



Clean Air Task Force  
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# CATF Comments on the Proposal for the Revision of the TEN-E Regulation

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The Clean Air Task Force (CATF), an international climate and energy research and advocacy organisation, welcomes the European Commission's climate ambition, leadership on decarbonisation and innovation, and pursuit of policies to decouple greenhouse gas emissions from economic growth. CATF also strongly supports the EU's ambition to become climate neutral by 2050 and welcomes the revision of the TEN-E regulation to ensure compatibility with climate neutrality. Besides energy security, connection, and affordability, the TEN-E revision offers key opportunities to ensure that the energy infrastructure is not only adapted for decarbonisation but also a driver for the transition towards sustainable energy.

CATF welcomes the continued inclusion of carbon dioxide transport as a priority thematic area as well as the inclusion of hydrogen infrastructure in the scope of the TEN-E framework. The proposal is, however, missing opportunities, which could have severe impacts on climate, including a significant delay of the deployment of technologies needed to reach climate neutrality by 2050. The inclusion of CO<sub>2</sub> storage and multiple transport modalities as part of the full carbon capture, removal, and storage is crucial for the technologies to deliver emissions reductions.

## KEY RECOMMENDATIONS

CATF calls on the Commission:

- Recitals 16 and 23 – include carbon dioxide storage on equal footing to transport
- Article 4, point 3 (c) – include CO<sub>2</sub> storage on equal footing to CO<sub>2</sub> transport
- Article 4, point 3 (c) – include the repurposing and retrofitting of natural gas pipelines network for hydrogen transportation, in line with the Sustainable Finance Taxonomy
- Annex I, point 4 on priority thematic areas– include CO<sub>2</sub> storage
- Annex II, point 5 (a) on carbon dioxide – include all CO<sub>2</sub> transport modalities (ships, trucks, trains, and related docking facilities) instead of only focusing on pipelines
- Annex II, point 5 (a) on carbon dioxide – include the repurposing and retrofitting of natural gas pipelines network for low-carbon gas transportation
- In Annex II, point 5 (b) on carbon dioxide – remove the exclusion of infrastructure within a geological formation used for the permanent geological storage of carbon dioxide
- Annex III, point 2 (6) on Regional Lists of projects of common interest – include carbon dioxide storage projects
- Regulate non-discriminatory third-party and open access to CO<sub>2</sub> transportation networks and storage

## Match the CO<sub>2</sub> network with EU climate ambitions

In its own 2018 [study](#), the Commission stressed that “*Reaching the global objectives of the Paris Agreement without measures aiming at removing CO<sub>2</sub> from the atmosphere is extremely challenging. (...) removing the CO<sub>2</sub> from the atmosphere*



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*has to be considered as an option for a long term GHG reduction strategy*". Near all modelling scenarios towards EU climate neutrality by 2050 highlight the key role of carbon capture, removal, and storage<sup>1</sup>. These technologies will be particularly important for decarbonising hard-to-abate sectors such as steel and cement production. Scaling carbon capture, removal, and storage is also crucial for the transformation towards a hydrogen economy.

The TEN-E Regulation must reflect these scientific findings and fully support decarbonisation through CO<sub>2</sub> capture and storage by sending positive market signals to incentivise carbon capture, removal, and storage project development, deployment, and scaling-up. The current proposal for the revision of the TEN-E regulation does not change the text on the Priority Thematic Area (12) "Cross-border carbon dioxide network" to include CO<sub>2</sub> geologic storage, missing opportunities for storage and creating potential delays in the EU reaching its climate ambitions. The current proposal jeopardises the purpose of the revision: supporting the Green Deal objectives for clean energy transition at affordable prices. Based on existing modelling, this will not take place without carbon capture removal and storage.

### **Prevent a potential damaging impact for investments and markets**

Carbon capture, removal, and storage technologies require large amounts of investment. The current TEN-E proposal does not address the market failures standing in the way of a commercialised European CO<sub>2</sub> network as they are facing a chicken-and-egg problem: at the moment, their development is slowed down by a vicious circle where technologies are not deployed because of a lack of infrastructure, and infrastructure is not built since technologies are not deployed yet. With the TEN-E Regulation, the Commission has the opportunity to solve this issue by supporting the development of the required infrastructure and recognizing the full value of the CO<sub>2</sub> transport and storage chain for climate mitigation. Moreover, the availability of CO<sub>2</sub> networks will also reduce costs and serve as a multiplier for more industries to capture their carbon.

The Commission identifies only funding as a benefit from the full inclusion of carbon capture and storage in the TEN-E Regulation and fails to take into consideration the broader market context. A strong position of the Commission on the full infrastructure of CO<sub>2</sub> network in the TEN-E Regulation would send a clear signal to investors about the long-term commitment of the EU to these technologies, reduce their perceived financial risks, and create a much-needed boost in investments. On the contrary, by not including the full infrastructure, the Commission fails to acknowledge that geologic storage of CO<sub>2</sub> is where the actual climate mitigation benefit happens across the value-chain of carbon capture, removal, and storage.

### **Include CO<sub>2</sub> storage**

Geologic storage of CO<sub>2</sub> is currently excluded from the Priority Thematic Area 12 on cross-border carbon dioxide network. CO<sub>2</sub> storage should be included on equal footing with CO<sub>2</sub> pipelines to reach the EU climate targets for 2030 and 2050 and to limit the overall cost of decarbonisation.

According to [research](#) from 2019 by the Global CCS Institute, Europe has vast storage resources that should be capitalised upon in order to reach the European

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<sup>1</sup> See, among others, the findings of the [Intergovernmental Panel on Climate Change](#) and the [International Energy Agency](#).



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Green Deal objectives. The current proposal does not fully consider the climate change mitigating impact of carbon dioxide storage and disregards the fact that transport alone is not enough to ensure the sustainability of CO<sub>2</sub> infrastructures without available storage facilities. Transport and storage are both required to ensure that CO<sub>2</sub> networks significantly contribute to climate change mitigation.

Moreover, the Commission does not provide a valid justification for the exclusion of CO<sub>2</sub> storage. Given that CO<sub>2</sub> emissions are a transnational problem, the fact that the storage infrastructure itself does not cross borders is not sufficient to justify its exclusion. It is unlikely that geologic storage clusters will be developed in every single country. Depending on their saline geologic storage resources, some countries will store CO<sub>2</sub> from other countries, constituting a cross-border benefit. Moreover, electrolyzers are included even though they do not cross border. Besides the internal discrepancy in the TEN-E proposal between the inclusion of electrolyzers and the exclusion of CO<sub>2</sub> storage, the current proposal is also in contradiction with other EU legislation such as the Sustainable Finance Taxonomy, which considers that abatement technology such as carbon capture and storage will be eligible when contributing to reaching the set emission threshold.

There is also a significant cross-border benefit to carbon removal associated with geologic storage of CO<sub>2</sub>. Given climate change is a transnational problem with CO<sub>2</sub> emissions from all countries mixing in the atmosphere, carbon removal serves as a cross-border climate mitigation tool by reducing the overall stock of CO<sub>2</sub> in the atmosphere, and the associated CO<sub>2</sub> storage allows for the permanent disposal of the emissions. It is for these reasons that geologic storage of CO<sub>2</sub> needs to be urgently included in TEN-E. Without CO<sub>2</sub> storage, any CO<sub>2</sub> transport will fail to deliver on decarbonisation.

### **Include all CO<sub>2</sub> transport modalities**

The proposal should include transport modalities other than pipelines to be eligible for PCI status and the benefits which it entails. Transport will be a determinant factor in allowing all European regions and industries to decarbonise their production, as outlined above.

TEN-E should reflect the full range of CO<sub>2</sub> transportation modalities such as ships, truck and train as well as connecting and/or docking facilities. This would allow for flexibility and diversifies the risk of relying on a single mode of transportation for carrying CO<sub>2</sub>. With secure transport infrastructure, more CO<sub>2</sub> industries are likely to invest in carbon capture, removal, and storage projects, bringing down costs of capture technologies. Moreover, the combination of different transport modalities allows for smaller and larger emitters to share a storage site. The current exclusion of other transport modalities than pipelines could also either delay or jeopardise upcoming carbon capture, removal, and storage projects, which rely on CO<sub>2</sub> transport by ship.

### **Support industries and jobs in Europe**

CO<sub>2</sub> infrastructure can both support the competitiveness of EU industries and the creation of jobs in Europe. By regulating non-discriminatory third-party and open access to CO<sub>2</sub> transportation networks and storage, the EU should ensure a fair level-playing field in the Single Market. The current market failures and lack of competition on CO<sub>2</sub> network also impact the costs of these technologies, both for industries and for consumers.

The TEN-E Regulation should enable the development of a CO<sub>2</sub> network that can be used by many different industries, supporting their competitiveness and preserving industrial clusters and jobs. Appropriate European carbon dioxide



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transport and storage infrastructure, supported by a TEN-E Regulation including the full CO<sub>2</sub> network, would enable energy-intensive industries to have access to storage sites in an efficient and cost-effective way, which would benefit the European decarbonisation effort, the industrial activity, the protection of existing jobs, and the creation of new ones to ensure the development, maintenance, and use of this new infrastructure.

### **Ensure coherence with the Hydrogen Strategy**

Hydrogen will be a key energy vector for decarbonisation. The Hydrogen Strategy stressed that the successful deployment of clean hydrogen would require the rapid development of infrastructure for connecting supply and demand. Each stage of the Hydrogen Strategy depends on robust, integrated development of key infrastructure, which includes: hydrogen pipelines (new-build and repurposed gas lines); truck- and ship-based transport systems; long-term storage facilities; and the CO<sub>2</sub> capture, transport, and sequestration facilities that will be essential to the production of low-carbon hydrogen.

The current TEN-E proposal acknowledges the central role that hydrogen-related infrastructure development will play in achieving the EU's decarbonisation and climate neutrality objectives, by supporting both the supply of and demand for low- and zero-carbon hydrogen across multiple sectors. CATF welcomes the inclusion of hydrogen transport and storage infrastructures in the proposal.

The Commission should closely coordinate TEN-E and the implementation of the Hydrogen Strategy to ensure that hydrogen-related infrastructure development matches the different stages of the strategy. To fully support the Hydrogen Strategy, the Commission should also include in TEN-E the repurposing and retrofitting of natural gas infrastructure networks for hydrogen transport, while ensuring that there is no lock-in effect, as it would allow for lower costs.