



- **Vattenfall welcomes the increased focus on carbon removals, which play a key role in the EU's decarbonisation path to becoming a climate-neutral economy by 2050 at the latest**
  - A joint EU approach on validating and supporting carbon removal activities is urgently needed, in parallel with a very strong focus on phasing out fossil fuels in all sectors.
  - A special emphasis should be placed on the new technical solutions, which can deliver reliable and permanent removals of CO<sub>2</sub> from the atmosphere
  - The upcoming initiative on the EU 2040 climate ambition is an important moment to incorporate carbon removals in the wider EU climate policy framework.
- **The EU-wide certification framework for carbon removals proposed by the European Commission is a good first step in recognising and crediting these climate activities**
  - The QU.A.L.I.T.Y criteria underpinning the proposed EU certification framework are all very relevant. They will bring transparency and trust in these activities going forward.
  - It is the operator who captures the CO<sub>2</sub> that should get the certificates as one of the rewards from investing in a carbon removal activity. If the project results in a permanent storage, then the certificate should not have any expiry date.
  - Vattenfall calls upon the EU Parliament and the Council of the EU to address the legislative proposal with priority, so that the system can become operational by 2026 at latest.
- **New EU policy incentives that create a strong demand for carbon removals are urgently needed, since just having a certification system and a voluntary market is not enough**
  - A certification system that ensures the quality of carbon removal projects is a crucial backbone, but it focuses on the supply side and does not drive investments.
  - Incorporating carbon removals in the EU ETS framework should be considered, subject to certain qualitative and quantitative limitations, always preserving the integrity of the EU ETS.
  - Further policy options include e.g. to redirect more revenues from CO<sub>2</sub> pricing towards carbon removals and put a quota obligation on the emissions they should compensate.
  - The EU should set a higher ambition level of industrial carbon removals than the 5 M tonnes of CO<sub>2</sub> emissions by 2030 indicated by the European Commission.

Vattenfall is a European energy company with approximately 19,000 employees. For more than 100 years we have electrified industries, supplied energy to people's homes and modernized our way of living through innovation and cooperation. Our goal is to make fossil-free living possible within one generation. Everything we do and the decisions we take shall lead to this goal. This is the basis of Vattenfall's strategy, and we advocate for a regulatory environment that makes this transition possible – in the energy sector and beyond in transport, industry etc

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## 1. CARBON REMOVALS ARE KEY FOR THE EU TO BECOME A CLIMATE-NEUTRAL ECONOMY, AS A SUPPLEMENT TO PHASING OUT OF FOSSIL FUELS

Vattenfall firmly supports the EU's goal of becoming a climate-neutral economy by 2050. This requires a strong focus on phasing out fossil fuels in all sectors of our economy. However, to create an effective climate policy towards "net-zero" GHG emissions there needs to be **absorption of significant amounts of CO<sub>2</sub> emissions from the atmosphere**. This is key for enabling net-zero emissions by 2050 and negative net CO<sub>2</sub> emissions thereafter, as well as compensating for certain emissions already in the 2030 and 2040 timeframes.

The use of carbon removals must be a complementary measure to reach net-zero GHG emissions, and should **not replace or reduce the efforts to mitigate the GHG emissions by phasing out fossil fuels**. At the same time, carbon removals will be indispensable to achieve the EU's ambitious climate objectives, and there needs to be a strong policy push in favour of both types of climate action.

As concluded by the European Commission, the EU needs to prepare itself for achieving permanent carbon removal in the magnitude of "several hundreds of tonnes of CO<sub>2</sub> per year"<sup>1</sup>. This is a truly common interest for the EU, given the strive to align with a net-zero GHG emissions trajectory and the need to decarbonise hard-to-abate sectors across the whole EU. Therefore, **the EU and its Member States must pursue a joint approach in creating the necessary conditions for scaling up investments in carbon removal projects**.

Following the recent adoption of several key EU climate legislations in the context of the 'Fit-for-55' package, it is urgent to revisit the continued decarbonisation pathway towards "net-zero" GHG emissions by 2050. That should result in **a new EU climate ambition for 2040**, fully in line with the Paris Agreement's and EU's long-term climate objectives. An initiative by the European Commission is expected in the first half of 2024 and it is important that it properly acknowledges the necessary contribution from high-quality and permanent carbon removals.

Nature-based removals and temporary storage of carbon in products have important roles to play in achieving a sustainable balance between emissions and removals. However, **Vattenfall believes that a special focus will be required on the technical solutions that deliver permanent removals of CO<sub>2</sub> emissions. For that reason, the EU should set an ambition level for industrial removals in the 2030 horizon that is higher than the 5 Mt CO<sub>2</sub> proposed by the European Commission**. Looking at the current plans for Bio-Energy CCS (BECCS) projects in the Nordic region, it is clear that the EU can jointly accomplish a lot more. Though for that to materialize, new EU policy incentives are needed to support the technology development and to mitigate financial risks involved on the industrial side.

## 2. THE CERTIFICATION FRAMEWORK PROPOSED BY THE EUROPEAN COMMISSION BUILDS ON THE RIGHT CRITERIA AND SHOULD BECOME OPERATIONAL BEFORE 2026

**Vattenfall welcomes the European Commission's legislative proposal** on an EU-wide certification framework for carbon removals based on the regulation proposed on 30<sup>th</sup> November 2022. A centralised and robust certificate framework governed by the European Commission, will increase regulatory clarity, confidence among investors and the public, and will have the best prospects of becoming a recognised and trusted instrument, thereby attracting more financing. **Vattenfall now calls on the European Parliament and the Council of the EU to address the proposal with priority** in 2023, so that a robust EU-wide carbon removals certification framework and new policy incentives can be timely prepared and deployed.

The European Commission's proposal does not envisage the establishment of one single EU-wide certification scheme, but rather a variety of certification schemes governed by a set of EU requirements ('the framework'). In the prolongation, however, we believe that **it would be useful to harmonise as much as possible and also limit the number of carbon removals certification schemes**, while still offering a full range of tailor-made methodologies for all the different types of carbon removal activities.

What the Commission has proposed is a voluntary certification system for carbon removals that can be used alongside other European, national or global systems of similar kind. When developing the methodologies,

it will be important **to make use of the experiences from already existing certification systems** and also ensure that it is compatible with the new global market-based crediting mechanism that is being developed under Article 6 of the Paris Agreement. In the long term, it would make sense to **move to a common system** that delivers one certificate type that is recognised universally. It could reduce the administrative burden and support the creation of a more global carbon market. **A high degree of transparency is also required in the reporting by companies that use certificates as a contribution to achieving their corporate targets on reducing their climate footprint.**

The four Q.U.A.L.I.T.Y criteria proposed by the European Commission are indeed the most relevant ones. They form the contours of a functioning MRV system for projects that result in the issuance of high-quality carbon removal certificates. However, more detailed methodologies need to be developed for the different types of carbon removal technologies and activities. As pointed out by the European Commission, especially in the field of BECCS, there are already a lot of experiences and regulations on which the relevant methodology can be built. We believe that should allow for **a quicker adoption of the methodologies for industrial carbon removal activities** compared to carbon farming where today's regulatory framework is not as developed and where there are more uncertainties in the measurement of CO<sub>2</sub> emissions, etc. Taking into account the timelines of several technology-based carbon removals projects in the planning today, **it is important that the new certification system becomes fully operational no later than 2026.**

According to the Commission's proposal, the certificates that are issued to a carbon removal project in the field of carbon farming or storage in products will be subject to an expiry date, which corresponds to the monitoring period. The length of this period will be determined in accordance to the type of carbon removal activity. **For carbon that is stored in geological formations (permanent storage), on the other hand, it is important that the resulting certificates are not attributed with any time-limited validity,** which is also in line with the Commission's proposal.

To provide an effective policy incentive, **it is essential that it is the company that captures the CO<sub>2</sub> from its production process who also gets credited for the climate benefit.** The owners of a plant that uses sustainable, zero-rated biomass has no incentive to capture and store the biogenic CO<sub>2</sub> emissions if they are not credited for this particular action. It is normally the same company who captures the CO<sub>2</sub> emissions that will also pay for the CO<sub>2</sub> transport and the permanent CO<sub>2</sub> storage by a third party. In the legislative proposal by the Commission, a reference is made to operators [or group of operators] who operate or control a carbon removal activity, or to whom the decisive economic power over the technical functioning of the activity has been delegated. It is important that the word "activity" is clarified and understood as the separation rather than the storage. The companies can then enter commercial agreements on how to actually share the project costs and buy a service such as the CO<sub>2</sub> storage.

It would be an advantage to **place as much of the rules as possible in the regulation,** instead of referring them to delegated acts. Indeed technical requirements and methodologies for different carbon removal activities will have to be put in secondary legislation, while more general provisions could be further elaborated in the regulation.

### **3. NEW POLICY INCENTIVES FOR CARBON REMOVALS NEED TO BE DEVELOPED TO CREATE A STRONG DEMAND FOR THESE CERTIFICATES AND DRIVE INVESTMENTS**

Vattenfall believes that it is urgent to create new strong EU-wide policy incentives for carbon removals. Making sure that the projects in question are properly evaluated, measured, verified and credited for their important contribution to climate protection is just the first step. There needs to be **a strong and robust demand for these certificates,** not only from the voluntary market which is insufficient today, but also from the EU climate policy framework. It's therefore positive that the revised EU ETS Directive calls on the European Commission to, by July 2026, come up with an assessment and a legislative proposal, if appropriate, on how negative CO<sub>2</sub> emissions (permanent carbon removals) can be covered by emissions trading. But due to the strategic importance of carbon removals, other policy options must also be investigated.

The CO<sub>2</sub> price that originates from the EU ETS policy provides a strong incentive to reduce CO<sub>2</sub> emissions from the covered installations, however it gives **no incentive to capture and store CO<sub>2</sub> emissions** from an

installation that has already fully converted from using fossil fuels to sustainable, zero-rated biomass. The fact that delivering one tonne of negative CO<sub>2</sub> (i.e. emission removal) does not even face the same economic incentive as avoiding one tonne of CO<sub>2</sub> (i.e. emission reduction) is a major shortcoming of today's EU climate policy framework.

The upcoming political process for defining a new EU 2040 climate ambition as envisaged for 2024 (or six months after the Paris Agreement's stocktake, according to the EU Climate Law) is **the right context and moment to decide on this important policy integration**. For the business community, it is important to get clarity on precisely what role the carbon removal activities shall have in the EU decarbonisation roadmap 2030-2050 and in what way existing and new policy instruments can provide better support in this field.

Carbon removals should be measured and accounted with the same high level of accuracy as the CO<sub>2</sub> emissions regulated by the EU ETS directive. It should be a requirement for any potential integration certificates into the EU ETS framework in the future. **Industrial carbon removals achieved by technological solutions especially at the installations covered by the EU ETS directive (e.g. BECCS) indeed have the potential to meet that criteria**. As for certificates issued to carbon farming projects, it seems a lot more difficult (and inappropriate at this stage) to include them into the EU ETS framework, due to the many uncertainties and challenges linked to measuring, baselines, non-permanence, etc.

Allowing for a limited amount of certificates to be used alongside ETS allowances (EUAs) in the operator's annual compliance is a policy option that is tested and has proved to be efficient in creating a demand for a certain type of certificates. As a result of the revision of the EU ETS directive agreed in December 2022, the total EU ETS allowance cap will go down to zero by 2039. Considering that some activities covered by the EU ETS will need to emit some CO<sub>2</sub> emissions also after that year, **it is reasonable to allow EU ETS operators to use a certain amount of high-quality CDR certificates for their ETS compliance**.

Another way by which the EU ETS policy can contribute is to **further redirect the revenues from CO<sub>2</sub> pricing regimes towards carbon removal activities**. Today, a BECCS project can receive financial support in the early phases of development and demonstration from the EU's Innovation Fund and dedicated national programmes in certain Member States. Looking ahead, **it is important to further strengthen these funding instruments**, by e.g. earmarking a larger portion of the Innovation Fund resources to carbon removal projects.

The Swedish government is currently preparing a new national support scheme for BECCS that is planned to be launched in 2023. **It is a system with reverse auctioning**, where companies are invited to place bids where they indicate how much CO<sub>2</sub> they can remove at a certain price or compensation. Vattenfall is positive to this specific policy instrument because it gives project developers an incentive to continuously improve and minimise the costs.

Another policy route to create a demand for carbon removal certificates is to use **a quota obligation system**. In that case, it would be logical to place the quota obligation specifically on the CO<sub>2</sub> emission sources that need to be compensated. It would mean that sources and removals are matched and it would also be fully in line with the Polluter Pays Principle.

For the power and heat sector to become fossil-free, it is not enough to phase out the fossil fuels such as coal and natural gas. It is also necessary to find a solution for **the fossil fraction in the municipal waste incineration**. Since the operator of a combined heat and power (CHP) plant cannot decide what households and others put in their garbage, the fossil CO<sub>2</sub> emissions from the plastic content may have to be removed by Carbon Capture & Storage (CCS). Applying CCS on waste incineration plants can be a particularly important measure to produce carbon removals due to its high utilization rate (baseload production) compared to other heat plants, which should bring lower costs per tonne of CO<sub>2</sub>. However, to what extent it will be economically viable to apply CCS on a waste incineration plant will ultimately depend on a combination of the income from the carbon removal certificate (for the biogenic part of the fuel) and the CO<sub>2</sub> price (for the fossil part of the fuel). This example shows how important is it to have **a fully coherent policy framework that provides adequate incentives for achieving both emission reductions and removals**.