

WIND ENERGY

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Wind sector keeps up pressure on EU over targets

The president of the European Wind Energy Association (EWEA), Arthuros Zervos, has called for the EU to adopt a binding renewable energy target of 30% for 2030.

According to Christian Kjaer, EWEA's CEO, the continent's wind power sector is "increasingly concerned" about the lack of planning for the post-2020 period.

"It's important that we in the power sector acknowledge that we have a policy vacuum in terms of what's going to happen on 1 January 2021," he writes in a commentary published by EurActiv today (14 March).

"For infrastructure investments, that is problematic," he adds.

Wind energy installations can take up to ten years to build, and investors need to be satisfied that they will be able to sell the energy that is then generated.

"I think that my industry is getting increasingly concerned about installing and planning new projects the closer we get to 2020," Kjaer explains, "so we're suggesting that the [European] Commission starts looking at policies for the period after 2020 now".

By 2020, the EU is committed to reducing greenhouse gas emissions by at least 20%, increasing the share of renewable energies in its energy mix by 20% and upping energy efficiency by 20%, all on 1990 levels.

But divisions between member states prevented the emissions reductions targets for 2030 and 2040 laid out in the 2050 Low Carbon Roadmap published last week – 40% and 60% respectively – from being made legally binding.

While lauding the positive elements of the roadmap, Steve Sawyer, secretary-general of the

Global Wind Energy Council, agreed that there was a danger of a post-2020 policy vacuum for EU investors and electricity producers alike.

"The current legislation only goes as far as 2020 and while looking 10 years into the future is better than anyone else is doing, it's still not enough," he told EurActiv.

"You need to look 20, 30, 40 years ahead to put in place the policies to get us where we need to be in terms of emissions, energy security and competitiveness."

The 2050 roadmap does forecast a rise in the share of low-carbon technologies in the electricity mix "from around 45% today to around 60% in 2020, including through meeting the renewable energy target, to 75 to 80% in 2030, and nearly 100% in 2050".

But radical as this sounds, the goals are not obligatory and there are no specific targets for renewables.

"It is clear that at the recent energy summit and in energy ministers meetings afterwards, nuclear and gas and coal were labelled as low-carbon technologies," Kjaer writes.

"There is a push or an intention to classify every existing power generating technology as low carbon - including coal, by including CCS (carbon capture and storage)."

To counter this, he proposed a "technology-neutral emissions performance standard" to start in 2015, which would be set slightly above a new gas plant - at about 350 grams per kilowatt hour - and reduced over time.

"And then let the market decide who can deliver carbon-free electricity the cheapest," he said.



Wind market forecast predicts fair breeze ahead

A new five-year industry forecast has predicted a pick up in the wind energy market, with more than 40 GW of new capacity being added in 2011.

By 2015, the Global Wind Energy Council (GWEC)'s annual report expects globally installed wind power capacity to have more than doubled to 450 GW from 194.4 GW at the end of 2010.

The 'Global Wind Report: Annual Market Update 2010' assumes an average growth rate of 18.2% per year for wind, compared to 28% cumulative capacity growth over the last decade.

By 2015, annual market additions are expected to reach 60.5 GW, up from 35.8 GW in 2010.

"2010 was a tough year also for our industry, but 2011 is looking up," GWEC Secretary-General Steve Sawyer said in a statement.

"We've paid the price for the 2008/9 financial crisis last year," he added. 2010 saw strong investments in wind power, which

at the height of the recession rose 31% on 2009 to \$96 billion, a record level.

The main driver of wind market growth is expected to remain China, which made up almost half of the global capacity additions (16.5 GW) last year.

China is expected to surpass the target outlined in its most recent five-year plan of installing 70 GW of new wind power in the next five years. With India's steady growth, GWEC expects a total capacity of 174.6 GW to be operational across Asia by the end of 2010.

Steve Sawyer acknowledged that China's rapid growth had caused Europe's wind sector some difficulties but was still upbeat about future prospects.

"On the one hand, exploiting and developing the new markets in Eastern Europe is one piece of what will allow Europe to get through this," he told EurActiv. "But offshore is where Europe enjoys a very clear technological advantage."

More generally European companies are still market

leaders, in Sawyer's eyes. "I don't see that changing in anything other than pure cost terms in the near future," he said.

In the GWEC report, Europe is expected to remain the world's second-largest wind market in the period to 2015, with capacity additions totalling 60 GW, bringing cumulative wind power installations up to 146.1 GW.

Large-scale offshore developments are expected to account for a growing share of the new wind capacity. But little new growth is expected in the North American market, as a result of legislative uncertainty in the US and Canada.

According to Nick Mabey, CEO of the E3G climate consultancy, Europe and Chinese investment in wind power is sending a clear message to the US that "you're behind and now you're going to fall further behind, and you're going to come back and buy our technology in ten years' time".

Optimistically though, GWEC expects a turnaround in the American market by 2014.

EU must learn from China's clean energy drive, say experts



Nick Mabey is the founding director of the E3G climate consultancy and an environmental advisor to successive British governments.

The EU is in danger of being left behind as China launches its latest five-year energy plan, which will shift production towards clean energies such as wind power, experts warned.

"China is integrating its energy and climate change policies to make them work at a time when the EU seems to be fragmenting its own," said Nick Mabey, a climate advisor to the last two British governments and CEO of the E3G climate consultancy.

"We have had a disjointed year in Europe with three different roadmaps and a plethora of policies, none of which add up to a coherent plan for energy and climate security," he told EurActiv.

China's 'New Energy Industry Development Plan' will not be published until the end of March – and adjustments to its nuclear policies may follow the Fukushima disaster – but many of the plan's core aspects were adopted at the National People's Congress in Beijing today (14 March).

New energy mix relies on renewables

Renewable energies will be raised to 11.4% of China's total energy consumption by 2015 and 15% by 2020, while energy intensity – the amount of energy consumed per unit of GDP – will be cut by 16% and carbon intensity by 17%.

Coal consumption will also be gradually replaced by natural gas, which will increase from four to 8% of the energy mix.

"They're putting their money where their mouth is," Mabey commented. "The irony is that where China is building a super and smart grid using European technologies and monies, Europe is not."

In 2010, China overtook the US as the global leader in installed wind power capacity by 41.8GW to 40.2GW and, despite grid connectivity problem, wind is at the heart of China's energy plans.

"It's critical," Mabey said. "In the next five years, wind power will make up the bulk of the non-hydro renewable energy shift in China."

For Steve Sawyer, secretary-general of the Global Wind Energy Council and an advisor to the Chinese government on the formulation of its renewable energy laws, maintaining the growth of Europe's wind energy sector after its initial surge was now vital.

Developing new wind energy markets in Eastern Europe was urgently needed "to maintain a critical mass for the industry so that it doesn't all move east," he told EurActiv.

"It's already happened to an extent," he said. "You've read about layoffs from Vestas, LM and other companies [in Europe]. Their factories are just in a different place - in China, India or other parts of Asia."

But he opposed protectionist measures against China. "We're not afraid of competition," he said. "We would encourage it."

"Wind will benefit tremendously from an open and free exchange of products and fair competition across the board."

Europe leads, but China is catching up

Despite China's recent advances, Europe is still widely viewed as the global leader in green market mechanisms, technology and policy frameworks.

But China is catching up fast, according to Nick Mabey.

"Europe has to start living with the success of its own climate diplomacy," he said. "It wanted other countries to act and this is what them acting looks like."

"There was an illusion that everybody would just want to buy European technology but, guess what? Other countries want to make renewable technologies too."

More European low carbon investment was now needed to match China's and pull the US into the climate technology race, Mabey thought.

"That's the game we're in and European leaders have to show confidence to compete with China – at our own game."



Alarm bells ring over Europe's nuclear expansion

As Japan's nuclear crisis deepens, fears are growing within Europe's wind industry about European Commission plans to put nuclear power on a par with renewable energies in the post-2020 low-carbon environment.

The EU's 2050 roadmap, launched on 8 March, was widely praised by environmentalists. But after 2020, it sheds any mention of "renewable" targets, talking instead of "low carbon" ones, which could include nuclear power, carbon capture and storage (CCS)-fitted coal plants and gas.

"The disappearance of the 'renewables' language after 2020 is problematic and troubling in the sense that you know that it's coming from the nuclear and the CCS lobby," Steve Sawyer, secretary-general of the Global Wind Energy Council, told EurActiv.

Some businesses at a European Wind Energy Association conference in Brussels were also concerned about the Commission's choice of terminology, although few would go public for fear of alienating potential customers.

One who did was Marcello Deplano, a business development manager for leading Italian renewable energy company Relight.

"It is terrible for us when you have changes like this because there's no certainty," he told EurActiv. If the EU sends out contradictory signals, he fears that the plans of member states will be

thrown into doubt.

"For us this is more of a danger," he said. "When things are changing year after year, month after month, it becomes difficult to operate."

In theory, the roadmap pledges to reduce carbon emissions in the power sector by between 93 and 97% on 1990 levels by 2050. But in practice, environmentalists fear that it is leaving the door open to short-term, high carbon-intensity projects that would sabotage this goal.

The European Bank for Reconstruction and Development (EBRD) and the European Investment Bank (EIB) have already agreed projects such as a €770m loan for a lignite coal plant in Slovenia which would make that country unable to meet the 2050 target.

The EIB has also provided €6.6 billion of loans to finance nuclear power stations, experimental nuclear power facilities and nuclear fuel cycle projects in France, Belgium, the UK and Italy.

Since 2007, it has considered nuclear projects under its 'Clean Energy for Europe' policy.

Christian Kjaer, CEO of the European Wind Energy Association (EWEA), maintains that it would be "scientifically wrong" to question the low-carbon credentials of nuclear power.

"There are all kinds of other things we can call it – like radioactive, potentially," he told

the EWEA conference, answering a question from EurActiv.

But "low is a relative term," said Steve Sawyer, who provided expert commentary for an upcoming Intergovernmental Panel on Climate Change (IPCC) renewable energy report. "Compared to what?"

According to Sawyer, the forthcoming IPCC report will reveal that carbon emissions from nuclear power facilities clock up between 100 and 200 grams of carbon emissions per kilowatt hour (kWh). 'Clean' gas emits around 350 grams of carbon per kilowatt hour.

But wind turbines emit no carbon when producing electricity.

One life-cycle assessment of the Vestas V90-3.0MW onshore turbine – which includes the manufacture of components – found that even here, only 4.64 grams of CO₂ per kWh were created.

"Nuclear power is generally the most expensive, complicated and dangerous means ever devised by human beings to boil water," Sawyer said, summing up the anti-nuclear argument.

"Why anyone would want to use it to generate electricity is beyond me, unless they were interested - as most European states were in the early days of nuclear history - in what comes out the other end, which is fissionable material for nuclear weapons," he added.

Partisan battle turns green city grey

Copenhagen's ambitious plans to become Europe's first zero-carbon city by 2025 have been thrown into doubt by a party political row – and windmills look set to become the first victims.

Danish Transport Minister Hans Christian Schmidt tabled a bill to widen a container terminal in Copenhagen's northern harbour, which would in effect block the construction of four planned flagship wind turbines.

A parliamentary debate has been scheduled for next week (22 March).

"The national strategy on promoting renewable energy is not comprehensive," said Copenhagen's mayor, Bo Asmus Kjeldgaard. "On the one hand the government keeps talking about CO2 reduction and the building of wind farms. On the other hand they boycott concrete actions."

Copenhagen had planned to slash its carbon emissions to 20% of 2005 levels by 2015 through a move to renewable energy sources.

But objections about the windmills' alleged unsightliness

were raised by wealthy residents in nearby Gentofte region, supported by vice-mayor and MP Eyvind Vesselbo.

In August 2009, the city council passed the Copenhagen Climate Plan, which includes 50 specific initiatives to reduce carbon emissions, 34 of which were launched in 2010.

Greenhouse gas reductions were to be made by renovating public buildings, commissioning zero-carbon new city structures, encouraging electric vehicles, promoting bikes and improving public transport and, crucially, the utilisation of wind power.

Standing at 150 metres high, the Northern Harbour wind turbines were each slated to produce 3 MW of electricity. The Northern Harbour itself would have become the initiative's showcase, providing renewable electricity for the area's 40,000 inhabitants and beyond.

At present, Copenhagen has seven onshore wind turbines with fourteen more due to come online by 2013. But the plan would have created an additional 130 wind

turbines by 2025, generating 360 MW of energy, on land and at sea.

"If we are not going to be able to build the windmills in the harbour, it will be difficult to find new locations, since the possibilities are restrained," Kim Pind, a spokesperson for Copenhagen Energy, the city-owned company responsible for building the turbines, told EurActiv.

Other green measures planned by Copenhagen City Council include increasing the share of electric, hydrogen or hybrid cars owned by the city to 85% in 2015, through tax incentives.

The city has already acquired 33 electric cars, and around 100 to 150 private electric vehicles are on Copenhagen's roads.

But this alone will provide little more than green window-dressing.

"I don't think the city of Copenhagen will be able to achieve the aims of CO2 reduction in the transport sector if they are not allowed to use tolls and other taxes," Martin Lidegaard, chair

of environmental think-tank Concito, told EurActiv.

"The present government is not supporting any strong commitments in the transport sector."

To meet the zero-carbon goal, Copenhagen "has to move very quickly," he argued, namely by reducing emissions and building more wind capacity.

"The more you take energy efficiency into account, the cheaper and realistic the reaching of the goal will be."

The Danish wind turbine industry is the world's largest and wind power already provides Denmark with 18.9% of its electricity production and 21.4% of its generation capacity.

With its green initiative, Copenhagen had aimed to pioneer still further by transforming the capital into what Lord Mayor Frank Jensen called "a lab for green urban development".

For now though, grey clouds of political doubt hang over the Northern Harbour which environmentalists hope wind power will light up.

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Opinion & Analysis (by Christian Kjaer, CEO of the European Wind Energy Association)

We have to fill Europe's post-2020 energy vacuum

Given the long-term investment and planning required for the creation of new energy production, the EU needs a policy framework beyond 2020 to reduce greenhouse gas emissions, writes Christian Kjaer in an exclusive op-ed for EurActiv. He concludes that a technology-neutral emissions performance standard is needed if the EU is to offer both incentives and fair competition in the provision of carbon-free electricity.

The following op-ed was sent exclusively to EurActiv by Christian Kjaer, CEO of the European Wind Energy Association.

"It was a great achievement when 27 EU heads of state unanimously agreed on renewable energy and greenhouse gas targets for 2020, even though they failed to deliver on the no-brainer – energy efficiency. But it's important that we in the power sector acknowledge that we have a policy vacuum in terms of what's going to happen on 1 January 2021.

For infrastructure investments, that is problematic. Wind energy projects are probably the fastest creators of new power generating

capacity. Still it can take anything from three to ten years from the moment you decide to plan it. Someone who starts planning today doesn't know what the conditions will be then.

planning new projects the closer we get to 2020.

So we're suggesting that the [European] Commission now starts looking at policies for the period after 2020, notably the

If we don't, there's going to be an enormous amount of investor uncertainty in the second half of this decade.

The Low-Carbon Roadmap did a very good job of mapping

out where we need to be and we're very satisfied with the various scenarios. By 2050 they say the power sector needs to reduce emissions by between 93-97%. Where the Commission has not been so successful is in defining what a low-carbon technology actually is. Within a 2050 framework that is extremely important if we are going

to reduce our carbon emissions by 80-95%. Because we will need emissions in areas like agriculture and transport, what the Commission has said with this roadmap is that the power sector can't emit carbon in 2050.

As power plants have such a

long lifespan, this problem has to be addressed today. A coal plant lasts for 40 to 45 years. That means that should the member states be true to their commitment, they should ban carbon: starting tomorrow. I don't think they will, but they should if they want to reach zero carbon in 2050.

It is clear that at the recent energy summit and in the energy ministers' meetings afterwards, nuclear, gas and coal were labelled 'low-carbon technologies'. There is a push or an intention to classify every existing power generating technology as low carbon – including coal, by including CCS (carbon capture and storage) – and this is why we're saying 'let's start now by defining a policy framework and a technology-neutral emissions performance standard, starting in 2015 to fill that vacuum after 2020'.

Set it slightly above a new gas plant – about 350 grams per kilowatt hour – and reduce it over time, just as you would do with car emissions, to give an incentive for developing technology.

And then let the market decide who can deliver the cheapest carbon-free electricity."



A breath of fresh air for Europe

I'm not so worried about whether we'll install the capacity after 2020 because we have certainty and a political framework. But I think that my industry is getting increasingly concerned about installing and

targets for renewable energies and emissions reductions. They should really get the energy efficiency measure through within the current term of the European Commission and the Parliament, which ends in 2014.