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Global oil and gas discoveries reached a four year high in 2019

The world's oil and gas explorers powered ahead and discovered 12.2bn boe in 2019, the highest volume since 2015, according to estimates from Rystad Energy. Last year recorded 26 discoveries of more than 100mn boe, with offshore regions dominating the list of new oil and gas deposits.

Guyana's success story from 2018 continued in 2019, with ExxonMobil adding four new discoveries within its offshore Stabroek block, while Tullow Oil's Jethro and Joe exploration wells established the presence of a working petroleum system to the west of the block. Rystad Energy estimates that the discoveries in Guyana hold cumulative recoverable resources of around 1.8bn boe.

'ExxonMobil can be declared explorer of the year for a second year in a row thanks to its ongoing efforts and results in Guyana, along with significant investments in Cyprus. The super major was exceptional, both in terms of discovered volumes and value creation from exploration,' comments Palzor Shenga, a senior analyst on Rystad Energy's upstream team.

The US Company discovered around 1.07bn boe in additional net resources last year, Rystad Energy estimates the value creation from these volumes to be around $2.7bn, largely driven by the continued success in Guyana.

Off the coast of Mauritania, BP's Orca gas field was not only the largest single discovery, but also the deepest – water find of 2019, estimated by Rystad Energy to hold about 1.3bn boe of recoverable resources. Recent gas discoveries in the region now support plans to build an additional LNG hub in the Bir Allah area in Mauritania.

In Russia, Gazprom announced two discoveries in the Kara Sea – Dinkow in the Rusanovsky block and Nyarmeyskoye in the Nyarmeyskoye block. The company's 2019 discoveries are estimated to hold combined recoverable resources of around 1.5bn boe, with Dinkow ranked as the second largest find in 2019 worldwide.

Other key offshore discoveries in 2019 include Total's Brulpadda in South Africa, ExxonMobil's Glaucus in Cyprus, and CNOOC's Glengorm in the UK and Equinor's Sputnik in the Norwegian sector of the Barents Sea.

Despite this, many of 2019's high – impact wells turned out to be duds, reports Shenga. 'Although the discovered volumes for 2019 surpassed the preceding year, it was a disappointing year for high profile wells as many prospects with significant estimated pre – drill resources failed to deliver. Over 10bn barrels of estimated pre – drill volumes were at stake in wells that failed to encounter hydrocarbons.'

US independent Hess and Chinese state player CNOOC occupy the second and the third spots on the list of list of top explorers of 2019 in terms of value creation from new discoveries, with both benefiting from their partnership with ExxonMobil in Guyana's Stabroek block. Hess added about $2 in value from new discoveries last year, while CNOOC had value creation of about $1.8bn.

French major Total took fourth place, with about $873mn in value creation from its 2019 exploration activities. 'Total's value creation from exploration in 2019 was largely driven by the play – opening success with the Brulpadda find in South Africa,' says Shenga.

In 2020, Rystad Energy expects the global discovered volumes to continue the rising trend of recent years, with the list of upcoming wildcats including several high – impact wells along with some promising probes delayed from 2019.

Equinor aims to cut emissions in Norway towards near zero

Equinor has launched new climate ambitions to reduce the absolute greenhouse gas (GHG) emissions from its operated offshore fields and onshore plants in Norway by 40% by 2030, 70% by 2040 and to near zero by 2050. This implies annual cuts of more have 5mn tonnes by 2030 corresponding to around 10% of Norway's total CO2 emission.

Commenting on the announcement, Eldar Saetre, CEO of Equinor, said: 'Equinor supports the Paris Agreement and a net zero target for society – Collaboration is key to combat climate change. We appreciate the close cooperation with our industry partners and suppliers, and to realise these ambitions we need even closer collaboration across industries and with authorities. We plan investments in the order of NKr50bn together with our partners by 2030 to cut emissions in order to strengthen the long – term competitiveness for long – term competitiveness for our fields and plants. In setting these ambitions Equinor has assumed stable framework conditions and necessary investments in the electricity grid.'

Total emissions for Equinor operated fields and plants in 2018 were around 13mn tonnes, approximately the same level as in 2005. The ambition will cover all GHG emissions from offshore fields and onshore plants operated by Equinor in Norway, including both Scope 1 and Scope 2 emissions of CO2 and Methane. Since methane emissions are very low at the Norwegian Continental Shelf, the CO@ emissions in the predominant part, notes the company.

A 40% reduction by 2030 will be realised through large – scale industrial measures, including energy efficiency, digitalisation and the launch of several electrification projects at key fields and plants, including the Troll and Oseberg offshore fields and the Hammerfest LNG plant. Further reduction ambitions towards 70% in 2040 and close to zero in 2050 will entail additional measures, further electrification projects, consolidation of infrastructure as well as opportunities to develop new technologies and value chains.

By 2050, Equinor expects Norwegian oil and gas production to be less than half of current levels, assuming development of the defined projects ahead of it, substantial efforts to increase production from existing field and continued exploration. The company says it aims to utilise its capabilities within innovation, technology and large – scale industrial solutions to develop new competitive value chains. Currently Equinor is pursuing and maturing opportunities within offshore wind, carbon capture and storage, and emissions – free hydrogen based on natural gas.

'The ambitions will support the development of new value capture and storage and help ensure that the Norwegian Continental Shelf and onshore plants can play an important role and creative value in a world with net zero emissions,' states Equinor.

BP has agreed terms to sell its interests in the Andrew area in the central UK North Sea and its non – operating interest in the Shearwater field to Premier Oil for $625mn. The sales are the latest step in BP's planned programme of $10bn divestments by the end of 2020. The deal includes BP's operated Andrew assets - comprising the Andrew (62.75%), Arundel (100%), Cyrus (100%), Farragon (50%) and Kinnoull (77.06%) fields and associated subsea infrastructure. The company holds a 27.5% stake in the Shell operated Shearwater field.

Senegal recently launched its 2020 licensing round, comprising 12 blocks in the offshore MSGBC Basin. Meanwhile, Woodside and partners have signed a joint final investment decision regarding the Phase 1 development of the Sangomar field offshore Senegal, which will target estimated proven plus probable (2P) recoverable oil reserves of 231mn barrels (gross). Total recoverable oil resources are estimated to be approximately 500mn barrels over the life of the field. Gas exports to shore are also planned.

US and China pause trade war

After more than a year of trade tensions, the US and China signed a 'Phase one' trade deal on 16 January 2020. As part of the deal, China has agreed to increase the value of energy imports by $52.4bn above 2017 levels over the next two years. What could this mean for the oil market?

Ann – Louise Hittle, Vice President, Macro Oils at Wood Mackenzie says: 'This trade deal is beneficial to the broader global economy, but well have limited impact on the global oil market and the Asian regional refining market, Larger purchase of US crude oil exports will be the primary method for China to comply with this agreement, but a $52.4bn increase in energy imports from the US over two years is going to be challenging, especially as LNG and LPG will play a minor role in plugging the gap.'

In 2017, China imported about 300,000 b/d of US crude oil, valued at close to $5.8bn, she notes.

'In a free trade market, our proprietary Refinery Supply Model suggests that an optimal volume of US crude imports for China is only about 400,000 b/d in 2021. Despite the continued growth of US oil exports, China's appetite for US tight oil is limited given that its deep conversion refineries are designed to process medium / heavy crudes from the Middle East and Latin America. With the new trade deal, preliminary estimates suggest that China would need to import an average of about 1.1mn b/d of US crude would be next two years. China would be able to absorb these US volumes, however, as they would make up only 11% of total crude imports.

US crude prices are unlikely to be affected by the deal, Hittle says, because they are already discounted to reflect the cost of transport to other Asian nations.

'The deal does pose a challenge for OPEC producers such as Saudi Arabia, who aim to maintain market share in growing Asia oil markets – especially China,' she adds.

'Assuming China in committed to the deal, discounting OPEC barrels to maintain market share will be ineffective. Instead, we would expect to see a shuffling of global crude trade, with the crude shipping sector benefiting from the growth in long – haul trade. OPEC will need to send volumes to other nations in Asia and to Europe, backfilling those US barrels that are now heading to China.'

At present, China imposes a 5% tariff on US crude imports and has not indicated whether waivers or exemptions to the tariff will be offered. If it remains in place, the tariff could hit refining margins.

Alan Gelder, Vice President, Refining says: 'This would discourage the country's independent refiners from processing large volumes of US crude. Chinese NOCs with large integrated refinery and petrochemical sites are most likely to process the extra US volumes. These sites have more flexibility to manage shifts in product yields resulting from the increase in lighter crudes and they have the strongest competitive positive, so are best able to absorb the cost impact.'

Middle East uncertainties remain

The US and Iran seem to have stepped back from the brink of armed conflict, after Iran fired more than a dozen missiles at two airbases housing US and coalition troops at Irbil and Al Asad, west of Baghdad, Iraq, on 8 January 2020, according to media reports. Oil prices rose above $70/b, their highest level since mid – September 2019, after the attacks, which came just hours after the burial of General Qasem Soleimani, who was killed the previous week after a US air strike on an airport in Baghdad. Safe haven assets, such as gold and the Japanese yen, also rose shortly after the attacks. Prices subsequently stabilised after markets settled.

However, uncertainties remain after the UK, France and Germany triggered a dispute resolution process a week later that could lead to United Nations sanctions being reimposed on Iran and see the collapse of the 2015 nuclear deal. It is understood the move was prompted by fears that Iran might be less than a year away from possessing the capacity to develop a nuclear bomb. The three countries said they rejected Iran's argument that it was justified in violating the deal because the US broke the 2015 agreement by pulling out unilaterally in 2018. 'We have therefore been left with no choice, given Iran's actions, but to register our concerns that Iran is not meeting its commitments,' the countries said in a joint statement.

Meanwhile, many oil and gas companies face serious decisions regarding their short and mid – term plans in Iraq, where 5,000 US troops are stationed and tensions remain high, reports Rystad Energy.

Iraqi oil production averaged more than 4.8mn b/d in 2019, of which about 1.8mn b/d stemmed from the country's domestic and state – owned players. International oil companies (IOCs) were thus responsible for the lion's share of production – in the region of 3mn b/d. Companies headquartered in China collectively produced more than 1mn b/d, while UK E&P companies produced beyond 630,000 b/d and Russia players had combined average output of around 330,000 b/d, according to the market analyst. PetroChina and BP had the largest working interest production for overseas companies, at 880,000 and 606,000 b/d, respectively. US – based companies collectively produced about 180,000 b/d on average last year, led by ExxonMobil with nearly 106,000 b/d.

'ExxonMobil spent more than $250mn last year on its Iraqi upstream operations, and we have projected that this number would likely be ramped up by an additional $150mn over the next five years as the company aims to increase production through 2024. However, any spending plans in Iraq are likely to be under review given the current circumstances,' says Mathew Fitzsimmons, Vice President Oilfield Research at Rystad Energy. He reasons that ExxonMobil could ultimately decide to divert a portion of its Iraqi spending budget to other regions where the company is investing heavily in production growth, such as Guyana's offshore sector and the US shale industry.

Among the major oil companies in Iraq, BP has emerged as a clear leader. Before the recent flaring of tensions, BP had been expected to allocate about 4% of its annual $25.6bn global oil and gas spending budget towards projects in Iraq. The company has managed an ambitions water injection programme that is helping to boost its output and make BP the third largest producer in Iraq, but the fate of this programme could now be uncertain.

'Continued tensions in the region could see BP slow down their water injection programme, and limit the high – side of production for the company and for other international players in southern Iraq,' says Fitzsimmons.

After spending nearly $1bn in 2019 on its Rumaila North and South project, BP was expected to raise its capex to $1.2bn by 2024. This would have seen BP's onshore Iraqi oil production eclipse 725,000 b/d by 2024. 'Putting this into context, that tally would be about 70,000 b/d higher than BP is poised to produce from the US shale sector in 2024, and Iraq would emerge as the company's largest

production of one energy resource type in a single country. Only by combining offshore, onshore and shale in the US, could BP's working interest production in there outweigh its expected interests in Iraq,' states Fitzsimons.

Europe's Green deal proposes economic overhaul to tackle climate crisis

The newly appointed President of the European Commission (EC), Ursula von der Leyen, has unveiled plans to make Europe the world's first 'climate neutral continent' by 2050. Announced in December, the EU's so-called Green Deal outlines a step – by – step suite of initiatives aimed at facilitating the transition to a net zero economy.

Its first act will be put this into motion in early 2020 with the introduction of a 'Just Transition Mechanism' – a €100bn investment into the regions most exposed to the financial and social risks of the EC says, are highly dependent on fossil fuels and carbon – intensive industry. The funding will broadly go towards reskilling workers and stimulating carbon neutral economic activity in the areas deemed most vulnerable.

The EC has vowed to introduce new laws in March 2020 which will formally enshrine the carbon neutrality by 2050 target. Green Deal plans will also see lawmaker's reduction plans in the middle of year. According to official documents, this will include setting a binding target to slash emissions by at least 50% below 1990 levels by 2030. The existing target, which was adopted in October 2014, mandates cuts of 40%. The ECs strategy includes 50 separate policy measures to be rolled out over the next years. However, these are likely to be met with opposition from some of the bloc's coal – dependent eastern states. Poland, Hungary and the Czech Republic initially refused to sign up to the carbon neutrality by 2050 target, though the latter two were eventually brought on board.

Environmental groups largely welcomed the Green Deal announcement, although some criticised its timelines for decarbonisation.

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'This is Europe's man on the moon moment,' von der Leyen said in a video statement at the Green Deal's launch, adding: 'Our goal is to reconcile the economy with our planet. The old growth model

that is based on fossil fuels and pollution is out of date and out of touch with our planet. It will be a long and bumpy road. But we are determined to succeed.'

The Commission's strategy includes 50 separate policy measures to be rolled out over the next three years. However, these are likely be met with opposition from some of the bloc's coal – dependent eastern states. Poland, Hungary and the Czech Republic initially refused to sign up to the carbon neutrality by 2050 target, though the latter two were eventually brought on board.

Poland's Prime Minister, Mateusz Morawiecki, told the press that he had worked to secure an exemption for his country on the climate neutrality target, which it would aim to meet at its own pace. Meanwhile, environmental groups largely welcomed the Green Deal announcement, though some criticised its timelines for decarbonisation.

'The urgency expressed on the streets and by the science is still missing,' says Imke Luebekke, Head of Climate at the WWF European Policy Office. 'The EU must increase its 2030 climate target to 65% in early 2020 to show the world it is moving and inspire others to do likewise. The climate cannot wait.'

The EU's Green Deal comes as public concern about the climate crisis builds to an all – time high. Last year saw numerous climate – linked catastrophes – from wildfires in California and Australia to flooding in Venice – dominate headlines around the world.

Late surge helps 2019 renewable investment to surpass 2018 total

Investment in renewable energy capacity worldwide rose to $282bn in 2019, increase of 1% compared to 2018 levels, according to the latest research from Bloomberg New Energy Finance (BNEF).

A relatively slow start to the year, and a slowdown in financing in China, was outweighed by a busy second half of the year and substantial investments in the US, which hit a new record for renewable investment.

Wind power projects received the most investment, with $138bn globally, up 6% from 2018. Solar was close behind, at $131bn, down 3%. Falling capital costs in wind and solar meant that the two combined are likely to have seen around 180 GW added last year, up some 20 GW on 2018.

Offshore wind was a particularly strong area of growth, receiving nearly $30bn in investment – a 19% increase from 2018 and $2bn more than the previous record year of 2016. Among the offshore projects reaching financial close in the fourth quarter were the 432 MW Neart na Gaiothe array off the Scottish coast, the 376 MW Formosa II Miaoli project off Taiwan and the 500 MW Fuzhou Changle C installations in the East China Sea.

Tom Harries, Head of Wind Research at BNEF, commented: 'Offshore wind developers in China brought forward 15 projects to beat a scheduled expiry of that country's feed – in tariff. We expect the sector's global momentum to continue in 2020, with the focus on GW – scale projects in the British North Sea and the first commercial arrays off the US East Coast.'

Among the smaller sectors, biomass and waste – to – energy saw $9.7bn of capacity investment in 2019; geothermal languished on $1bn, down 56% from the previous year; biofuels were down 43% to an estimated $500mn, and small hydro was 3% lower at $1.7bn.

Despite an 8% fall in renewable investment to $83bn, BNEF says that China was yet again the biggest investor globally. It saw a 10% rise in wind investment to $55bn, but solar fell 33% to $26bn, less than a third of the 2017 boom figure.

The US was the second – largest investing country in renewable energy capacity at $56bn, up 28% on 2018. Instrumental in this was a rush by wind and solar developers to qualify for federal tax credits that were due for scale – back in 2020.

'It's notable that in this third year of the Trump presidency, which has not been particularly supportive of renewable US clean energy investment set a new record by a country mile,' said Ethan Zindler, Head of Americas for BNEF. 'These technologies are more cost – competitive than ever, and the fact that there was a tax credit step – down on the horizon made the market particularly busy in 2019.'

Hydrogen fuel cells surpass 1 GW milestone

The hydrogen fuel cell sector surpassed the coveted gigawatt milestone last year – with more than 1 GW of capacity shipped worldwide – thanks largely to growing demand for zero emission vehicles.

According to energy consultancy E4tech's annual Cell industry report, Japan's Toyota and South Korea's Hyundai account for two – thirds of the total added fuel cell capacity. Once the expanding markets for hydrogen – powered buses, trucks and vans are factored in, vehicles account for more than 900 MW of the 1.1 GW total.

The reminder of the growth figure is made up of Stationary fuel cell systems – primarily power generation units in South Korea and the US – as well as the many thousands of small CHP units installed in apartments in Japan.

With 680 MW of added capacity, Asia is still the largest market for fuel cells of any kind. This is largely because of the success of Hyundai's NEXO SUV in its native Korea, as well as the expanded use of fuel cells in Korean power generation. Meanwhile, fuel cell vehicles deployed more widely across Asia – including trucks and buses in China – constitute 50% of the total shipped fuel cell capacity worldwide.

'Mayors around the world are worried about air quality and health concerns from diesel, which helps fuel cell buses and trucks,' says David Hart, Director, Fuel Cells & Hydrogen at E4tech. 'At the same time, the broader hydrogen sector is starting to expand as recognition grows that some applications, like heat, well be difficult to fully electrify. This supports and complements fuel cell growth.'

Hyundai's NEXO is proving to be something of a global powerhouse as fuel – cell vehicles go: the car also accounts for some of the growth in European capacity, which rose from 41 MW to 69 MW in 2019. Not to be outdone, in mid – January Honda Motors announced that it was teaming up with fellow Japanese automaker isuze to research the use of hydrogen fuel cells in heavy duty trucks.

Outside of Asia, the world's largest hydrogen fuel market in North America which recorded a shipped capacity of 384 MW. While this figure is down slightly from 425 MW in 2018, E4tech expects it to rebound this year.

'To succeed, the fuel cell industry will need to see the supply chain mature quickly enough to deliver on expectations, and to allay any remaining safety concerns,' Hart explains. 'But the opportunity is

huge, big players are investing very seriously in hydrogen, putting the pieces into place to make it work.'

Maritime majors come together for ammonia – fuelled ship

Four leading firms from across the global shipping industry have joined forces to develop a vessel that can run on ammonia. The announcement comes as the maritime sector is grappling with increasing regulatory pressure to develop clean alternatives to polluting heavy fuel oil.

According to the NGO Transport & Environment, large ocean going ships will require liquid hydrogen and liquid ammonia, produced with zero emission electricity, to fully decarbonise. Issues with weight and energy storage mean that batteries are a practical solution only for predictable, short – sea routes.

The new initiative – which brings together engine manufacturer MAN, shipbuilder Samsung Heavy Industries, classification society Lloyd's Register and maritime energy services company MISC Berhad – will aim to develop ammonia – fuelled tanker.

The International Maritime Organization (IMO), the UN Agency responsible for regulating shipping, has called for a reduction in the industry's greenhouse gas emissions of at least 50% by 2050 compared with 2008 levels.

'We all know that the industry – wide movement is vital, and new zero carbon fuel technologies, such as ammonia fuel, are to be brought on the table, in order to take action proactively on maritime greenhouse gas emissions in accordance with the IMO's ambitious road map,' says Joon Ou Nam, President & CEO of Samsung Heavy Industries.

International shipping currently accounts for 2.2% of global carbon dioxide emissions, according to figures from the IMO – just a fraction more than aviation's current 2% share.

Germany announces eventual exit from coal power

Chancellor Angela Merkel's government, and representatives of Germany's four major mining states, have negotiated a plan to phase out coal – fired power generation by 2038 at the latest.

The agreement sets out a timeline for decommissioning lignite coal power plants in the states of North Rhine – Westphalia, Saxony, Saxony – Anhalt and Brandenburg, and lays out financial measures to ease the transition for the governments and utility firms involved.

Some 20,000 people are employed in Germany's lignite, or brown coal, industry – with 15,000 working in open – pit mines and 5,000 in coal – fired power plants. At present, coal also provides about one – third of the country's electricity and is responsible for a major share of its greenhouse gas emissions.

Under the new plan, the national government will offer €40bn to the affected states to aid their switch to other forms of electricity generation – and bolster their economics while doing so. Meanwhile, energy firms will receive a €4.4bn payout for shuttering coal power stations before the end of their operational lives.

In response to the agreement, RWF, Germany's largest electricity producer, has said that it will have to cut 3,000 jobs in the short term. By 2030, it anticipates that some 6,000 jobs will have been cut from the coal production and electricity generation arm of its business.

The German government has arranged for RWE to receive a €2.6bn compensation payment over the next 15 years. But the company has noted that this figure is much lower than the €3.5bn in financial damages that it predicts it will suffer.

'We will bear the majority of the burden the German government demands for the coal phase – out,' says Dr. Rolf Martin Schmitz, CEO of RWE. 'We were well aware that a consensus solution was needed in order to contribute to solve a social and political conflict, to achieve the climate protection goals and, last but not least, to regain planning security for our company. The consequences for our employees and our company are tremendous.'

Under the agreement, a new coal – fired power plant, Datteln 4, will still be allowed to enter operation this year and the Garzweiler opencast mine in western Germany will be expanded as previously planned. This has brought criticism from environmentalists who have campaigned for the imminent closure of all German coal facilities.

Martin Kaiser, the Managing Director of Greenpeace Germany, said: 'Nothing shows more clearly than Datteln 4 that this government can't find an answer to the climate crisis.'

Meanwhile, Germany also plans to shut down its six remaining nuclear power stations in the next two years. It has closed 11 nuclear plants since 2011, when the Fukushima disaster prompted the government to turn away from fission energy.

Since then, studies have suggested that the public health consequences in the country. One working paper published recently by the US – based National Bureau of Economic Research found that keeping the nuclear plants running would have saved the lives of 1,100 people per year who die because of air pollution from coal – fired generation.

Now, Germany must figure out how to expand its renewable capacity to make up for lost coal and nuclear assets. The government has set a target of generating 65% of Germany's power from renewable by 2030.

'We are the first country that is exiting nuclear and coal power on a binding basis and this is an important international signal that we are sending,' said the country's Environment Minister, Svenja Schulze, ahead of the coal deal announcement.

India makes progress on energy access, needs 'ambition' on efficiency – IEA

Improvements to energy efficiency mean that India avoided 15% of additional energy demand – as well as 300mn tonnes of greenhouse gas emissions – between 2000 and 2018, according to research from the International Agency (IEA).

In its first review of the country's energy policies, the IEA highlighted the fact that India's energy demand is set to double by 2040, and its electricity demand may triple. Indian oil consumption is also expected to grow faster that of any other major economy.

Around 700mn people in India gained access to electricity between 2000 and 2018, which the report says reflects strong and effective policy implementation by government. Meanwhile, the country's electricity security has improved significantly through the creation of a single national power system, as well as major investment in thermal and renewable capacity.

‘India’s energy policy is a global story,’ says Shri R K Singh, the country’s Minister for Power and Renewable Energy. ‘India has the largest unified power grid that operates in single frequency. India has moved from scarcity to surplus electricity over the past few years while implementing the largest and the fastest energy access and energy efficiency programmes in the world.’

Recent IEA analysis showed that in 2018, India’s investment in solar PV was greater than in all fossil fuel sources of electricity generation combined. However, the report says that a diverse range of energy flexibility investments is now needed to successfully integrate variable renewable capacity.

This flexibility is available from the country’s large – and rapidly expanding – coal fleet, natural gas capacity, variable renewable themselves, energy storage, demand – side response and power grids.

Coal continues to be the largest domestic source of energy supply and electricity generation in India.

As air pollution regulations grow more stringent, the IEA says that new coal plants that are more efficient and lower in emissions will be better – positioned for economic viability. An efficient coal sector will not only be important for electricity generation, according to the report, but also for industrial development in areas such as steel, cement and fertilisers.

Rapid and continued improvements in energy efficiency will by key to consolidating the gains India has made in terms of electricity access.

The country will need to add massive amounts of power generation capacity to meet demand from the 1bn air – conditioning units it’s expected to have by 2050.

By raising its level of ambition on energy efficiency, the IEA predicts that India could save some $190bn per year in energy imports by 2040 and avoid electricity generation of 875 TWh per year – almost half of its current annual power generation.

With a population of 1.4bn and one of the world’s fastest – growing major economics, Dr Fatih Birol, the Executive Director of the IEA, says that ‘The energy choices that India makes will be critical for Indian citizens as well as the future of the planet.’