Report: Clear CCUS policy needed for UK net-zero emissions goal

The UK Government should update its “vague terminology” on carbon capture usage and storage (CCUS) deployment in the UK to create clear policy drivers that transform the technology into a primary tool to meet national and international climate change targets.

That is one of the key takeaways from the Business, Energy and Industrial Strategy (BEIS) Committee’s new report, released today (25 April) which notes that the UK could not credibly adopt a net-zero emissions target with CCUS playing a key role.

The UK Government has confirmed that it is seeking advice from the Committee on Climate Change (CCC) on how best to bolster its carbon reduction targets and create a net-zero economy, with a formal response from the CCC set to be published next week.

The report notes that a failure to deploy CCUS in the UK could double the costs of meeting the 80% emissions reduction envisioned through the Climate Change Act, rising from approximately 1% of GDP annually to 2% in 2050.

The report notes that the UK has a "favourable environment" to establish CCUS as a technology. Five clusters – Teesside, Humberside, Merseyside, South Wales, North East Scotland – have been identified as well suited to early CCUS deployment, which aligns to Energy Minister Claire Perry's vision of a "just and fair" low-carbon transition across all areas of the UK.

However, policymakers have been criticised over their approach to CCUS. A stark warning from the CCS taskforce was issued based on the need to move timeframes forward for CCUS. The taskforce criticised ministers for closing the £1bn competition fund for CCS in 2015, citing claims that the decision could cost the UK an additional £30bn if it is to meet its 2050 carbon targets.

The new report analyses commitments made under the Clean Growth Strategy, which committed up to £20m for viable CCUS schemes as the UK forges ahead with its coal plant phase out by 2025.

Late last year, the UK Government unveiled plans to "make CCUS technologies a reality", including an aim to bring the nation's first large-scale CCUS facility online by the mid-2020s. However, government ambitions largely focus on using CCUS as an add-on for current power generation methods. The BEIS Committee report claims that it can instead be a key tool for decarbonisation and "presents an opportunity to reduce the overall cost of meeting the UK's emissions reduction targets".

"Whilst we strongly support cost minimisation, we disagree with the CCUS Action Plan's stipulation that deployment 'at

scale' should be supported only if 'sufficient' cost reductions are achieved. Such vague terminology gives no certainty to investors and does little to ensure that CCUS can contribute to meeting the UK's overarching climate change targets at least cost, given its existing status as the cheapest – or only – decarbonisation option in many industrial applications," the report states.

Benefit analysis

Specifically, the report called for an urgent consultation to allocate funding for CCUS industry clusters, ideally ahead of future Contract for Difference (CfD) auctions. The forthcoming Comprehensive Spending Review should also focus on CCUS, the report states, in order to denote its wider benefits in extending lifetimes for select industries that would otherwise be decommissioned under national climate policy requirements.

The Committee also recommends the Government task the National Instructure Commission – or a third party – to conduct cost-benefit analysis as to how CCUS can be used to decarbonise industrial emissions.

Anna Turley, Labour MP for Redcar and Member of the Business, Energy and Industrial Strategy Committee, said: "The UK has an opportunity to lead the world in the development of a new CCUS industry. In addition to helping to tackle UK carbon emissions, CCUS can play a crucial role in delivering much-needed investment in skills and infrastructure and supporting regional growth and jobs.

"The current Energy Minister has been a champion for CCUS, and there have been some encouraging recent developments, but the CCUS industry has been the victim of years of turbulent policy support and suffered a series of false dawns. The Government now needs to give the 'green light' to CCUS and ensure that we seize the domestic growth and jobs opportunities of this modern, green industry."

Italy’s fiscal dispute with EU might resume after debt exceeds forecasts

Reuters/ Brussels

Public debt in Greece and Italy, the two most indebted countries in the eurozone, grew last year while the bloc as a whole saw its liabilities decrease, the European Union statistics office said yesterday.

Rome’s growing debt, which is also higher than Brussels had predicted, is seen as further stretching EU fiscal rules that require countries with high debts to gradually bring them down.

Italy, whose eurosceptic government adopted free-spending policies last year that have so far had little impact on growth, had debt equivalent to 132.2% of national output in 2018, or €2.3tn ($2.5tn), up from 131.4% in the previous year,

Eurostat said.
Up to 0.2% of the Italian debt was due to derivative contracts, which are usually used to hedge against risks but triggered losses for 4.7bn euros in 2018, Eurostat data show.
Other eurozone countries have reduced their debt thanks to derivatives.
Although Rome has decreased its losses on derivatives from the €5.4bn posted in 2017, the negative impact over the country's debt has exceeded 25bn since 2015, data show.
The European Commission, which monitors eurozone states' budgets, refrained in December from starting disciplinary steps against Italy over its growing debt. It predicted then that Italian debt would be 131.1% of gross domestic product in 2018 – lower than yesterday's data showed.
The Commission has said it will reassess Rome's compliance with EU fiscal rules, including the requirement to cut debt, in June, taking into account the final debt data from Eurostat.
A spokeswoman for the EU executive declined to comment on the new figures released by Eurostat.
She said Brussels' new evaluation of Italy's position will also be based on new forecasts due in May of debt developments, and on Italy's report on its fiscal plans for the next three years which Rome had just submitted.
Italy's 10-year government bond yield jumped to its highest in seven weeks yesterday, pushed up mostly by unease over government infighting and an upcoming ratings review.
Italy bucked the eurozone trend, as overall debt in the 19-country currency bloc fell to 85.1% of GDP last year from 87.1% in 2017, Eurostat said.
The bloc's aggregated budget deficit also dropped to 0.5% of GDP from 1.0% in 2017.
The fall coincided with Germany's reduction of its debt to 60.9% of GDP, from 64.5% in 2017.
The bloc's largest economy also widened its public surplus to 1.7% of output from 1.0% in 2017.
In Greece, debt climbed to 181.1% of GDP in 2018, the largest

ratio in the eurozone.
The increase from 176.2% in 2017 was mostly due to the last instalment of eurozone creditors' loans as part of the country's third bailout programme which ended last summer.
The recent exit from the bailout programme exempts Greece from the normal application of EU rules that require countries with public debt above the 60% of GDP threshold allowed by EU law to cut the excess by 5% a year. Cyprus, another of the bloc's most indebted countries, saw its debt rise to 102.5% of GDP from 95.8%.
Portugal, which was also bailed out during the eurozone's debt crisis, saw its debt fall to 121.5% of output from 124.8%, while Belgium's debt declined to 102.0% of GDP last year from 103.4% in 2017.
French public debt was stable at 98.4% of output, while the country's budget deficit dropped to 2.5% of GDP from 2.8% in 2017.

GECF lecture focuses on climate change impact on environment

Doha

The Gas Exporting Countries Forum's (GECF) Monthly Gas Lecture in Doha focused on climate change and was led by two experts from Unesco and Qatar University.

The lecture held at the forum's headquarters was a result of the collaboration between Unesco's local office and Qatar University.

In his introduction, GECF secretary-general Dr Yury Sentyurin said, "It is not because we are in this industry that we are not focused on the environment. Quite the contrary. Natural gas is the cleanest fossil fuel and contrary to what some people's perception is, one of the safest fuels overall. Compared to other fossil fuels, natural gas releases the lowest amount of carbon dioxide into the air after combustion, in fact, 50% less than coal and 20%-30% less than oil."

"We consider it as our duty to act within the limits of our authority to reverse the consequences of climate change," Sentyurin added.

Donia Abdelwahed, programme assistant (Science) at the Unesco Cluster Office for GCC and Yemen provided an introduction on

Unesco’s work in the field of natural resources management and response to climate change.

Donia said, “We are all to a certain extent responsible for climate change and its impact on the environment. As a society we are all jointly suffering its consequences too.”

She pointed out that “it is part of Unesco’s role to urge stakeholders to strike a balance between development and preservation so that future generations can enjoy the same things we have been able to.”

In the light of their work towards achieving the UN’s Sustainable Development goals, an objective shared by the GECF, Unesco’s Qatar office is collaborating with Qatar University on preservation of the coral reef ecosystem in Qatar.

In line with this, the second part of the lecture was done by Dr Radouan Ben-Hamadou, associate professor (Marine Science) and head, Department of Biological and Environmental Sciences at Qatar University.

The lecture entitled “The use of decommissioned oil and gas platforms for the restoration of the coral reef ecosystem in Qatar” was introduced by Donia.

Ben-Hamadou’s presentation explored the feasibility of the ‘rigs-to-reefs’ concept in Qatar, which turns decommissioned oil and gas platforms into artificial reefs.

He said that even though corals can adapt to extreme environments, they have “reached a breaking point” and are “dying at a rapid rate”.

But he also mentioned that before any changes can be suggested, they need to understand the working of the ecosystem.

This is why they have been working for several years in

collaboration with all stakeholders, including industry, to see how man-made structures can be turned from a threat into an opportunity.

Great strides have been made in the process and the opportunity could be a win-win situation for all parties involved, as the rigs-to-reef project will not only restore the ecosystem but could also provide significant savings on decommissioning costs for oil and gas companies.

GECF said, “Considering the forum represents 19 gas producing and exporting countries, jointly covering 70% of the proven global gas reserves, this research is clearly relevant to the GECF. Therefore, in his closing remarks, Sentyurin expressed his support of the initiative and his desire to enhance the Secretariat’s collaboration with Unesco’s Doha office.”

Chevron set to buy Anadarko for $33bn in shale, LNG push

Chevron Corp yesterday said it will buy oil and gas producer Anadarko Petroleum Corp for $33bn in cash and stock in a deal that doubles down on its bet on US shale and propels the company into the ranks of the world's "supermajor" crude producers. The deal makes Chevron the sec- ond-largest major by crude produc- tion, behind Exxon Mobil Corp, up from fourth. It expands Chevron's role in two areas where US energy output is surging — shale from the Permian Ba- sin of west Texas and New Mexico, and liquefi ed natural gas (LNG) — which have helped make the US one of the world's largest energy exporters. "Chevron now joins the ranks of the UltraMajors — and the big three be- comes the big four," said Roy Martin, senior analyst at consultants Wood Mackenzie. "The acquisition makes the majors' peer group much more polar- ised. ExxonMobil, Chevron, Shell and BP are now in a league of their own."

US crude production stands at a record 12mn barrels a day (bpd), and the nation is the third-largest producer of LNG, the super-cooled fuel that is see- ing record demand as a cheaper, cleaner alternative for countries that still rely heavily on coal for power generation. Chevron's pledge to restrain expendi- tures has make it a favourite among en- ergy

stocks, with its shares up 13.8% this year. It plans to sell some $15bn in assets over time to off set the Anadarko deal. Still, investors sent Chevron shares down 5.2% to $119.44 yesterday. Chev- ron chief executive Mike Wirth called the deal a “great fi t” for the company. “This is really about creating share- holder value,” Wirth said in an inter- view. “It’s a great combination.

That’s what drives this.” The deal is the oil industry’s largest since Royal Dutch Shell bought BG Group in 2016, and it sparked speculation that other shale producers are in play. Shares of Apache Corp, which also has extensive acreage in the Permian Basin, rose 1.8%, while Pioneer Natu- ral Resources Co jumped 9%. With oil prices surging this year, Chevron and larger rival ExxonMobil have been in- creasing investment in the Permian Basin, the most prolifi c shale oil fi eld in the country. Their eff orts coincide with a pull- back by the smaller companies that revolutionised the industry through advances in horizontal drilling and hydraulic fracking. They have had to curtail spending due to investor dissat- isfaction with weak returns. Chevron, which already has 2.3mn acres in the Permian Basin, said the Anadarko deal would give the com- bined company a 75-mile (120-km)- wide corridor across the Permian’s Delaware basin, on the Texas-New Mexico border. “We will now see Chevron emerging as the clear leader among all Permian players, both in terms of production growth and as a cost leader,” said Rys- tad Energy head of analysis Per Magnus Nysveen, noting that Anadarko’s acre- age is in the “sweetest spot” of the Per- mian’s Delaware Basin. Anadarko also has a Mozambique LNG project, part of one of the indus- try’s largest planned current invest- ments, which Wirth said he still ex- pects to move to fi nal approval “sooner rather than later” this year.

Expenses from that project are ex- pected to reach $4bn over several years. The tie-up with Anadarko adds to Chevron’s deepwater investments in the Gulf of Mexico and gives it a

stake in growing oil and gas production in the US Rocky Mountains in Colorado. At the end of 2018, Exxon and Chev- ron accounted for about one-fi fth of Permian output, where produc- ers pump around 4mn barrels per day (bpd) currently. IHS Markit expects it to hit 5.4mn bpd in 2023, more than the total pro- duction of any Opec country other than Saudi Arabia. “It will be a continuous shift toward larger companies in basically all seg- ments of the shale industry,” said Ar- tem Abramov, head of shale research for Rystad Energy. Shares of Anadarko surged 32% yes- terday morning, refl ecting the 39% premium off ered by Chevron compared to Thursday’s closing market price. The $65 per share off er was struc- tured as 75% stock and 25% cash. The deal includes taking on $15bn of Anadarko’s debt.

Climbing Oil Prices Put India’s Benign Inflation Outlook at Risk

A rebound in oil prices poses a risk to India’s benign inflation expectations that last week allowed the central bank to deliver its second rate cut of 2019.

With crude at a five-month high, many investors are turning less confident about the Reserve Bank of India’s pace of monetary easing, though a slowdown in economic growth and subdued inflation still support an easing bias.

The low headline print gave Governor Shaktikanta Das and the rate-setting panel the space to cut rates by 25 basis points each in February and April to support the economy. Some economists see room for one more reduction provided food and fuel costs don’t spike. Data on Friday showed headline inflation quickened to a five-month high of 2.86 percent in March from 2.57 percent in February.

The RBI last week cut its inflation forecast to a range of 2.9 percent to 3 percent in the April-September period, compared with a February projection of 3.2 percent to 3.4 percent, while seeing price growth this year within its 4 percent

medium-term target. It separately cut economic growth forecast to 7.2 percent for the year that began on April 1, down from 7.4 percent previously.

“The recent rise in crude prices, if sustained,” could pose a challenge to both economic growth and inflation outlook, said Dharmakirti Joshi, chief economist with Crisil Ltd. in Mumbai.

Forecast for Brent, the benchmark for half the world’s oil, has been lifted on the back of production cuts, and the RBI sees prices being pushed up further should the U.S.-China trade tensions be resolved swiftly. The two sides are nearing a trade deal, with talks aimed at clinching one within the next month continuing.

A recent study by the central bank showed a $10 rise from $65 a barrel will lead to a 49 basis points increase in headline inflation, while a similar increase from $55 a barrel would give around a 58 basis-point boost to consumer prices.

Oil’s charge higher has also offset any gains from a rising currency on imported inflation. The rupee climbed 2.3 percent against the dollar in March, making it the best performer in Asia. The currency is up more than 7 percent from its October low, leading to a view among economists like Kotak Mahindra Bank Ltd. Economist Upasna Bhardwaj that some of the impact from the rising currency could help ease inflation.

A 2018 working paper, co-authored by Monetary Policy Committee member Michael Patra, showed that a 1 percent change in the exchange rate translates into a 15 basis-point move in headline inflation over a period of five months.

“We see room for 25 basis points of rate in 2019 given the benign near term headline trajectory,” Bhardwaj said. “Nonetheless, the trajectory on crude oil price increase needs to be watched closely.”

Still, others see the rupee’s role being countered by oil.

“It appears on balance that the recent hardening of oil prices would have negated the impact of rupee appreciation to a large extent,” said Gaurav Kapur, chief economist at IndusInd Bank Ltd. in Mumbai.

Oil’s big reset: Energy majors learn to thrive after price crash

Bloomberg/London

When Opec started an oil-price war in late 2014, most people believed US shale was doomed. In reality, the giant oil majors suffered most — burdened by expensive mega-projects, Chevron Corp, BP Plc and the rest struggled to adapt to the fall in energy prices.

Slowly, those companies figured out how to survive in the lower-for-longer price era. They cut costs and, more

importantly, learned how to stop them from rising again. In an industry that favoured tailored solutions for every project, companies started to talk about standardisation. At closed-door sessions in Davos, Switzerland, Big Oil bosses didn't waste time on self-important talk, but instead discussed how to share the design of anything from underwater valves to pumps.

Nearly five years after the crash, the cultural change is starting to work. The world's major energy companies have managed to press the reset button, allowing them to make profits today similar to what they did in a world of $100-plus a barrel oil prices.

"Big Oil has been able to re-emerge from this downturn stronger and lower on the cost curve," said Michele Della Vigna, the top oil industry analyst at Goldman Sachs Group Inc, who had been a critic of the majors.

The level of spending at the world's eight largest integrated oil and gas companies fell last year to $118bn, down 45% from a pre-crisis peak of $215bn in 2013, according to data compiled by Bloomberg News.

But their business model has changed a lot in the process. The reliance on multibillion dollar projects in far-flung corners of the world has been reduced and the majors are pouring billion into Texas's Permian Basin, once dominated by independent exploration and production companies. Other strategies include trying to build new projects closer to existing ones and reusing old infrastructure to reduce costs. They've also re-discovered the joys of integration, investing in refineries and petrochemical plants that make money even when prices are low.

To the surprise of many in the industry, lower costs haven't translated into slower development. In fact, projects have often come ahead of expectations.

The industry got a lot of help from its suppliers. According to Exxon Mobil Corp, the cost of 3D seismic technology, used to find underground reservoirs, and the deep-water rigs needed to exploit them has fallen more than 50% from the 2013 level.

The new era means combining projects that pay back quickly, whether in US shale or elsewhere, with some traditional larger projects. In the oil industry, it's a model called short-and-long oil cycle, because some projects pay back in as little to two-to-three years, compared to as long as 10 years for conventional projects.

"Big Oil now wants a diversified portfolio with short-and-long cycle oil," said Daniel Yergin, the oil historian that this week hosts the annual CERAWeek energy conference in Houston. "Before the oil crisis in 2014-15, the mere concept of short-cycle oil didn't exist in Big Oil."

Short-cycle oil has a one big advantage over mega-projects: companies can dial them up and down quickly to respond to changes in oil and gas prices.

The other significant change is natural gas. Big Oil had already embraced gas before the crisis, with companies like Exxon investing in massive projects in Qatar. But today some executives suggest gas is gaining the upper hand. "Gas is the fastest growing hydrocarbon," said Bernard Looney, chief executive for upstream at BP. "It's the future."

Despite the significant reduction in spending and much lower energy prices, returns haven't suffered, according to data complied by Bloomberg. The biggest oil companies posted return-on-capital-employed – a traditional yardstick used by investors – of about 8.7% last year, higher than the 8.4% of 2014.

LNG Canada CEO sees no scenario that would stop its

project

Bloomberg/Vancouver

The head of LNG Canada said he does “not see a single scenario” that would stop the nation’s largest infrastructure project from getting built, dispelling concerns that the $30bn gas export facility is at risk of mounting opposition from pipeline foes.

The liquefied natural gas project in northern British Columbia was approved by Royal Dutch Shell Plc and four Asian partners in October after obtaining the support of the province and 20 First Nation groups. But it continues to face a legal challenge disputing the constitutionality of the project’s approval, as well as protests by a group of indigenous holdouts.

“I do not see a single scenario that would cause the construction of this pipeline to be stopped,” Andy Calitz, LNG Canada’s chief executive officer, said in an interview in Vancouver.

TransCanada Corp is planning to build the pipeline that will carry the gas from western Canada’s prolific Montney shale formation to the coastal export facility in Kitimat. The whole

project – including the gas fields, pipeline and liquefaction terminal – fall within British Columbia and was authorised by the provincial regulator.

But a private citizen in Smithers, Michael Sawyer, mounted a legal challenge saying the pipeline is a federal undertaking and should have sought approval from the National Energy Board. The federal regulator agreed in December to consider the jurisdictional challenge and has requested evidence from the parties involved with final oral arguments set for March.

“It’s a complex world – the paths are not clear,” Calitz said. Any decision by the federal regulator could later be appealed in the courts. “But what I am clear about is that this pipeline, by the time that happens, will be in advanced construction.”

Separately, TransCanada is seeking to sell a stake in the pipeline project. That move was long contemplated and doesn’t indicate that there are growing concerns about the project’s risks, Calitz said.

“It has always been a part of the financing strategy for the project,” Calitz said. “It has no impact on either the construction or the capacity or any other aspect of the project.

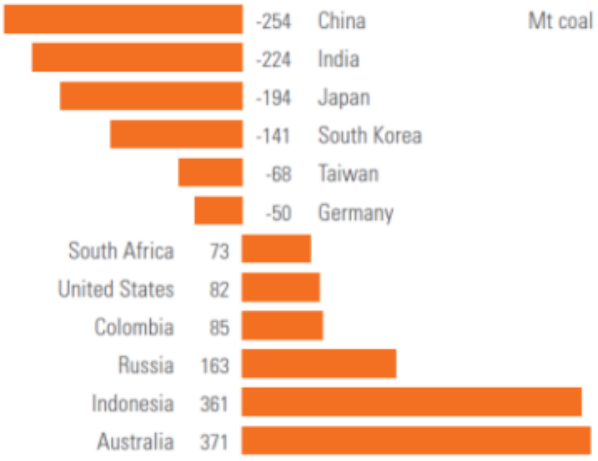
Transition: nation-by-nation review of race to phaseout coal

Table 1. Countries ranked by national coal consumption

Rank	Country	Coal & lignite consumption (Mtpa) *
1	China	3607
2	India	953
3	United States	649
4	Russia	232
5	Germany	222
6	Japan	196
7	South Africa	192
8	South Korea	136
9	Turkey	134
10	Poland	129
11	Australia	119
12	Indonesia	100
13	Kazakhstan	78
14	Taiwan	68
15	Czech Rep.	45

Source: Enerdata. **Includes metallurgic and thermal coal*

Figure 2. World's major coal importers and exporters in 2017 (all coal types)



Note: negative numbers represent net importers, positive numbers represent exporters

Source: Enerdata.

The transition from coal is gathering momentum

As of late 2018, 30 national governments, 22 sub-national governments and 28 businesses had committed to phase out coal by 2030, under the **Powering Past Coal Alliance**. Nonetheless, a common critique was that **these governments only accounted for about 3% of global coal consumption**. But, in the last few months, the transition from coal has started to get under way in the major coal-using economies.

Germany is the world's fourth biggest economy and **fifth largest consumer of coal**. Only **China**, **India**, **Indonesia** and **Russia** consume more coal per year than Germany. On January 26th, Germany's "coal commission"—a committee established by the Government and made up of coal sector stakeholders tasked to explore the terms for a fair and feasible German coal exit—came to a landmark compromise agreement on **a full exit from coal by 2035-2038** (full text in German here).

The German decision was followed by three other major events in the coal market

Firstly, **Glencore Xtrata**, the **4th largest commodities miner and biggest coal exporter in the world**, announced that it was **capping its coal output at 129Mt/yr** and would begin to diversify its assets away from coal as part of a new strategy to "enable the transition to a low-carbon economy".

Second, in **Australia**, which is the **world's biggest coal exporting country**, a very significant **court decision** was handed down in the state of **New South Wales**, which for the first time prevented a company from developing new mines because its investment was not considered consistent with the **Paris Agreement**.

Third, **China**, which **consumes half of global coal production and accounts for a similar share of global imports**(1), announced that it was going to **cap imports of metallurgical coal from Australia**, effectively blocking imports equivalent to about 10% of Australia's annual exports to China. This decision reflects a new normal in China, which is that its **domestic coal demand is now peaking, despite massive domestic production overcapacity**.

SOURCE: "Insights from case studies of major coal-consuming economies" – IDDRI

What does all this mean?

These events by themselves do not, of course, mean that suddenly the world is on track to phase out coal in the time needed achieve the Paris Agreement's goals. However, it

underscores the fact that, **globally, the "social licence" to keep investing in, trading and burning coal is fading fast**. This means that, as existing coal plants and mines expire, it is increasingly unlikely that new investments will be in coal. This has major implications for countries, sub-national governments, companies, local communities, and workers that are currently dependent on coal—they need to start urgently preparing and planning for the future beyond coal, before events overwhelm them.

A Just Transition

Secondly, the German coal exit decision highlights the central importance of **an inclusive and just transition for all citizens** as the condition sine qua non for phasing out fossil fuels. Germany's coal exit compromise is not just a phase-out schedule. **It puts workers, affected coal mining regions and affected power consumers at the heart of the strategy**. For instance, it includes agreement to ensure that every single worker currently in the coal sector will have the opportunity, if not retiring, to find alternative and equivalent quality employment. It also includes agreement on funding for regions to develop alternative economic activities, building on existing initiatives, such as **Lausitzlab**. A key lesson from Germany's agreement is that the transition from fossil fuels cannot succeed unless it is based on a high degree of stakeholder consensus and offers a desirable, post-coal future to the most vulnerable in society.

Economic common sense

A third take away from all this news is that the **technological alternatives to coal are much more advanced that they were even 5 years ago**. This allows other countries who are planning or contemplating new coal plants to think again. Once it was argued that wind and solar were too expensive and variable.

But costs, both of production and small scale storage solutions, have fallen massively in the last 5 years. Experience with integration of variable renewables in the **OECD** is showing that solutions exist to enable much higher shares than previously thought. The proof is that major industrialised economies like Germany are phasing out coal—while also phasing out nuclear power—in favour of very high goals for renewables; and that China is capping coal consumption in absolute terms. These are industrial powerhouse countries who would not do this if it put their economic model in jeopardy.

This conclusion dovetails with a recent **IEA** analysis, which argued that, for the world's population without access to electricity, **70% of new connections by 2030 could be done more cheaply or at equivalent cost via renewables or renewables plus small scale battery solutions**. With the right policy frameworks, political will and finance, developing countries can industrialise, provide affordable, universal power access and exit from coal.

SOURCE: IEA

In other places, the conversation on the decline of coal is also picking up. At the end of February, for example, an International Roundtable on the Future of Coal was held in **South Africa** (**a top 4 coal exporter**) back to back with a Symposium on a Just Coal Transition for South Africa.

What needs to happen now?

Nonetheless, much remains to be done. While the world on aggregate is moving away from coal, specific countries, such as **Japan**, **India**, **Vietnam**, **Indonesia**, **Mongolia**, **Turkey**, **Banglad esh**, **Pakistan**, **South Korea** and some parts of **Africa** are **still building new coal plants**. Policymakers in many developing

countries are keen to support industrialisation. In this context, **they are often offered coal energy investment packages—often by Chinese SOEs—containing cheap finance, technology, construction, skills transfer, and the promise of "cradle-to-grave" services**. These packages tend to outcompete renewables in the current market, even though alternatives to coal could be just as cheap, fast to build and reliable under the right (but missing) policy conditions. But thus far, high climate ambition countries and multi-lateral development banks have not yet been able to work with recipient countries to provide a sufficiently attractive alternative, at the scale required, to crowd out new coal.

Meanwhile, major coal users need to up their efforts to phase down coal. **China** has capped coal use, but now needs to begin planning a progressive phasing down of its coal assets over the coming decade. **India** needs to set a peaking date for coal use, like China has done, and do more to improve the investment environment and market integration policies for renewables and alternative fuel use to coal in industry. **South Africa** needs to find a way to make the most of its current power generation crisis: it needs to avoid a contentious debate over privatisation and instead focus on using the bailout of bankrupt state power monopoly **Eskom** onto a pathway out of coal and into cheaper renewable alternatives. Other major exporting countries like **Australia**, **South Africa** or **Colombia**, and key coal states of the **USA**, are still grappling with a fast changing reality. In general, **policymakers in these countries have not yet fully grasped the economic and social risks associated with continuing to assume that the future will be like the past**.

SOURCE: "Insights from case studies of major coal-consuming economies"

Most of all, however, workers, citizens, and other

stakeholders and their governments need to come together to agree on a strategy for the transition out of coal, oil and gas in line with the goals of the Paris Agreement on climate. Anything less leaves them open to a transition that is speeding up and could quickly get ahead of them, leaving it too late to catch up.

(1) For more information on the global coal market, and more specifically on major coal-consuming countries, read the report “Implementing Coal Transition – Insights from case studies of major coal-consuming economies – Pathways to “below 2°C”-compatible coal transitions in major coal-consuming economies” published in September 2018 by IDDRI and its partners within the framework of the project Coal Transitions: Research and Dialogue on the Future of Coal.

LNG Investment Needed As Oversupply Turns To Shortfall

Gas is the future. Among the reasons oil companies are latching onto gas as the energy transition looms are that it's plentiful, future demand growth outstrips oil and it has relatively low carbon intensity. Amidst all this, the liquefied natural gas (LNG) market is set to flourish. Yet prices today are collapsing. I turned to Massimo Di-Odoardo, Head of Global Gas Research, at Wood Mackenzie to make sense of what's going on.

Will low prices boost demand?

They help. At current spot prices, gas-to-power is competitive against coal, though we're not actually seeing much switching. In Europe, gas prices need to go below U.S.$3.5/mm Btu to displace efficient coal in Germany; whereas in Asia, lack of competition gives utilities little incentive to switch. The outlook though for LNG demand growth globally is bullish, driven by policy (such as clean air and the energy transition) and, in Europe, declining indigenous gas production. Competitive gas prices will help things along.

Are we seeing changes in LNG contract pricing?

Yes. We've seen Henry Hub-based contracts disrupt the market this decade because U.S. gas is cheap. But when LNG spot prices are low, Henry Hub-linked contracts are out of the money – not good. To be competitive as consumer markets open, buyers are looking for more innovative pricing. At LNG2019 in Shanghai, Tellurian Marketing announced a heads of agreement with Total, indexed to Asian LNG spot (JKM). Separately, Shell announced an agreement with Tokyo Gas, linked to coal prices – aimed squarely at LNG competing with new-build coal plants. We'll see a lot more creative pricing as buyers and sellers struggle/fight/work/try to stay competitive.

When will prices start to recover?

Prices will double inside three years. Supply additions slow dramatically from 2021, then a yawning gap opens for new

volumes post-2023. Some new projects need upward of U.S.$7/mm Btu to break even. The lead time for new LNG supply is about five years on average from final investment decision (FID) to commissioning so investors need to start building. LNG Canada (Shell), Tortue (BP) and Golden Pass (ExxonMobil/Qatar Petroleum) got the green light in the last few months. A host more FIDs are coming that will lift total investment in new projects to over U.S.$200 billion, and bring over 100 million tonnes per annum (tpa) of new LNG supply to the market by the mid-2020s.

So investors in new LNG projects should hold their nerve?

Yes, the market's going to need the gas. The projects just need to deliver on time and on budget. The lowest-cost producers will be the winners, resilient in any market conditions.

https://www.forbes.com/sites/woodmackenzie/2019/04/12/lng-investment-needed-as-oversupply-turns-to-shortfall/amp/?__twitter_impression=true

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Russia eyes greater energy dominance as Novatek taps Arctic

Bloomberg Moscow/London

Almost 1,500 miles from Moscow, the tiny port of Sabetta nestles in a desolate Russian Arctic peninsula. A former outpost for Soviet geologists, it’s now the site of Russia’s most ambitious liquefied natural gas project, operated by a company that only entered the market just over a year ago.

Several times a week, a giant tanker leaves this remote place carrying the super-chilled fuel to buyers in Europe and Asia. It’s not the only LNG plant beyond the Arctic Circle, but it’s by far the largest.

Novatek PJSC, the main shareholder of the Yamal LNG plant, says plans for further projects will transform Russia into one of the biggest exporters of the fuel within a decade. Already the world’s top exporter of pipeline gas and second-biggest shipper of crude oil, exports from Sabetta are giving Russia another conduit into the world economy for the country’s unrivalled energy resources.

“Russia can be in the top four main LNG exporters,” Novatek’s chief financial officer Mark Gyetvay said in an interview in London.

Novatek has demonstrated that it’s possible to produce and liquefy the fuel in such harsh conditions at competitive

prices and ship it to markets thousands of miles away in Europe and Asia. That's helped by receding Arctic ice which is allowing a specially built fleet of strengthened tankers to ship fuel along Russia's northern coast.

President Vladimir Putin has been a long-standing supporter of developing oil and gas resources locked under the region's permafrost. When opening the first production train of the Yamal LNG project in late 2017, Putin said the region gives Russia the opportunity to take up the fuel's "niche it deserves."

"We can boldly say that in this century and the next, Russia will expand thanks to the Arctic," he said at that time.

Novatek, whose biggest shareholders include Russian billionaires Leonid Mikhelson and Gennady Timchenko, as well as French energy giant Total SA, became Russia's top LNG producer after starting up its plant in the Yamal peninsula almost two years ago. The facility reached its full capacity at the end of 2018, ahead of schedule, doubling Russia's share of the global LNG market to 8%.

The gas producer has aggressive plans to command a 10th of the global market by 2030, Gyetvay said, and position Russia as one of the world's largest exporters alongside the US, Qatar and Australia.

All three of Yamal LNG's production units, with a combined actual capacity of 17.5mn tonnes a year, are now online. Novatek is attracting partners for a second plant, the so-called Arctic LNG 2 project, which is expected to come online in 2022.

The company is also considering commissioning a third facility and may increase its LNG production target for 2030 by about 20%, to as much as 70mn tonnes a year.

Novatek's resource base at two Arctic peninsulas – Yamal and Gydan – allows the company to raise production volumes to as much as 140mn tonnes a year in future, according to its chief executive officer Mikhelson.

Russia, the world's largest gas exporter, has been slow to join the global LNG boom as it has focused investment on

pipeline supplies to Europe. Until recently, the country had just one liquefaction project in operation, the Gazprom PJSC-led Sakhalin 2 project near Japan with an annual capacity of about 10mn tonnes.

The country has now taken an interest in the market for tanker-borne fuel amid growing global LNG demand and more difficult relations with its customers in the European Union.

Russia's Energy Ministry pegs total gas in place within the region at about 210tn cubic meters, or over 70% of the nation's total. Novatek's Arctic gas reserves are "conservatively" estimated at about 3.3tn cubic meters, Gyetvay said.

"We believe that Russia could be the fourth or even the third" biggest holder of LNG production capacity, said Karen Kostanian, Moscow-based oil and gas analyst for Bank of America Merrill Lynch.

https://www.gulf-times.com/story/628789/Russia-eyes-greater-energy-dominance-as-Novatek-ta