

CARBON MARKET FORUM



Thinking ahead for Europe

CEPS Carbon Market Forum

Submission to the EC

Consultation on structural options to strengthen the EU Emissions Trading System

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This report was prepared as a submission to the European Commission. It draws on discussions that took place among the members of the CEPS Carbon Market Forum (CMF).

The CMF provides a neutral space where policy-makers and regulators are able to meet carbon market participants and other stakeholders to discuss carbon market regulation and general policy issues. The contents of this report reflect the general tone and direction of discussions on specific topics within the CMF, but its findings do not necessarily represent a full common position agreed by all the participants in the CMF, nor do they necessarily represent the views of the institutions to which the participants belong.

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Summary

- The goal of the EU Emissions Trading Scheme (ETS) is to provide a price signal to reach the long-term objective that is referred to in the Directive as “scientifically necessary”, in an economically efficient manner.
- What are the issues in the EU ETS? Are there any issues?
 - The EU ETS should *provide a price signal* in line with the post-2020 pathway and the long-term objective of the 2050 road map.
 - The EU ETS should *introduce flexibility*, in a predictable way, to address changes in conditions, especially external, affecting the EU ETS. What is needed is a predefined guidance on procedures for changing the system within its overall parameters. This flexibility should be there to improve the functionality of the system, not to pursue political intentions, outside its original scope. It could cover changes in:
 - EU ETS parameters – such as science of climate change, economic conditions, etc.
 - Interrelations with other policies – renewable energy policy, energy efficiency policy, development of international agreements, etc.
 - Issues of *competitiveness* and innovation
 - *Policy interrelation/overlap*

Principles for intervention

- Any intervention in the EU ETS should follow the following principles:
 - Triggered by a ***well-understood and predictable set of parameters***
 - Producing an intervention that relies on ***well-known and understood set of options/tools***.
 - *Take place within a well-defined* time frame, which responds, in an adequate way, to the circumstances. A system cannot take a long time to respond, and adapt, to circumstances that change rapidly.
 - Intervention processes ***adapted to the circumstances***. Some changes will require *legislative* approval, as they change the overall parameters of the ETS. Others are of a regulatory nature. Such processes are lengthy and complex. This differentiation already exists, but *the calibration* may need to be re-examined.
 - Decisions taken in a ***transparent way***
 - Produce a system that is ***resilient***.
 - **Work within market principles** to make a better functioning market
 - Ensure that **environmental objective** are met
 - **Consistent treatment** of all sectors
 - Keep it **simple**

Structural measures – CEPS CMF Recommendations

The following qualities are seen as necessary to ensure that there is a resilient, well-functioning EU ETS.

Urgency

The good functioning of the market is showing signs of fraying. Intervention is required to prevent deeper problems from taking root. Given the urgency, and the time horizon for implementation of structural measures discussed in this paper, short-term action in the form of back loading must be seen as a necessary, but not sufficient, measure, which will buy time.

Target alignment

- The EU must decide on its target for 2030 in line with the stated GHG reduction objective in 2050.
- A linear reduction that will take us to 2030 will have to be calculated back from the 2030 target, and will provide the yearly auctioned amount.
- Depending on the scenario that is adopted, the treatment of the amount back loaded must be clearly specified as part of the package of structural reform.

Supply-side flexibility

- Flexibility, in a transparent and predictable way, will need to be introduced in the EU ETS, to account for the fixed long-term carbon budget. That flexibility is needed to manage the supply under the cap, not to change the cap.
- **Ex-post volume management.** Under such a system, a variation in market length, or short, from an ex-ante calculated, and forecast value, would result in EUAs being put in, or withdrawn from a Carbon Growth Fund (CGF), in the next auctioning cycle. The back loaded amount could be put in the CGF.
- Another feasible option for ex-post supply adjustment would be translating the cap into an emission intensity target, based on production level, in order to allow the decoupling of the de-carbonisation efforts from the economic cycles. Each sector covered by the EU ETS will have a carbon-intensity target in line with the objective of de-carbonisation. The amount of allowances for each sector will be calculated by multiplying the production (ex-post) by the emissions intensity target (which will decrease overtime, according to a fixed rate).
- Another aspect of flexibility is that of interaction with other policies that impact the EU ETS demand/supply balance, such as renewable energy. If there is a desire to attain these targets separately, then the overlap, and resulting different price signals, needs to be addressed. This can be done through the use of an ex-ante calculation of the expected impact, which is then compared with an ex-post value, based on actual data.

Competitiveness. At both the intra-EU and international competitiveness levels, the indirect impact of carbon in electricity prices is recognised and accounted for in the EU ETS Directive. Provisions must be introduced to ensure that installations covered by the EU ETS, and exposed to global competition, receive compensation, based on actual local conditions, for the carbon price embedded in the electricity price. The main element would have to be a system, at the EU level, giving compensation for electricity price increases. Structural measures should take into account safeguarding Europe's industrial competitiveness, thereby not limiting the aspect of competitiveness to compensation for electricity costs, and encouraging increased industrial activity, not limiting it.

Governance. The European Commission (EC) is seen as the Regulator of the EU ETS. Some decisions belong to the legislative process, as being fundamental to the EU climate change policy. Others are regulatory in nature.

- The regulator must be given the authority to act, in a broader scope than is currently the case, outside the legislative process, on merits of good market functioning and within clear parameters. However, such decisions would be guided by clear boundary conditions that are well known and understood by the market.
- Creating independent institutions is a complex and difficult scenario. If there is a need to act outside a certain bandwidth, then a permanent, specialised Carbon Market Committee, with a permanent membership, that is drawn based on market functioning expertise, should be empowered to make such changes.
- Any changes that would change affect the milestones (2030, 2040), the overall budget or reactions to international developments will remain in the legislative domain requiring co-decision.

International interaction

International interaction plays an important role, both from competitiveness, as well as from a linking point of view. If the international interaction is such that there is no widespread and significant presence of a carbon price outside the EU by 2020 through a linked carbon market, or other policy instrument, this needs to be recognized and addressed in the ETS architecture, and its place in climate change policy.

1. Background

- Climate change has become a very important domain for EU policy. This refers not only to showing EU leadership in combating climate change, but also at a more general level, as a centrepiece of the “Europe 2020” economic growth strategy. This strategy has identified “sustainable growth” to promote a more resource-efficient, greener and more competitive economy, as one of its five pillars. Climate change was also identified as an issue that has strengthened the EU’s standing in the world, in the context of the broad EU image and priorities.
- The EU Emissions Trading Scheme (ETS) was built to be the cornerstone of the EU’s climate policy approach, and a key element in the 2020 EU Climate and Energy package, which is meant to provide an integrated approach to climate and energy policy.
- The main purpose of the EU ETS is clearly outlined in the EU ETS Directive as intended to:
 - Promote reductions of greenhouse gas emissions in a cost-effective and economically efficient manner and
 - Contribute to the levels of reduction that are considered scientifically necessary to avoid dangerous climate change.
- In practical terms, the goal of the EU ETS is to provide a price signal to reach the long-term goal that is referred to in the Directive as “scientifically necessary”, in an economically efficient manner.
- That goal is currently defined as the 2050 goal of 80-95% de-carbonisation.
- The 2020 goal of 20% reduction, is, and must be seen, as an intermediate step. It is relevant only as a milestone towards the 2050 GHG reduction objective, but cannot be seen as being a final destination in itself.
- In discussing the EU ETS, special attention must be given to the context in which this discussion is taking place, as well as its current fundamental guiding documents. Those include:
 - The 2020 Climate and Energy Package
 - A Roadmap for moving to a competitive low-carbon economy in 2050
 - The Energy Roadmap 2050
 - White Paper 2011: Roadmap to a single transport area and competitive and resource-efficient transport system
- The current EU ETS discussion is not taking place in isolation. The EU is currently engaged, or is about to be engaged, in a number of processes that are relevant, and interrelated. They include:
 - EU ETS back loading proposal
 - EU ETS structural reform
 - 2015 international climate change negotiations
 - Energy taxation proposal
 - Post-2020 EU climate change strategy
- As background, it is also important to clarify what is the objective of this paper. The issues we are currently examining in this submission are
 - Is there a problem with the EU ETS?
 - What is the problem?
 - If so, what needs to be changed, if anything, to make it fulfil the roles outlined above?

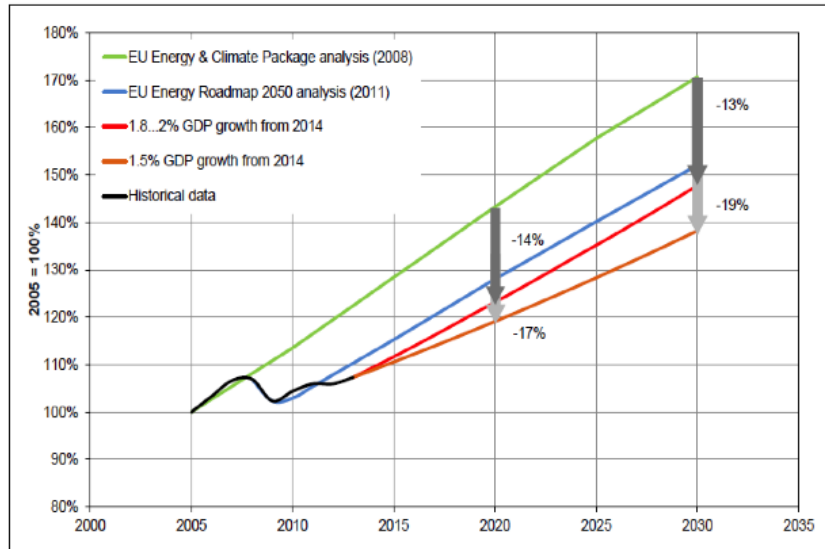
2. What is the issue? Is there an issue?

- In discussing whether there are any issues that need to be addressed in the EU ETS, we must define the dimensions in which the system must deliver, in order to be considered a success. The EU ETS should:
 - Deliver its environmental objectives
 - Function well as a market.
 - Deliver a price signal and moves the EU in an economically efficient manner to the 2050 goal.
 - Not disadvantage EU industry exposed to global competition
- “The State of the European Carbon Market in 2012” Communication identifies the problem as “the growing structural supply-demand balance”. It then goes on and presents a number of options for structural reform to address the problem identified.
- The result of this imbalance, soon possibly to reach up to 2 billion tons, is low carbon prices in the EU ETS. Under current circumstances, this is expected to persist to the end of the third trading period (2020), and possibly beyond.
- We must distinguish between symptoms and causes. By addressing symptoms, we may alleviate the problem temporarily, but not solve it. For clarity purposes, it is important to understand if the observed imbalance and low price are the problem, or if they are only symptoms of deeper problems, some of which could be considered of a structural nature.
- One issue that needs to be discussed is the definition of “structural measures”, which touches on the boundaries of this consultation. Structural measures can be interpreted as measures that affect the boundaries of the EU ETS, such as its governance, as well as its components – auction, caps, international credits, etc. Many stakeholders do not see changing the EU ETS, as foreseen in the Directive (adding sectors, etc.), or changing parameter values in the system, as structural measures.
- Other issues are seen as part of this debate, especially as they relate to “interactions” that impact the EU ETS. Interactions can be seen from different policy instruments, including *climate and energy policy, interactions with enterprise competitiveness and leakage, as well as with international developments in climate change policy*. Therefore, a complete discussion to make the EU ETS perform as intended should include issues internal to the EU ETS, such as functioning and architecture, but also how the EU ETS is accompanied by other measures, and its place in climate change policy.

2.1 A changed context

- The EU ETS was initially built in 2003, and then reviewed in 2007-08, in a period of economic growth. It was also a period when there were high expectations for a global climate change deal at the 2009 Copenhagen COP. It was expected that a follow-up to the Kyoto Protocol (KP), or a similar agreement, was to emerge. This would address many of the concerns expressed by EU stakeholders, especially as they relate to the impact of EU climate change policy, and the price of carbon from the EU ETS, on the global competitiveness of EU enterprises, as well as carbon leakage.
- The conditions for which the EU ETS was built vary strongly from current external conditions. Economic conditions have changed dramatically from the economic forecast when the EU ETS review took place, and the 2020 package put in place. Figure 1 below shows that the change in economic conditions, as compared to the original forecast, has resulted in a significant decrease in GDP.

Figure 1. GDP projections for the EU



Sources: Eurostat, European Commission, calculations by Öko-Institut.

- One of the consequences of this decrease in economic activity has been a substantial reduction in GHG emissions. In many ways this can be seen as similar to the introduction of “hot air” (reduction of GHG emissions due to a decrease in economic activity) from the Economies in Transition (EITs) in the Kyoto Protocol (KP) - EU ETS “hot air”? The final outcome of the debate on KP hot air was the effective removal of surplus AAUs from EITs at the Doha COP in December 2012.
- However, it must be emphasised that this must be seen as an “intra-trading period” of oversupply and liquidity in the market. Looking at a time horizon of 2050, even under the current linear factor decrease in the cap, one can clearly identify a shortage. What adds to this sense of oversupply, from a market point of view, is the fact that there is also the lack of a clear signal for a 2030 GHG reduction target. The carbon budget for 2050 is not spelled out in a way that is translatable in individual corporate targets. The outcome is a temporary oversupply looking to 2020.
- Another element, whose impact is being observed, but which still needs to be fully analysed, is the change in the global energy situation. We see a much lower price of coal, partly driven by the low price of gas in the US resulting from extraction of shale reservoirs.

2.2 EU ETS price signal

- The current low carbon prices give a price signal for marginal abatement costs to the end of the current trading period. The EU ETS is behaving as a compliance tool for the period to 2020 only.
- These price levels do not represent the marginal cost of moving to the 2050 objectives. Current carbon prices in the EU ETS cannot drive investments in R&D, innovation, deployment of new technologies and change in the energy and industrial matrix. In addition, they cannot drive operational behaviour and economic dispatch in these sectors. However, they are internalised in power prices, resulting in a cost to the economy, but provide no incentives towards the de-carbonisation of target sectors.
- What seems to be missing is the political credibility for the 2050 objective, as well as an intermediate target in 2030. As mentioned above, there is a shortage expressed in the EU

ETS Directive through the linear factor that goes on beyond 2020 (to 2050?). However, the combination of low prices, lack of a more explicit budget beyond 2020, and general uncertainty and instability in economic activity and climate change policy have resulted in a lack of a long-time horizon for GHG prices.

2.3 Focus on the EU ETS

2.3.1 Predictability, flexibility and rigidity

- Since the creation of the EU ETS, there has been a strong *demand for certainty, predictability and stability*. The terms were used in an interchangeable way. These insistent, and in many ways, justified demands, coming especially from business stakeholders, have, to a certain extent, been misconceived. The intention was to avoid a system that could be destabilised by political manipulation and repeated intervention in the market framework. Instead it led to an inflexible ETS, where obvious needs for adjustment to new circumstances are impossible, except through a full legislative procedure. Stability has become rigidity. The extension of the time horizon in phase 3, by its very nature, introduces higher uncertainties. This lack of flexibility illustrates itself through:
 - *Lack of a mechanism to adjust EUA supply* to current economic conditions. This supply was fixed based on a long-term economic forecast – an improbable art. The annual supply of allowances was fixed a long time ago, based on long-term economic forecasts without taking the business cycle or the effect of other policies into account, leading to a large surplus of allowances.
 - *No mechanism to recognise and provide for any unforeseen additional*, impact of other policies that impact EU ETS demand – in this case, measures to implement the targets for renewable energy and energy efficiency. While an impact was incorporated in the original calculations, there is no mechanism to adjust for any changes in the initial forecast for that impact.

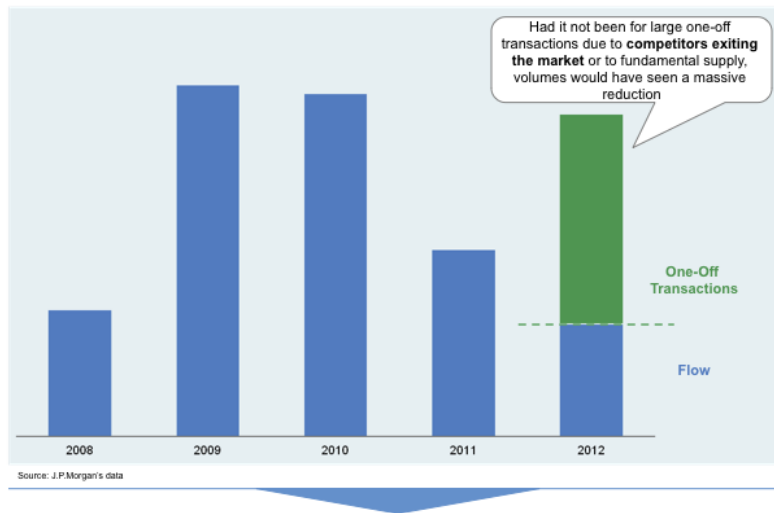
2.3.2 Good Market Functioning

- The EU ETS has functioned well as a market. There has been liquidity, tight spreads, etc.
- However, there were alarm signals at the end of Phase 1, when prices went to 0. While the symptoms were seen, the diagnosis of no banking to Phase 2 and over allocation in Phase 1, was thought to cover all causes. These concerns were thought to have been addressed by provisions in Phase 2 and Phase 3 of the EU ETS.
- The high volumes that we currently see may not be a good indication of the future of the trading market since they could be attributed to:
 - Short-term trades exploiting persistent pricing inconsistencies between prompt and forward prices (carry trades).
 - Procurement to cover fundamental supply positions at favourable prices.
- Some troubling early warning signals are emerging again:
 - Two auctions have failed so far, on 18 January 2013 and 21 February 2013. This may possibly be attributable to the way the reserve price is set.
 - High volatility in prices, most of it attributable to regulatory or legislative decisions, or expectations. European Union carbon permits dropped as much as 9.4% after an auction failed, for a second time, this year. In February 2013, EU allowances for

December fell as much as 50 cents to €4.80 (\$6.34) a metric ton on the ICE Futures Europe exchange in London as a result of the failed auction.

- Market exit by a large number of financial intermediaries who had provided significant liquidity and capital to the market (see Figure 2).

Figure 2. Volumes of emissions trading, excluding current carry trades (2008-12)



Source: J.P. Morgan's Flow Data.

2.4 A wider context to be considered

2.4.1 Policy interactions

- As mentioned, in the context of the 2020 Climate and Energy Package, other targets and policy measures were introduced. Actions to implement these policies have resulted in a much higher implicit price of carbon. As an example, in 2012 the implicit price in Italy was 235 Euros/ton for wind and 141 Euros/ton for green certificates (wind and hydro) (Source: ENEL). It could be said that these prices have 'masked' the GHG abatement price that came out of the EU ETS with much higher prices. At the same time, the price of carbon itself, as a signal for marginal abatement cost, has been at historically low levels. This weakens the overall efficiency of emissions abatement.
- The graphs below show, in an illustrative way, the potential, sometimes additional and unforeseen impact of renewable targets and economic recession on the "visible" carbon price emerging from the EU ETS. Figure 3a shows the normal abatement curve and resulting price of carbon under different levels of required reductions, in 2020 and 2030.
- Figure 3b shows the impact of renewable targets, where the more expensive measure is "forced" up front for implementation, with the rest of the abatement curve being pushed to the "right", resulting in lower CO₂ prices from the EU ETS.
- Figure 3c illustrates the further impact of the recession on the "visible" price of CO₂ from the EU ETS.

Figure 3a. EU-27 Abatement Chart

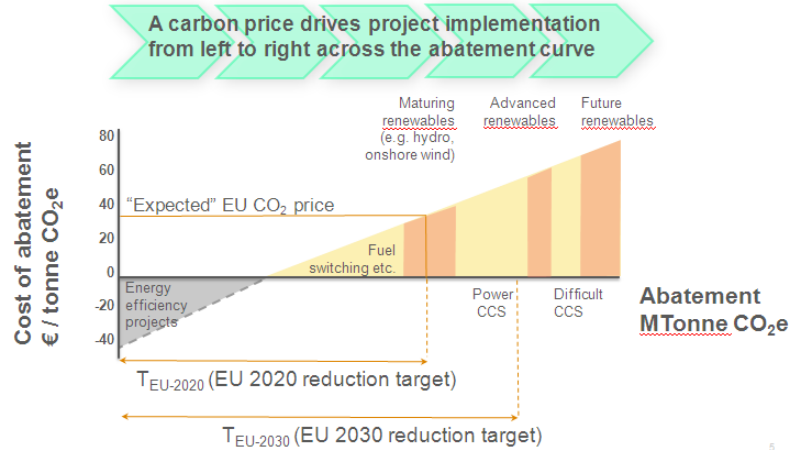


Figure 3b. EU-27 Abatement chart with mandated renewable energy

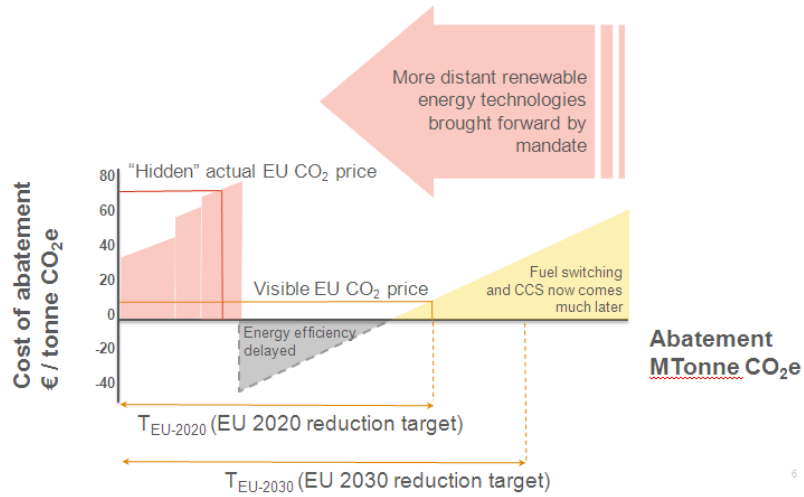
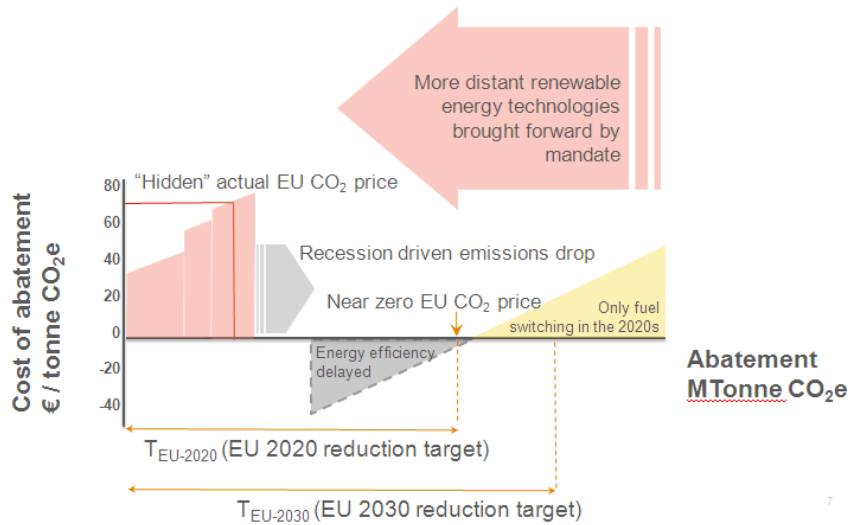


Figure 3c. EU-27 Abatement chart with mandated renewable energy and recession



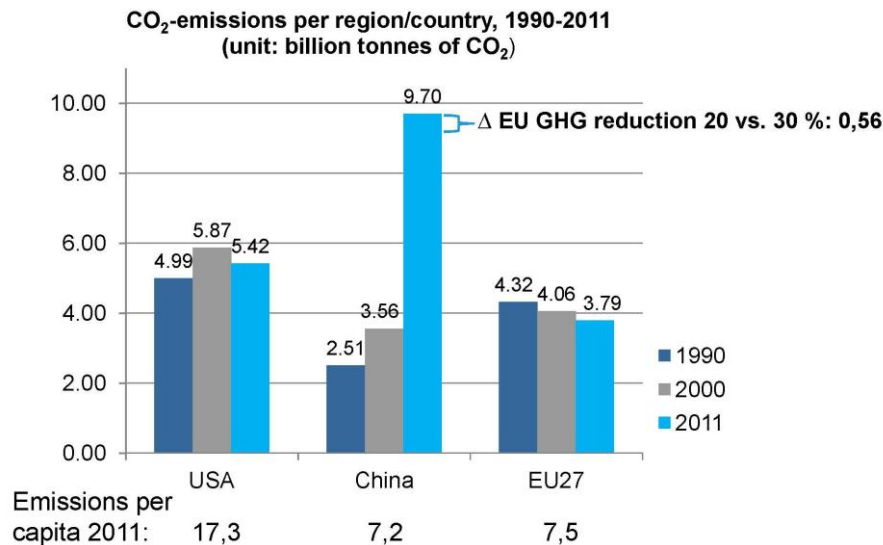
Source: Shell.

- Also as outlined above, there is no mechanism to coordinate the growing impact of renewable energy, which differs from the (ex-ante) provisions in the EU ETS cap, and the resulting impact on the price of carbon in the EU ETS. Consequently, the EU ETS is becoming marginalised; a residue after implementation of other policy instruments, as a result of this uncoordinated interaction.
- If we wish to continue to implement the EU ETS as an ‘agnostic’ technology policy instrument for driving climate change policy, then it must be *the instrument* that gives a price signal for GHG abatement. This points towards either making the EU ETS the unique instrument, *or* providing a mechanisms for dynamic adjustment for the impact of other policies.

2.4.2 *International context*

- The international situation is totally different from what had been anticipated in 2008, when the EU ETS Review took place. It is becoming unlikely that a new Kyoto Protocol-type agreement will emerge as the international climate change agreement post-2020. As such, issues around leakage are a growing concern for EU stakeholders, and especially the industrial sector and the energy-intensive industry that is exposed to global competition.
- Addressing leakage has so far taken place at the national or regional level, with certain provisions in the EU ETS, as well as other policies around the world where a price for carbon has been implemented. Competitiveness and leakage issues have not been implemented at the international, multilateral level and attempts to move in that direction, directly, or indirectly, have run into a strong resistance. Inclusion of aviation in the EU ETS, which would have produced a global sectoral level playing field, has led to strong reactions and a pause during which an alternative under the International Civil Aviation Association can be developed. Similarly, the discussion under the UNFCCC which aims to develop a Framework to link initiatives implemented domestically, which would, as an end game, also have to include provisions for equivalency of effort, is running into strong opposition from most Parties, which do not want to be encumbered by international rules.
- Finally, both the international economic situation and the emissions situation (see Figure 4) have been altered dramatically since international negotiations started in early 1990s. This is being recognised in the new international agreement to enter into force in 2020, as well as through individual efforts through the Cancun/Copenhagen pledges and emissions trading systems emerging in places like China, Korea, etc.

Figure 4. CO₂ emissions in USA, China and EU (1990, 2000 and 2011)



Source: BASF.

2.4.3 Competitiveness

- Another important interaction is that of the EU ETS with enterprise competitiveness. This interaction has both an EU domestic as well as an international dimension: leakage. In the case of industrial companies leakage is addressed through free allocation.
- At both the intra-EU and international competitiveness levels, the indirect impact of carbon in electricity prices is recognized and accounted for in the EU ETS Directive. Member States (MS) have the ability to address the impact of carbon pricing for electricity-intensive industries under Article 10a(6) of the EU ETS. This can be done by subsidies, which some MS can afford, while others cannot. This distorts competition.
- Those affected by international competition see a number of weaknesses in the current system, and feel that this has to be addressed as part of a structural review of the EU ETS.
- The compensation system is not connected organically to the EU ETS. The costs are imposed by the EU ETS, but compensation comes from National Treasuries, at the discretion and capability of individual MS. It is also directly linked to state aid rules, and as such there is the potential that it may be stopped by either the European Commission or national governments (or both), on short notice. This makes it unpredictable in terms of relevance for investment decisions.
- The direct impact of carbon is based on historical production output. Consideration should be given to ensure that all production can benefit from free allocation.
- If the international interaction is such that there is no widespread and significant presence of a carbon price outside the EU by 2020 through a linked carbon market, or other policy instrument, how do we then address leakage, and what will be the relationship between and climate and energy policy in addressing climate change?
- As already discussed, in the post-Doha situation, the concept of an 'international agreement' has changed. Whereas earlier thinking suggested that binding targets implemented through cap-and-trade would guarantee similar levels of reduction efforts worldwide, we now see non-binding targets and very different forms of implementation.

Furthermore, cap-and-trade systems outside Europe, leading to increased electricity prices, are seen by these stakeholders as generally having compensation systems better suited to the international agreement that is emerging, than the EU ETS.

- The California cap-and-trade programme includes three measures to limit the increased pressure from international competition, thus combating leakage. Energy-intensive installations can opt to have their allocation-cap determined on the basis of their energy consumption instead of their production output. Furthermore a number of sectors are labelled as low-, medium or high risk of carbon leakage and receive 30% to 100% of their allocated allowances free of charge. Finally private electricity distribution utilities (EDU) are granted additional allocations which must be auctioned. The proceeds of those auctions are earmarked to compensate each EDU's customer for any price increased caused by the cap-and-trade system.
- The Australian Clean Energy Act brings forth several additional examples of compensation policies. The Jobs and Competitiveness Programme distributes free carbon permits to sectors with emissions-intensive trade-exposed (EITE) activities. Three of its sub-programmes aim at further shoring up vulnerable industries through investment and research grants, with the specific goal of supporting the transition to a low-carbon production process. EITE activities also receive assistance based on their total emissions and indirect costs from rising electricity prices due to the Australian carbon pricing policy.
- The need for compensation for electricity prices for energy-intensive commodities will be unaffected, or at least not levelled, by an international agreement. In order to promote industrial growth in a world with fragmented climate policies, structural reform has to create a stable and favourable framework condition for industrial investments.

3. Proposed Way Forward

- Based on the discussion above, there a number of issues, listed below, that need to be addressed, if we are to have a complete solution.
- The proposals in the "State of the EU Carbon Market in 2012" report are also reviewed below, followed then by the CEPS CMF proposals for structural reform.
- Some of the issues that need to be addressed include:
 - The EU ETS should *provide a price signal* in line with the long-term objective of the 2050 road map.
 - The EU ETS should *introduce flexibility*, in a predictable way, to address changes in conditions, especially external, affecting the EU ETS. What is needed is a predefined guidance on procedure for changing the system within its overall parameters. This flexibility should be there to improve the functionality of the system, not to pursue political intentions outside its original scope. It could cover changes in:
 - EU ETS parameters – such as science of climate change, economic conditions, etc.
 - Interrelations with other policies – renewable energy policy, energy efficiency policy, development of international agreements, climate change policy developments in other jurisdictions, etc.
 - Issues of *competitiveness* and innovation
 - *Policy interrelation/overlap*

3.1 To intervene or not to intervene?

- Is intervention in the EU ETS justifiable, why, when, and under what terms and conditions? The case is often made that other commodity markets continue to function without intervention.
- Without making intervention a must, a necessity or assume it is always a success, it should be pointed out that there is regulatory and political intervention in most markets, when they move outside parameters or do not respond in a desired direction – that was true of electricity in California, is true of currencies, etc. There is the US Strategic Petroleum Reserve that is tapped, not for price regulation purposes, but in cases where conditions in the market make such intervention necessary and desirable.
- The EU ETS was based on the experience of the US SO₂ market, which had been positive in addressing the acid rain problem. However, the SO₂ market can be seen as much less complex and with much fewer of the interactions that we observe in the carbon market. The scope of the SO₂ system was narrower (electricity industry only), the time frame shorter and the technology interaction much more limited. Also, there was no international component in the SO₂ market, and gas substitution in the US was much less an option at that time. GHG is multi-sectoral, global, longer-term, with much more technology innovation, and substantial more competitiveness issues.
- Article 29a of the EU ETS Directive currently provides for market intervention when prices spike and “price evolution ... do not correspond to changing market fundamental”. While this provision in the EU ETS Directive does not make intervention a desired course of action, it does signal that it is always a course to be considered, under extreme circumstances.
- Finally, the carbon market has a ‘final’, scientifically driven and politically decided, *environmental* goal that other markets do not have. The fact that the goal is set through a political decision, does make the case for considering intervention, if, and when, the market signal is not seen to instigate action to reach the long-term *environmental* political goal.

3.2 How to intervene? Principles

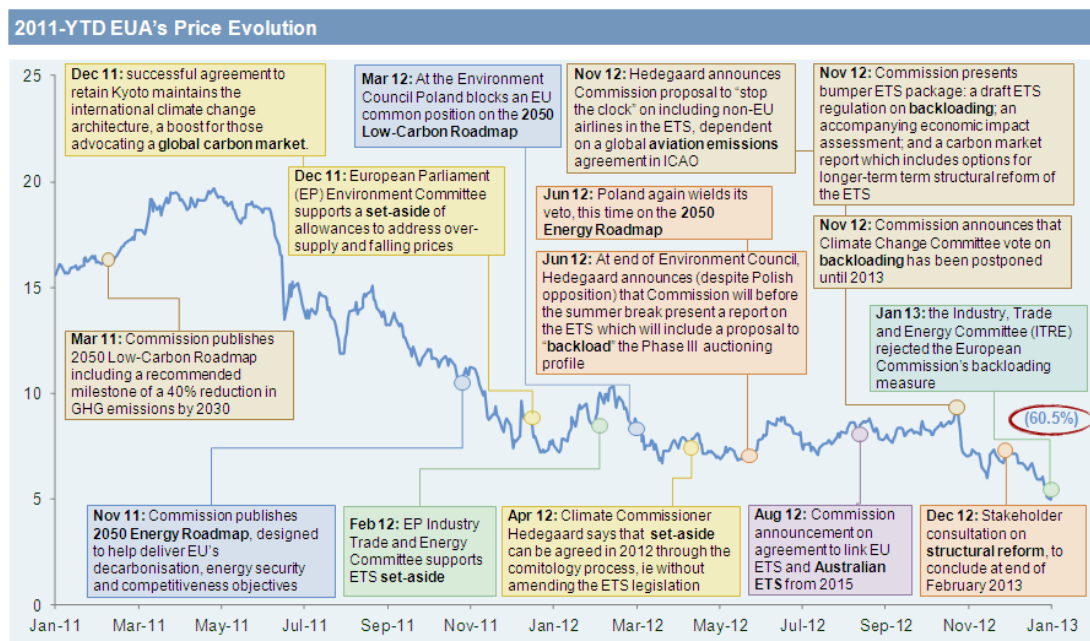
- The EU ETS has also been seen as going through a learning-by-doing period, especially during its initial trading period, 2005-08. However, as we move forward into the third trading period, preparing ourselves for post-2020 and the fourth trading period, and as more ETS emerge around the world, it is becoming increasingly urgent to ‘get it right’.
- While not always genuine, one of the main complaints heard against the EU ETS has referred to the constant changes and policy debates that have taken place over the last 10 years. The two figures below illustrate some of the policy and regulatory debates and developments that have taken place in the EU ETS.

Figure 5. Timeline of changes in the EU ETS

2005	2005	Start of Phase I
2006	2005	Most NAPs approved
2007	2006	Additional NAPs approved
2008	2006	New targets for NAPs phase 2
2009	2007	Verdict on German ex post adjustments
2010	2008	Most NAPs approved
2011	2009	Change on CDM / JI emission rights
2012	2009	CCS directive adopted
2013	2010	Benchmark decisions phase 3
2014	2011	Compensation for CO2 costs in electricity
	2011	NAPs 2 Poland and Estonia approved
	2012/2013	Backloading / Set aside discussion
	2013/2014	Structural reforms
	2014	Re assesment carbon leakage
	2014	New 2020 / 2030 target

Source: Heidelberg Cement

Figure 6. The EUA's political price drivers



Source: Bloomberg and J.P. Morgan Data Flow

- There are a number of ‘principles’ that should be considered in entering into the discussion about structural changes in the EU ETS. Any intervention in the market must be, and be seen, as
 - Triggered by a *well understood and predictable set of parameters*
 - Producing an intervention that relies on *well known and understood set of options/tools*.
 - *Well-defined* time frames, which respond, in an adequate way, to the circumstances. A system cannot take a long time to respond, and adapt, to rapidly changing circumstances.

- Intervention processes *adapted to the circumstances*. Some changes will require *legislative* approvals, as they change the overall parameters of the ETS. Such processes are lengthy and complex. This would include a decision to change the overall cap. Other interventions, which would be regulatory in nature, should take place under broad conditions already specified, and would have at their disposal a set of tools that can be used. This differentiation already exists, but *the calibration* may need to be re-examined.
- Decisions being made in a *transparent way*.
- Produce a system that is *resilient*. Any changes should consider the experience gained and the discussions that have taken place around the world in order to address root issues, and not symptoms. It must be also important to build provisions such that the EU ETS can respond quickly and nimbly to changing conditions in:
 - Economic situation
 - International climate change negotiations
 - Domestic and international energy developments
 - Technological developments
 - Scientific updates
- *Work within market principles* to make a better functioning market
- Ensure that *environmental objective* are met
- *Consistent treatment* of all sectors
- Keep it *simple*

3.3 Options in the 'The State of the European Carbon Market in 2012'

- Within the options put forward by the EC Document, many provide interesting features, but they cannot be looked upon and implemented in silos. The complexity of the issue is such that some combination of the proposed options will need to be considered.
- **Option (b)** addresses the oversupply in the market and would tighten the supply/demand balance and eliminate the oversupply to 2020, by withdrawing allowances in the market during this phase. This is a measure that cannot be taken in isolation, but as part of a set of long-term measures, and to facilitate their implementation. It should not be a reaction in itself, but rather a measure to implement change.
- **Option (a)** Increasing the environmental ambition is certainly a justifiable reason to intervene, and is part of the parameters of the EU ETS, under certain circumstances. Does the second commitment period of the KP, together with Copenhagen/Cancun international commitments fulfil the conditions of the Directive? That is a purely political decision.
- **Option (c)** will also contribute to addressing the *visibility and credibility* of the long-term target, and that of immediate oversupply in the market, if the slope is adjusted at this time, to reach the 2030 target.
- **Option (e)** deals with limits to international credits being accepted in the EU ETS, and raises a number of questions. It proposes limiting access to international credits initially and providing increasing access as a cost containment measure. In this case cost containment is defined as a measure to reduce the cost of compliance for EU ETS covered entities. Under the assumption of an international agreement, under which the EU has an international cap, any increase in the number of international credits for use in the EU ETS has to lead to an increase in the effort of non-ETS covered sectors. From the proposal

it is unclear whether there would be additional credits that would be brought from outside the cap, such as CERs, which may have the effect of inflating the cap and could strongly impact the international credit market. A number of issues need to be considered in evaluating this option. The use of international credits should be extended alongside the increasing ambition of reduction targets up to 2030, and beyond. Flexibility also plays a central role in shaping a post-2020 Global Agreement, fostering links among different schemes and the creation of a common umbrella for bottom up mitigation initiatives. Furthermore, in light of a future global agreement, the access to international credits would play a central role in shaping the availability of developing countries to agree on binding commitments.

- **Option (f)**, discretionary price management mechanism, would address a critical issue; that of inflexibility on the supply side of the EU ETS. As the document itself suggests, this would be seen, on the surface, as altering the fundamental nature of the ETS: a quantity fixed mechanism, and would move it in a price management direction. However, a clear difference must be seen between price management and volume management under a cap, whereby the cap is not breached, but the volume and liquidity released into the market takes into account certain parameters. The Auction Reserve Price is a feature that already exists in many auctions of public goods (including carbon under RGGI) and could be seen as providing an indication of political commitment to the long-term GHG reduction target. The level of the price floor could be a function of the long-term abatement curve and movement along that curve. This will always be a decision that will be contested, seen as subjective and suboptimal, since it prevents “price discovery” by the market, and could also create problems for linking, as was the case for Australia.

3.4 *CEPS Carbon Market Forum views on structural measures*

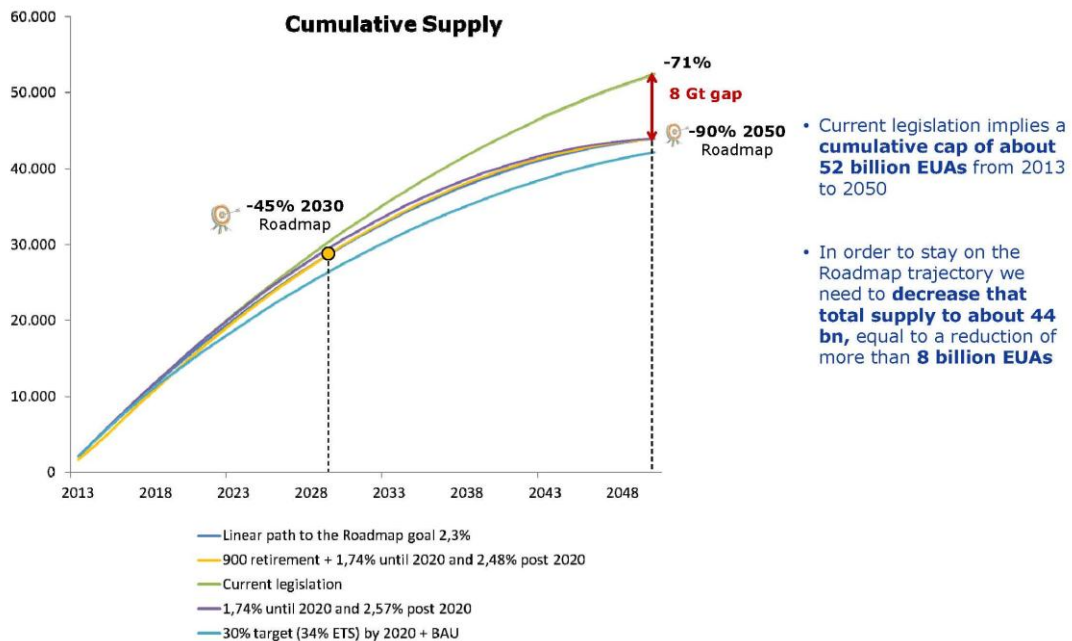
- The proposals that are included in the “State of the Carbon Market Report” cover options that will address part of the problems identified above. We tend to support that view. It is clear that many stakeholders see the need for a broader discussion. The six options presented do not entirely cover:
 - Timing of implementation
 - Issues related to EU ETS structure and governance – *internal to the EU ETS*
 - Issues to EU climate change policy and its inter relationship with energy policy, international situation and competitiveness – *external to the EU ETS*.
- **Urgency:** As discussed above the EU ETS, in its current state, has started to show signs of fraying at the edges in terms of good market functioning. The problems must not be allowed to degenerate into a full-blown market functioning crisis. This was discussed in the CEPS CMF submission entitled “Back loading: a necessary but not sufficient first step” (submission to the EC, October 5, 2012).
- **Short-term action is needed:** Given this urgency, and the time horizon for implementation of structural measures (post-2015?), short-term action in the form of back loading must be seen as a necessary (but not sufficient) measure, that will buy time, by showing that:
 - The EU continues to be politically committed to the EU ETS as its main instrument to meet its climate change goals
 - The price signal in the EU ETS is relevant.
 - Does not lead to the introduction of national measures to address climate change.

Structural measures needed to address identified issues

3.4.1 Target alignment

As a first step, the EU ETS must show a 2050 carbon budget, with a 2030 target, in line with that budget. Based on the 2050 road map, the 2050 budget is 44 billion EUAs, while current legislation takes us to 52 billion EUAs in 2050. As illustrated below, a gap of 8 billion EUAs is open.

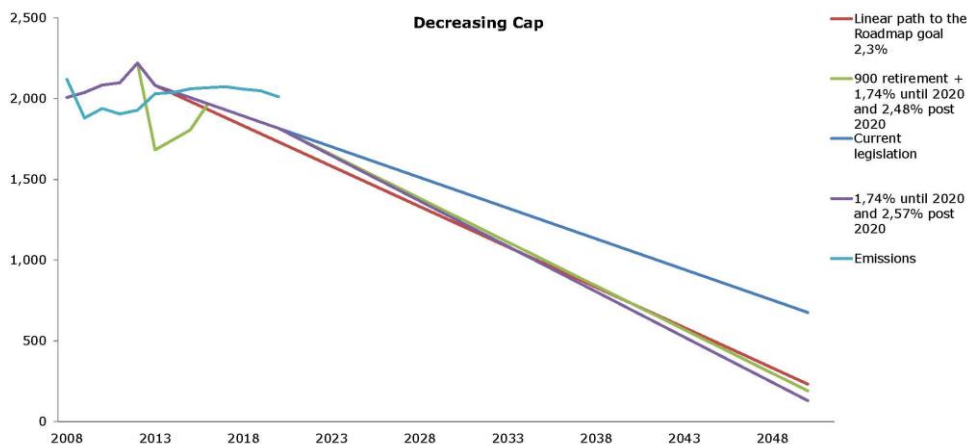
Figure 7. Ensuring coherence of the total cumulative supply with the 2050 Roadmap (MtCO₂ eq)



Source: ENEL.

- The EU must decide on its target for 2030 in line with the stated GHG reduction objective in 2050. A 2040 target, or objective, would also help provide additional visibility.
- A linear reduction that will take us to 2030 will have to be calculated back from the 2030 target, and will provide the yearly auctioning amount. There different scenarios that can be proposed, but the preferred one would be a linear slope worked back to 2030, from the time of implementation. The time of implementation for the new linear factor should be 2020.

Figure 8. Assessing different scenarios for cap reduction (MtCO₂ eq)



- In order to stay on the Roadmap trajectory we need to introduce a linear reduction factor of **2,3%**, **starting from 2013 to deliver -46% in 2030 and -90% in 2050**
- In alternative to the linear reduction starting in 2013, we can imagine **a one-off cancellation of 900 million EUAs** (about 10% of the total adjustment needed), and then to introduce a **linear reduction factor equal to 2,48% from 2020**

Source: ENEL.

- Depending on the scenario that is adopted, the treatment of the amount back loaded must be clearly specified as part of the package of structural reform.

3.4.2 Supply side flexibility

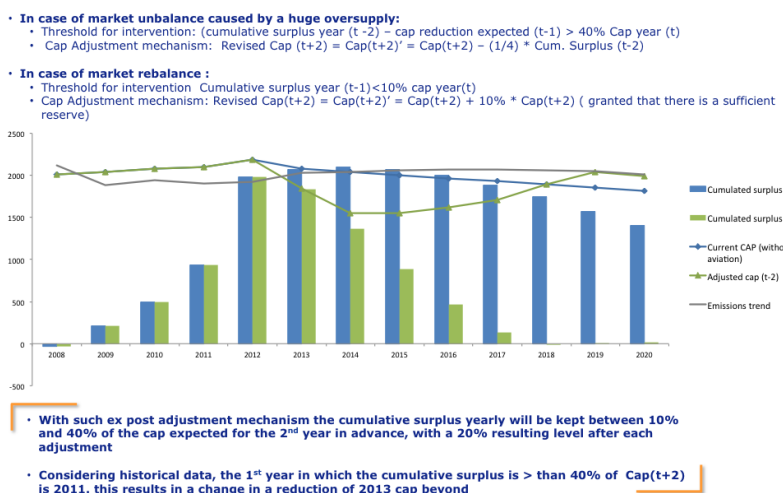
Flexibility, in a transparent and predictable way, will need to be introduced in the EU ETS, to account for the fixed long-term carbon budget. That flexibility is to manage the supply under the cap, not to change the cap. The EU ETS is a fixed quantity mechanism, with prices varying according to demand. Managing prices does change the nature of the instrument, and make it less likely to be considered a market approach. Managing volumes, under a cap, does not detract from the market nature of the EU ETS. On the contrary, it reinforces it, by providing the appropriate instruments to adapt to changing conditions.

- Introducing a reserve price is a procedure that has been used in RGGI, and is being used in the auctioning of other public goods. We feel that the carbon market in the EU ETS is competitive and liquid, and that the justification for an Auction Reserve Price (ARP) is not as strong in this case.
- However, on the positive side, the use of an ARP would provide a strong political signal of the direction desired by EU, as the initiator of the trading system. It would also provide predictability to investments.
- Setting a level for the reserve price will be a contentious issue. It is easily politicised and could endanger the technological neutrality of the market approach. A price floor set by the regulator will hardly turn out to be at the optimal level, being the outcome of a political compromise. If it's too low, it would be mostly ineffective, while a too high price would be distortive (acting as a carbon tax) and not cost effective. The introduction of a price management mechanism such as an auction price floor would also involve some criticalities in the implementation, regarding the use of the reserve built up with unsold allowances. Another item to be addressed would be how to ensure the adoption of a harmonised floor price at EU level, since any auctioneer, on behalf of the Member State, is currently formally responsible for the auctioning process.

- Another approach, which, in our view, is better suited for the EU ETS, is that of an *ex-post volume management*, based on length (i.e. surplus) in the market. Under such a system, if, at the end of year $t=0$ there is an oversupply in the market that is higher than a pre-determined volume (V), in year $t+2$ the amount auctioned will be decreased by that amount. That amount (V) of allowances will be placed in a *Carbon Growth Fund (CGF)*.
- The amount that may be back loaded, or a portion of it, could make be the initial contribution to the CGF.
- If there is a short in the market, beyond a certain limit, then an amount of EUAs that represents the unexpected shortage will be released for auctioning from the CGF in the year $t+2$.
- Consideration could be given to using a “basket” of parameters to send to, or take out volumes from, the CGF. However, these parameters cannot, in any way, be linked to price levels, but only to market functioning and general conditions that were forecast in advance, and had changed outside an acceptable bandwidth. The Australian rolling cap model could also provide some insights, and thinking, in any reflection regarding predictable flexibility.

Figure 9. Flexibility in the supply-side management

1. Ex post supply adjustment based on clearly and pre-defined rules



Source: ENEL

- Another feasible option for ex-post supply adjustment would be translating the cap into an emission intensity target, based on production level, in order to allow the decoupling of the de-carbonisation efforts from economic cycles.
- Each sector covered by the EU ETS will have a carbon intensity target in line with the objective of de carbonisation. The amount of allowances for each sector will be calculated multiplying the production (ex-post) by the emission intensity target (which will decrease overtime, according to a fixed rate). Unused allowances will be put into a flexible reserve to be later re-injected into the market in time of high economic growth.
- If the variation in the EU ETS long/short is more pronounced, or prolonged, then a second step can be triggered. Such additional steps would have to be taken in extreme circumstances that will need to be defined.

- In this case we must distinguish between the credits that come from other linked cap-and-trade systems, and credits created from outside a cap, such as the CERs under the current KP regime.
- Linked cap-and-trade systems will not be limited in their ability to exchange units.
- Measures such as the one described below will only apply to allow additional credits imported from not capped systems/jurisdictions that would be allowed to enter the EU ETS.
- Under current KP arrangements, allowing additional credits under the cap will effectively inflate the cap. It is likely that under a future agreement, as the one currently negotiated under the UNFCCC's Ad Hoc Durban Platform, that would not be allowable, as we are moving from offsets to net emissions reductions. Consequently, in this case, an influx of international credits would have to be accompanied by the retirement of an equivalent number of EUAs. However, this would likely lead to cost containment for EU ETS covered entities.
- In addition, creating provision for making international credits (e.g. CERs) in to the marginal instrument for EU ETS will have to be carefully considered as it may have strong and abrupt impacts on the international credit market. The parameters of such an additional influx would have to be well understood and predictable, and would have to take in consideration the liquidity in that market. As such, a combination of creating additional allowances under the overall cap, together with an influx of international credits, would need to be included in the tool kit to address extreme conditions.
- Another aspect of flexibility is that of interaction with other policies that impact the EU ETS demand/supply balance. As discussed, the EU ETS interacts with different energy policies such as renewable energy and energy efficiency. If the intent is for all of them to contribute to GHG reduction, the current observed impact of these policies is that they produce a high implicit equivalent price of carbon, resulting in a low price of carbon in the EU ETS. This however is incorporated in the price of electricity.
- If there is a desire to attain these targets separately, then the overlap and different price signals needs to be addressed. This can be done through an ex-ante calculation of the expected impact of these policies when the EU ETS carbon budget is set. Should ex-post calculations, based on actual data, reveal a positive deviation on the amount of GHG reduced as a result of these policies, this would have to lead to the retirement of an equivalent number of EUAs from the auction profile during the following auctioning cycle.

3.4.3 *Competitiveness*

Another important element is the impact of electricity prices on enterprise competitiveness and investment. This indirect impact is recognised and accounted for in the EU ETS Directive through provisions for compensation for indirect emission costs. Provisions must be made in the EU ETS to ensure that installations covered by it and exposed to global competition, receive fair compensation, based on actual local conditions, for the carbon price embedded in the electricity price as a result of the EU ETS. The main element would have to be an EU-wide system, giving compensation, at the EU-level, for electricity price increases. The provisions are needed to address competitiveness will also depend heavily on the 2015 international agreement, and how it addresses this matter.

3.4.4 Governance

The EC is seen as the Regulator of the EU ETS, while most decisions are actually made in the Climate Change Committee, or need a co-decision. Some decisions can be accommodated, and belong to the legislative process, as being fundamental to the EU climate change policy.

The workings of EU policy decision-making processes are very complex for most stakeholders, and as much clarity should be provide for market players of where these decisions are made. The EU ETS, as a pure regulatory market and subjected to significant political events since its inception, needs to be seen as driven more by market fundamentals, and less by regulatory and political pronouncements.

- At the same time, the behaviour needs to be seen, above all, as being predictable, according to parameters that are well understood, or at least, within certain expected boundaries. What has been observed is that this is complex and inter-related environment, which requires the ability to react promptly to changing conditions. Requiring legislative change is too long a process for certain aspects that are not of a fundamental nature. That is why the regulator must be given the authority to act, in a broader scope that is currently the case, outside the legislative process, on merits of good market functioning, and within clear parameters.
- The decision making process for triggering such measures should rest with the EC. Issues that would be decided through this process would be any changes that take place under the cap, such as
 - Changes in the international offsets quality
 - Auction profile time lines.
 - Impact of interaction with other policies EU policies.
 - Allowing additional international credits in the EU ETS
- However, such decisions would have to be guided by clear boundary conditions that are well know and understood by the market. Continuing to have these decisions subjected to a political process, even if not legislative in nature, will continue to affect confidence in the market. Another important element is the clear delineation, and mandate, for those responsible for what is essentially the regulation of a market.
- Creating independent institutions is a complex and difficult scenario. As such, any proposal in that direction needs to have a reality check in that respect. If there is a need to act outside a pre-established and delegated bandwidth and tool kit, then only a permanent, specialised, Carbon Market Committee, with a permanent membership that has market functioning expertise, should be empowered to make such changes. Again, it must be clear stated in the Terms of Reference that the remit of such a Committee is market functioning regulation of an environmental good.
- Any changes that would change the milestones (2030, 2040), the overall budget, or reactions to international developments, will remain in the legislative domain, requiring co-decision.

4. Final thoughts

One last consideration, and not a minor one, is that the discussion on the EU post-2020 climate policy is about to start, while a new EC will be operational in 2015. As such, it is difficult to see how a decision on a 2030 target, which clearly has to be part of any serious discussion on the EU ETS structural reform, can be agreed separately from a broader EU policy debate.

The same timing concerns also apply to the discussion on the 2015 international agreement, whose final shape will be critical in making decisions on how to treat competitiveness and carbon leakage.

To close the loop, this points us again towards the *criticality* of having a temporary, short-term solution adopted in a speedy and decisive way, which will ensure that the EU ETS can play the role it was designed for.

The most likely scenario is that back loading, which is still being debated, will provide the breathing space for this debate to conclude and be implemented under a new Commission.

The EU ETS has proven to be a game changer. It is not perfect, and a number of issues have been discovered. More will come.

The change that is being attempted on a timetable is unique in history when the impact of society is considered. This is complicated, as the issues, and the interactions, are complicated.

These changes are not easy, but necessary, if the EU ETS is to be able to play the role it was designated for.