



ENERGY FLASH

The EU Emission Trading System

January 2015 marked the tenth anniversary of the EU Emission Trading System (ETS). A decade down the line, the system is not living up to its potential. While there is much debate on how to fix it, there is clear consensus that the ETS is in desperate need of an overhaul. Something of a sense of urgency is at last creeping in, as work has already started on the post-2020 ETS that will implement the EU's 2030 climate targets.

In this Energy Flash FTI Consulting's experts in Research, Energy and Economic Consulting in Brussels, London and Paris take stock of the current system, its flaws and proposed fixes, examine what the ETS could look like after 2020, and analyse the impact of the ETS on emissions and business.

About the authors

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ETS 101

The ETS is one of the EU's major tools to tackle climate change. It is the world's largest emission trading system, encompassing more than 11,000 power stations and industrial facilities in 31 countries, as well as aviation emissions.

The main logic of the system is simple: by limiting (i.e. putting a cap on) emissions and allocating permits the EU creates a carbon market where emission allowances are traded. Prices are defined by supply and demand, whereby commercial entities that emit less than foreseen when they purchased their allowances can sell their allowances to those that emit more than is covered by their allowances. Companies that reduce their emissions would see a financial benefit from their low-carbon investments and could potentially even make money. Ultimately, the aim is to incentivise investment in low-carbon solutions without damaging EU competitiveness.



We must redress the imbalance on the carbon market urgently, so as to have again price levels that make a difference to investors.

— Miguel Arias Cañete



However, in recession Europe's economic output has declined. As a result demand for emission allowances decreased, the system became oversupplied and prices crashed from a peak of €30 per tonne in 2008 to around €7 per tonne at the end of February 2015. Other factors exacerbated the problem, such as the use of international offsets (emission reductions outside the EU that compensated for emissions within the EU) led to a lower demand of allowances. The system is now flooded with a surplus of permits.

The evidence is growing that the weak and volatile prices in the ETS are not effective in driving carbon emission abatement in the power sector. As a reference, the implied switching price between coal and gas fired generation ranges from 30 to 40€/tCO₂ with current gas and coal prices. In a longer term perspective, current ETS prices are also held to be well below the kind of carbon prices that are needed to make investment in clean technologies competitive.

Figure 1: Carbon price (€/tCO₂ equivalent)



Source: Bloomberg

Clearly, the system needs a structural reform. In what is referred to as backloading, the European Commission has already postponed the auction of 900 million allowances until 2019-2020. But this does not reduce the number of allowances, it simply delays their release.

Market Stability Reserve

Market Stability Reserve (MSR) has been proposed as a solution to revive the ETS, make it more responsive to economic conditions and prevent extremes in supply of permits. The MSR would introduce a supply management mechanism by which the reserve would release 100m permits if the number available falls below 400m and remove 100m if the system is flooded (above 833m permits).

The main sticking point of the MSR is the start date. On 25 March 2015 Member States agreed a start date of 2021. But the European Parliament backs a 2019 start, and many MEPs favour an even earlier date. Finding agreement will be tough. Where Member States and MEPs are aligned is in their support for stocking the 900m permits within the MSR to prevent further market distortion, rather than the Commission's backloading proposal of releasing them directly into the market by 2020.

Figure 2: Emissions and cap in the ETS (million CO₂ equivalent)



Source: EEA, FTI Consulting calculations (presuming release into the market by 2018)

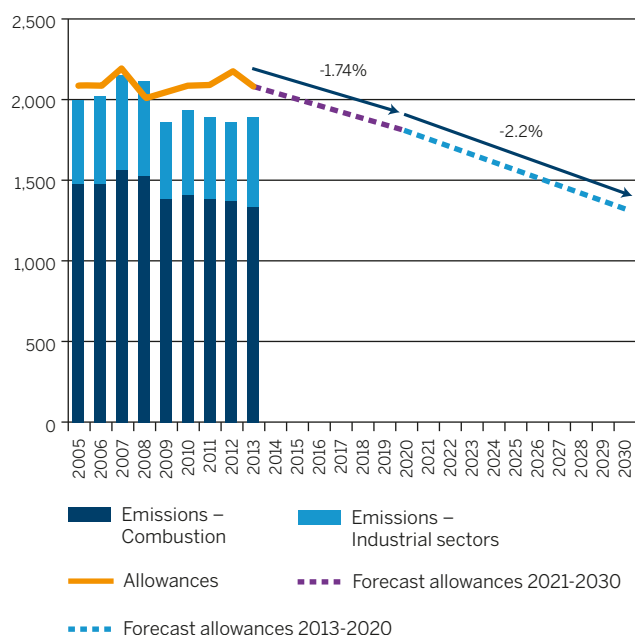
There are concerns that a more structural reform of the ETS will be needed to address the allowance surplus. The MSR may indeed not allow a rebalancing of supply and demand before late into the 2020s. The risk with a late starting date is that it carries excess permits and suppressed prices well into the next trading period, making the whole reform less effective.

The Future of ETS

At the European Council in October 2014 European leaders agreed to a binding target to reduce greenhouse gas emissions by at least 40% by 2030. The ETS is the cornerstone to achieve this¹. European leaders also agreed on some key elements of the post-2020 ETS:

- As of 2021 the annual factor to reduce the cap on maximum permitted emissions will rise from 1.74% to 2.2%;
- Free allocation for sectors that are in risk of carbon leakage will continue but benchmarks for these allocations will be periodically reviewed;
- Low-income Member States with a GDP per capita below 60% of the EU average can continue to give free allowances to the energy sector until 2030. After 2020 these should be not more than 40% of allocated allowances. The low-income threshold was lowered from 90%;
- A reserve of 2% of allowances will be set aside to address high investment needs in low-income Member States. The proceeds from the reserve is to be used for investments in energy efficiency and modernising the energy system;
- For sectors that do not fall within the ETS the methodology to set national reduction targets according to the Effort Sharing Decision will continue and all Member States have to contribute to an overall reduction of 30%. The emission reduction targets will be in the 0-40% range, compared to 2005.

Figure 3: ETS allowances and emissions for fixed installations (million tCO₂ equivalent)



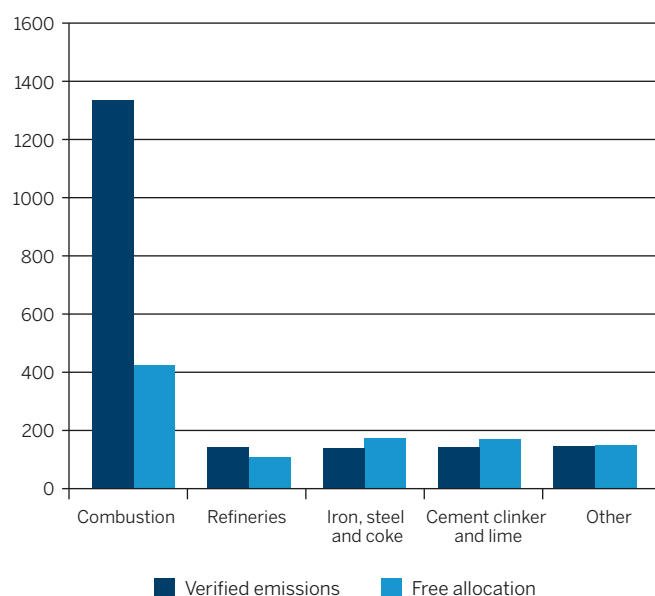
Source: EEA (excluding international credits)

If the issue of excess permits is resolved, the system is forecast to work as illustrated in figure 3. However these elements only constitute the framework, and the debate has already begun on the structural reforms needed post 2020 to make the system work in the long run. Issues include the expansion of the ETS to sectors that are not yet covered and the way permits are allocated to sectors at risk of carbon leakage.

Carbon leakage

Carbon leakage, that is the relocation of industry to countries with lower or no carbon emission standards, is a critical issue for Europe's energy-intensive industries. The Commission states that so far there is no evidence of carbon leakage having occurred, and addresses the issue by allocating free emission allowances to at-risk sectors. In the current trading period, the carbon leakage list covers practically the whole manufacturing sector and free allowances make up an important share in relation to actual emissions.

Figure 4: Free allocation and verified emissions in 2013



Source: EEA Trends and projections in Europe 2014

For the trading period starting in 2021 the Commission aims for an improved and better-focused system that encourages innovation. In the words of Jos Delbeke, Director General of DG CLIMA, the system has to be simple, predictable and effective. The impact assessment that started in early 2014 shows how difficult reform is going to be. The Commission is discussing the possibility of having fewer sectors in a carbon leakage list that would then better protect those sectors most at risk. This will lead to fierce discussions on the sectors to be included and the criteria to determine these.

¹ See Energy Flash on the 2030 Energy & Climate Agreement

Benchmarking, the methodology with which the number of free allowances is calculated for each sector, is another difficult issue in the ETS reform. Benchmarks should reflect the average of the 10% most efficient installations in a given sector. The benchmark value is then multiplied by the historic production data of the installation for products falling under the benchmark. Updating the benchmarks in the way that has been agreed by the European Council will be a cumbersome affair and business is wary that too frequent updating will increase uncertainty.

There is also disagreement about the data to be used to calculate the number of allowances. Under discussion are the current ex-ante approach, and the ex-post approach. The first uses historic data to forecast expected emissions, the second bases the allocation on actual emissions of a past period. While the second is more accurate and flexible, it would also risk increasing the administrative burden.

Broadening the ETS

Today the ETS covers the most GHG-intensive sectors in the power and manufacturing industry. Since 2012 it covers aviation within the European Economic Area and with the start of phase 3 in 2013 also the aluminium, carbon capture and storage, petrochemicals and other chemicals sectors. In 2021 the European Commission considers broadening the scope to other sectors. This is in itself already controversial. Positions are ranging from including all sectors where it would not be excessively complex, to no further extension at all. Broadening the scope could make the system more efficient but could also be problematic in view of other existing policies. If other sectors are included it would be crucial to ensure overall coherence.

Transport

As one of the largest CO₂ emitters transport is an obvious candidate for the ETS and Britain and Denmark are advocating for its inclusion. Including transport in the ETS could help addressing the oversupply of allowances and provide more flexibility to the car sector in reducing its emissions. However environmental campaigners are opposed to the idea, arguing that the current system of sector specific targets is more efficient in cutting emissions. In addition it would be very difficult to measure the emissions from the transport sector.

Biomass

Currently burning biomass is rated at zero in terms of carbon emissions. This rating is based on the idea that planting and growing biomass captures the same amount of CO₂ that is released when the biomass is being burned. NGOs have launched a campaign to end zero-rating, arguing that plants do not necessarily capture all the carbon they release when burned, and that the capturing of CO₂ can take up to 500 years. Moreover, they argue, there is no way to verify the origin of the biomass, which could for example stem from ancient forests that are not being replanted². In reply, the biomass sector claims that the

amount of forested land in the EU is growing. Inclusion of biomass in the ETS is likely to be a tough sell for many Member States, even those that have more environmentally ambitious targets.

Will it work?

The Commission will address these and other issues in its proposal for the revision of the ETS which is to be expected in the second half of 2015. Even after 2020 the key question will be whether allowance prices will be adequate to incentivise low-carbon technologies. MSR seems like a good idea on paper, but we will only be able to evaluate whether it will be able to make the ETS work at last once it kicks in. That is why it is important that the MSR should be introduced sooner rather than later, and well before the stated date of 2021.

In that context the inherent contradictions between the ETS that depends on a high carbon price and the push for increased energy efficiency through other policy instruments must be taken into account. This is going to represent an extremely difficult balancing act for the Commission so that one does not damage the other.



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The other major question is how the system can strike a balance between achieving the EU's GHG reduction targets and ensuring a competitive environment for the EU's industrial sector. This question will be at the centre of the new framework and will prove extremely controversial. Energy-intensive industries claim to have improved carbon efficiency as much as is technologically feasible, while environmental advocates argue that investing in low carbon and green technologies will increase Europe's competitiveness. The fact that the EU's energy-intensive industries are most impacted by high energy costs also raises the question whether the free allocation of allowances is the right way to address this issue. "A better understanding of the real impact of higher carbon prices on competitiveness as opposed to high energy costs per se is critical for a factual debate" highlights Kavita Ahluwalia, ETS adviser at E.ON.

In view of the many opposing interests among Member States, industry sectors and political groups, the objective of devising a simple system will be a major challenge, as illustrated by discussions on how to calculate the free allocation of allowances. As it is often the case in the EU, added complication may well be the price of compromise.

² European Environmental Bureau, 17 March

The EU considers its climate policy as a driving force for international efforts, in particular to prevent major competitive disadvantages. Having established the ETS has certainly encouraged other economies outside the EU to introduce a cap and trade scheme and today some major emitters have introduced an emission trading scheme or are developing it, including California, China, Canada and South Korea. The ETS can therefore be seen as having contributed meaningfully to the global effort to fight climate change.

Implications for business

Significant sections of the business community have already made ETS reform a top priority. Sectors that have been less vocal on their inclusion in the carbon leakage list risk losing out. Every sector needs to carefully examine the potential business impact of the proposed reforms. This can require a comprehensive economic analysis as FTI Consulting provided

on [energy costs and subsidies](#) or on [the impact of ETS exemptions](#). At the same time, as the reform is very technical with many conflicting demands, it will be crucial for the Commission to base its reform on solid data. Business can help by providing sector-specific data and thereby contribute to the understanding of the economics of ETS.

Noise around ETS reform will increase over the course of this year in the run-up to the adoption of the ETS reform package and the climate conference in Paris in December. The key question is what a successful reform will look like in the world's largest carbon market. Getting your voice heard in this crucial debate will require a distinct message that stands out.

Finally, Commissioner Miguel Arias Cañete is responsible for both, climate action and energy. Approaches and ideas that combine lowering energy costs and reducing emissions is what he urgently needs.

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