.021	1	0.18
1 million barrels oil equivalent	0.15	5.35	0.14	0.11	5.41	1

## Units

1 metric tonne	1.1023 short tons 2204.62 lb.
1 kilolitre	6.2898 barrels 1 cubic metre
1 kilocalorie (kcal)	4.187 kJ 3.968 Btu
1 kilojoule (kJ)	0.239 kcal 0.948 Btu
1 British thermal unit (Btu)	0.252 kcal 1.055 kJ
1 kilowatt-hour (kWh)	860 kcal 3412 Btu 3600 kJ
1 barrel of ethanol	0.57 barrel of oil
1 barrel of biodiesel	0.88 barrel of oil

\*Based on worldwide average gravity.

Source: BP Statistical Review of World Energy 2016

## Calorific equivalents

### One tonne of oil equivalent equals approximately:

Heat units	10 million kilocalories
	42 gigajoules
	40 million Btu
Solid fuels	1.5 tonnes of hard coal
	3 tonnes of lignite
Electricity	12 megawatt-hours

One million tonnes of oil or oil equivalent produces about 4400 gigawatt-hours (=4.4 terawatt hours) of electricity in a modern power station.

## (XVI) Petroleum Specific Gravities

Degrees A.P.I.	Specific Gravity	Barrels per tonne*	Long Ton*
25	0.9042	6.98	7.09
26	0.8984	7.02	7.13
27	0.8927	7.06	7.18
28	0.8871	7.10	7.22
29	0.8816	7.15	7.27
30	0.8762	7.19	7.31
31	0.8708	7.24	7.36
32	0.8654	7.28	7.40
33	0.8602	7.33	7.45
34	0.8550	7.37	7.49
35	0.8499	7.42	7.54
36	0.8448	7.46	7.58
37	0.8398	7.51	7.63
38	0.8348	7.55	7.67
39	0.8299	7.60	7.72
40	0.8251	7.64	7.76
41	0.8203	7.69	7.81
42	0.8156	7.73	7.85

\*Approximate figure at 15.6 degrees C or 60 degrees F.





### (XVII) Petroleum Specific Gravity Ranges

Products	Specific Gravity	Barrels Per tonne
	Crude Oils	0.80-0.97
Aviation gasolines	0.70-0.78	9.1-8.2
Motor Gasolines	0.71-0.79	9.0-8.1
Kerosene	0.78-0.84	8.2-7.6
Gas Oil	0.82-0.90	7.8-7.1
Diesel Oils	0.82-0.92	7.8-6.9
Lubricating Oils	0.85-0.95	7.5-6.7
Fuel Oils	0.92-0.99	6.9-6.5
Asphaltic Bitumen	1.00-1.10	6.4-5.8

### (XVIII) Multiplier for Conversion of one Metric Tonne of Petroleum Product to one Tonne of Oil Equivalent

Product	Multiplier
L.P.G.	1.130
Naphtha	1.075
Aviation Gasoline	1.070
Motor Gasoline	1.070
Jet Fuel	1.065
Kerosene	1.045
Gas/diesel	1.035
Residual Fuel Oils	0.985
Others	0.960





**(XIX) Average International Calorific Value of different Fuels**

Products	K Cals./Kg. (M. Cals/Tonne)	BTUs/Kg.
<b>A. Oil Equivalence:</b>		
Average Crude Oil/NGLS(a)	10300	40870
United Nations	10175	40375
<b>B. Oil Products:</b>		
NGL	12135	48150
Motor Gasoline	11135	44190
Kerosene	10638	42210
Jet Fuel	11790	46790
Gas Oil	10790	42820
Fuel Oil	10440	41430
<b>C. Coal Equivalence:</b>		
Average Hard Coal (b)	7000	27775
<b>D. INDIA</b>		
Hard Coal	5000	19840
Lignite-Brown Coal	2310	916
Firewood@	4750	18848
Charcoal@	6900	27379
<b>E. Natural Gas-Production: (Average) India</b>		<b>K cals/Cu. Metre</b>
		8000-9480
<b>F. Electricity:</b>		
Output Basis(c)		860
Fuel Input basis(d)		2500-2700

**Note:**

- Represent average global factor for crude Oil/NGL production. For a specific crude oil, relevant conversion factors may have to be used.
- Factor used by United Nations to represent average calorific value of hard coals for purposes of standardising coal production to hard coal equivalent base.
- Calorific value of 1kwh of electricity.
- Represents K cals of hydro-carbon energies required to produce 1 kwh of electricity.

@ : As per Report of Fuel Policy Committee 1974

Conversion Factor: 1 K Cal=4.19 KJoules.

**(XX) Coefficients used to Convert from Original Units into Standard Coal Equivalents**

Products	Hard Coal	Lignite Brown Coal	Fuel Wood
A. Primary Solids			
Standard Factor	1	0.385	0.333
India	0.714	0.330	
B. Other Hydrocarbons			
Petroleum Crude		1.454	
Natural Gas Liquids (wt.av.)		1.542	
Gasoline		1.500	
Kerosene & Jet Fuel		1.474	
Gas-Diesel Oil		1.450	
Residual Fuel Oil		1.416	
Liquefied Petroleum Gases		1.554	
Natural Gasoline		1.532	
Condensate		1.512	
Other Natural Gas Liquids		1.512	
Natural Gas (in Tera joules)*		34.121	
Other Gases(in Tera joules)*		34.121	
Hydro, Nuclear and Geothermal Electricity (In 1,000 kwh)		0.123	

**Note:**

The average calorific value of gas is measured in Kcal/m<sup>3</sup> (st.) i.e. in Kcal per cubic metre of gas under standard conditions at 15°C, 013.25 mbar, dry.

**(XXI) Coal Replacement and Equivalents of different Fuels**

Fuels	Original	Unit	Unit
	Unit	million tonnes of coal equivalent (mtce)	million tonnes of coal replacement (mtcr)
Coal coking (6640 K cal/Kg), Non Cooking coal used in steam generation (500 Kcal/kg)	1mt	1.0	1.0
Hard Coke	1mt	1.3	1.3
Soft Coke	1mt	1.5	1.3
Firewood (4750 Kcal/Kg.)	1mt	0.95	0.95
Char Coal (6900 Kcal/Kg.)	1mt	1.0	1.0
<b>Oil Products: 10,000 Kcal/Kg.</b>			
Black Products:(Fuel Oil, FO, Refinery Fuel, LSHS & HHS)	1mt	2.0	2.0
Kerosene & LPG	1mt	2.0	8.0
HSDO & LDO	1mt	2.0	9.0
Motor Spirit & Jet Fuel	1mt	2.0	7.5
Natural Gas(9000k CAL/kg)	109m <sup>3</sup>	1.8	3.6
Electricity	109 kwh	1.0	1.0

m : Million      mt: Million Tonnes

Source : Fuel Policy Committee 1974

**(XXII) Approximate Calorific Equivalents(Oil =10000 Kcal/Kg.)**

Items	Million Tonnes of Oil equals
Heat Units	40 million BTU
	397 million therms
	10,000 Tera calories
Solid Fuels	1.5 million tonnes of Coal
	3.0 million tonnes of lignite
Natural Gas (1 cub.ft.=1000 BTU)	1 Cub metre = 9000 K cal.
	1.111 thousand million cub metres
	39.2 thousand million cubic feet
	107 million cubic feet per day of a year
Electricity	12 thousand million KWH
(1 Kwh=3412 BTU)	
(1 Kwh=860 KCal)	

**(XXIII) Heat Units & others expressed in terms of Million Tonnes of Oil**

Items	Million Tonnes of Oil equals
<b>Heat Units</b>	
10 million BTU	0.25
100 million therms	0.25
10000 Tera calories	1
<b>Solid Fuels</b>	
1 million tonne of coal	0.67
1 million tonne of lignite approximates to	0.33
<b>Natural Gas</b>	
1 thousand million cubic metres(BCM)	0.9
<b>Town Gas</b>	
1 thousand million cubic Metres (BCM)	0.42
<b>Electricity</b>	
12 thousand million KWH	0.86

Note: One Million tonne of oil produces about 4000 million units(KWH) of electricity in a modern power station.

Source: BP Statistical Review of World Energy



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