The 2040 homestretch

Enhancing EU climate action before and after 2030 - the role of the EU ETS and carbon removals

Priorities by Carbon Market Watch, June 2023

Submitted as response to the European Commission public consultation on the EU climate target for 2040

Overall climate target for 2040

The only reasonable target to avoid catastrophic levels of global heating is to limit the temperature rise to 1.5°C, which means that global greenhouse gas emissions need to be substantially and immediately reduced so that the world can be fully decarbonised by the middle of this century.

With the grim possibility revealed by recent research that the world's remaining carbon budget is only half what the Intergovernmental Panel on Climate Change estimated in 2020, the determination of the EU's greenhouse gas budget and climate targets must be based on the latest available robust science. Carbon Market Watch welcomes the European Scientific Advisory Board on Climate Change's (ESABCC) recommendations which underline the need for the EU to further accelerate climate action in the near and long term.

We support the adoption of a legally binding target to achieve gross emissions cuts of over 90% compared to 1990, to achieve domestic net zero emissions by 2040.

In order to achieve this 2040 goal, the EU needs to raise its ambition now, not after 2030. Even though the 'Fit for 55' package of policy measures was only agreed at the end of 2022, it has one fundamental flaw which undermines its ability to deliver on the EU's climate goals for this decade: it aims for a net decrease in emissions of at least 55% by 2030, at a time when the science clearly shows we need gross cuts of at least 65%. 'Fit for 55' needs to become 'Fit for 65' as soon as possible.

The EU has run up a serious carbon deficit, this urgently requires the wise allocation of our remaining budget. This involves deep decarbonisation this decade in such a way

that it factors in Europe's historical responsibility, as well as its capacity to act. Based on CAN Europe's Paris Agreement Compatible (PAC) Energy Scenario, we support steep domestic net emission reductions in order to stay within a total carbon budget of 27.5 $GtCO_2e$ greenhouse gas emissions, including from land use, in the period up to 2050.

We strongly recommend separating emission reductions, from technological carbon removals and LULUCF targets. The LULUCF target should be at least 600 $MtCO_2eq$ annually from 2030 to 2040. This requires significantly scaling up nature protection and ecosystem restoration and a rapid expansion of ecological farming and sustainable forestry practices. This would need to go hand in hand with dietary changes so that livestock numbers in Europe can be reduced in line with the Planetary Health Diet, which strikes a balance between human and ecosystem health.[1] Technological removals will become increasingly necessary to ensure permanent storage. A separate target for these removals should be established based on a robust assessment of the sustainability and potential impact of these activities (the NEGEM project[2] has made significant progress in this regard). This should also occur in a context where greenhouse gas emissions are slashed by 90-95% (against 1990 levels) by 2040.

As these domestic efforts are insufficient to compensate for its historical responsibility and are below its capacity to act, it will be necessary for the EU to deliver significant additional support to support climate action in Global South countries, through climate finance and other means, such as technology transfer, technical assistance and capacity building. This additional support should not undermine ambition on domestic action, should exclude the use of international carbon offsets and should be in addition to, not instead of, resources for adaptation and loss and damage climate finance obligations.

We call on EU policymakers to fully apply the polluter pays principle, while ensuring the energy transition is just, tackling existing inequalities and addressing the needs of the poorest and most vulnerable households, communities and regions.

Turbo charging the EU carbon market

The allowable carbon budget for sectors covered by the EU Emission Trading System needs to be aligned with the overall goal of achieving net-zero emissions in the EU by 2040. The EU ETS Directive specifies the annual decline of available emission allowances by the application of an annual linear reduction factor (LRF). For the existing ETS

[1] https://eatforum.org/eat-lancet-commission/the-planetary-health-diet-and-you/
[2] https://www.negemproject.eu

(covering the power sector, manufacturing industry and international transport), the linear reduction factor is currently 2.2% and will be 4.3 % from 2024 to 2027 and 4.4% from 2028. This implies the original ETS's cap on emissions will reach zero by 2039, as illustrated below:

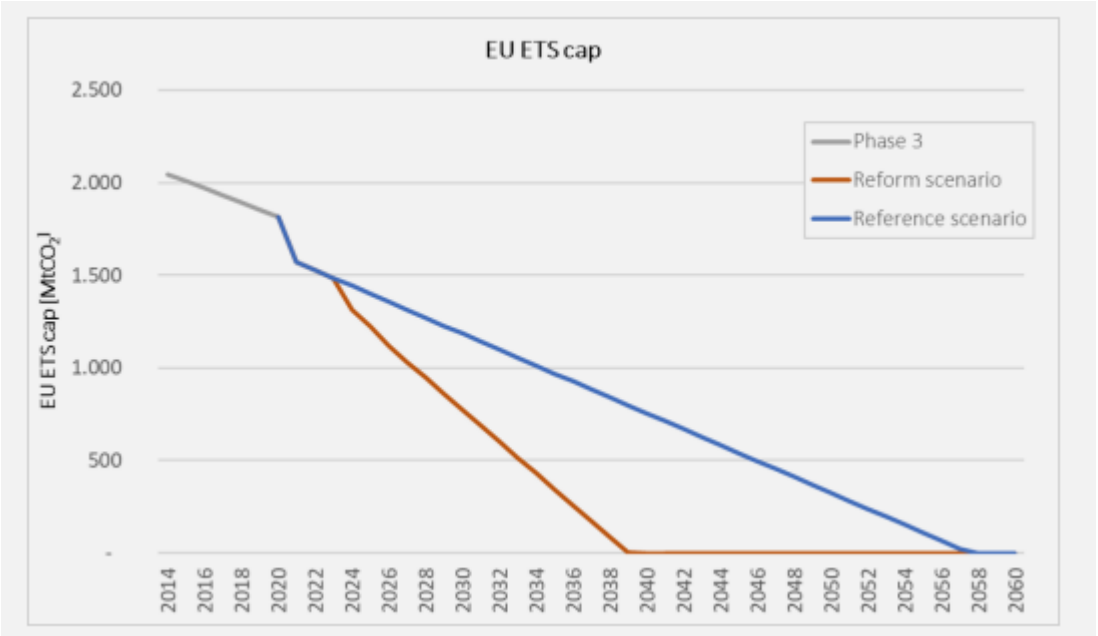

Figure 1: Evolution of ETS1 cap (source: Pahle et al., 2023[3])

For the sectors covered by the enlarged Emissions Trading System, often referred to as ETS2 (buildings, road transport and industries not covered by ETS1), the linear reduction factor will be 5.1% each year after 2024. From 2028 the linear reduction factor will be 5.38%. This implies the ETS2 cap will reach zero by 2044.

Although the reform of the EU ETS represents significant political progress compared to the preceding status quo, from the perspective of the climate, this is far from enough. The European Commission needs to evaluate the gap between the new emissions reduction trajectory and the path the European Union needs to tread to stay within its carbon budget and achieve its climate goals by 2030 and 2040. It should then use this analysis to recommend remedial action.

Every significant change in the EU ETS legislation over the past 20 years led to the strengthening of the cap, and an increase of the linear reduction factor. In the middle of

[3] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4373443

a climate crisis in which emissions persistently continue to rise, there is every reason to ensure this happens again and again. Also, the Paris Agreement has a "no backsliding" principle[4] for Nationally Determined Contributions to which the EU is accountable**.** The European Commission's assessment of a suitable 2040 climate target should, therefore, only consider an increase of the linear reduction factors specified in the ETS Directive.

When zero is not zero

As with any cap and trade system, the trajectory of the cap is not necessarily aligned with the decarbonisation pathways of every industrial sector to which it applies. Some sectors may reach their decarbonisation goals faster than others.

Although the ETS caps will reach zero around 2040 (see above) unused allowances will continue to circulate. The ETS provides the possibility of saving up emissions allowances, which means that there will still be pollution permits in circulation after the point when the cap reaches zero. The number of allowances still available at that stage also depends on how high the carbon price was preceding this zero point and the effectiveness of complementary policies and measures. In general, market participants will save up emission allowances in a way that profits them the most.

After 2040, the EU ETS still has an important role to play in policing residual industrial pollution. A company that continues to pollute after this time has two main options: use banked emission allowances or pay a price for its residual emissions. This price needs to be hefty enough to incentivise decarbonisation and reflect the external costs of carbon pollution, with the revenue centrally collected and reinvested in climate solutions (for example permanent carbon removals and international climate finance). The aim is to create further pressure to limit residual emissions over time, while preventing backsliding on previously achieved emission reductions.

Complementing carbon pricing

Although the creation of an EU carbon market is helping, to varying degrees, the drive to decarbonise Europe, its utility will fall over time and full decarbonisation cannot be achieved by market mechanisms alone. This is because, as the supply of pollution

[4] Article 4.3 of the Paris Agreement: *"Each Party's successive nationally determined contribution will represent a progression beyond the Party's then current nationally determined contribution and reflect its highest possible ambition…"*

allowances dries up, the price is set to rise astronomically, according to numerous models, including PRIMES, which is used by the European Commission. In theory, the remaining supply of allowances on the market once the cap reaches zero should be so prohibitively expensive that companies will have no choice but to slash their emissions to zero.

However, it could also lead to other outcomes, such as political pressure to keep carbon prices artificially low or to give these persistent polluters a free pass. To avoid this and push the remaining polluters towards the finishing line requires the study and exploration of complementary non-market policies.

For that reason, we encourage the European Commission to model the effects of non-pricing policies and measures to drive emission reductions in ETS sectors. Such complementary policies have the potential to ensure that the required emission reductions are delivered in a timely manner while keeping the abatement costs reasonable. For example, a greater supply of pre-2040 emissions allowances will be available to all sectors if the retirement of high-emitting fossil fuel infrastructure happens in a predictable way through non-pricing industrial policy measures, such as the Industrial Emissions Directive.

A dedicated carbon removals policy framework

Including carbon removals to be in the EU ETS is being touted by some as a way to offset emissions and to alleviate any future price crunch for allowances. Carbon Market Watch strongly opposes this because, as noted earlier, limiting warming to 1.5°C requires immediate and deep emissions reductions during this decade, as well as additional carbon removal from the atmosphere in the coming decades.

We call firstly for the establishment of separate targets for greenhouse gas emission reductions, LULUCF sector sinks and technological carbon removals.

Natural carbon sinks, in particular, are temporary because the length of the biogenic carbon cycle varies from a few years to a few decades, whereas the fossil carbon cycle is millions of years. The IPCC has also made clear that both natural sinks and technological removals need to complement, not substitute, emissions reductions.

Furthermore, using carbon removals to offset emissions runs the risk of deterring companies from decarbonising their operations. If carbon removals are integrated into the ETS, the future residual emissions claimed by sectors will likely be higher than they

otherwise would have been. This effect could even happen if an opening is left for integration in the future as it will send a signal to market participants that the EU ETS cap will not be binding in the future. Regulatory transparency and predictability are critical to enabling the green industrial transition Europe so sorely needs, so any openness to the inclusion of removals under the ETS or Effort Sharing Regulation (ESR) undermines that predictable price signal, as well as the environmental efficacy of EU climate policy.

If carbon removal options become cheaper than ETS (or ESR) emissions allowances, this will lead to an overreliance on offsetting. High-quality CDR with permanent storage are a scarce resource, limiting the scope for net-negative emissions. If carbon removal proves costlier, integration into the ETS and/or ESR frameworks will undermine long-term decarbonisation because it creates an expectation that emissions can continue because carbon removals will be available for offsetting in the future.

Carbon markets are inherently unsuitable for carbon removals because quality is the key concern, not price. The high level of permanence and sustainability required for effective removals would lead to a high price per tonne. If the market gets involved, the impetus will shift away from quality to price, with the cheapest allowable removals developed first in order to deliver emission reductions cost-effectively. Even if carbon markets are only allowed to trade in high-quality, permanent carbon removals, the demand for the expensive resulting credits is likely to be low. This could create pressure further down the line for the creation of junk removal credits based on temporary storage in forestry or soil

In the context of assessing the EU 2040 climate target, we encourage the European Commission to explore alternative models for including removals in the EU climate policy framework. For instance, the role of the EU ETS could be focused on generating the revenue to fund CDR research and development through its Innovation Fund. Keeping removals out of the ETS will ensure speedier decarbonisation through the continued pressure of the carbon price signal on polluters. At the same time, a higher carbon price will directly lead to more revenues, which offers the opportunity for reaching net-negative emissions throughout the ETS frameworks as potentially the revenues of one auctioned EUA could fund more than one tonne of removal. .

One ETS to rule them all?

The recently established emissions trading system for fuel combustion in buildings, road transport and additional sectors (ETS2) creates a separate carbon market for those sectors. Implementing carbon pricing for transport and building sectors must go hand in hand with strengthening the regulatory framework, in particular for vehicle emission standards and the energy performance of buildings.

Merging the ETS1 and ETS2 markets entails significant risks, when considering recent carbon price levels in ETS1 are well above 80€/tCO_2. Applying such a price to ETS2 sectors risks to create and undue burden for lower-income households which already spend a large proportion of their income on energy and transport. Policymakers must avoid aggravating social inequity, while complementary policies for buildings and transport need to be strengthened. Both goals will be easier to achieve when the ETS1 and ETS2 markets are kept separately.

No more freebies

The free allocation of pollution permits under the EU ETS has caused emissions from energy-intensive industrial sectors to stagnate or fall slightly. Under current legislation, the EU ETS is set to hand out up to 5 billion additional free emission allowances with a market value of about €400 billion, based on current prices, between 2021 and 2030. This pollution subsidy must end because it undermines both the 'polluter pays' principle and the EU ETS goal of incentivising the reduction of industrial emissions, including from steel, chemical and cement plants, as well as oil refineries.

The Carbon Border Adjustment Mechanism (CBAM)

The introduction of the EU's Carbon Border Adjustment Mechanism (CBAM) should go hand in hand with the full phase out of free allocations under the ETS. After a pilot phase that allows EU industries and trading partners to familiarise themselves and adjust to the new regulation, CBAM should replace free allocations as the sole carbon leakage protection tool for all sectors considered at risk under the EU ETS. A full phase out of free allocation in CBAM sectors by 2030 is necessary.

The full exposure to a carbon price signal provides an incentive and investment certainty to industries. Moreover, companies that currently invest in climate-friendly technology are placed at a competitive disadvantage against subsidised heavy polluters, so a rising carbon price will make new and potentially more costly carbon-neutral

technologies and processes more competitive. The inclusion of the most emission-intensive sectors into CBAM allows the EU to tackle, control and reduce the carbon footprint of the products imported into the single market. Sectors such as bulk chemicals and plastics are a logical next step and should be included in the revision of the CBAM in 2025.

Progressively including all ETS sectors in CBAM will eventually address all imported emissions, putting a price on emissions from products produced in third countries, thereby both levelling the playing field with EU producers and providing an incentive for producers in partner countries to decarbonise. This will also increase the transparency of emissions across sectors and countries. Ultimately, CBAM has the potential to become the blueprint for product standards for the single market.

The current exclusion of indirect emissions from the scope of CBAM for sectors receiving indirect cost compensation is counterproductive. Indirect cost compensation mutes any financial incentive to invest in renewable energy and/or adopt production processes based on clean energy sources. The ongoing reform of the electricity market, designed to support and boost the development of renewables and reduce the price volatility associated with fossil fuels, combined with the enormous funding for hydrogen, further reduces the need to continue handing out state aid for indirect costs.

The Market Stability Reserve (MSR)

The ETS's Market Stability Reserve (MSR) is a supply control mechanism that limits the number of pollution permits in circulation. It works on an annual cycle. Each year, a percentage of the oversupply of emissions allowances is transferred to the MSR. This so-called intake rate is set at 24% until 2030.

The MSR is the unsung hero of the EU ETS. The MSR's cancellation clause[5] ensures that more than 3.5 billion[6] EUAs will be removed permanently from the market by 2030, creating an equivalent climate benefit.

In order to achieve the EU's 2040 net-zero climate target, we recommend maintaining (or strengthening) the 24% withdrawal rate, and strengthening the cancellation clause by permanently removing excess units in the MSR above 400 million allowances.

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[5] Art 1(5a) of the MSR Decision 2015/1814: *"...from 2023 allowances held in the reserve above the total number of allowances auctioned during the previous year shall no longer be valid."*
[6] Climact ETS model (2023)

Aviation and shipping emissions initiatives

Aviation is the only sector covered by the ETS where emissions have been consistently increasing. While this trend was briefly interrupted by the COVID-19 crisis, which grounded most planes, it was temporary and nearly all forecasts predict emissions exceeding pre-pandemic levels by approximately 2025.[7]

The International Civil Aviation Organisation (ICAO) established the Carbon Offsetting and Reduction Scheme for International Aviation, or CORSIA, which aims to stabilise CO_2 emissions at 2020 levels by requiring airlines to offset any growth in their emissions following that date. The new CORSIA baseline is set at 85% of the 2019 emissions level. This new baseline would cover only 22% of emissions (or 154 million tonnes of CO_2) in 2030, instead of the 31.7% that would have been covered under the former baseline, according to one analysis. Moreover, the weaknesses of and uncertainties surrounding CORSIA undermine the scheme's effectiveness, making it imperative that other avenues and options are pursued. This is due to its reliance on cheap and low-quality carbon offsets that do not result in any real emissions cuts. Finally, it is unclear whether five major aviation countries (China, Russia, India, Brazil and Vietnam) will actually join the second Corsia phase in 2027.

As of 2024, the EU ETS will include emissions from maritime transport. Shipping companies will pay increasingly for their emissions as of 2024. All emissions from intra-EU voyages and within EU ports will be covered by the ETS, and half of the emissions for journeys to or from a non-EU country.

In parallel, the International Maritime Organisation (IMO) has made insufficient progress in reducing GHG emissions from the shipping sector and has failed to reach an agreement on a market-based carbon pricing system. Therefore recent progress at EU level on the inclusion of shipping in the EU ETS is extremely important as it could accelerate discussion at global level, while inspiring other regions to follow suit.

In light of the lack of progress to ensure effective and fair carbon pricing for aviation and shipping at the global level, we call for expanding the ETS for both aviation and shipping to full scope, meaning covering all greenhouse gas emissions from incoming and outgoing flights and voyages. For the aviation sector, we recommend the full inclusion of so-called non-CO_2 impacts, such as nitrogen oxides and contrails in the EU ETS.

[7] https://github.com/dw-data/corsia

Auctioning revenues to fund the transition

While the EU ETS's central goal is to reduce emissions, it has a co-benefit of generating significant revenues through the auctioning of EUAs, despite the fact that most allowances to industry are handed out for free. These revenues are a huge opportunity to finance climate action and support people through the climate transition. During the last ETS review, signifcant progess was achieved by requiring Member States to spend 100% of their ETS revenues on climate action.

Although the ETS Directive lists spending areas which can be considered 'climate and energy related purposes', this list is vague and rife with loopholes. Spending on these areas does not necessarily reduce emissions, strengthen resilience to the impact of climate change, or promote the transition to a climate-neutral EU. Member States risk to undermine the effectiveness of the EU's carbon market by reimbursing companies for the ETS price through industry compensation schemes[8]. Revenues would be better spent if they were transparently earmarked towards specific and additional climate projects, and could be significantly raised by abolishing free allocation of EUAs.

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[8] https://wwfeu.awsassets.panda.org/downloads/ets_revenues_report_2022___web___final.pdf