

Topic- Petroleum Mineral Resource of Asia

(Paper- II)

INTRODUCTION

Asia accounted for almost 10% of the world's oil production in 2018. The region was led by China and India, the world's sixth and tenth biggest oil-producing nations, respectively. In recent years, Asia's share of world oil production has been on a slow but steady decline. This is primarily a consequence of flat regional oil production during a period of rising overall global output. However, demand continues unabated, as the Asia Pacific region consumes roughly 35% of the world's oil, getting 35 million barrels per day.

After reaching peak production levels in 2015, Asian oil output has declined 5% to 7.9 million [barrels per day](#) through 2018, according to the International Association of Oil and Gas Producers. While a number of countries in the region have discovered large new reserves, others face declining production from aging oil fields. Consequently, [analysts](#) expect production trends to continue for the region as a whole.

1. China

China is the biggest oil producer in the region by a substantial margin, accounting for nearly 4 million barrels of oil per day. It is responsible for almost half of Asia's total production and announced in 2019 that it would increase [capital investment](#) in oil production by 20%. China hopes to increase its output by 50% to 6 million barrels per day by 2025 to become more energy

independent, as the country imports roughly 10 million barrels per day to meet domestic [demand](#).

KEY TAKEAWAYS

- The biggest oil producers in Asia are China, India, and Indonesia.
- China accounts for almost half of the total production in Asia and imports additional oil to meet domestic demand.
- Malaysia, Thailand, and Vietnam are also among the largest oil producers in Asia.
- Overall oil production in the Asia Pacific is declining because new discoveries are not enough to offset the lost output from aging oilfields.
- Demand remains strong, however, with the Asia Pacific consuming 35% of the world's oil production.

The [oil industry in China](#) is led by several of the largest energy companies in the world: China Petroleum and Chemical Corporation, known as Sinopec; China National [Offshore](#) Oil Corporation, or CNOOC; and PetroChina. These three companies combine to produce more than two-thirds of the country's total annual production.

2. India

India accounts for production of about 2.5 million barrels per day. While production growth has steadied in recent years, oil consumption in India continues to grow by leaps and bounds. India ranks as the third-largest oil importer in the world after U.S. and China.

Oil production in India is dominated by the [state-owned enterprise](#), Oil and Natural Gas Corporation, which accounted for roughly 75% of domestic production. Cairn India Limited, the Indian [subsidiary](#) of the British oil and gas

company, Cairn Energy [PLC](#), is the second-largest contributor to India's oil market.

Distribution of petroleum in India

In India, petroleum was, first of all, got known during the construction of railway tracks in Assam. The first oil well was dug near Naharpung in 1866 but no oil was obtained there. The first region where oil was obtained was Makum, in the year 1867. Subsequently, an oil refinery was established near Marhherita in 1889. After more exploration, oil was also discovered in Digboi in 1889.

Before 1960, petroleum oil was produced only in Assam. In 1960, for the very first time, an oil well was dug out of Assam state, in Ankaleshwar area in the state of Gujarat. The oil well was named as Vasudhara. India's first offshore oil mining was done on Aliabet, an island 45km away from Bhavnagar in Gujarat, in the Gulf of Khambat. In 1975, oil was discovered in Bombay High and in the subsequent year, production was started.

Production of crude oil in India (in descending order)

1. Maharashtra(more than 60% of the production)
2. Gujarat (around 20% oil production)
3. Assam (around 15% oil production)
4. Other states

Distribution in the state of Assam

1. **Digboi-** Digboi oilfield was the only petroleum producing are of India till the 1950s. The oil from here is refined in the Digboi refinery.
2. **Naharkatiya-** Naharkatiya oilfield is located on the left bank of the Burhi Dihang river. The oil from here is transported to Noonmati refinery in Assam and Barauni refinery in Bihar.

3. **Moran-Hugirijang-** The oilfield is located on the Brahmaputra river valley. The oil from here is transported to Barauni refinery in Bihar.
4. **Rudrasagar-Lakwa-** The oilfield is located in the Sivasagar district in the state of Assam in the Brahmaputra river valley.
5. **Surma Valley-** The Badarpur, the Patharia and the Masimpur are the major oilfields in the Surma valley.

Distribution in North-East other than Assam state

1. **Nigrum region-** The oilfield is located in Tirap district in the state of Arunachal Pradesh.
2. **Borholla region-** The oilfield is located across the border of Assam-Nagaland.

Distribution in the state of Gujarat

1. **Ankleshwar-** Ankaleshwar oilfield is the largest and the oldest (1960) oilfield in Gujarat. The oilfield is located near Bharuch in the Narmada valley lower plains. The oil is transported to Trombay and Koyali for refining.
2. **Khambhat and Lewnaga-** The oilfield is located in Borsad region, on the northern side of the Gulf of Khambhat.
3. **Kalol oilfield**
4. **Mehsana oilfield**
5. **Navagaon oilfield**
6. **Kosamba oilfield**
7. **Sanand oilfield**

Distribution in the Western offshore region

1. **Bombay High**- The oilfield is located around 175 km south-west of Mumbai in the Arabian Sea. The production in the oilfield was started in 1976.
2. **Bassein**- The oilfield is located to the south of Bombay High.
3. **Aliabet**- The oilfield is located near Aliabet, an island 45km away from Bhavnagar in Gujarat, in the Gulf of Khambat.

Distribution in the Eastern coast region

1. **The Godavari-Krishna river basin oilfield**- The oil here is found in both the offshore and onshore regions. The first oil well in the region was dug in the year 1980 in south-east 75 km far from Kakinara.

Distribution in Kaveri Basin region

1. The oilfields in the Kaveri basin region are found in **Narimanam** and **Kovilappal**. The oil from here is transported to Kaveri refinery in Panaigudi near Chennai.

Oil Refineries

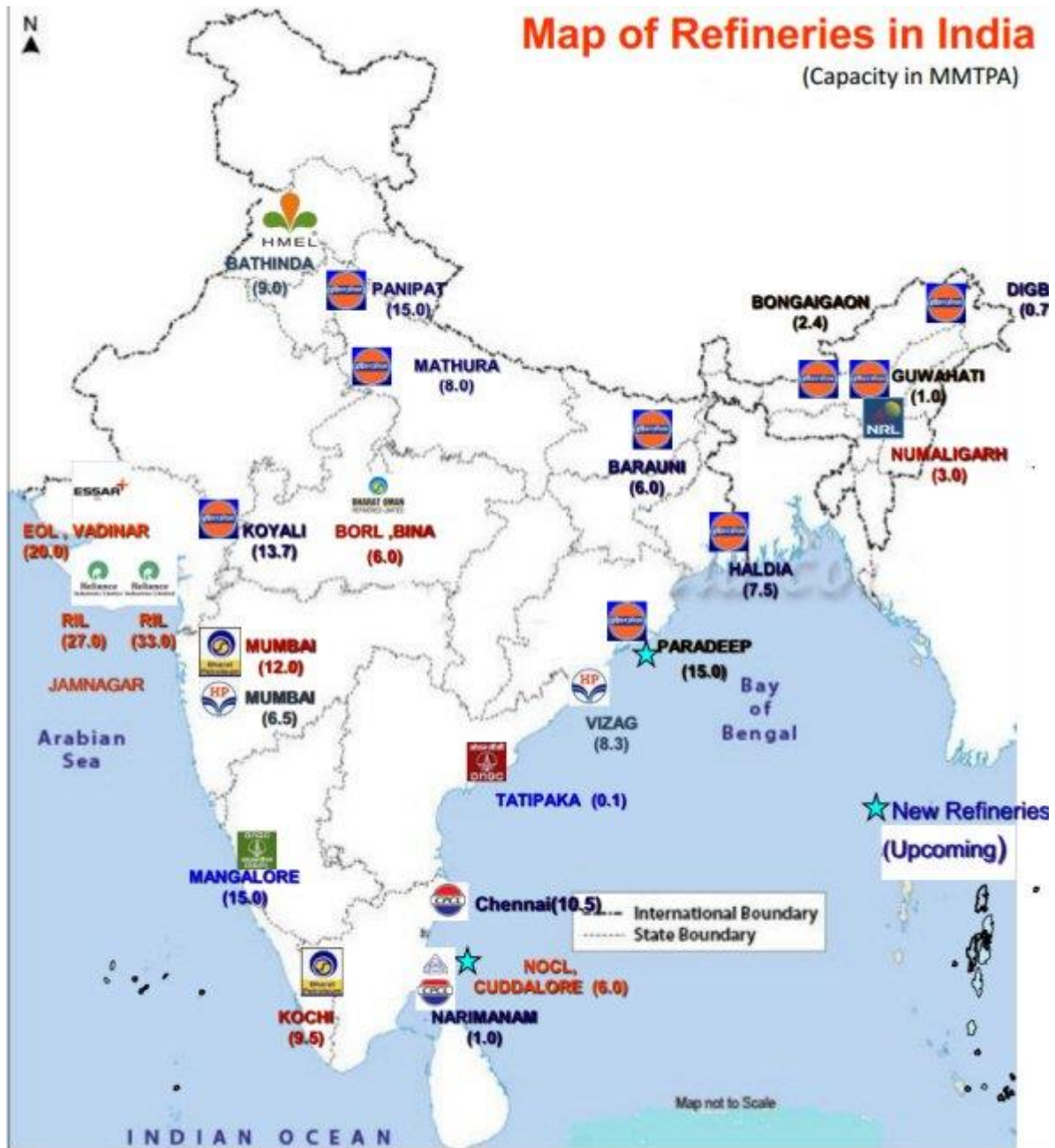
List of major oil refineries in India

1. Digboi
2. Bongaigaon
3. Noonmati
4. Numaligarh
5. Koyali
6. Haldia
7. Vizag
8. Kochi
9. Mangalore

- 10.Chennai
- 11.Trombay
- 12.Jamnagar
- 13.Paradeep
- 14.Ratnagiri
- 15.Vadinar
- 16.Tatipaka
- 17.Nagapatnam
- 18.Barauni
- 19.Mathura
- 20.Karnal
- 21.Bina
- 22.Panipat
- 23.Bhatinda

GEOGRAPHY

Map showing major oil refineries in India



3. Indonesia

Indonesia comes in behind India with the production of about 835,000 barrels per day. In the 1990s, when production was at a high, Indonesia produced between 1.5 million and 1.7 million barrels per day. Since that period, however, production has followed a nearly unbroken downward trend to the current level.

In 2009, the combination of declining production in aging oil fields along with rising domestic demand compelled Indonesia to exit the [Organization of Petroleum Exporting Countries \(OPEC\)](#), of which it had been a member since 1962.

PT Chevron Pacific Indonesia, a subsidiary of the American energy giant Chevron Corporation, is Indonesia's biggest oil producer, accounting for an estimated 40% of production, while Indonesia's state-owned energy company, PT Pertamina, is responsible for an additional 25%. Foreign oil companies including Total SA, ConocoPhillips, and CNOOC are also significant producers in the region.

4. Malaysia

Malaysia produces about 661,000 barrels of oil per day, most of which is extracted from offshore fields. Over the course of more than two decades since 1991, production in the country fluctuated between 650,000 and 850,000 barrels per day. According to the [Energy Information Association](#), the recent downward production trends can be attributed largely to declining output at aging oil fields. The Malaysian government is responding by encouraging investment in recovery technology and new field development.

Petroleum Nasional Berhad, also known as Petronas, is Malaysia's state-owned energy corporation. It controls all oil and gas resources in the country and is responsible for development of those assets. International [integrated oil and gas companies](#), such as Exxon Mobil Corporation, Murphy Oil Corporation, and Royal Dutch Shell PLC, are involved with Petronas in oil production activities in Malaysia, including partnerships in [enhanced oil recovery](#) projects at aging oil fields.

5. Vietnam

Vietnam has maintained oil production volumes between 300,000 and 400,000 barrels per day since 2000 and daily production in 2018 amounted to just over 300,000 barrels. In 2011, [offshore exploration and drilling](#) activities raised Vietnam's proven [oil reserves](#) from 600 million barrels to 4.4 billion barrels, rocketing it into third place in Asia after China and India. Industry analysts expect further discoveries as exploration of Vietnam's offshore waters continues.

80.5 Million

The number of barrels of oil produced each day globally.

Vietnam's state-owned oil and gas company, PetroVietnam Gas Joint Stock Corporation, is involved in all oil production in Vietnam via its production subsidiary, PetroVietnam Exploration Production Corporation, and its [joint ventures](#) with international oil companies. Chevron, Exxon Mobil, and the Russian company, Zarubezhneft OAO, are several of the largest international producers operating in Vietnam.

6. Thailand

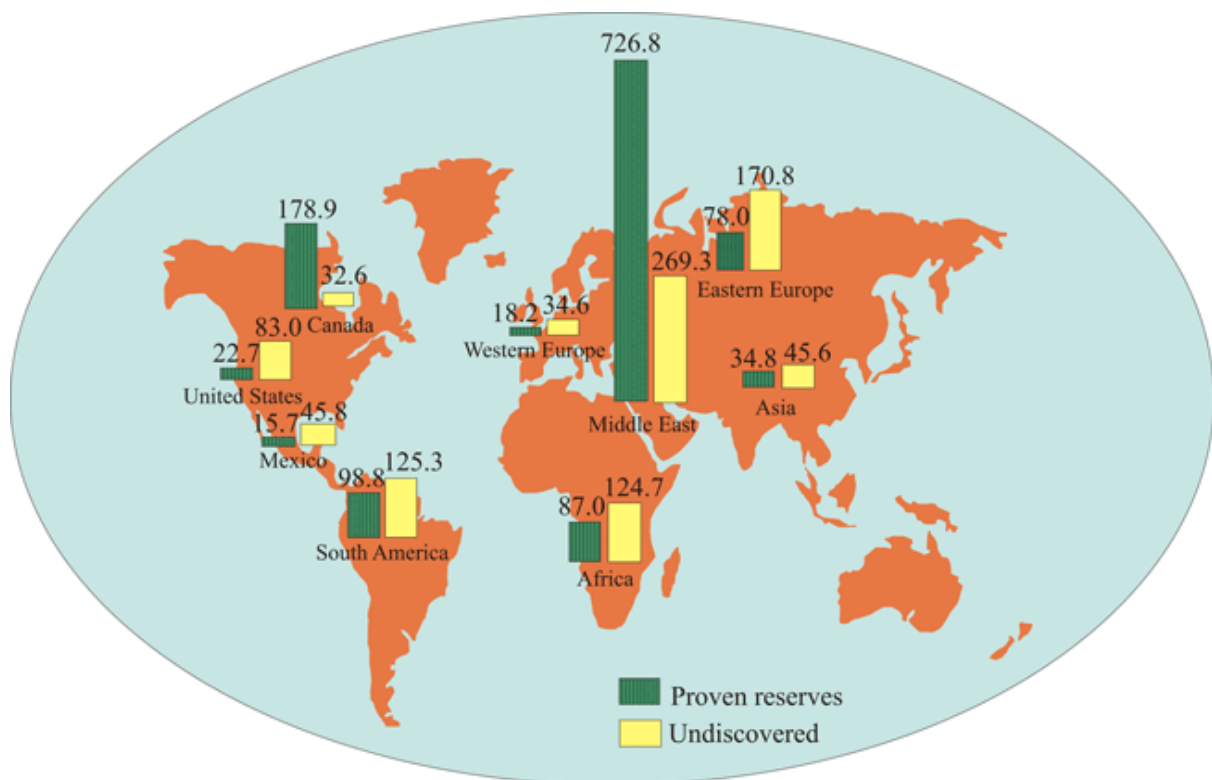
Oil production in Thailand has been steady around 250,000 barrels daily for the past decade. However, when it began oil production in 1980, the country generated only 1,300 barrels per day. Despite this growth, [Thailand](#) must import large quantities of oil to meet domestic demand.

Chevron is the main oil producer in Thailand. It operates Thailand's largest [oil field](#), Benjamas, and has investments in many other important production sites in the country. Thailand's state-owned oil company, PTT Exploration and Production, is the country's second-largest oil producer. Other international companies involved in oil production in Thailand include Coastal Energy Company and Salamander Energy PLC.

OILFIELDS OF ASIA

Indonesia has oilfields in central Sumatra, Java and Kalimantan. Myanmar has proven oilfields in Irrawaddy and Chindwin valleys. Vietnam and Philippines have also offshore oil reserves in the South China Sea region. Japan has oilfields located in Hokkaido and Honshu islands. China has oil fields in the Chang Valley and Shaxi province.

The World Map showing Proven and Undiscovered oil reserve



SOURCE: - B.P STAT REVIEW 2016