



# India's Impact on the Oil Industry

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REUTERS

India's oil imports in 2018 hit record 4.4 million bpd

Nidhi Verma

(Reuters) - India's oil imports hit record high in January

India shipped in 13.6% more oil in January than a year earlier and about 12.5% more than last month.

LiveMint

India, which imports about 80% of its oil needs, is set to surpass China as the fastest-growing oil products market in Asia with fuel demand growing by 6.7% in 2018. Photo: Reuters

New Delhi: India imported a record 4.93 million barrels of oil per day (bpd) in January, according to the U.S. Energy Information Administration (EIA).

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## Saudi Aramco signs US\$44b deal for Indian refinery complex

WED, APR 11, 2018 10:45 PM

[NEW DELHI] Saudi Aramco, the world's biggest oil producer, on Wednesday announced a US\$44-billion deal to build a giant refinery complex on the west coast of India with three Indian firms.

The refinery at Ratnagiri will have a capacity of 1.2 million barrels of oil a day, the Saudi company said in a statement after signing a memorandum of understanding with Indian Oil Corporation, Bharat Petroleum Corporation and Hindustan Petroleum Corporation.

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India Will Lead Global Oil Demand By 2035



KPRESS

Energy Outlook will expand by 120% by 2035, according to BP

demand for oil in India will grow exponentially in coming years and the country will bring largest growth market for oil and oil-related products by 2035.

Oil companies stake for Rs5,700 crore

Oil, PM Financial bid jointly for Alok Industries





## India- Quick Economic History (1947-1991)

- **Nehruvian Socialism: Mix of “true Marxism” and Soviet-style socialism**
- **Major industries including oil & gas were nationalized. Basic industries reserved for small businesses. Consumer products under strict licensing.**
- **Blocking foreign investment, severe limitations on foreign trade.**
- **First Gulf War triggered currency crisis; forced government to begin opening the market.**



## Economic Reform Era: Up & Down (1991-2014)

- 1991 was initial opening- Reduce licensing; allow new market entrants; allow foreign investment in key sectors.
- 1999 saw new focus on “getting government out of business” by privatizing some state-owned firms such as telecom and insurance.
- Early 2000’s- Y2K “crisis” triggered growth of India’s dynamic IT services industry.
- Early 2010’s- High growth rates, gov’t slowed reform program and backtracked a bit. Economic growth, FDI tanked.



## Modi Election (2014)

- Prior to election, Indian economy reeling. Short-term measures (tax, local manufacturing) to appease voters; declining U.S. interest
- **May 2014 Results: First majority government in 30 years**
- First non-Congress majority government
- Expected strong bias towards economic liberalization
- Surprised at Modi Government's outlook on regional security



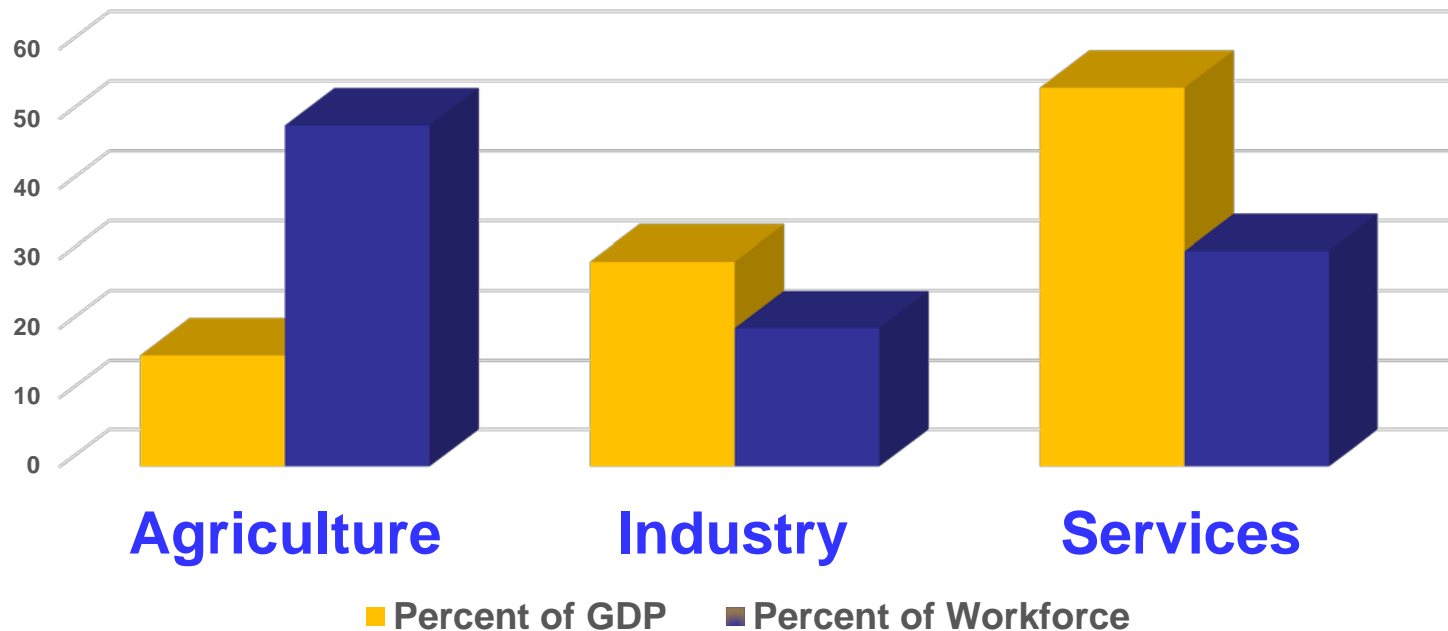
## Modi Era (2014- Current)

- Shift focus to manufacturing. “Make in India” campaign.
- Establish institutions and regulations to help start-ups.
- Roll out “welcome mat” to foreign investors. FDI rules, personal touch.
- Deliver public services. Electricity, cooking gas, bank accounts, toilets.
- Engage state governments “cooperative/ competitive federalism.”
- Roll back nascent trade integration.
- Expand domestic preferences & trade protections.



# India's Macroeconomic Scenario: Study in Contrasts

## Agriculture, Industry, and Services Vital Mismatches





<b>Indicator</b>	<b>Current</b>	<b>Note</b>
<b>GDP Growth, 2016</b>	<b>+ 7.3%</b>	Average for FY18 (ends March 31).
<b>Rupee Exchange Rate</b>	<b>65 / USD</b>	After nearly hitting Rs 70/USD in mid- '13, strengthening again.
<b>US India Trade (last 12 months)</b>	<b>\$76 bn</b>	Was \$68 billion in prior year.
<b>FPI into India (last 12 months)</b>	<b>\$22.3bn</b>	Had been \$8.5 bn prior 12 months.
<b>FDI Into India (last 12 months)</b>	<b>\$44.2 bn</b>	Up from \$46.5 bn the prior 12 months.
<b>India- Trade Balance (FY18)</b>	<b>- \$156 bn</b>	Deficit in \$110-190 range for last 9 yrs.
<b>Per Capita Income</b>	<b>\$1,709</b>	Varies dramatically among Indian states.



Indicator	Current	Note
Installed Power Capacity	<b>332 GW</b>	197 GW coal, 50 GW hydro, 33 GW wind, 19 GW solar, 7 GW nuclear
Domestic Crude Production	<b>900k BPD</b>	Near-zero growth est through 2040 (BP)
Consumption of Oil Products	<b>3.8m BPD</b>	
Petroleum Imports	<b>4.3m BPD</b>	Rising to <b>9.3m</b> BPD by 2040
Domestic Refining Capacity	<b>4.4m BPD</b>	
Domestic Gas Production	<b>3 Bcf/d</b>	Modest growth by 2040 to 5 Bcf/d (BP)
Proven Oil Reserves/ Equiv	<b>5.7b Barrels</b>	Rajasthan, Offshore- Gujarat, Maharashtra, Andhra Pradesh, Northeast
Domestic Energy Mix	<b>Coal- 57%, Oil- 29%, Natural Gas- 6%, Hydro- 4%, Renewables- 2%, Nuclear- 1%</b>	



## State-wise Crude Oil Production Trends (Figures in Thousand Metric Tonnes)

State/Source	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
<b>Onshore</b>							
Andhra Pradesh	304	305	305	295	297	254	294.79
Arunachal Pradesh	131	116	118	120	111	68.88	57.33
Assam	4740	4,724	5,025	4,863	4,709	4,473	4185.13
Gujarat	5960	5,904	5,778	5,332	5,061	4,653	4460.92
Rajasthan	447	5,149	6,553	8,593	9,180	8,848	8601.59
Tamil Nadu	239	233	246	238	226	241	260.99
<b>Total Onshore</b>	<b>11821</b>	<b>16,431</b>	<b>18,025</b>	<b>19,441</b>	<b>19,584</b>	<b>18,538</b>	<b>17860.76</b>
Share of PSUs	11087	11,031	11,231	10,605	10,171	9,482	9050.980
Share of Private/JV	734	5,400	6,794	8,836	9,413	9,056	8809.78
<b>Offshore</b>							
Share of PSUs	17340	16,972	16,328	15,617	15,541	16,194	16542.95
Share of Private/JV	4529	4,282	3,733	2,804	2,663	2,729	2546.203
<b>Total Offshore</b>	<b>21869</b>	<b>21,254</b>	<b>20,061</b>	<b>18,421</b>	<b>18,204</b>	<b>18,923</b>	<b>19089.15</b>
<b>Grand Total</b>	<b>33690</b>	<b>37,685</b>	<b>38,086</b>	<b>37,862</b>	<b>37,788</b>	<b>37,461</b>	<b>36949.91</b>
Share of PSUs	28427	28003	27559	26222	25712	25676	25593.929
Share of Private/JV	5263	9682	10527	11640	12076	11785	11355.98
% Share of PSUs	84.38%	74.31%	72.36%	69.26%	68.04%	68.54%	69.27%
%Share of Private/JV	15.62%	25.69%	27.64%	30.74%	31.96%	31.46%	30.73%



## Country Crude Oil Production in last 5 Years (MMT)

Year	2011-12	2012-13	2013-14	2014-15	2015-16
ONGC	23.71	22.56	22.24	22.26	22.37
OIL	3.85	3.66	3.466	3.41	3.22
PSC	10.53	11.64	12.08	11.78	11.36
<b>Total</b>	<b>38.09</b>	<b>37.86</b>	<b>37.79</b>	<b>37.46</b>	<b>36.95</b>
ONGC % Contribution	62.25%	59.59%	58.85%	59.42%	60.54%
OIL % Contribution	10.11%	9.67%	9.17%	9.10%	8.71%
<b>PSC % Contribution</b>	<b>27.65%</b>	<b>30.74%</b>	<b>31.97%</b>	<b>31.45%</b>	<b>30.74%</b>

## Country Natural Gas Production in last 5 Years ( BCM)

Year	2011-12	2012-13	2013-14	2014-15	2015-16
ONGC	23.316	23.548	23.284	22.02	21.18
OIL	2.633	2.642	2.626	2.72	2.84
PSC	21.609	14.49	9.497	8.91	8.23
<b>Total</b>	<b>47.558</b>	<b>40.68</b>	<b>35.41</b>	<b>33.66</b>	<b>32.25</b>
ONGC % Contribution	44.23%	49.03%	57.89%	65.76%	65.67%
OIL % Contribution	4.50%	5.54%	6.49%	7.42%	8.81%
<b>PSC % Contribution</b>	<b>51.27%</b>	<b>45.44%</b>	<b>35.62%</b>	<b>26.82%</b>	<b>25.52%</b>



Refinery	Company	State	MMTPA
Jamnagar	Reliance (Pvt)	Gujarat	33
Jamnagar	Reliance (Pvt)	Gujarat	27
Essar Refinery	Essar (Pvt)	Gujarat	20
Kochi Refineries	BPCL (SoE)	Kerala	15.5
Visakhapatnam	HPCL (SoE)	Andhra Pradesh	15.3
Panipat	IOC (SoE)	Haryana	15
Paradip	IOC (SoE)	Odisha	15
Mangalore	ONGC (SoE)	Karnataka	15
Gujarat	IOC (SoE)	Gujarat	13.7
Mumbai Mahaul	BPCL (SoE)	Maharashtra	12
Guru Gobind Singh	HPCL (SoE)	Punjab	10.8
Manali	Chennai Petrol (SoE)	Tamil Nadu	10.5





**Table 2.4** ▶ Power generation capacity by type in India in the New Policies Scenario (GW)

	2000	2014	2020	2030	2040	Shares		CAAGR*
						2014	2040	2014-2040
<b>Fossil fuels</b>	<b>84</b>	<b>204</b>	<b>280</b>	<b>419</b>	<b>576</b>	<b>71%</b>	<b>53%</b>	<b>4.1%</b>
Coal	66	174	230	329	438	60%	41%	3.6%
Gas	11	23	41	76	122	8%	11%	6.6%
Oil	7	7	9	13	15	3%	1%	2.9%
<b>Nuclear</b>	<b>3</b>	<b>6</b>	<b>10</b>	<b>24</b>	<b>39</b>	<b>2%</b>	<b>4%</b>	<b>7.6%</b>
<b>Renewables</b>	<b>27</b>	<b>79</b>	<b>147</b>	<b>304</b>	<b>462</b>	<b>27%</b>	<b>43%</b>	<b>7.0%</b>
Hydro	25	45	58	83	108	15%	10%	3.5%
Wind	1	23	50	102	142	8%	13%	7.2%
Solar PV	0	3	28	100	182	1%	17%	16.4%
Other	0	7	11	18	30	3%	3%	5.5%
<b>Total</b>	<b>113</b>	<b>289</b>	<b>436</b>	<b>746</b>	<b>1 076</b>	<b>100%</b>	<b>100%</b>	<b>5.2%</b>

\* Compound average annual growth rate.



## Oil, Gas, Coal Reforms

- Amended Coal Act to allow private merchant coal operations.
- Additional pricing flexibility for diesel and natural gas.
- Adopted new “Hydrocarbon Exploration Licensing Policy (HELP)” to remove regulatory impediments in the sector.
- Related to HELP, created “Open Acreage Licensing Policy (OALP),” allowing firms to designate blocks which they wanted to develop.





## What Part of Energy Mix Not Encouraged?

- **Nuclear Power:** Cost, gestation periods, flexibility, and other clean forms of generation.
- **Hydropower:** A great deal of untapped hydropower, but less focus. Need to integrate grids so hydropower-rich states can sell power.
- **Natural Gas:** Some small steps to encourage production and use of gas, but modest compared to reforms in coal and renewables.



- **Will states pay bills for renewables?**
- **Will consumers pay full price for quality electricity?**
- **What direction will India take for vehicles? “All-in” for electric? Or a mix?**
- **Will India leverage natural gas as a “bridge?” Create a domestic market beyond Gujarat & Maharashtra?**
- **Will renewable developers keep bidding if market appears wobbly?**
- **Will foreign firms start bidding on oil & gas blocks?**
- **Will coal auctions be fully opened to the private sector, or remain dominated by Coal India and subsidiaries?**
- **Will the UDAY bailout program succeed? Will states make long-term decisions that aid viability of their grids?**
- **Will “Make in India” succeed, triggered energy-intensive growth?**



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