

Climate ripe for change

Landmark emissions targets were outlined at the COP21 meeting in Paris late last year and the chemical industry will play an important role in achieving them



Future progress on managing climate change is in our hands

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After several years of negotiation, the Paris Climate Conference (COP21) that took place in November last year is widely seen by industry and policymakers alike as a genuine milestone in global emissions-reduction accords.

"I think it's widely recognised that the COP21 in Paris was a breakthrough in terms of climate conferences," says Marco Mensink, director-general of Brussels-based chemicals industry body Cefic. "The agreement reached was what people hoped for in Copenhagen a few years back, and in this case the EU was able to take a lead which it wasn't able to before in getting the deal brokered.

"At the time of the COP in Copenhagen, the US and China pretty much went off and left Europe standing there in the cold and made a deal. In this case Europe was actively brokering a deal in Paris," he adds.

The Paris conference represented a tipping point, with the US government at the time

less than 12 months away from a change of administration, and China sufficiently concerned about air quality in its cities that it was finally willing to sign up to a concrete emissions-reduction target.

"China and the US are two of 148 countries, representing 87% of global emissions, that signed up to intended nationally determined contribution (INDC) commitments to reduce greenhouse gases (GHGs) to cut emissions – a number that has risen since then to 179.

China has committed to reach its emissions peak by 2030 – and earlier, if possible – and cut back from there, while the US committed to cutting emissions by 26-28% by 2025.

A DIFFERENT APPROACH

A key factor in securing their support was the shift from top-down agreements, where a target would be set centrally, to a bottom-up approach where countries would decide their commitments. "The big difference in the negotiations was going from a top-down climate agreement, to a bottom up process, which is

what the US and China wanted in the first place," says Mensink.

The shift allows countries to determine the most achievable approach for their GHG reduction targets. While this freedom allowed an agreement to be reached, whether that will lead to the capping of global warming to 2030 at 1.5 degrees remains to be seen.

"The Chinese leaders have said very directly that they will do what is appropriate for China, and we have the feeling that other global actors will be focusing on how it fits also to their economic development," says Brigitta Huckestein, senior manager for energy and climate change at BASF.

The European chemicals industry is a producer of climate change solutions and a heavy greenhouse gas emitter, and Cefic president and Solvay CEO Jean-Pierre Clamadieu underlined the challenges and opportunities presented to the sector by the Paris accord at the body's annual meeting last year.

"COP21 is an important event for the chemical industry. We are both large contributor to emissions, we are large users of energy, but we are also a very important provider of technologies and solutions when moving into a low-carbon economy," he said when speaking in Brussels last year.

GETTING THE BALANCE RIGHT

The industry has long voiced fears about the impact of steadily increasing emissions reductions targets in the face of competitors in lower-cost, less-regulated territories such as the Middle East and North America.

While the US and China did sign up at COP21, the EU set itself a bolder target than either country, with the goal of reducing emissions by 40% from 1990 levels by 2030.

"The global playing field is not more even," Huckestein says, noting that China's agreement does not at this point contain any cap on how high its emission levels can reach before the 2030 peak.

The Paris accord was opened for ratification in April this year, but all countries in the union need to agree their targets before the bloc can ratify its INDCs, and developing economies in the east are resistant to the level of commitment being pursued by western economies.

"Poland and other eastern member states which are not really happy with all the discussions we are having," notes Jorg Rothermel, director of energy, raw materials and climate at VCI.

"What is sometimes missing is the discussion on how to get climate protection in the most cost-efficient way"

BRIGITTA HUCKESTEIN

Senior manager for energy and climate change, BASF

The implications of the UK voting to leave the union have also thrown off timelines, due to the significance of the country in the EU and the uncertainty over when exactly it will exit.

“On the day, it will all depend on the consequences of the Brexit vote. The UK is a big player in this game, and if the UK will not be a part of the European budget, there must be new discussions on the distribution of the efforts between the rest of the European countries. That means that it may take longer to ratify the COP 21 decision,” says Rothermel.

Germany’s BASF is the largest chemicals producer in Europe, and the amount of time and money it devotes to developing new products and solutions aimed at climate change and emissions reduction – such as housing insulation, lightweight auto parts, energy storage – should illustrate the potential windfall that climate change accords can offer.

“About half of our research investments go into areas related to energy, climate and sustainability,” says Huckestein. “There is huge potential in the building sector and we are developing new, more efficient insulation products. For cars, it’s a case both of making traditional cars use less fuel and also developing solutions for electric cars.”

However, intensifying energy and emissions burdens can have a cooling effect on

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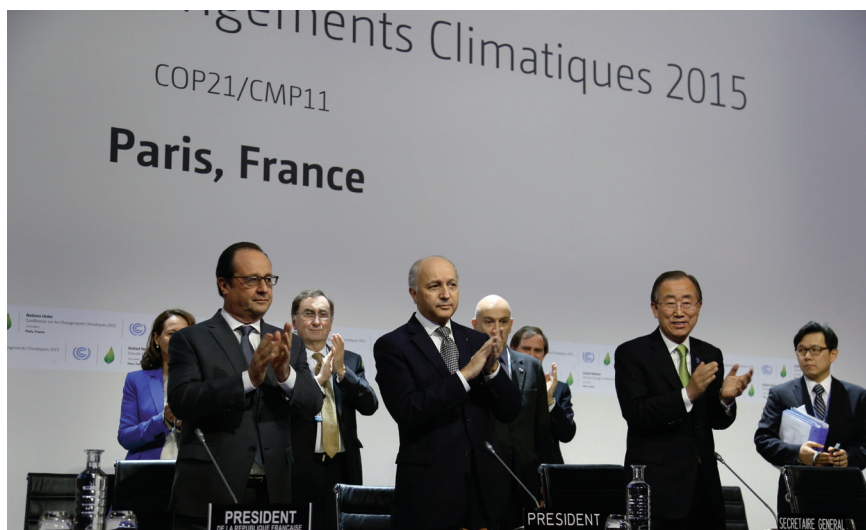
MARCO MENSINK
Director-general, Cefic

spending, and R&D investment is often one of the first things to be pared back when companies are fighting to improve margins.

“Of course these areas provide new markets for us, but we need to produce these products in a cost-effective way if we want to be competitive in a global market, which means we need conditions for industry here in Europe that do not add additional cost burdens to international competitors,” asserts Huckestein.

The mix of opportunity and foreboding in the climate change accords inspire in the industry is illustrated by the strong push on renewable energy written into many country’s INDCs. China has committed to develop enough renewable energy capacity to provide 20% of its energy needs by 2030, amounting to 800-1,000 gigawatts – essentially reproducing the US’ entire installed capacity.

Such a strong push on renewables provides markets for coatings, solar panels, industrial chemicals, as well as for technology still under development such as effective battery storage, all of which require the chemicals industry.



Political leaders applaud the agreement reached during the Paris climate summit

But Germany-based producers are wary of the impact of more investment on renewables after years of subsidies for solar and wind capacity following the decision to mothball the country’s nuclear plants post-Fukushima led to long-lasting spikes in energy prices.

“The investment in renewables here in Germany were triggered very much by subsidies, which raises the energy cost. There are exceptions for industries but these are highly needed, because without them energy costs would be so high that it would place too much of a burden on industry,” Huckestein adds.

LOW-HANGING FRUIT

The focus on renewables capacity over other avenues of GHG reduction can mean that low-hanging fruit such as housing insulation can be missed. “What is sometimes missing is the discussion on how to get climate protection in the most cost-efficient way. For example, the funding for renewable energy is much higher than for renovation of buildings, which actually would be more cost effective for reducing the amount of CO₂. Funding for renewables is about 10 times higher than we have for renovation of buildings,” notes Huckestein.

The chemicals industry has been active in reducing its carbon footprint, with VCI arguing that reductions in energy consumption, efficiency and emissions trading will reduce the German sector’s emissions 87% compared to 1990 levels by 2050. The association, which advocates a market-driven response to climate change as opposed to international accords, has called for a favourably-priced option for CO₂ to be chosen, with access to international mechanism for emissions trading necessary to avoid carbon leakage.

Cefic has also criticised the EU emissions trading system (ETS), calling for the Commission to alter the system for the 2021-2030 period

to incorporate a dynamic allocation approach for all industrial sectors based on current emissions, as opposed to historical averages.

Studies suggest that the danger of carbon leakage – where a producer would shut down a plant in Europe and move it to an area with lighter emissions regulations – has proven to be overstated so far, although chemical trade groups have noted that official investigations of the matter mostly conclude in 2012, before the latest phase of the ETS started.

A more pertinent factor may be investment leakage, where the decision to develop a new plant may be dictated by price and competitiveness, is more apparent.

“If you look at the investments now ongoing in the US, which are now shale-gas based, the energy price difference between Europe and the US is still very real, and it doesn’t mean that all of a sudden sites will close. It means that investments are going to other parts of the world as we speak,” points out Mensink. “This represents a combined picture of energy costs, shale gas availability and also climate costs.”

Nevertheless, climate change solutions are exactly the kind of research-led, high-skill innovations that the European industry can provide, and it is important these innovations continue to be developed on the continent, he argues.

“I don’t think there is any solution possible without chemistry involved. Look at all the plans on the table for the future,” he says. “If you look at windmills, there are chemicals involved, if you look at solar panels there’s chemistry involved. Also for lightweight cars chemicals and housing insulation.

“What’s very clear is that whatever the targets will be, the chemicals industry will be part of that solution. The only thing we need to make sure of is that we do it in a way where the European industry can provide those solutions.” ■