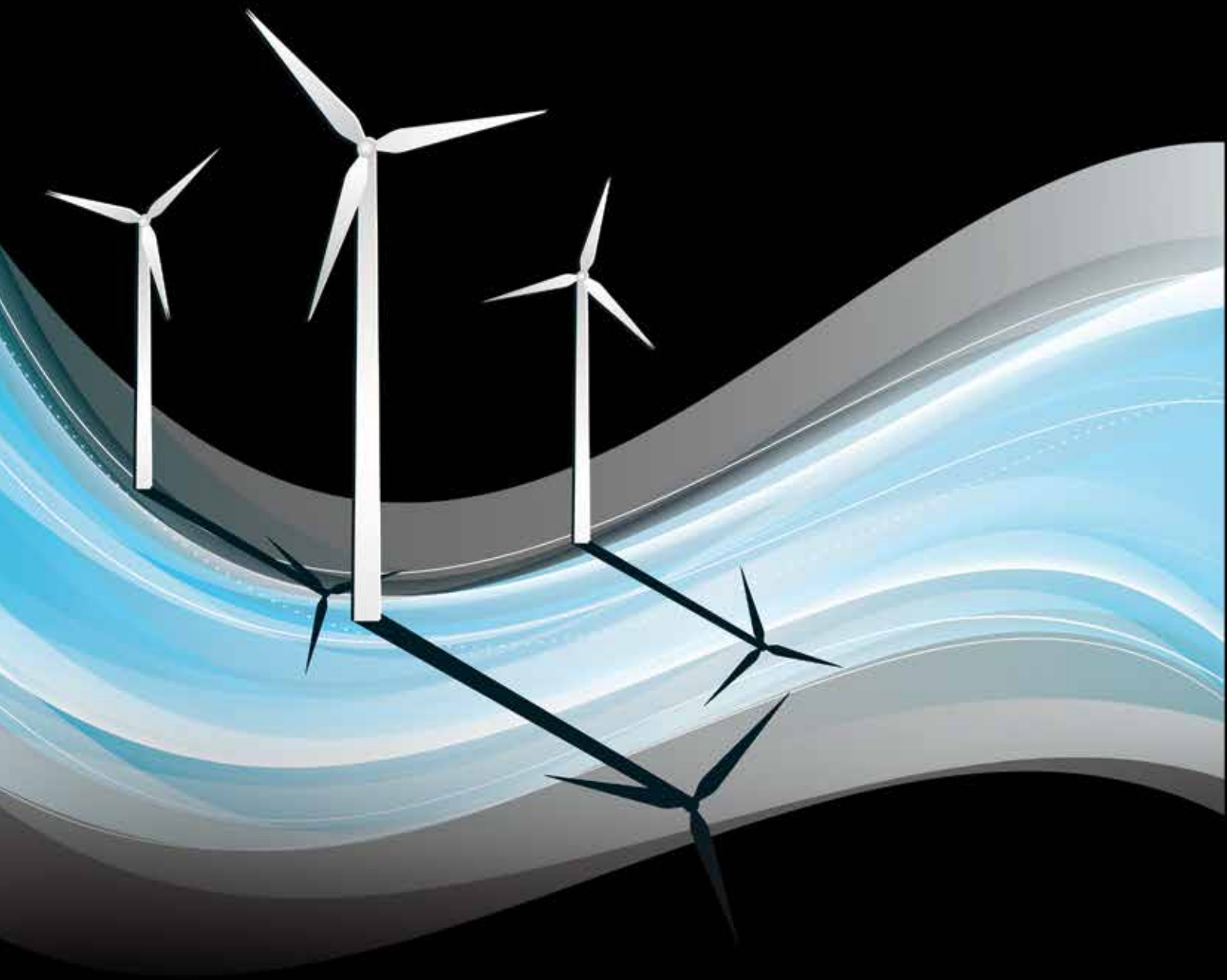
Wind reflections



Steve Sawyer, Secretary General, GWEC, gives a global overview of wind power during 2015, a very positive year culminating in the Paris agreement in December. He predicts a steady growth in the industry over the next five years.

Steve Sawyer,

Wind Power Leads All New Power Generation

More than 150 nations gathered in New York, on Earth Day, to formally sign the landmark climate change deal which was agreed in Paris last December, an all too rare triumph for multilateralism in a world that desperately needed one. Outgoing UNFCCC head Christiana Figueres, just named one of Time Magazine's most influential 100 people in 2015, has predicted that the treaty will enter into force no later than 2018, two years ahead of schedule.

We need the extra time. While there are many positive signs, Mother Nature is sending signals of another sort: weird weather, droughts, floods, unprecedented Arctic sea-ice retreat, record high winter temperatures and Greenland's annual glacier melt season started two months early. CO_2 levels are rising at an alarming rate and we are now in uncharted territory in terms of atmospheric concentrations of greenhouse gases, at least since Homo sapiens have been around.

At the same time, there are a lot of positive signals: Elon Musk's record breaking launch of the Tesla 3; decadal low fossil fuel prices have had no appreciable effect on the growth of wind and solar; the Financial Stability Board's pronouncements on the climate related risks to the global financial system; Chin's State Grid calling for first a regional and then a global grid to transport clean energy around the globe – a new Silk Road; the growing divestment from fossil fuels by institutional investors; and of course, the rapidly growing installation levels and record low prices of both wind and solar power.

Most of the members of the business community that attended the dozen or so business gatherings in Paris in the margins of the climate summit were much less ambiguous than the negotiators. They, and we, are clear on the direction of travel and that renewables are the future. The remaining question is whether we can make the change fast enough to save the climate; or rather will we? We know that we can. It is now clear that we have the technology to do so; what is lacking are the proper frameworks to shift private investment in the right direction, to stop subsidising fossil fuel consumption and production with hundreds or thousands of billions of dollars every year and recognise that we need to completely decarbonise the global economy.

So what does the Paris agreement mean for us in the wind power industry? Not a great deal in terms that can be translated into turbine orders and project approvals in the short term, but the medium to long term signal is very positive. One thing which is only just beginning to sink in with governments and the electricity industry, is that any credible scenario to stay below 2°C requires an emissions free power sector by 2050 at the latest, preferably sooner; and if the 1.5°C target is to be considered, then it would be much sooner. Anyone making an investment decision to build a coal fired power plant today is seriously risking having a stranded asset.

Quite apart from Paris, wind power had yet another record-breaking year in 2015. After installations broke through the 50 GW for the first time in a single year in 2014, we reached yet another milestone in 2015 as annual installations topped 63 GW, a 22% increase on the 2014 annual market; and not only did renewables surpass all other power sector investments, for the first time capital investments in renewables surpassed all capital investments in fossil fuels for the first time. By the end of last year there were about 433 GW of wind power spinning around the globe, a 17% increase over the previous year; and wind power supplied more new power

generation than any other technology, according to the IEA.

China led the way, as usual, with a record 30,753 MW of new installed capacity, breaking the previous record it had set, in 2014, for installations in a single year. China now has more than 146,000 MW of wind power installed, more than in all of the European Union. Last year it was the first country ever to invest more than USD 100 billion in renewables in a single year. Also, China's new Five Year Plan covering the period 2016-2020 has increased its wind power target for 2020 once again, up to 250 GW.

Europe had a surprisingly strong year, led by Germany's record-setting 6 GW of installations, bolstered by more than 2,000 MW of offshore wind and the US market had a remarkable 4th quarter, ending with an 8.6 GW market in 2015, much higher than most had expected.

Brazil, Canada, Mexico and South Africa also had strong years, and we saw the first commercial wind farms in Jordan, Guatemala and Serbia. Perhaps the most encouraging sign of all is the continued proliferation of new markets across Africa, Asia and Latin America, spurred by the need for competitive, clean, and indigenous energy sources to fuel development.

Looking ahead, we see a period of steady growth for the next five years. Asia will continue to lead and Europe will move steadily towards its 2020 targets, although there may be some bumps in the road. In North America, both Canada and the US seem poised for another round of growth, and as Mexico's energy reform gets bedded down we should be looking at a period of rapid development in that newly liberalised energy market.

In Latin America, Brazil will continue to lead, although Chile, Peru, Uruguay and now Argentina will make a contribution. In Africa and the Middle East, besides market leader South Africa, both Morocco and Egypt seem poised for solid growth in the next five years, and smaller markets in Kenya, Ethiopia and elsewhere are moving.

In non-China Asia, India is the main story, which has now surpassed Spain to move into 4th place in the global cumulative installations ranking, and had the fifth largest market last year. Pakistan, the Philippines, Viet Nam, Thailand, Mongolia and now Indonesia are all ripe for market growth. All told, wind capacity should nearly double in the next five years.

Other than climate, two other major trends are having a major positive impact on the wind business.

Cratering prices

While very low wind prices have characterised the US market for some time, and the Brazilian and South African tendering systems have also generated low prices for the last several years, we have recently seen a spate of tender results in Egypt, Morocco, Peru and elsewhere with what up until now were unheard of prices outside the US plains states – in the vicinity of €40/MWh or below, and in the case of Morocco, below €30/MWh.

Is this the new normal? Time will tell, but it is clear that the costs of both wind and solar technology have fallen dramatically in recent years, and new and complex financing structures are creating the conditions for renewables to be competitive in an increasing number of markets. Of course, some of this is explained by the excellent wind resources in some of these locations, but the downward pressure on prices will continue, and not just in new markets. China is lowering its feed-in tariff for wind this year, and will do so again in 2018.

US market stability

The United States, as a pioneer in the global wind industry as well as having some of the best wind resources in the world, has had much lower prices than most of its OECD competitors for some time, but the difficulty was always the on-again, off-again nature of the US market, as it was subjected to short term policy frameworks which left policy gaps every few years and hampered the growth of the industry.

So it was very welcome news, and a big surprise to all except for those directly involved, when the Congress passed and the President signed into law a long term extension and phase out of the Production Tax Credit (PTC) which has been the main federal policy support for wind energy in the US. So the US wind industry now embarks on its longest-ever period of policy stability, and the potential implications of this go far beyond the US market. Five years from now the US wind industry will be a very different and much stronger animal, we believe.

While we all have a lot of work to do, and much could go wrong, I am more encouraged by the overall trends than I have been in many years, perhaps ever. But we have lost precious time and we have to move quickly and unambiguously in the right direction if we are to reach our goals.

For the second year in a row, the IEA has published an analysis of energy-related CO_2 emissions which says that emissions were basically flat in 2015, as they were in 2014, the first time that this has happened in a period of global economic growth. This is welcome news indeed, but now we have to get the numbers going down, and rapidly.

We don't need technological miracles to achieve our goals, although they would certainly help. We have proven that we have the affordable, reliable, competitive technology to reach our goals. Now we need political miracles in energy markets around the world; to ensure that the transformation happens quickly enough to leave our children and grandchildren a habitable planet. ■

See more details and five year projections for the global wind industry out to 2020 in GWEC's fresh off the press Global Wind Report: http://www.gwec.net/wp-content/uploads/vip/GWEC-Global-Wind-2015-Report_April-2016_22_04.pdf

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