

# TO THE COMMISSIONER FOR CLIMATE POLICY

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*Your focus should not be single-mindedly on immediate decarbonisation, but on the three ‘ins’: instruments, innovation and international agreement. This should not mean that less financial and political capital is spent on climate policy, but that climate policy becomes even more ambitious*

#### **STATE OF AFFAIRS**

There is almost unequivocal consensus that, above a certain threshold, global warming reduces welfare and increases inequality, because the effects are predicted to be strongest in less-developed countries. There would be a limited case for concern when comparatively minor effects happen in a distant future. But Europe and all other parts of the world are facing the risk that climate change might have highly non-linear effects – that is, there are tipping points which cause irreversible and highly expensive events (for example, a shift of the Gulf Stream). The non-negligible possibility of such extreme events calls for quick action to reduce the probability that such tipping points will be breached. To avoid catastrophic events, policymakers from 193 countries agreed in Cancun in 2010 that they want to stabilise the concentration of greenhouse gases (GHG) in the atmosphere at a level that implies a fair chance to contain the temperature increase at two degrees Celsius above pre-industrial levels (in 2013, we were already at 0.8 degrees Celsius).

The EU was a pioneer in acknowledging the need to fight climate change. The EU15 over-fulfilled its 1997 Kyoto Protocol commitment (a 10.6 percent GHG cut instead of 8 percent between 1990 and 2012) and the 2008 energy and climate package included the binding target of a reduction in greenhouse gases by 20 percent by 2020, which Europe reaffirmed at the 2009 Copenhagen climate summit. The EU is

on track to meet this target. In 2010, the European Commission college for the first time featured a Commissioner for Climate Action – highlighting the importance of this area.

To avoid a damaging level of climate change, decarbonisation has to continue beyond 2020. To stay within the two degree limit, mankind has to cut emissions by half by 2050. Given the responsibility of developed countries for past emissions, and their relative wealth, it was argued that developed countries should reduce emissions by 80 to 95 percent by 2050. Along these lines the European Commission proposed in 2011 a low-carbon roadmap to achieve the goal of 80-95 percent decarbonisation by 2050. This document has not been adopted by the Council of the EU, so no formal overarching European commitment beyond 2020 exists. That said, there is a substantial sectoral commitment to long-term decarbonisation. The linear reduction in the annual issuance of emission permits to participants in the EU emissions trading system (ETS) implies that by 2067, the volume of permits issues will be zero. This implies that the sectors covered by this system – which represent half of Europe’s current emissions – will need to be essentially carbon-neutral by this date.

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## Decarbonisation post-2020

### CHALLENGES

The primary challenge that you will face is to keep smooth decarbonisation until 2050 on Europe’s agenda. In order for Europe to do its share to preserve a fair chance of limiting the global temperature increase to two degrees Celsius, Europe would actually need to do more than the 40 percent greenhouse gas reduction target for 2030 relative to 1990 proposed by the European Commission in early 2014. But, given the lack of an international agreement, a significantly more ambitious target (60 percent, for example) would be both environmentally ineffective because of carbon leakage and politically unrealistic.

At the international level, climate policy is largely about the distribution of cost in order to avoid an uncertain collective risk in the future. This creates for you the challenge of an extremely difficult coordination task, both within the EU and globally.

#### *Renationalisation of climate policy*

The economic crisis caused a reduction in industrial production and hence in carbon emissions. This resulted in the main European

# *The emissions trading system is well set up to incentivise the optimal decarbonisation balance over time*

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## **Emissions trading system**

instrument for decarbonisation – the ETS – becoming largely redundant, with about one year’s worth of emission allowances going unused in the past six years. As a consequence, several member states started to introduce national schemes to encourage particular investments in low-carbon technologies on their territory. If successful, these measures will incentivise emission reductions only in the respective countries and sectors and will thereby undermine the idea of a European market providing the lowest-cost decarbonisation options.

Nevertheless, the ETS is an effective and efficient tool to mitigate GHG emissions. As a European tool, that covers most carbon-emitting industries and that will run indefinitely (with a reducing annual supply of allowances) it is well set up to incentivise the optimal decarbonisation balance over time between countries and sectors. Its success has made it a model for existing and proposed systems in other parts of the world such as California, New Zealand and China. Maintaining the central place of the ETS in the EU’s decarbonisation efforts, and preventing fragmentation, will be one of your top priorities.

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## **Member state attitudes**

In addition, you will continue to have to handle the divergences in the attitudes of member states, which have increased with the economic crisis. While some member states, in particular central and eastern European countries, prefer to prioritise low-cost energy to maintain their competitiveness in difficult times, others, such as Germany, would prefer to maintain Europe’s role as a decarbonisation frontrunner, partly to improve the competitiveness of their industries that benefit from such policies (for example, renewables technology providers). To date, this schism has prevented a decision on a decarbonisation strategy beyond 2020. The lowest common denominator would be a fragmentation of climate policy during your mandate. This

# *The increase in viable hydrocarbon resources reduces the prospects for a global climate pact*

could have huge repercussions for the internal market (eg the energy market), mute the overall decarbonisation ambition below what is economically sensible, and weaken Europe's role in international climate negotiations.

## *Lack of a strong international agreement*

The United Nations Framework Convention on Climate Change has repeatedly failed to deliver a strong multilateral commitment to curbing greenhouse gasses. While emerging countries such as China and India have never committed to binding national targets, countries such as Australia, Japan and Canada have essentially shelved their climate ambitions. The increase in viable hydrocarbon resources in the last decade (for example, shale gas) further reduces the prospects for a global climate pact. The owners of these additional 144 billion tonnes of oil equivalent of oil and gas, worth about \$86 trillion, have a strong interest in preventing any deal that implies not burning a part of this bounty. These factors create a major challenge for you. The lack of international agreement makes strong European unilateral commitments difficult, both politically and economically. Politically it is difficult to convince businesses and citizens that a small continent can make a measurable contribution and should bear the economic cost. Economically, there is a risk that domestically-produced carbon is replaced by foreign-produced carbon.

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UNFCCC

## **RECOMMENDATIONS**

The most effective contribution Europe could make to combatting climate change would be to help reduce the cost of decarbonisation in Europe and elsewhere. Lower decarbonisation costs would make a global agreement more likely and, together with such an agreement, would make it easier to implement more aggressive decarbonisation policies in Europe.

There are essentially two vectors for reducing the cost of decarbonisation. The first is developing and demonstrating policy instruments that enable cost-effective decarbonisation. The second is developing and demonstrating low-carbon technologies that are competitive with hydrocarbon energy sources. Your focus, therefore, should not be single-mindedly on immediate decarbonisation, but on the three 'ins': instruments, innovation and international agreement. To be clear, this should not mean that less financial and political capital is spent on climate policy, but that climate policy becomes even more ambitious than in the past five years.

#### *The international level*

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#### Global deal?

Decarbonisation must eventually be conducted at global scale. Without a global agreement of all major economies, the efforts of individual countries to curb greenhouse gasses are futile because the hydrocarbons deliberately refused by some countries would just be burned in other parts of the world. But a stable agreement of all major economies to not take advantage of the low cost of fossil fuels to boost their competitiveness is hardly thinkable. Therefore, it is essential to bring down the competitive advantage of fossil fuels by improving low-carbon technologies (innovation) and reducing the competitive disadvantage of decarbonisation policies (institutions).

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#### COP21

Already, it seems late 2015 might be pivotal. President Obama's plan to cut carbon emissions in the power sector and the Chinese policy to set-up regional emission trading mechanisms leading to a national scheme seem to create a positive momentum for the 2015 Paris climate summit (COP 21), which is supposed to result in a new globally binding climate agreement. So your difficult task will be to coordinate a European strategy to achieve a credible (though maybe not legally binding) commitment from all major countries on GHG reductions. In this respect, Europe's role will need to be more reactive than it was for Copenhagen 2009. Neither threats of trade measures ('carbon border adjustments') nor reduced European ambitions are likely to go down well with the US and Chinese delegations. Europe should prepare a toolbox for facilitating a deal. This might include supporting innovation and institutions beyond the EU and opening the European emission trading system (and its governance) further to other countries. This would achieve GHG reductions much more cheaply than unilateral European decarbonisation measures, and might allow EU

companies to capitalise in other markets on their ‘green economy’ expertise.

But even if international negotiations fail once more, it still makes sense to reinforce the development of institutions and technology to mitigate climate change. This would keep open the option to conduct quick decarbonisation as soon as a corresponding agreement is reached, and it would increase the likelihood of such an agreement by reducing the cost for international partners to join the decarbonisation efforts.

The only alternative to preparing the tools to combat climate change is to stop all explicit mitigation efforts, such as emissions trading, invest more in adaptation measures – higher dykes – and hope that the international community comes to its senses. But this strategy would be high risk. Every year of non-action makes the decarbonisation path steeper and hence more expensive. Furthermore, the portfolio of technologies available to mitigate climate change in a certain year gets smaller, for every year we do not invest in corresponding innovation. So we would continue to rely on more expensive and less-effective tools than we could have had if properly prepared. At a certain level of cost, an international agreement becomes unrealistic, so not preparing today would risk making Europe jointly responsible for what might become one of the greatest man-made disasters.

### *Institutions*

Strengthening the ability of the EU ETS to encourage the lowest-cost emission reductions is essential. For this, you will have to (1) safeguard the system against recent challenges and (2) develop it further to address future decarbonisation needs.

The ETS has been in troubled waters since about 2008. The price for emission allowances in the ETS has collapsed because of an oversupply of allowances and the undermining of the system’s credibility. These developments risk making the ETS irrelevant – being replaced by less efficient national, sectoral and time-inconsistent measures. Revamping the ETS is important for incentivising the use of existing low-carbon alternatives (for example burning gas instead of coal) and for ensuring investments in low-carbon assets and innovation.

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Adaptation

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Emissions  
trading system

# *Every year of non-action makes the decarbonisation path steeper and more expensive*

Your predecessor as Climate Action Commissioner proposed to revamp the ETS by increasing the speed by which the annual allocation of allowances is curtailed (reducing the volume of distributed permits by 2.2 percent every year after 2020 compared to 1.74 percent today). This would bring forward the year in which the number of allocated allowances reaches zero from 2067 to 2057.

The increase in the speed of reduction of the annual allocation after 2020 is a sensible step to ensure that Europe contributes to the containment of global warming. In addition, this increases the consistency between the decarbonisation roadmap and the ETS, thus reducing uncertainty in the market.

Your predecessor also sought to stabilise (or even push up) the carbon price in the short term by removing some surplus allowances from the ETS, for reintroduction closer to 2020 – ‘backloading’. This was supposed to send a signal that the EU is sticking with the ETS as the central pillar of its decarbonisation strategy. However, backloading was also an *ad-hoc* political intervention that demonstrates that policy-makers are able and willing to change the supply of allowances at their convenience. To counter this perception of arbitrary intervention, the Commission proposal for ETS reform foresees a mechanical ‘market stability reserve’ that adapts the supply of allowances to demand. The workability of such a mechanism is debatable. In fact, forward-looking market participants might undo the effect of such a mechanical rule, and the proposed volumes are probably too small to have a major impact on prices. So instead of being a definitive reform of the ETS, the ‘market stability reserve’ looks more like the first of a series of reforms.

A more promising way to restore credibility in the ETS, which you should consider as part of the negotiations on ETS reform that will

take place in the next two or three years, would be to shield it from political interference by ensuring that future policymakers that decide to undermine the ETS will have to compensate companies that invested based on the claims that the ETS is stable made by policymakers today. This could be organised in form of a private contract between low-carbon investors and the public sector. For example, a public bank could offer contracts that agree to pay in the future any positive difference between the actual carbon price and a target level. Low-carbon investors would bid to acquire such contracts to hedge their investments. This would produce three benefits. First, the public bank would be able to collect initial payments (a sort of insurance premium) and make a profit if a sufficiently tight climate policy is maintained. Second, the private investor would significantly reduce its exposure to the – political – carbon market and hence would accept longer pay-back times for its investments. This would unlock long-term investment that is currently too risky. Third and most importantly, public budgets would be significantly exposed to the functioning of the ETS. If future climate policymakers take decisions that lead to increases in the volume of available allowances, they might be called to account by the treasuries, because this would activate the guarantee pledged to investors. All participants – including investors not covered by the scheme – would know that there is money on the table. This would serve as a much stronger and hence more credible commitment to preserving the integrity of the ETS.

In addition, to make the ETS fit for the future you will need to ensure that it covers more sectors and is linked to international carbon-price developments.

More sectors – such as transport and heating – need to be covered because a significant contribution to decarbonisation will have to come from these sectors in the future. Bringing these sectors into step with the ETS is important because of interdependencies between sectors. For example, electricity for electric vehicles and heat pumps falls under the ETS, while cars with combustion engines and oil heating do not. The most elegant solution to avoid different carbon prices for different technologies would be to extend the scope of the ETS to all relevant sectors. For practical reasons, this might not be done directly (ie not every car would fall under the ETS), but through indirect measures, such as an emission-price related fuel-tax component.

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ETS scope

Extending the geographical scope of the ETS will be a strategic exercise. While some smaller countries might be happy to join the ETS if they receive sufficient free allowances that they might sell to the European market, larger countries will be more reluctant to join a 'global carbon currency' managed in Brussels. On the other hand, Europe would not benefit from losing control over the allocation of allowances in its system and being possibly forced to buy foreign 'hot air'. So while for the time-being bottom-up linking of individual systems is a welcome perspective, at some point you should engage in a serious discussion with your non-EU counterparts on setting up a generally accepted international governance structure.

### *Innovation*

At current prices, almost all proven reserves of oil and gas will be produced and ultimately burned, taking us beyond the two degrees Celsius limit. In addition, at current prices, most of the carbon in proven coal reserves would also be released into the atmosphere and more not-yet proven hydrocarbon resources will be explored and partly brought to the market at some point.

Keeping this valuable bounty under the ground requires the availability of alternatives that are competitive with hydrocarbons. Currently, apart from some specific applications (eg distributed generation of electricity from renewables), most parts of the incumbent fossil-energy system cannot be challenged by existing low-carbon energy sources. In some areas, such as transport, we are very far from low-carbon technologies becoming competitive with oil and gas. An underestimated problem in the long term is that competitiveness is a moving target. If demand for hydrocarbons decreases, their price might fall. But most of the oil reserves would be produced even at prices significantly below the current level.

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### Fossil-energy system

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### Competitive low-carbon technologies

Making available low-carbon technologies that can compete with fossil fuels at a politically feasible carbon price is also of paramount importance to allow the introduction of carbon pricing in all relevant sectors at global scale. You should have a strong focus on innovation as a channel for domestic decarbonisation and competitiveness, and to enable climate action beyond the EU.

# *Driving innovation in low-carbon technologies at the necessary scale is an enormous task*

Driving innovation in low-carbon technologies at the necessary scale is an enormous task. There remain many open questions concerning the optimal choice of the technologies to be supported, the optimal size of support and the optimal mix of policies. But there are a number of no-regret options. To be on the safe side, Europe should support a wide portfolio of technologies, resilient to the failure of any individual technology. Based on existing European coordination platforms, such as the Strategic Energy Technology Plan, you can – in coordination with the commissioners for energy and research – develop a technology-neutral mechanism for allocating support to individual technologies. The overall envelop for supporting ‘green innovation’ should be brought in line with the size of the task. A meaningful order of magnitude would be the amount spent on defence R&D (in the order of €10 billion per year). To get the most innovation for this money, you should work to rebalance spending away from large-scale deployment of immature technologies (currently about 99 percent of the money on renewables) to a more targeted disbursement of funds throughout the entire innovation chain.