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World Energy Outlook 2019

Governments must move urgently to achieve decarbonisation goals

EVENT REPORT



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Introduction

Time is running out to meet European and global climate targets, panellists made clear at the Brussels official launch of World Energy Outlook 2019 – the International Energy Agency (IEA)'s flagship publication, hosted by independent think tank Friends of Europe.

"It seems that the pace of change has not caught up with the science or the feelings of people," **Dharmendra Kanani**, Friends of Europe Director of Insights told the 18 November meeting focusing on the aforementioned report. The publication outlines three energy scenarios: current policies; stated (planned) policies; and a sustainable development scenario, requiring rapid change.

"The main responsibility lies with governments, they must take the lead in writing the next chapter in energy history. Business as usual is not a possible way forward or an option"

Fatih Birol, Executive Director of the International Energy Agency (IEA)

Governments are central to the fight to reach sustainable energy goals, **Fatih Birol**, IEA Executive Director, emphasised. A host of policies and technologies will be needed across every sector to keep climate targets within reach, he said. But, "The main responsibility lies with governments, they must take the lead in writing the next chapter in energy history."

He also argued that while Europe should lead the way on climate change, it was only responsible for 9% of the emissions. "Whatever happens in Europe won't change the global picture if the other countries don't move," he said.

Ditte Juul-Jørgensen, European Commission Director-General for Energy, said the report's "very helpful analysis" had come at a particularly good time this year – the start of a new Commission mandate. President-elect Ursula von der Leyen has promised a European Green Deal where climate policy will take centre stage. The focus will be on renewables, sector integration and further electrification of energy carriers.

While the recently appointed Director-General did not mention timing or targets, she did agree that a new approach to energy efficiency and further investment was essential to cut greenhouse gas emissions. "Business as usual is not a possible way forward or an option." She also cautioned that the change needed to be made in a way that reflects European and global competitiveness, enables a just transition and considers energy security.

The IEA report singled out renewables – with wind and solar the two main winners – and natural gas as the biggest drivers of future energy requirements. Wind is predicted to become the main source of electricity by 2040 in a carbon-neutral Europe and this year's Outlook focuses on offshore wind.

“We need to bring people on board

Antonella Battaglini, Founder and Chief Executive Officer of the Renewables Grid Initiative

Consumers must support the energy transition too if decarbonisation is to be achieved, **Antonella Battaglini**, Founder and Chief Executive Officer of the Renewables Grid Initiative, made clear. “We need to bring people on board,” she said, calling for integrated and collaborative planning, environmental protection and fairness.

The energy landscape is changing...

A century ago, the global energy system was dominated by coal and wood, Fatih Birol recounted. After the Second World War, oil, the United States and Venezuela played a bigger part in the game. In 1974, when the IEA was founded while the Middle East and Russia became a part of the global energy mix. Then in 2000, nuclear took off, with the US, Japan and Europe becoming part of the nuclear club, and, alongside, the growth of natural gas driven by Russia.

This year’s report highlights Africa, and the rise of the African energy consumer. While Birol is optimistic about Africa’s energy future there is a catch, “There is one really heart-breaking number,” he said. “40% of the global solar potential is in Africa but only 1% of solar PV is there,” Birol said. “So we have given 11 key countries a roadmap explaining how they can make the most of renewable sources, working with colleagues and officials in their ministries.

“Today, the biggest change between 2000 and 2018 is the strong growth coming from coal, mainly driven by China

Fatih Birol, Executive Director of the International Energy Agency (IEA)

“Today, the biggest change between 2000 and 2018 is the strong growth coming from coal, mainly driven by China,” Birol continued. Meanwhile, global energy use is ten times higher today than in 1919, he said. But despite expectations of a renewables-driven energy transition, the share of fossil fuels in electricity generation is the same (63%) as it was 20 years ago.

There is good news too, Birol added, notably cost reductions in many technologies – solar, PV, offshore wind, batteries and electric cars. In addition, the European Investment Bank has negotiated an end to all investment towards fossil fuels.

Oil usage is also predicted to decrease in the 2030s, mainly as a result of efficiency improvements and increased use of electric cars. However, Birol regretted, “When you open the newspapers, everything is about electric cars. We hear that they are ‘exploding’, and we are very happy. But when you look at the last ten years, the

champion is the SUVs (sports utility vehicle) by far.

"In 2010 only 18% of cars in the entire world were SUVs and last year 42% – almost every second car – was an SUV," he said, emphasising that SUVs emit 25% more CO2 emissions than an average car.

Globally, air conditioners are by far the biggest driver of energy consumption, Birol told the meeting. Brazil, India, Indonesia and Mexico represented a market of around 100 million AC units in 2018. And the expected growth in population in Africa's hottest regions means that up to 500 million more people would need air conditioners or other cooling services by 2040, the IEA says.

... And so are its players

Panellists agreed that renewables were key to achieving climate goals. More than 50% of the growth in the global energy mix will come from renewables and about one-third from natural gas, Birol said – with liquefied natural gas (LNG) by far the largest driver of the gas market.

The biggest growth in renewable energy comes from solar and solar PV, Birol noted, due to decreased costs and government policies.

Offshore wind, after all not suffering from public opposition and the 'NIMBY' (Not In My BackYard) factor, is another success story. It is predicted to provide most, if not all, the world's energy demands in future.

Andreas Nauen, Offshore Chief Executive Officer at Siemens Gamesa Renewable Energy, said there was enough investment to meet such a goal, more than enough capacity and plenty of time. "Money is not a problem to get projects off the ground," he emphasised, with offshore wind costs dropping to 5 cents per kilowatt hour.

"We can do a lot in terms of technology to make turbines efficient to make offshore wind costs even cheaper, but we need a clear framework to see what this will look like"

Andreas Nauen, Offshore Chief Executive Officer at Siemens Gamesa Renewable Energy

He welcomed the IEA's acknowledgement of the great potential of offshore wind to deliver a green energy transition. But, like Birol, he said governments should do more to make this happen. "We can do a lot in terms of technology to make turbines efficient to make offshore wind costs even cheaper, but we need a clear framework to see what this will look like."

And he added that while, through wind energy association Wind Europe, Siemens Gamesa had conducted very successful talks with the UK to set up new wind turbines, negotiations with a former wind energy frontrunner had not gone well at all, "Germany has managed to get the wind industry to a grinding halt."



1. **Dharmendra Kanani**, Director of Insights at Friends of Europe
2. **Boyana Achovski**, Secretary-General of Gas Infrastructure Europe (GIE) and Chair of GasNaturally Steering Committee
3. **Fatih Birol**, Executive Director of the International Energy Agency (IEA)
4. **Ditte Juul-Jørgensen**, European Commission Director-General for Energy



Boyana Achovski, Chair of the Steering Committee of GasNaturally – a partnership of seven associations across the gas value chain, also backed the IEA report's conclusions. "We are very happy to see that the Outlook and many studies recognise the very big importance of the gas infrastructure for transforming large amounts of energy," and for supporting industries that are very heavily decarbonised.

“ We want to increase and upscale renewable and decarbonised gases

Boyana Achovski, Chair of the Steering Committee of GasNaturally

Indeed, the IEA gives natural gas as the largest single fuel in its sustainable development scenario. And Achovsky said it was not expensive – on average four times cheaper than electricity per kilowatt hour, Commission analysis shows.

The Secretary-General of Gas Infrastructure Europe further applauded IEA recommendations to policymakers to introduce low-carbon gas standards. She called for support to the 43 renewable hydrogen and 15 power-to-methane projects currently being developed across Europe, "We want to increase and upscale renewable and decarbonised gases."

"We also look forward to working with the Commission to see how existing infrastructures can contribute to the benefit of European citizens," she said, adding that only small investments were needed to increase infrastructure.

“ Other countries do it: Russia, China, India, Kenya, so why does it not happen in Europe?

Paul Bossens, Chief Executive Officer of 100 TWh, Belgium's citizen movement for a sustainable and affordable energy mix

Meanwhile, **Paul Bossens**, Chief Executive Officer of 100 TWh, Belgium's citizen movement for a sustainable and affordable energy mix, addressed the "elephant in the room". One energy source, nuclear, fulfils both decarbonisation and energy security goals, so why is not considered here? he asked. "Other countries do it: Russia, China, India, Kenya, so why does it not happen in Europe?"

Birol agreed that however controversial, you cannot forget nuclear. It was an energy source growing in Russia, India and especially China, where it could overtake the US as number one provider.

"Phasing out nuclear power is a government decision like in Germany and other countries, but one should think twice before banning a technology that does not provide any carbon emissions," he argued. "We don't see an appetite to build new plants, but lifetime extensions to existing nuclear power plants are one of the most economical things to do to achieve decarbonisation."

Social concerns

European and global partners also need to achieve a just energy transition, the conference heard. But the IEA Outlook highlights deep disparities, Birol said.

"There is a gap between growing scientific evidence that we need to reduce emissions as much and as quickly as possible, but the numbers tell us a completely different story. From the 2015 Paris Agreement to today, global emissions increased more than one gigaton. In 2018, global emissions reached a historic high," he made clear.

And Birol added that despite energy efficiency goals being prominent in all drafts from member states' National Energy and Climate Plans (NECPs), energy efficiency improvements were one of 2018's "historic lows".

In addition, there is a real discrepancy between the promise of electricity for all and the reality of some 850 million people still lacking access to electricity. Moreover, 2.6 billion people in the developing world still use agricultural and animal waste for cooking purposes, seen, with malaria and AIDS, as one of the three top causes of premature death, Birol said.

“What do people really want? Not to spend 10 euros less a year for the electricity bill, that’s not enough, they want to have a different role in the decision-making process

Antonella Battaglini, Founder and Chief Executive Officer of the Renewables Grid Initiative

Coal may have a bad name, but the context of using this incumbent must be taken into account, Birol argued. "The coal plant in Europe is providing electricity to the fourth TV set in the kitchen. But in Indonesia, it is providing electricity to the refrigerator to keep medication for their children. We cannot put these uses in the same basket."

The "real needs" of the public must also be considered, Antonella Battaglini said: "What do people really want? Not to spend 10 euros less a year for the electricity bill, that's not enough, they want to have a different role in the decision-making process."

Conclusion

At the current rate, global emissions are set to increase about 1% a year. "This is really, really very, very bad news," the IEA's Birol said. Even with the stated policies scenario, a 3 degree rise is expected, so a real push is needed, he emphasised. "Targets are good, intentions are good, but we need legs and concrete policies to reach those targets."

And unfortunately, "There is no single or simple solution to reach our climate goals," he said. "We need to address all of them to solve our climate problems."

Achieving a sustainable energy future requires three things, he added: efficiency, renewables and other technologies. "Which other technologies? All of them," he said. "We do not have the luxury to exclude any of those options. And if we reduce one, we have to increase the others," he explained, pointing out that further technical innovation will be essential to reach a 1.5°C stabilisation.

Markets alone will not fix the environmental crisis either, he reminded "the main part of the responsibility lies with the governments" to accelerate cost reduction and push for new technologies to be part of our future energy mix.

"The world needs a grand coalition encompassing governments, utilities, citizens, investors and people who are seriously and genuinely dedicated to tackling climate change

Fatih Birol, Executive Director of the International Energy Agency (IEA)

The public sector needs to play an important role by providing the right framework for the right decisions too, he made clear. "In the absence of that, reaching the climate target will not be possible."

Supporting renewables is only half the job, he added. The second thing is to integrate power systems and to create flexibility, "so you don't lose money or have blackouts," especially at peak power needs like just after a World Cup or, in India, cricket final – and when there is no sun or wind.

Ditte Juul-Jørgensen agreed sector integration and coupling were essential to the green transition. Electricity was central to this, she added and Commission analysis recommends a doubling of electricity use by 2050. The gas sector's Boyana Achovsky said integrating the gas and electricity systems would be the most cost effective way of achieving climate goals.

Summing up, Birol maintained there is only one way to escape damaging climate change: "The world needs a grand coalition encompassing governments, utilities, citizens, investors and people who are seriously and genuinely dedicated to tackling climate change. In the absence of this coalition, we don't have a chance of reaching climate targets, we can only show slides and notes."



1. **Andreas Nauen**, Offshore Chief Executive Officer at Siemens Gamesa
2. **Ditte Juul-Jørgensen**, European Commission Director-General for Energy
3. **Antonella Battaglini**, Founder and Chief Executive Officer of the Renewables Grid Initiative



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