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COMMISSION STAFF WORKING DOCUMENT
EXECUTIVE SUMMARY OF THE IMPACT ASSESSMENT

Accompanying the document

Proposal for a Directive of the European Parliament and of the Council
amending Directive 2003/87/EC to enhance cost-effective emission reductions and low-
carbon investments

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1. PROBLEM DEFINITION

The general problem analysis on EU climate policy targets for 2030 and the ETS was carried out in the Impact Assessment¹ for the 2030 climate and energy framework². In October 2014, the European Council agreed on the 2030 framework including a binding domestic reduction of at least 40% by 2030 compared to 1990, and a corresponding emission reduction target for the EU Emissions Trading System (ETS) of 43% compared to 2005, as well as continued free allocation to industry and establishing funding mechanisms to ensure EU's low-carbon transition. The problem to be addressed is how to adapt the respective provisions of the ETS Directive for after 2020 while further improving the system based on lessons learnt.

1.1. Free allocation and addressing the risk of carbon leakage

Free allowances to industry are given to address the potential risk of carbon leakage³ in the absence of comparable climate policy measures in other major economies. The problem to be addressed is how to establish future rules for free allocation to industry, to optimally allocate the about 6.3 billion free allowances available based on the principles defined by the European Council.

1.2. Low-carbon funding mechanisms

As part of the 2030 framework, the European Council agreed to create three low carbon funding mechanisms. First, an Innovation Fund of 400 million allowances to support highly innovative, low-carbon first-of-a-kind projects in European industry and energy, building on the existing NER 300 facility. In addition, some 310 million allowances will be used for a Modernisation Fund to support lower income EU Member States⁴ in improving energy efficiency and modernising energy systems. Finally, the existing option for lower income Member States to give free allowances to their power sector is continued, with a limit of up to maximum 40% of their allowances for auctioning before redistribution. This impact assessment analyses the optimal choices for the design of these low carbon funding mechanisms.

1.3. Further improvements to the current set of rules

The current rules for the EU ETS are in force since 2013 and are relatively recent, but based on experience, certain limited changes should be considered post-2020 for core aspects of the ETS (validity of allowances, the Union registry and small emitters).

2. OBJECTIVES

The general objective of EU climate policy, and of EU ETS as its key instrument, is to contribute to limiting global average temperature increase to no more than 2 degrees Celsius above pre-industrial level. The specific policy objective is to refine and improve the EU ETS rules post-2020, aligning them with the 2030 emission reduction target. Operational

¹ Impact Assessment on A policy framework for climate and energy in the period from 2020 up to 2030, SWD(2014) 15 final.

² Communication from the Commission on A policy framework for climate and energy in the period from 2020 up to 2030.

³ An increase in greenhouse gas emissions in third countries where industry is not subject to comparable carbon constraints.

⁴ 10 Member States, with GDP per capita at market prices in 2013 below 60% of the EU average.

objectives for the three clusters (free allocation, low-carbon funding mechanisms and further improvements to the current rules) aim to address the problems as defined above.

3. OPTIONS AND IMPACTS

3.1. Free allocation and addressing the risk of carbon leakage

Several policy options were developed for each of the elements of the free allocation system and for compensation for indirect costs, following the guiding principles of the European Council conclusions.

Benchmark values. There are various options how and how frequently to update the benchmark values (allowances per tonne of product). The impact assessment considers the baseline option (update based on new data reported by operators), a single flat rate update, a recurrent flat rate update, an update based on new data combined with a flat rate update and a recurrent full data collection update.

Production level and adjustments. The production level is multiplied with the benchmark value to determine the amount of allowances per installation. There are various options on how many years to use for the production levels, how frequently to update these years, and how to deal with annual changes in production levels. The impact assessment considers the baseline option (production levels determined once and current rules for production changes), an alternative with historical production levels defined once and based on five years (2013-17) for the entire 10-year period and another alternative with production levels for two five-year periods (2013-17, respectively 2018-22). Significant production increases and decreases are addressed through same thresholds for increased and decreased production. The increased allocation for increased production comes from the new entrants' reserve, which is either a fixed amount (baseline) or is replenished from unused allowances during the period. It can be funded from phase 4 allowances, or from 250 million allowances that were unallocated in phase 3.

Carbon leakage groups and criteria. Sectors deemed to be exposed to a significant risk of carbon leakage because of their carbon intensity and trade receive more free allowances. Currently, there is very limited differentiation among sectors, as 97% are on the carbon leakage list. The impact assessment explores options for a more targeted approach, based on differentiation of sectors depending on their degree of exposure to carbon leakage risk – slight modification of the current criteria; applying a uniform factor to all; differentiating sectors into 4 groups.

Indirect cost compensation. Indirect carbon costs are the costs of CO₂ emissions related to producing electricity which are passed through to industrial consumers of electricity. Currently, Member States can give subsidies to certain electro-intensive industries to partially compensate them for these indirect costs, subject to State aid rules. The impact assessment considers the baseline (continuing the current approach), an option establishing a mandatory EU-wide compensation scheme, financed from national auctioning revenues or from free allocation, and a combination of an EU-wide compensation scheme financed through free allocation plus an optional compensation at national level.

The options for each element were screened using operational objectives linked to the European Council conclusions, and the high-scoring ones were combined into option packages:

- **'Baseline A'** reflects the unchanged ETS Directive, but does not correspond to the European Council conclusions and is not assessed.
- **'Baseline B'** assumes the current rules are prolonged to the next phase and all packages are assessed compared to it.
- **'Baseline Bbis'** is very similar to "Baseline B" with limited adjustments to the carbon leakage criteria.
- The **'Simple'** package is designed to minimise the administrative burden and complexity.
- The **'Targeted'** package is based on policy options aimed at ensuring that the most efficient installations do not face undue costs, while, at the same time, avoiding windfall profits.
- The 'Simple' and 'Targeted' represent different ways to address the trade-offs between the guiding principles, as most of the policy options in the 'Targeted' require data collection.
- The **'Limited changes'** package is a combination of 'Simple' and 'Targeted' packages.

Impacts

Free allocation addressing the risk of carbon leakage directly impacts industrial installations covered by the ETS and Member State budgets.

The order of magnitude of the economic impacts of the free allocation rules is about 6.3 billion allowances, which could amount to some €150 billion⁵. These public resources need to be allocated in an optimal way and it needs to be ensured that they do not undermine the polluter pays principle.

The compliance costs for sectors depend on the carbon price, the level of free allocation, and the emissions from production. The carbon price is not directly impacted by the rules for free allocation, as the total amount of allowances available (the cap) is fixed in advance. The total carbon costs at macro level are determined by the 40 % overall emission reduction target, and the specific 43% reduction target for the ETS, as analysed in the impact assessment for the 2030 climate and energy framework.

No significant differences have been identified between policy option packages for free allocation in terms of environmental impacts because these mainly depend on the overall emission reduction of 43% in 2030 determined by the cap.

For social impacts, the differences between the option packages are rather small, and concern only district heating prices.

Concerning the operational objectives and their link to the elements of the option packages, the following can be noted:

- Regular benchmark updates based on a full data collection ('Baseline', 'Limited changes' and 'Targeted' packages) will most closely align the benchmark values to technological progress. Updates based on a single flat rate ('Simple' package) will yield a more demanding benchmark value for sectors with below-average technological capabilities than for sectors with above-average technological capabilities. A more nuanced approach, for instance with an update based on multiple

⁵ Calculated with the allowance prices estimated in the "EU Energy, Transport and GHG emissions Trends to 2050 – Reference scenario 2013 (http://ec.europa.eu/clima/policies/2030/docs/eu_trends_2050_en.pdf)

flat rates (e.g. low, medium, high) and/or complemented with data collection, could bring a closer alignment to achieved technological progress in different sectors.

- A too close alignment of free allocation to the characteristics of an industry (technological progress, production or emission levels) may reduce the incentives to innovate.
- To better target free allocation towards those installations that are best performers and most exposed to carbon leakage risks, the amount of free allocation has to be aligned with the degree of carbon leakage risk to which the sectors are exposed. The 'Baseline' packages fail to achieve a targeted allocation because the correction factor – that may increase to around 35% in 2030 – decreases free allocation across sectors irrespective of their carbon leakage risks. The option packages 'Limited changes' and 'Targeted' better address the differences in carbon leakage risk by classifying sectors into 4 carbon leakage groups and possibly avoiding the correction factor.
- The rules for adjustments to production levels changes and the new entrants reserve can be improved (as in 'Simple', 'Limited changes', and 'Targeted' option packages), and thus contribute to reduce the correction factor and provide more free allowances for fast-growing companies.
- A better targeted allocation system (as with the 'Limited changes' and 'Targeted' packages) will also reduce the likelihood for windfall profits, while a fully targeted allocation system comes at the cost of excessive administrative complexity.
- A more harmonised compensation of indirect carbon costs – funded by the EU ETS auction revenues for Member States – offers higher protection for electro-intensive industries, but at the cost of auction revenues cannot be used for other purposes, e.g. to support renewable electricity generation that may reduce carbon costs further in the long term .

Given the advantages and disadvantages of the different packages, a combination could also be considered, for example certain measures of the 'Simple' package that perform well with regard to economic incentives and administrative simplicity – e.g. benchmark values based on (multiple) flat rate(s) and closer alignment to production data –combined with carbon leakage rules (from the 'Limited changes' and 'Targeted' packages) to better target free allowances towards those sectors that are most exposed to carbon leakage rules. However, the policy choice ultimately depends on what emphasis decision-makers put on the different objectives.

3.1. Low Carbon Funding Mechanisms

For the **Innovation fund**, changes to the current NER 300 rules are considered for the screening of projects and the risk sharing approach, in particular for industry projects.

For the screening of the projects, the current framework is based on an eligibility assessment for innovative potential and technical and economic viability and a selection based on cost per unit performance ranking. This could be maintained or changed for industry by adding criteria on replicability and ranking of projects based on innovation.

Potential changes to the way financial support is provided are to increase the maximum funding rate and to tie part of the support to earlier stages in the project's lifecycle such as milestones during the construction phase. A more far-reaching change is to replace the current non-reimbursable performance-based grant by a financial instrument such as a

guarantee or equity participation. Based on these aspects, two options packages are considered:

- **Option 1** - changes to the current rules with a more tailored approach for industry projects and increasing the funding rate. The impacts of a funding rate increase are considered in this impact assessment, but more extensive market testing in the context of the implementing legislation is needed for RES, CCS and industry.
- **Option 2** - changes to the current rules: support provided by a permanent financial facility through a financial instrument.

The analysis of the options shows several trade-offs: achieving breakthrough innovation while targeting support for best use of limited funds; addressing financial barriers for low carbon innovation while setting up an efficient, simple management structure. Option 1 would be effective in addressing specific financial barriers for low-carbon innovation for project sponsors. It could result in a lower leverage and a lower number of projects being supported than the continuation of current rules or Option 2, but it has the highest potential to address the specific barriers to support the commercialization of break-through innovation for CCS, RES and industry. It could deliver significant EU added value by taking into account replicability of industry projects. Similar outcomes could also be realised by the first-come-first-serve selection process provided by Option 2, but this option would limit the comparison between project proposals and may need to be combined with additional means to support highly innovative projects.

For the **Modernisation Fund**, the main options considered relate to the governance structure, and the different roles that Member States, the European Commission and the EIB can play to advance the objectives of the Fund.

Two main factors can be varied regarding the role of Member States and the Commission: the extent to which eligibility, selection and investment guidelines are defined in the implementing legislation by the Commission; and the composition of the Steering Board that further defines the rules and guidelines.

The Steering Board can include the beneficiary Member States, or all Member States (donors and beneficiaries) and the Commission. The EIB could either do only the due diligence and have an advisory role, or act as fund manager on behalf of the beneficiary Member States and the Commission. The options below reflect different combinations:

Option 1: large discretion and responsibility for the beneficiary Member States, Modernisation Fund tailored to specific national needs. A Steering Board of beneficiary Member States defines eligibility criteria and projects. The implementing legislation includes general guidance with detailed decisions taken by the Steering Board. The Commission helps in administration, the EIB performs due diligence.

Option 2: more cooperation. The investment guidelines are agreed by the Steering Board of all Member States and the Commission. The Commission helps in administration, the EIB performs due diligence. EIB has an enhanced role as fund manager and remains accountable to the Steering Board, assesses individual programmes, projects, and financial instruments, and monitors performance indicators.

Option 3: beneficiary Member States identify a pipeline of projects to be funded via financial instruments, conforming to eligibility criteria and general principles for project selection set in the implementing legislation. The Commission helps in administration, the EIB performs due diligence.

The Modernisation Fund is expected to trigger investments that, depending on the type of project supported, could create employment opportunities, lower greenhouse gas emissions and improve local air quality. The three options are compared based on effectiveness, coherence, market distortion and administrative burden and there are trade-offs. "Effectiveness" is key in ensuring the governance structure contributes towards the Fund objectives. Option 3 has a simple governance structure, but may mobilise fewer private investments. Option 1 addresses national priorities, but may not fully reflect European priorities. There may be a risk of internal energy market distortions and burdensome fragmentation for investors resulting in lower effectiveness. Option 2 is a balanced approach enabling a maximum amount of private investment and taking into account both national and European priorities.

For the optional **free allocation to promote investments for modernising the energy sector**, the main aspects assessed are timing, selection of investments and reporting, because currently these either vary between Member States using this option, affecting the volume and timing of allowances to be auctioned or negatively impact the operational objectives (transparency, simplicity and potential distortion of the energy market).

Possible changes include replacing the current national plans with an open competition based on targeted performance (a tender or competitive bidding with investments representing the best value for money being selected / prioritised), or publication by the Commission instead of reporting by Member States. An equal amount of free allocation per year could be chosen to replace the current approach with a declining trajectory, affecting the distribution of investments over the period and the supply of allowances to the market. Finally, consistent rules on auctioning if allowances are not given for free can reduce the current variation between Member States and set a clear timetable for auctioning of unused allowances. Based on these aspects, three options packages are considered.

Option 1: a streamlined approach with more consistent rules and procedures, limiting delays for investments and reports published by the Commission. This would reduce differences in methodologies between Member States while keeping most of the principles.

Option 2: changes focussing on a competitive and open selection of investments. An open competition reduces the potential risk of market distortion for large investments, compared based on value for money. Smaller investments could be approved under a possible future general block exemption for state aid rules. Auctioning of unused allowances can be delayed for 1 or 2 years.

Option 3: greatest level of standardisation with fixed percentage of free allocation on an annual basis. Approach is fully predictable for the market. Selection of all eligible investments through an open competition based on best value for money.

There are some key trade-offs for the options considered: the streamlined approach in Option 1 provides limited improvements to transparency and reduces the administrative burden, but does not change the selection of investments, so the effectiveness does not change significantly. Changing the trajectory of free allocation and including a competitive selection process may lead to a higher administrative burden, but has greater potential to improve effectiveness and transparency. For all three options allowing Member States to "opt in" their allowances from free allocation in the Modernisation Fund could be considered, providing a single structure for potential investors.

Three main inter-linkages can be identified between the low-carbon funding mechanisms: the need for balanced monetisation of allowances to enable a timely start while minimising the impact on the carbon market (Innovation Fund and the Modernisation Fund), a similarity

between the targeted investments in energy efficiency and energy sector modernisation underlining the need to take into account potential accumulation (Modernisation Fund and optional free allocation to the power sector), and the impact of transposition and implementation rules for the beneficiary Member States of the Modernisation Fund and optional free allocation to power.

3.2. Further improvements to the current set of rules

The EU ETS current architecture is relatively recent, but based on experience, certain limited changes should be considered post-2020.

These can concern:

- the validity of allowances across ETS phases;
- the possibility for Member States to exclude certain small installations from the EU ETS and subjecting them to equivalent measures;
- the sustainable funding of the Union-wide single registry for the EU ETS.