

FUTURE OBLIGATION AND OPPORTUNITIES IN EUROPEAN UNION EMISSION TRADING SYSTEM

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The goal of implementing greenhouse gas emission reduction efficiently has been embodied in the EU Emissions Trading Scheme since 2005 when the CO₂ emissions from power generation and five core industrial sectors were capped and, subsequently, has been created a new CO₂ trading market establishing a single price of carbon across participating sectors throughout the EU – 27 countries.

The European Council extended the reach of the EU ETS, but without changing its fundamental structure as a system focused upon strictly verified emissions from large industrial installations. The purpose of this paper is to outline the major changes of the new EU ETS Directive and their implications.

Keywords: climate-energy legislative package, emission trading scheme, greenhouse gas emissions, CO₂ emissions.

Nomenclature: EU ETS – Emissions Trading System, GHG – greenhouse gas, EU – European Union, JI – Joint Implementation, CDM – Clean Development Mechanism

1. Introduction

The European Union is leading global efforts to reduce greenhouse gas emissions from human activities which cause serious damages to the world's climate [1]. As the cornerstone of EU strategy for cutting greenhouse gas emissions in a cost-effectively manner, the European Union has developed the EU ETS.

EU ETS has created a price for carbon considered the most cost-effective way to achieve the deep reductions of global greenhouse gas emissions that are needed to prevent climate change from reaching dangerous levels.

The EU ETS is a key element of the European Climate Change Program to achieve the EU's Kyoto Protocol commitment of an 8% reduction in GHG emissions below 1990 levels till 2012. The EU ETS is the world's largest market of carbon dioxide emissions covering the industrial installations from 27 member states of the European Union and representing approximately half of the EU's CO₂ emissions.

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On 23rd January 2008, the European Commission issued the Climate – Energy package of proposals to implement the goals for 2020, laid out earlier by the European Council of Ministers –containing specific legislative proposals for Europe as follows: cutting emissions of greenhouse gases by 20%, increasing the energy efficiency by 20% as well as increasing the share of renewable energy to 20% of final energy consumption.

The climate – energy legislative package, approved by the December 2008 European Council, agreed with the European Parliament on 17 December 2008 and adopted by the Council of European Union on 6 April 2009, includes [2]:

- ✚ Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC;
- ✚ Directive 2009/29/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community;
- ✚ Directive 2009/30/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 98/70/EC as regards the specification of petrol, diesel and gas-oil and introducing a mechanism to monitor and reduce greenhouse gas emissions and amending Council Directive 1999/32/EC as regards the specification of fuel used by inland waterway vessels and repealing Directive 93/12/EEC;
- ✚ Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006;
- ✚ Decision No 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020
- ✚ Regulation (EC) No 443/2009 of the European Parliament and of the Council of 23 April 2009 setting emission performance standards for new passenger cars as part of the Community's integrated approach to reduce CO₂ emissions from light-duty vehicles.

The centrepiece of the package is the review of the EU Emissions Trading Scheme from 2013 onwards (known as Phase III). In order to increase the

effectiveness and efficiency, the new Directive lays out a series of major developments and changes [3], which will lead to a meaning reduction of GHG emissions with 21% comparing with 2005. The Phase III is based on lessons learned in the previous period and on several debates about how to maximize the efficiency of sequentially negotiated cap-and-trade schemes, whilst reflecting practical constraints around implementation and the incompleteness of global participation.

2. Major developments and changes

According to the Commission, the main objective of the new ETS Directive was to establish a scheme for GHG emission allowances trading within the European Community for the period 2013÷2020, in order to fully exploit the EU ETS potential of fulfilling EU commitments of reducing European GHG emissions.

The provisions of the proposed amendments to the EU ETS Directive were guided by three overall objectives [4]:

- ✚ Fully exploiting the potential of the EU ETS to contribute to the EU's overall greenhouse gas reduction commitments, in an economically efficient manner;
- ✚ Improving the EU ETS in the light of experience gathered;
- ✚ Transforming Europe into a low greenhouse-gas-emitting economy and creating the right incentives for forward looking low carbon investment decisions by reinforcing a clear, undistorted and long-term carbon price signal.

The main modifications comparing with 2003/87/EC Directive provisions are:

- ✚ Time period of the EU ETS third Phase;
- ✚ Cap calculation for the EU as a whole;
- ✚ Modification/ exclusion/ inclusion of new activities and GHG emissions;
- ✚ Approach used in case of small installations;
- ✚ Way of achieving allowances;
- ✚ Treatment of new entrants;
- ✚ Credits for JI, CDM projects;
- ✚ Revenues from allowances auctioning.

Seeking to balance the concern about potential competitiveness implications of continuing with unilateral action and the increasing difficulties of making rational investment decisions, the time period of the III Phase was establish at 8 years, from 2013 to 2020.

The current system of having 27 national caps will be replaced by a single EU-wide cap. The main reason for the EU-wide cap rather than individual caps is to guarantee a level playing field for companies across Member States. “The Commission shall, by 30 June 2010, publish the absolute Community-wide quantity of allowances for 2013, based on the total quantities of allowances issued or to be issued by the Member States”[5].

By setting an EU-wide cap of 21% reduction compared to 2005 emissions (the first year with verified emissions), instead of national cap-setting, the Commission aims to ensure 20% reduction on 1990 levels and to minimize the overall cost of emission reductions.

The EU-wide cap will be cut by 1.74% annually until at least 2028; this linear reduction of the cap in total annual allowances to 2020 will be continued as a reduction path beyond 2020 providing the predictability required for long-term investments [5].

From 2013, Directive 2009/29/EC significantly extend its goal by including a range of industrial activities [3]. Expanding the coverage by inclusion of new sectors and gases would enhance the environmental effectiveness of the system and would introduce new and additional abatement opportunities to the system, thereby offering a higher abatement potential and potentially lower abatement costs. The biggest set of “new sectors” included are various chemical processes, namely production of basic organic chemicals, and of nitric, adipic and glyoxylic acids, including associated emissions of nitrous oxides. Ammonia too is included, as are soda ash and sodium bicarbonate.

Other extensions aim to increase consistency of inclusion for products that deliver similar services – for example bringing rock wool, steel wool and gypsum production within the scope of the EU ETS in part so as to ‘level the playing field’ with glass wool, which was already covered as part of glass production. The coverage of metals will no longer be confined to basic iron and steel production, but encompasses additional stages of metals processing and all metals production including aluminium, including its associated emissions of the potent perfluorocarbon (PFC) gases.

The decision of these inclusions is based on the capability of monitoring, reporting and verification of installations emissions assuring the same currently required accuracy [5].

Processes and combustion installations exclusively using biomass are excluded. Member States are allowed to exempt installations that are smaller than 35 MW and which emit less than 25,000 tCO₂/year from the EU ETS, provided that they are “subject to measures that will achieve an equivalent contribution to emission reductions”[5]. In principle this could allow over 4000 installations to be opted out while reducing the proportion of emissions covered by the EU ETS by

less than 1%. If any installation emits 25.000 tCO₂/year or more or the abatement equivalent measures are no longer in place, it will be reintroduced into EU ETS.

Hospitals may also be excluded if they undertake equivalent measures.

The free allocation of allowances to activities covered by the system will be progressively replaced by the auctioning, reaching full auctioning in 2027. 100% auctioning will be a defined objective by 2027 for most sectors and an immediate reality for power generators. This best ensures the efficiency, transparency and simplicity of the ETS and avoids undesirable effects on companies across Member States due to different methods in determining national caps and in national allocation to industries. Auctioning allowances also avoids discussion on objective and comparable national cap setting and allocation, as experienced in the first and second phases of the ETS under the Kyoto Protocol [3]. Auctioning also complies with the polluter pays principle and rewards early action to reduce emissions.

Full auctioning will be applied from 2013 to sectors that can pass on the increased costs, such as the energy sector. However, sectors more exposed to international competition will receive free allocation in 2013 at 80% of their share in the total allowances to be issued. Thereafter, the free allocation will decrease annually, resulting in 30% free allocation in 2020 and no free allocation in 2027. The auctions will be carried out by the Member States themselves and they will receive the proceeds. Member States with relatively lower income per head and higher growth prospects will receive higher allowances to be auctioned based on their relative share of 2005 emissions in the EU ETS.

The Commission will adopt until 31.12.2012 harmonized rules for free allocation. For each sector and subsector the free allocation will be based on reference values (related to the production, not to the consumption) established on the average performance of 10% most efficient installations in 2007÷2008.

Until 31 December 2009, and each five years afterward, the Commission will establish the sectors exposed to carbon leakage risks (production transfer to other countries out of EU), taking into account the possibility of passing costs. The installations from these sectors may receive free allocation up to 100% of the determined quantity.

Member States are able to adopt financial measures for sectors and subsectors exposed to carbon leakage, due to the increased electricity price determined by EU ETS [5]. These measures should be based on indirect CO₂ emissions reference values per unit of production. These values are calculated, for a given sector, as product of electricity consumption per unit of production corresponding to best available technique and the CO₂ emissions related to electricity production at European level.

Transitional derogation that might be applied by Member States for modernizing energy sector (for the installations operated until 31.12.2008), consisting in free allocation if one of the following conditions is met:

- ✚ the national electricity network was not directly or indirectly connected, in 2007, to the network interconnected system operated by the Union for the Coordination of Transmission of Electricity (UCTE);
- ✚ the national electricity network was only directly or indirectly connected, in 2007, to the network operated by UCTE through a single line with a capacity of less than 400 MW; or
- ✚ in 2006, more than 30 % of electricity was produced from a single fossil fuel, and the GDP per capita at market price did not exceed 50 % of the average GDP per capita at market price of the Community.

Until 31.09.2011 each Member State concerned has to submit to the Commission a national plan for investments in retrofitting and upgrading of the infrastructure and clean technologies and the diversification of their energy mix. Each Member State will demand from energy producers and networks operators that benefit of free allocation to submit an annual report regarding national plan investments putting into practice and send reports to the Commission.

In 2013 the total transitional free allocation shall not exceed 70 % of the annual average verified emissions in 2005-2007 (for Romania will be accounted the verified emissions in 2007) from such electricity generators for the amount corresponding to the to the gross final national consumption of the Member State concerned and shall gradually decrease, resulting in no free allocation in 2020.

Regarding JI and CDM credits, companies will be able to use in the 2013-2020 period these credits granted by their governments for the 2008-2012 period that have not already been used [6]. Thus, surplus allowances from the second trading period (2008-2012) can be banked and used in the third period without restriction.

Credits from new projects started after 2013 are allowed under certain conditions. If the EU decides to increase the emission reduction objective from 20% to 30%, additional use of CDM and JI credits will be permitted.

The use of credits from carbon sinks such as forests is not permitted, but credits from projects in EU Member States that reduce GHG emissions not covered by the ETS might be permitted under certain conditions. Also, the Commission extends the link between EU ETS and other cap-and-trade systems of any country or administrative entity (such as a state or group of states under a federal system) provided the environmental objectives of the EU ETS are not undermined.

In order to maintain EU ETS efficiency, to avoid competition distortion and early reduction of the new entrance reserve there will be harmonized rules of accessing new entrants reserve so that all Member States to apply the same

approach, especially in relation of the meaning of “significant extension” of installation which should be defined as an extension by at least 10 % of the installation’s existing installed capacity or a substantial increase in the emissions of the installation linked to the increase in the installed capacity [5]. New entrants reserve for 2013÷2020 period will account 5% of EU cap. There will not be free allocation for a new energy producer.

At least 50 % of the revenues generated from the auctioning of allowances will be used for:

- ✚ reducing greenhouse gas emissions, including by contributing to the Global Energy Efficiency and Renewable Energy Fund and to the Adaptation Fund;
- ✚ adaptation to climate change;
- ✚ developing renewable energies to meet the commitment of the Community to using 20 % renewable energies by 2020;
- ✚ measures to avoid deforestation and increase afforestation and reforestation in developing countries;
- ✚ forestry sequestration in the Community;
- ✚ developing capture and geological storage of CO₂ technologies;
- ✚ resolving some social aspects for lower and middle income households (i.e. increasing energy efficiency, insulation).

Analyzing the new provisions applicable from 2013 onwards, it might be appreciated that this will imply the structural change of the economy by concentrating industrial areas in developed countries with financial resources for retrofitting or out of EU, in countries without such constraints.

The setting targets with a base year of 2005 instead of 1990 (the base year in the Kyoto Protocol for most countries) disadvantages Romania because it doesn’t take into account the GHG emissions reductions of our country in 1989÷2005 period (almost 50%) and the national conditions [6].

In Romania the new provisions determines a high increase of electricity price due also to existing technologies.

Auctioning of allowances will determine as direct effect the increase of electricity price and as a indirect effect the increase of price for the products of EU ETS sectors (due to the costs associated with allowances acquisition and electricity increased price) and for the products of non EU ETS sectors (due to the electricity increased price).

Taking into account that the Commission intends to automatically adopt the 30% GHG reduction target in case of an international agreement, this could put more pressure on the players on energy market which could lead to consequences over the whole Romanian economy.

Sectors not covered by the expanded ETS – such as transport (except aviation), housing, agriculture and waste – will still account for almost 60% of

EU's overall emissions. The Commission envisaged that these non-ETS sectors should, collectively, cut their emissions by 10% of 2005 levels by 2020.

The targets are substantially differentiated between Member States, reflecting different starting points in terms of emissions levels and wealth (measured by GDP per capita) and ranges from a 20% emissions reduction by the richest Member States (Luxemburg, Denmark, Ireland) to a 20% emissions increase by the poorest one (Bulgaria)[3].

This approach means the less wealthy EU Member States will have room to continue growing their economies but will still need to keep their emissions below "business as usual" levels. It gives practical effect within the Union to the international principle that countries at different levels of development have "common but differentiated responsibilities" in tackling climate change.

6. Conclusions

The revised Directive increases the consistency, effectiveness and efficiency of the EU ETS, across sectors and countries, and also reduces costs for smaller installations. The auctioning of all allowances for power generation, and as the default goal for other sectors, although constrained by international competitiveness concerns, is grounded firmly in economic 'polluter pays' principles and greatly reduces the risk of retrospective intervention in the future.

The revision of the EU ETS offers the certainty that business has been asking for, with a design that offers a rational and sound basis for efficient investment towards a low carbon economy. However, this comes at a price which remains more uncertain than is generally recognised, with significant distributional impacts and important hurdles to be overcome.

The EU ETS proposal are only a part of the overall Energy Climate Change package for cutting carbon in Europe. This would: provide investors with early confidence about the direction of policy as a platform for investment in the EU.

The radical changes in the ETS Directive represent a huge step forward towards clarifying the future and simplifying the process of allocating free allowances and setting it on common principles.

They thus offer a rational and stable structure, as a basis for European industry to invest for a carbon future.

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