

Maritime Standard Tanker Conference

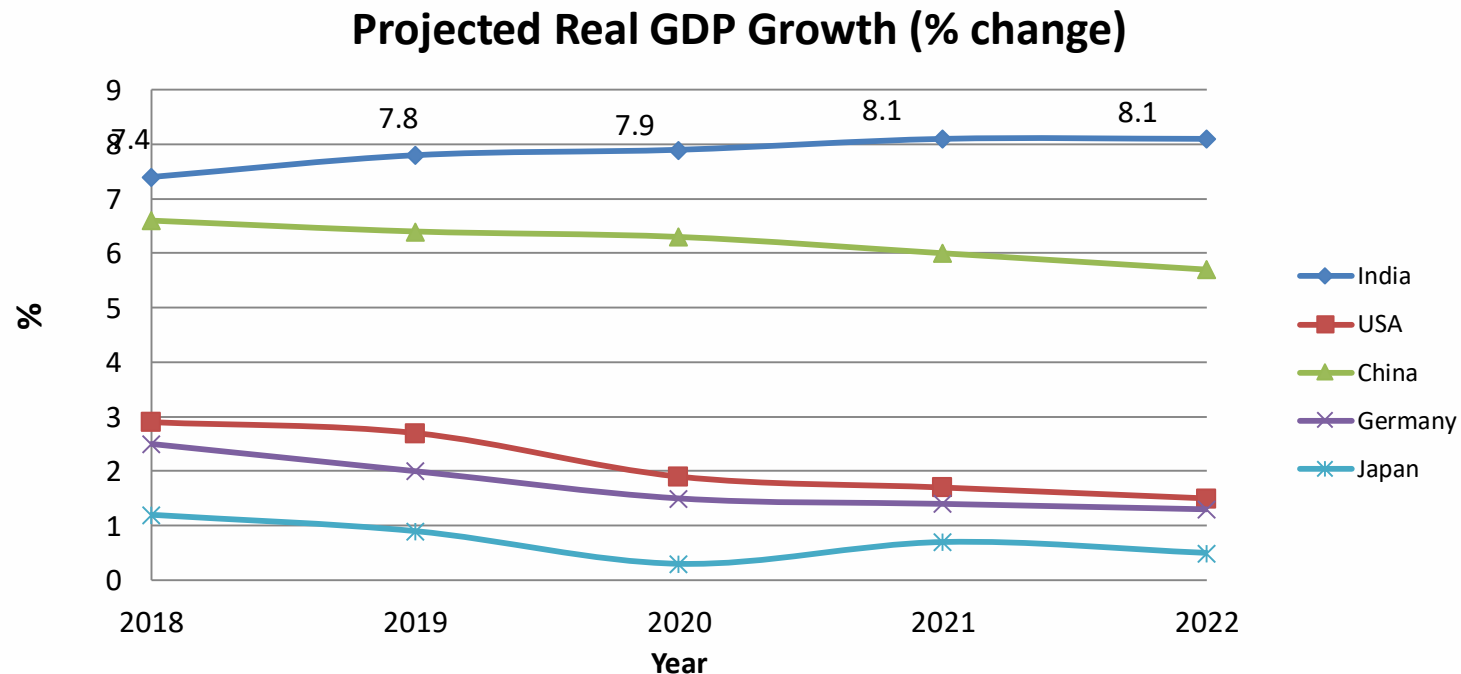
**Building a Strong Case for Greater
Optimism in Tanker Trades**

Shipping Corporation of India Ltd.

Economic Indicators- Indian Perspective



- GDP growth of 6.7% during 2017 , continues to be among the fastest growing economies of the world
- Projected to become fifth largest economy in 2018 with nominal GDP of USD 2.9 trillion
- Economy grew 8.2% yoy in Q2 2018 (strongest since Q1 2016) - Rapid economic growth and greater outputs to drive energy demand

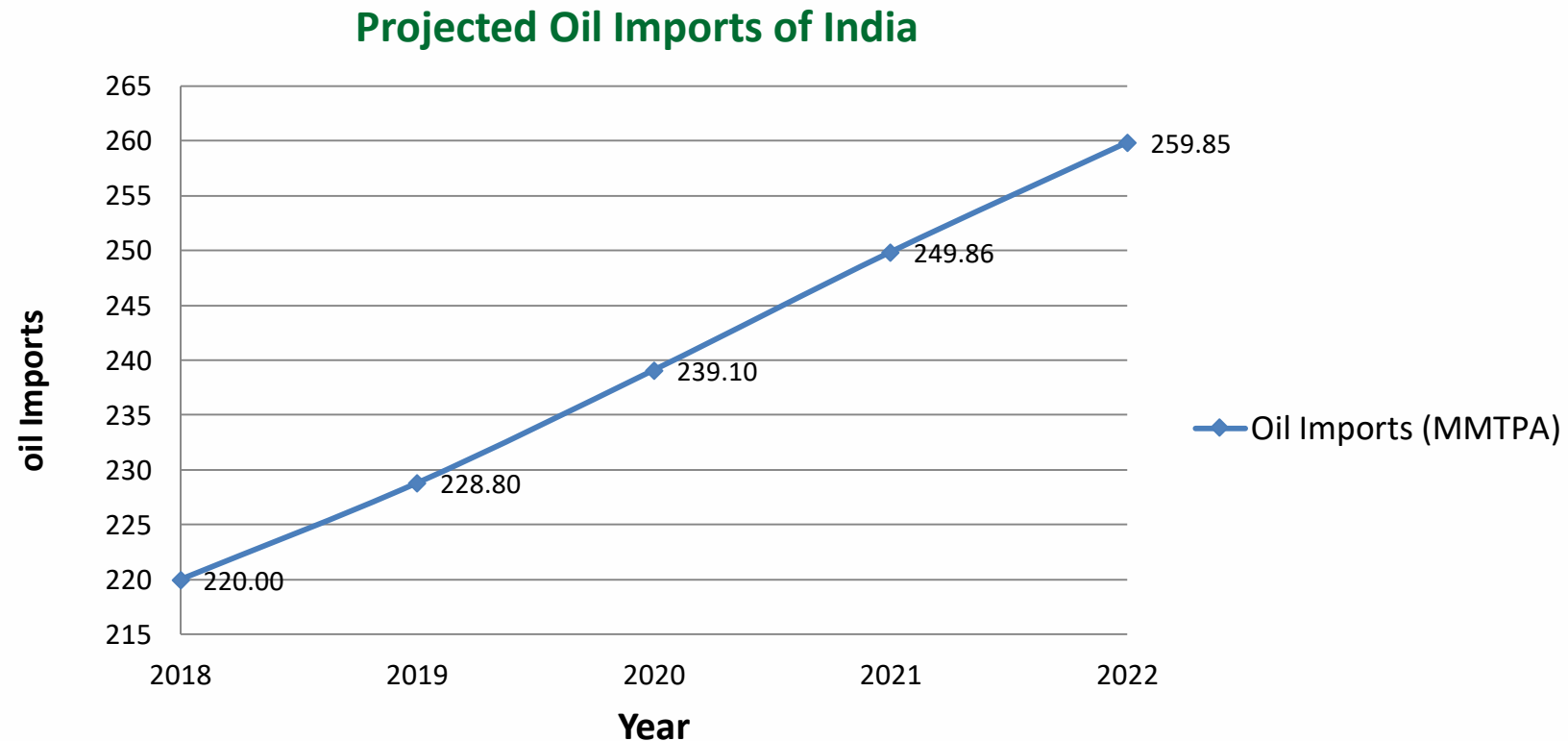


Indian Energy Demand

- India's energy demand growing at 4.2% per annum - Largest growth market for global energy
- The primary energy demand dominated by coal at above 50% followed by Oil and gas - demand will continue to increase to meet the rising energy requirements
- India's crude oil demand was 252 MMT during 2017-18 and is projected to grow at a CAGR of 3.5% at least till 2040
- In comparison the domestic crude oil production in 2017-18 was 35.7 MMT - more or less stagnant at about 40 MMT per year with limited growth projections
- Indian economy dependent on import of crude oil to the extent of 80% - increase in demand expected to result in higher import levels in future
- India is set to become the world's third largest oil consumer, behind the US and China, by 2025, and according to the International Energy Agency (2018), the country, together with China, is estimated to contribute nearly 50% of the demand growth by 2023.

Indian Energy Demand

- With rising demand, Indian imports of crude oil projected to grow at CAGR of 3.5 to 4% from 2018 levels of 220 MMTPA to 415 MMTPA by 2030

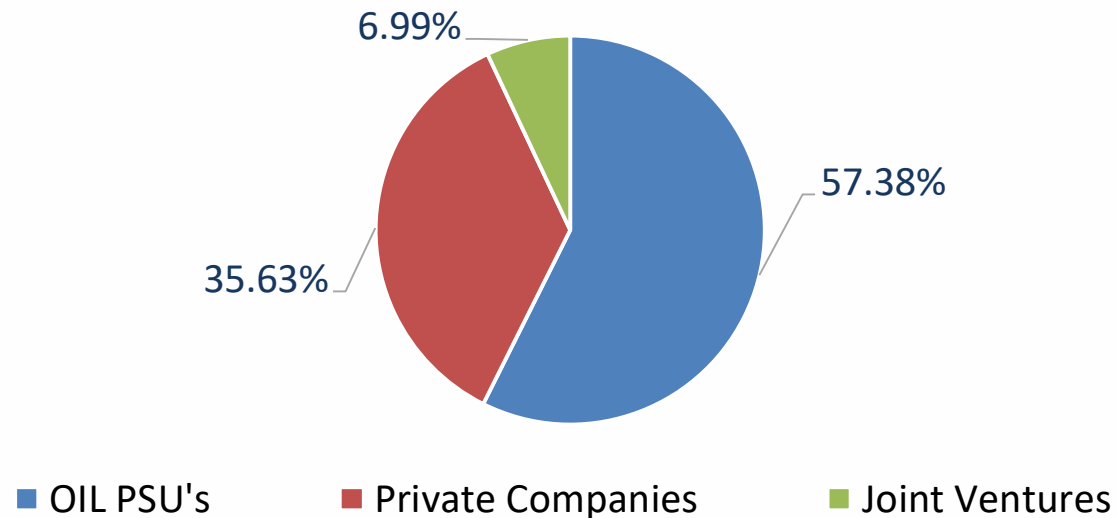


Investments & Developments- Indian Tanker Market



- Installed refining capacity in 2017-18 stood at 248 MMTPA- expected to boost by 77 percent to 446 MMTPA by 2030
- Indian refining sector was dominated by State owned companies – increased share by private refiners in the past years
- All Indian oil majors investing heavily for add to their refining capacity in order to meet rising fuel needs

% share in India's refining capacity



Investments & Developments- Indian Tanker Market



- Asia's largest refinery operational at Reliance Industries, Jamnagar
- World's largest green field refinery coming up at Ratnagiri (West Coast India) with refining capacity of 60 MMTPA
- The country currently has the fourth-largest refining capacity in the world and the planned west coast refinery will propel India's capacity to 294.5 MMTPA from 234.5 MMTPA currently.
- ISPRL and ADNOC signed an Agreement under which ADNOC will store about 5.86 million barrels of crude oil in India's SPR facility at Mangalore at its own cost.
- Cairn Oil and Gas capacity is 200,000 barrels of crude oil per day and will be ramped up to 500,000 bpd. Gas production from 10,000 standard cubic feet per day to 50,000 standard cubic feet equivalent over the next 12-18 months

Emerging Opportunities-Tanker & Product Market



- Over 80% of the crude oil processed at refineries will be imported providing greater opportunities for tanker operators with an estimated 60 Million DWT tonnage requirement for various sizes of tankers
- Transport requirement for India's imports of about 220 MMT during 2017-18 was met by a mix of time chartered tonnage and COA / spot voyages by the India refiners
- Presently, about 13-14 VLCCs are required to meet Indian refiners' import requirement apart from the 10-12 VLCCs on time charter with the companies. With the projected growth in imports, the numbers are expected to double to a staggering 50-55 VLCCs by 2030.
- Indian fleet comprise of only 6 VLCCs at present – opportunity for tanker owners to participate in this growing trade
- Bulging capacity rises in India as well as Middle East & Asian refinery capacities may present demand spike for product tanker tonnage
- Asia & especially China are growth drivers for the product oil demand, trade routes of MEG-SEA, AG-Far East expected to have increased employment opportunities, especially for Clean MR & LR-I tankers
- PetroChina planning to open office in India
- Maersk Tankers expanded its presence in Mumbai.

Developments & Emerging Opportunities- LPG

- India is second largest importer of LPG and projected to surpass China in near future
- India's LPG demand has increased from about 12 MMT in 2007-08 to about 24 MMT during 2017-18, indicating a CAGR of over 7.5%. The domestic production of LPG has increased from about 8.8MMT in 2007-08 to about 12.4 MMT during 2017-18
- The widening gap between demand and production has resulted in LPG imports growing at a CAGR of about 15 % between 2007-08 to 2017-18 from about 3 MMT to 11.5 MMT.
- LPG demand is expected to rise by 3 MMT to 27 MMT in 2018-19
- With majority of the demand stemming from domestic use and the preference for cleaner fuel, LPG demand is expected to increase to about 30 MMT in the next 5 years
- Increased demand may necessitate focusing on alternate sourcing locations increasing the tonne-mile demand, requiring larger vessels such as VLGCs

Crude & LPG - Market Potential



	Present Indian Fleet	Required fleet by 2030
VLCC	6*	50-55
Suezmax	14	30-35
Aframax	18	20-22
LPG	12#	17-18

* Charterers likely to prefer VLCCs due to economies of scale
6 LPG Carriers are more than 25 years old – need immediate replacement

- The Indian lines share in import of crude oil presently stands at about 15% of the total imports – greater participation of foreign players for Indian imports
- Huge opportunity to foray into Indian Tanker market due to tonnage imbalance

Investments & Developments- LNG

- India produced 31 bcm of gas in 2016-17 and the production is expected to rise by 20% to 37 bcm by 2021 - Proven reserves of natural gas in India stood at 1.2 tcm in 2016
- India's gas consumption has increased at a CAGR of 2.3 % between 2007 to 2016 and is projected to reach 216 bcm by 2021-22
- LNG imports grew at a CAGR of 9.55 % between 2007 to 2017 and is projected to increase to 179 bcm by 2021-22 from the present levels of 26.32 bcm
- Existing LNG Projects in India (30 MMTPA) :
 - Dahej – 15 MMTPA
 - Dabhol – 5 MMTPA
 - Hazira – 5 MMTPA
 - Kochi – 5 MMTPA

Emerging Opportunities- LNG

- India planning to add 11 more liquefied natural gas (LNG) terminals to boost share of gas in energy mix and is expected to double its share of natural gas to 15 percent of energy mix by 2021-22
- Upcoming Projects (21.5 MMTPA) :
 - Dahej Expansion – 2.5 MMTPA
 - Mundra – 5 MMTPA
 - Ennor – 5 MMTPA
 - Jafrabad (FSRU) – 5 MMTPA
 - Jaigarh – 4 MMTPA

Foreign players can participate

- High capital investment for construction of land based LNG terminals leading to alternate options such as FSRUs, Small LNG carriers for coastal LNG shipping, Floating Liquefied Natural Gas (FLNG) carriers etc.
- LNG based floating power plants for meeting the needs of the Islands under the Indian territory
- Opportunities for participation in the above areas through JVs

SCI's Business forward – Tanker, Product & LPG

- Continue to be predominant player :
 - Coastal transportation of Products for PSU and private refiners
 - Cater to the export requirements of private refiners
 - Participate in the cross trade

- Increase presence by augmenting controlled tonnage for Crude & LPG imports with various options:
 - Acquisition / JV's / Sale and lease back / BBC etc.

SCI's Business forward – LNG



- Acquire LNG shipping contracts with Oil PSUs – bid along with partners for long term shipping tenders
- Partner with global shipping companies with whom SCI has existing relationship on shipping LNG on prioritized global routes
- Partner with global shipping companies for projects in the Indian subcontinent viz Srilanka, Bangladesh etc

Major Challenges/ Risks- Global Perspective

IMO regulations related to Sulphur & NOx emission norms and ballast water management and

- Emission norms on Low Sulphur fuel from 2020
- Emission norms on Nox from 2020-21
- Ballast Water Management System from 2024
- Geopolitical scenario & Trade wars

Thank You