



ANALYSIS

Asia-Pacific

POWER GENERATION

The next China?

Strong GDP growth, coupled with some reforms at home, could make India a new engine of global energy demand / DAMON EVANS, Asia correspondent

STEPPING up to take China's place at the centre of global oil-demand growth is the rest of Asia, led by India's ballooning economy. The world's third-largest importer of crude could also become an important market for liquefied natural gas.

The macroeconomic picture is a source of hope for a hard-pressed oil market. India's GDP expanded 7.5% last year, faster than the 6.9% growth in China, according to official data. IHS Global Insight, a forecaster, predicts that India's economy will grow by an average of 7.6% every year until 2020, compared with an average of 6.7% over the past five years.

While markets remain focused on slowing Chinese end-product demand, Indian oil consumption also soared in 2015, posting a record average growth rate of 300,000 barrels a day, compared with

annual additions of 100,000 to 150,000 b/d over the previous decade. For the first time, Indian oil demand rose more quickly than China's.

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Anupama Sen, an India-focused expert at the Oxford Institute of Energy Studies (OIES), in her forthcoming report *India's oil demand: on the verge of take-off*, says that the South Asian nation is show-

ing trends that were visible in China around a decade or a decade-and-a-half ago, during the heyday of its industrial boom.

Car ownership – widely used to analyse oil-consumption patterns – in India is at about the level China hit a de-

old, beyond which motorisation rapidly follows.

Bolstered by cheaper cars, lower fuel prices, and solid financing options, India's passenger-vehicle sales are up 8% so far in the fiscal year ending 31 March. Growth rates are expected to be bigger next year. Lower oil prices have made cars more affordable for the growing middle class – expected to more than double by 2030 from 22% of the 1.3bn population today.

Another bullish factor is that India's oil intensity – the amount of crude it consumes per unit of GDP – is roughly 16% higher than China's. And its push towards expanding the share of manufacturing in its GDP from 15% to 22% by 2022, along with greater spending on infrastructure, implies that oil demand growth could exceed expectations. The industrialisation drive could add at least a third

cade ago, says Sen. India has just 40 cars for every 1,000 people, compared with 525 in Western Europe.

Demand growth But that is about to change. India's per capita income, in purchasing parity, is estimated to have breached the \$4,000 thresh-

Driving demand: The surge in India's auto industry has seen oil demand rocket – and jammed Kolkata's traffic

to present demand levels, says the OIES' Sen.

More tempered forecasts come from the International Energy Agency (IEA), whose base-case (New Policies) scenario sees Indian oil demand jumping by a fifth to 4.8m b/d in 2020, compared with 4m b/d in 2015. That is a strong rise in percentage terms, but could be less significant in terms of barrels.

"I definitely think we'll see strong Indian demand growth – maybe averaging around 4-5% over the next couple of years – but due to its small absolute size this won't likely outpace China in barrel terms, at least this decade," says Matthew Parry, a senior oil markets analyst at the IEA.

Despite plans to ration road use, coupled with a temporary ban on new diesel-car registrations in Delhi, oil demand in India remains strong, and will rise about 5.7% to 4.2 million barrels per day in 2016, a conservative estimate from the IEA shows.

"I know recently India has been strong but I don't think it's fully sustainable," said Parry recently.

Through sheer dint of its size and population, India nonetheless has the potential to provide the kind of demand-side shock that China did earlier this century.

Working on progress But first the country needs to sort out its massively insufficient infrastructure – a restraint that has existed for far too long, says Parry.

By 2040, the IEA expects Indian oil-import needs will reach 7.2m b/d, almost double the 3.7m b/d brought in in 2014. This would make it the world's second largest-importer behind China.

Transport fuels, which today make up 40% of total oil consumption, look likely to lead the surge in demand. Consumption has remained

robust, despite the removal of oil subsidies on all transport fuels.

Demand for diesel is particularly strong, making up some 70% of road-transport fuel use. This is a legacy of government subsidies that kept the price of diesel relatively low, until they were removed at the end

LNG, as the fall in oil prices and flood of supplies suggest a much more favourable price environment for Indian buyers in the medium term.

India imported 14m tonnes of LNG in 2015, up 5% compared with 2014. But the government forecasts demand will almost triple to 38 million

tonnes pulled off a coup recently, when it renegotiated the country's only functional long-term supply contract, cutting the price of gas delivered from Qatar from \$12 to around \$7/m Btu. The move is widely seen as the start of a major shake-up in global LNG. The availability of low-priced cargoes from the overflowing spot market should help boost demand now too.

New dominance Still, increased reliance on LNG needs more infrastructure. India has only four existing LNG import terminals, giving it a total import capacity of 20m tonnes a year. Twelve regasification projects are planned over the next five years that would add almost 60m t/y of new capacity. But it is unlikely the rate of growth will be sufficient for all projects to go ahead.

Meanwhile, as LNG prices fall, a parallel improvement in the cost efficiency of both gas and renewables is opening up the possibility for India of large-scale electrification through a combination of solar, wind and gas. That would in theory challenge coal's predominance as the provider of base-load power generation, according to the IEA's reports.

While this is feasible, a confluence of factors is needed to bring such a transformation. Domestic coal prices need to be lifted – the introduction of a carbon price would do this, and improve the case for gas too. Investments in renewables would need to be increasingly incentivised.

Lastly, LNG prices would need to remain relatively soft, an area beyond the control of Indian energy policy, even if policy-makers could create the right conditions for a more competitive domestic gas market right now.

Ultimately, sustained LNG prices in single digits would considerably ease the path for gas in the power supply. **PE**

The next big surge: Indian oil-product demand (m b/d)

	2014	2020	2030	2040
Ethane	-	0.1	0.1	0.2
LPG	0.5	0.7	1.1	1.4
Naptha	0.3	0.4	0.5	0.5
Motor gasoline	0.4	0.6	1.0	1.9
Kerosene	0.2	0.1	0.1	0.0
Diesel	1.4	1.8	2.6	3.5
Fuel Oil	0.1	0.2	0.2	0.3
Other products	0.8	1.0	1.4	1.9
Total	3.8	4.8	7.0	9.8

Source: IEA

Refined needs: India's oil balance (m b/d)

	2014	2020	2030	2040
Oil demand	3.8	4.8	7.0	9.8
<i>Of which fractionation products*</i>	<i>0.5</i>	<i>0.8</i>	<i>1.2</i>	<i>1.6</i>
Refinery products demand	3.2	4.1	5.8	8.2
Refining crude intake (refinery runs)	4.5	4.9	5.8	7.6
Domestic crude supply	0.8	0.6	0.4	0.4
Crude balance	-3.7	-4.3	-5.4	-7.2
Refined products balance	1.3	0.6	-0.2	-0.9
Fractionation products balance	-0.3	-0.5	-0.9	-1.1

*LPG and Ethane, as well as the portion of naptha/natural gasoline that is produced during gas fractionation

Source: IEA

of 2014. Gasoline prices were fully reformed in 2010.

India also has massive latent price-sensitive gas demand. Low gas prices – around \$4 per million British thermal units (Btu) – have deterred investment in domestic production, which is languishing. As a result, India is set to import increasing volumes of gas. It could even be the fastest-growing major market for

t/y by 2020. That seems too ambitious. LNG is still too expensive for power generation (even at \$6/m Btu), leaving coal as the preferred option. With imported LNG typically available only in an expensive \$10-14/m Btu range from 2012-14 – the business case for coal was superior, leaving gas with only a small role to play for the time being.

Indian LNG importer Petr-