

## Why the European Emissions Trading Scheme needs reforming, and how this can be done

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Following the vote in the European Parliament, the Commission will not be able to quickly implement "backloading", the point of which is to send a very short-term signal to the market pending further structural reforms. There still remains the question of what actions can be taken to revitalize the CO<sub>2</sub> allowances trading system. After a quick analysis of the factors that contribute to current shortcomings, this paper reviews the options proposed by the Commission in its consultation document. None of the routes proposed by the Commission in its consultation paper seems completely satisfactory in this respect, because the question of market governance remains a taboo that is not explicitly addressed. This note proposes exploring an alternative route, in which an independent carbon market authority (ICMA) would be established. The ICMA would receive a mandate from the public authority to manage the allowances market within the framework of the ETS cap initially set, and to adjust it in the event of changes in other public policies, so as to avoid the unfortunate superimposition of different instruments. The position of the European Union at the upcoming 2015 Conferences of Parties (COP 21) would be strengthened if the recurring failures of the ETS were corrected. Some of our Asian competitors (China and South Korea) are in the process of deploying such tools in their own economy, often inspired directly by the European system.

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Following the vote in the European Parliament, the Commission will not be able to quickly implement "backloading", the point of which is to send a very short-term signal to the market pending further structural reforms. There still remains the question of what actions can be taken to revitalize the CO<sub>2</sub> allowances trading system.

According to simulations carried out by the Climate Economics Chair from the ZEPHYR model, three factors contribute to the system's current shortcomings: the economic and financial crisis that led to a fall in demand for allowances by industrial enterprises; the massive influx of international Kyoto credits, of which the European allowances system has become the sole buyer; and the superimposition of the ETS instrument with other Community policies (the Renewables Directive and the Energy Efficiency Directive).

These simulations indicate that the backloading by itself would lead to an artificial rise in prices, which could then be followed by a more profound fall subsequently. They show that only a clear and credible signal over time on the future amount of emissions rights (the "cap") would be able to rectify the market. To be effective and sustainable over time, this signal must be accompanied by flexibility in the management of supply in the short term in accordance with market conditions.

None of the routes proposed by the Commission in its consultation paper seems completely satisfactory in this respect, because the question of market governance remains a taboo that is not explicitly addressed.

a) If we stay within the current system of governance, the most appropriate action would be to speed up the adoption by the 27 EU Member States of a credible goal for 2030. Backloading accompanied by an emissions reduction target of 40% in 2030 could raise the price of CO<sub>2</sub> allowances to €16/tCO<sub>2</sub> in 2015 and €24/tCO<sub>2</sub> in 2020. In the event of its adoption, retaining the current governance would, however, leave a rigid system unable to adapt to shocks which are unpredictable today but are certain to occur between now and 2030.

b) The Chair proposes exploring an alternative route, in which an independent carbon market authority would be established:

- The public authority (Council + Parliament) would retain the political prerogative of setting the overall decarbonisation objectives of the economy as a whole and defining the various instruments to attain them; from this standpoint, the priority remains the setting of credible emissions reduction targets for 2020, 2030 and 2050 ("Roadmap");
- An independent carbon market authority (ICMA) would receive a mandate from the public authority to manage the allowances market within the framework of the ETS cap initially set, and to adjust it in the event of changes in other public policies, so as to avoid the unfortunate superimposition of different instruments.

Such a scheme could be implemented in a framework of enhanced transparency with regular requirements in terms of reporting by the ICMA to the European Parliament and Council.

Of course, the position of the European Union at the upcoming 2015 Conferences of Parties (COP 21) would be strengthened if the recurring failures of the ETS were corrected. Some of our Asian competitors (China and South Korea) are in the process of deploying such tools in their own economy, often inspired directly by the European system.

## **The rejection by the European Parliament of backloading proposal raises doubts about the role of the ETS in European climate policy**

The backloading measure proposed by the Commission is an ad hoc response that does not meet the structural challenges that the market is facing. It could nevertheless reaffirm political support for the instrument and be a strong signal to undertake more structural reforms. Since its rejection by the European Parliament on 16 April, the carbon price has lost 35% of its value and now stands at a historic low of around €3/tCO<sub>2</sub>. Before examining the options for reform that are still on the table, we will first briefly recapitulate the role of the ETS in European climate policy.

### **The expected role of the carbon market in climate policy**

The EU Emissions Trading Scheme is a major political instrument at the European and French level (linked to the energy and environmental transition objectives of the Climate and Energy Package 2020 and 2030 and the Roadmap 2050). It is also an instrument of international credibility (for the COP climate negotiations in 2015 and the development of allowances trading schemes outside Europe), since the objectives of the European Union are situated within the framework of international commitments to reduce the greenhouse gas emissions of developed countries by at least 80% by 2050 compared to 1990.

The technological and organizational changes needed over time to achieve this objective are still largely unknown. There is no simple rule for evaluating a desirable or optimal carbon price, due to the vast amount of information acting on the cost of reducing emissions.

The allowances system helps establish this price and thus facilitates the implementation at least cost of the medium-to-long-term decarbonisation of the economy. For this to work, two conditions must be met:

- The price must reflect a quantitative emissions reduction constraint that is credible in both the short term (management of the existing production system) and the long term (investment decisions aimed at changing the system).
- The ETS must be complementary with the other public policy instruments.

If these conditions are not met, there is a risk that Europe and France will commit to a more expensive emissions trajectory, due to delays in low-carbon investment and the uncontrolled superimposition of public policy instruments.

### **Behind the current situation, the causes of the malfunctioning of the market are structural**

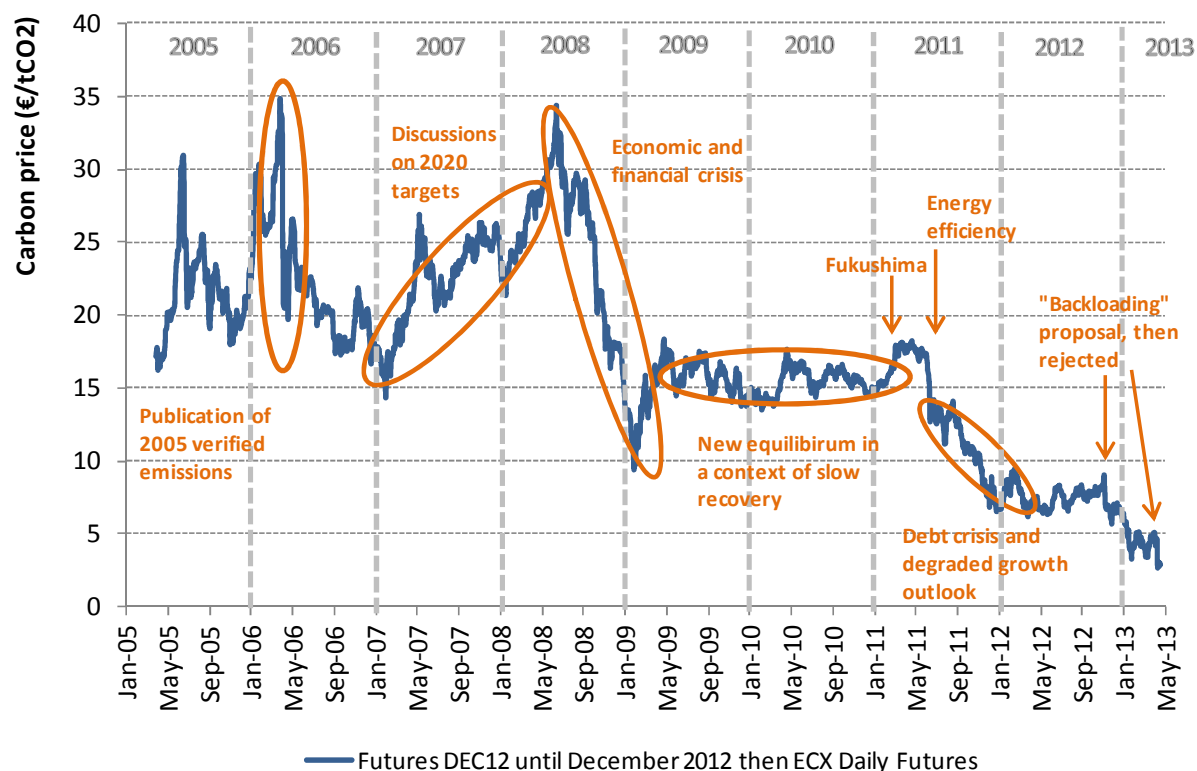
There are three main causes for the current malfunctioning of the market (see Figure 1 below):

- The decline in industrial activity since the 2008 crisis and future prospects perceived as unfavourable.
- The abundance of carbon credits resulting from failures of the international Kyoto system.
- Interactions between the allowances system and other energy and climate policies.

As well as cyclical causes whose influence on the price is more desirable (the counter-cyclical effect), the system today suffers from structural weaknesses. The effects on the market of other climate and energy policies – energy efficiency, renewable energy, carbon credits and international allowances that result in decreased demand for allowances in the market – cannot be controlled effectively within the current framework of governance, which automatically leads to the progressive marginalization of the ETS.

This phenomenon blurs the expectations of actors even more, reflected by the current price level, which does not take into account the long-term and still largely implicit ambition of the system. Yet it is these expectations that affect the investments made today in production facilities, which, because of their long lifetime, will still be in operation in 2050.

**Figure 1: CO<sub>2</sub> allowances price since 2005**



Source: Climate Economics Chair from ICE ECX data

### **Backloading is an ad hoc response that does not resolve structural issues**

The various options for reform proposed by the Commission have been tested with our ZEPHYR simulation model of the allowances market (see Appendix 1, which summarizes the results, which were included in our response to the Commission's public consultation). These simulations show, firstly, that backloading alone does not rectify the market in the medium to long term and leads to even greater confusion in terms of market participants' expectations. The price rise induced by such a short-term measure (about €16/tCO<sub>2</sub> in 2015 for a withdrawal of 900 Mt) leads in the medium term to an even lower price than today, as long as the allowances cap remains unchanged.

The simulations then show that only those options which make the allowances cap visible in the longer term can permanently remedy the market. The most appropriate action would be to speed up the adoption by the 27 EU members of a credible objective for 2030. Backloading accompanied by a 40% emissions reduction target in 2030 could raise the price of CO<sub>2</sub> allowances to €16/tCO<sub>2</sub> in 2015 and €24/tCO<sub>2</sub> in 2020.

However, none of the proposed measures can effectively control the interactions with other climate and energy policies. Maintaining the current governance would leave a rigid system incapable of adapting to shocks, which though unpredictable today are certain to occur between now and 2030.

## **Creating a predictable and credible environment entails a reform of governance**

The recovery of the market calls for strong political support at a European level and a commitment to reform its governance, involving the establishment of a predictable and dedicated framework for action. This mandate could be entrusted to an independent carbon market authority, which would ensure the consistency and credibility of the allowances system in the short to long term through the dynamic management of the supply of allowances.

In this scenario, the role of political authority remains unchanged: namely, to define detailed policy objectives for emissions reduction at a European and national level; and to select the range of public policy instruments to achieve these objectives.

### **A possible mandate for an Independent Carbon Market Authority**

The mandate for the active management of the supply of allowances by the independent authority should be based solely on the quantities involved, in order to avoid artificially setting a price disconnected from market conditions. In the short term, it would be a matter of being able to adjust the timing of auctions so as to ensure proper functioning and liquidity in the trading market. In the medium and long term, it would be a matter of being able to adjust the allowances cap in order to control interactions with other climate and energy policies and with international carbon credits (see Appendix 2).

To motivate and justify its actions, the independent authority should implement fair and transparent monitoring of the system (monitoring of transactions, compliance behaviour, low-carbon investment, emission trajectories, effects on competitiveness). It should also report regularly and publicly on its actions to the Council and the European Parliament.

At an institutional level, the mandate of this authority could either be assigned to a new agency, or the powers of the existing energy markets authority could be extended.

In practical terms, it may be wondered how such an authority would have reacted to the recent market malfunctioning.

- In the short term, the question of backloading would no longer arise because of the mandate given by the European Parliament and the Council to the independent carbon market authority for the dynamic management of auctions.
- Faced with the three previously identified causes for the fall in the market price, the independent carbon market authority would not have made any changes to the cap following the economic recession (in view of the normal and desirable adjustment of the equilibrium price after an economic shock). It would, however, have investigated the impact of changes in the functioning of the international Kyoto credit market and the impact of other Climate and Energy Package directives, with a view to tightening the cap. This tightening would involve returning to the constraint level initially assigned by the public authority to the sectors covered.

## Appendix 1: Evaluation of the measures proposed by the European Commission

The table below lists the results of different simulations carried out with the ZEPHYR model for the period 2013-20, on the basis of the options proposed by the European Commission in its report *The state of the European carbon market in 2012*. The first line describes a situation without any change compared to the current situation (baseline scenario), where the price will reach €13/t CO<sub>2</sub> in 2020. The other lines show how this reference situation would be affected by a change in the rules of the market. The two options that seem best able to correct the market would be option (a), which consists of raising the 2020 reduction target to 34% and a linear extension of the reduction after 2020; and the combined option (b) + (c), which involves a cancellation of allowances in Phase 3 and a revision of the linear reduction factor of the cap in Phase 4, equivalent to a Roadmap trajectory implemented from Phase 3. In both cases, the price could go up to around €25/tCO<sub>2</sub> in 2020. The remaining options, which were not tested with the model, are briefly discussed.

Scenario	Carbon price in 2015	Carbon price in 2020	Comments
<b>Reference</b>	€6/tCO <sub>2</sub>	€13/tCO <sub>2</sub>	Current situation (continuity of linear reduction factor in Phase 4)
<b>Backloading</b>	€16/tCO <sub>2</sub>	€3/tCO <sub>2</sub>	Perfect expectations: no effect on the price (no change in the Phase 3 cap) Imperfect expectations: effect on the short-term price leading to an even lower price in the medium term
<b>(a): 34% reduction target in 2020 for EU ETS sectors</b>	€17/tCO <sub>2</sub>	€27/tCO <sub>2</sub>	Revision of the objective from 2013, in practice impossible Overly ambitious linear trajectory with regard to the 2050 objective Does not allow dynamic management of interactions
<b>(b)+(c): Withdrawal of allowances in Phase 3 and revision of the linear factor in Phase 4 (in line with the Roadmap 2050)</b>	€16/tCO <sub>2</sub>	€24/tCO <sub>2</sub>	Appears attractive but requires working on actors' expectations and a complicated political process Does not allow dynamic management of interactions
<b>(d): extension to other sectors</b>	Not tested		Only option proposed that concerns demand for allowances Extends the carbon price to diffuse emissions A good way reforming the market in theory; probably complicated in practice Does not allow dynamic management of interactions
<b>(e): limiting access to international credits in Phase 4</b>	In all our scenarios: no credit accepted in Phase 4		Use of carbon credits or international allowances in Phase 4 could have a (strong) effect on prices from Phase 3 Difficult to ensure good expectation conditions for actors
<b>(f): price control mechanisms</b>	Not tested		Would allow management of interactions Difficult for the public authority to decide on the "right" carbon price over time Risk of disconnecting the carbon price from market fundamentals in relation to the achievement of the reduction objective at least cost

Source: Climate Economics Chair, ZEPHYR-Flex model

Appendix 2: Outline of the mandate of the Independent Carbon Market Authority

Function	Associated action
<b>Regular monitoring and transparency of information</b>	<p>Collecting, analysing and sharing information on:</p> <ul style="list-style-type: none"> <li>• Transactions on the ETS market</li> <li>• Emission trajectories</li> <li>• Compliance behaviour</li> <li>• Low-carbon investment</li> <li>• Effects on competitiveness</li> </ul> <p>Motivating and justifying its decisions.</p>
<b>Liquidity and good functioning of the market in the short term</b>	<p>Primary market: time management of allowances auctions. No need for intervention in the secondary market.</p>
<b>Credibility over time of the medium-to-long-term constraint</b>	<p>The public authority determines the detailed emissions reduction objectives and the policy instruments to achieve these objectives.</p> <p>The independent carbon market authority implements this policy objective in the sectors covered and can dynamically adjust the allowances cap in two cases:</p> <ul style="list-style-type: none"> <li>• To maintain consistency with other climate and energy policy instruments</li> <li>• To monitor interactions with carbon credits and international allowances.</li> </ul> <p>No need for a price corridor or cost control reserve.</p>
<b>Reporting and compliance with the mandate</b>	<p>Periodic hearings by the European Parliament and the European Council. Frequent public reporting.</p>

*Source: Climate Economics Chair*





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