Position paper
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Carbon Capture, Storage and Usage

Carbon capture together with storing the captured carbon or using it as material will be an integral part in achieving ambitious emissions' reductions and reducing fossil fuels' import dependencies. Our main messages are:

1) the regulatory framework needs to recognize and prioritize sustainable carbon sources
2) Europe can't achieve its climate targets without substantial industrial carbon capture
3) captured carbon as raw-material material is more valuable than permanent storage
4) carbon capture requires markets and market value
5) the regulatory framework must address companies, nations and EU

Sustainable carbon

The use of fossil fuels for energy production must end, and carbon from the incineration of coal, natural gas or oil can't be accounted as sustainable.

Bioeconomy offers the best and most sustainable solutions for industrial carbon removals. Only sustainable bioresources shall be used in energy production. The sustainability is addressed with the criteria set in renewable energy directive.

Another source of sustainable carbon is waste incineration. The waste management must follow the rules of waste hierarchy and therefore the amount of incinerated waste must be reduced and most of the waste reused or recycled as material. There will though remain non-recyclable waste such as residues and toxic substances that are incinerated into energy. In the Nordic countries the energy content of waste is utilized to produce electricity and heat and therefore the overall energy- and waste utilization efficiencies are on a very high level. Waste to energy replaces other fuels in energy production creating indirect emissions and resource savings.

In addition, there may be some other industrial processes with hard to abate emissions, where CCU can play an important role to bind carbon and utilize it as a basis of materials and fuels.

Industrial carbon removals will be an integral part in achieving climate targets

Industrial carbon removals are needed for achieving climate neutrality and further to reduce carbon from the atmosphere. There will remain hard to abate emissions and Europe will need industrial carbon capture and utilization/recycling CO2 especially in hard to abate sectors for achieving the needed ambitious climate targets. The possibilities to increase nature's sinks are limited.

The captured biogenic carbon and carbon from hard to abate sectors such as waste incineration are also essential material for hydrocarbons needed to reduce dependency on imported fossil fuels as well as chemicals and in moving towards fossil free society.

Carbon can be used as material, stored in products or stored in permanent storages

Access to sustainable carbon is a prerequisite for hydrogen economy and to provide solutions for fossil fuels phase-out.

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Although transport sector is being electrified, there will remain need for sustainable fuels, especially in aviation and maritime. Sustainable CO2 is needed to produce the needed sustainable fuels.

Another use for carbon are the hydrocarbons for different plastics. The products' lifetime may vary from rather short (for example food packages) to very long lasting (for example building materials). Essential is to replace fossil oil in the production of these products. With CCU applications, replacing fossil raw materials and fuels, Europe can significantly improve its trade balance, security of supply and create new sustainable industry and work places.

Regarding waste policy, a CCU process producing materials out of waste feedstock should be considered recycling to improve circularity and incentivize investments. Calculation rules for the recycling rate of CCU processes, which utilize waste-originated carbon, should be established.

The regulation should not prioritize how the carbon is used but provide incentives for different alternatives. Therefore, all essential applications where virgin fossil materials will be replaced shall be encouraged.

Third, the carbon may be stored permanently.

Markets and market value

Today's regulatory framework doesn't provide market value for carbon capture from sustainable sources. Especially the value for using sustainable carbon in products or storing it doesn't exist. The value could stem from national targets, from European targets, from global markets or from a combination of these. The national approach would require that industrial carbon removals can be used to achieve national effort sharing requirements. Eventually the development should be towards European and global market structures.

Important is also to promote markets for more sustainable products which would provide necessary boost to utilize sustainable carbon to replace all fossil raw materials covering the whole value chains from energy and raw material production through production facilities and logistics until the end user and finally recycling and reuse. One way to foster this development is to adopt measures in e.g. public procurement procedures to prioritize sustainable and fossil free products and services in purchases made by government, municipalities and other public entities.

Similarly, private enterprises could be incentivized by creating sufficient financial measures to equalize cost gaps between conventional, fossil based materials and services and novel, sustainably produced ones. The markets and regulation need to guide consumers to prioritize other than fossil based products-

Interactions between voluntary markets and national / EU climate targets

Many companies have an increasing interest and need for carbon removal credits. The companies' climate work must support EU's and its member states' climate work. It should be possible to both account carbon removals in national inventories and use them in trading and utilization among corporations as carbon credits. The value creation from the voluntary markets is essential for proceeding with carbon removals cost-efficiently.

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