OFFSHORE NORGE

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Scaling CCS in Europe

– Leveraging offshore CO_2 storage in Norway to deliver EU climate and industrial policy goals

Offshore Norge is an employer and industry organization for companies with activities related with the Norwegian Continental Shelf (NCS). We apply our resources to maintain the development of Norway as a reliable energy nation in line with the climate goals.

Norway's offshore geology offers large-scale, reliable CO_2 storage. With nearly 30 years of experience and over 25 million tonnes safely stored, Norway brings proven capability to support Europe's CCS scale-up. Norway has so far granted one storage permit and 13 exploration permits for geological storage of CO_2 on the NCS. The total annual injection capacity in the storage sites currently being developed has a potential to reach roughly 20 million tonnes per annum (Mtpa) in 2030 and 100 Mtpa in 2035. Norwegian companies are also leading two PCI/PMI projects on cross border CO_2 networks – EU2NSEA and Northern Lights. Northern Lights has taken FID to expand the injection capacity from 1.5 Mtpa to 5 Mtpa, where more than 2 Mtpa is currently not contracted.

The market for CCS in Europe is, however, still nascent, and developers lack visibility to the prevailing market conditions that can ensure a well-functioning market with acceptable margins for all actors along the CCS chain. While comprehensive regulation is needed in the longer term when a liquid market for CCS emerges, fast and pragmatic support is also urgently needed for the first mover projects.

To take FID, project proponents of first mover projects require a business case with an acceptable risk-reward profile, mechanisms to align FID timelines across the CCS value chain[1], and sufficient emitter commitments for developing the transport and storage infrastructure[2]. This, in turn, requires flexibility to set transport- and storage-service tariffs that are proportionate to the risks associated with infrastructure development, transport, and storage services. It may also require ship-or-pay guarantees (e.g. through emitter contracts or policy support) so that developers are compensated for lost revenue when emitters do not meet their minimum-level commitments. Finally, developers may need policy mechanisms that can help de-risk cross-chain risks, such as unexpected outages leading to prolonged downtime. This can involve a temporary (e.g. during first 3-5 years), conditional exemption from ETS costs for emitters with storage commitments in the case of unexpected outages.

Shaping a fit-for-purpose market and infrastructure regulation in EU and EEA

The pending framework for a fit-for-purpose market and infrastructure regulation in EU aims to "ensure the emergence of a well-functioning, EU/EEA market-driven value chain for CO_2" through measures that enable cross-border interoperability and harmonized permitting rules and processes, while providing flexibility during the ramp-up-phase. The framework will also address issues related to non-discriminatory market access and investment risk, EU/EEA-wide

[1] Apart from brown-field assets, such as existing CO_2 terminals, the maturation of investment cases for all parts of the CCS value chain must be aligned to a high degree.

[2] CO_2 transport and storage developers generally need commitments for more CO_2 volumes than single emitters can provide.

infrastructure planning, and mechanisms to address coordination issues. Offshore Norge considers that the following 9 principles should guide the shaping of this framework.

1. **Geographical scope:** Ambitions articulated in the EU Industrial Carbon Management Strategy will not be reached without taking a holistic view on how geological resources in the EU, EEA and third countries may be leveraged. The EEA countries should therefore be included in infrastructure planning.
2. **Regulatory approach:** Regulatory framework needs to be phased, flexible and market-oriented. Limit regulatory requirements in the early stages of the market, to foster competition and preserve incentives for private investment. Refrain from mirroring too much regulation for existing energy markets and avoid locking the market development into a regulatory path that is legislatively hard to alter.
3. **Central focus:** Focus on supporting the first-mover projects towards FID and becoming operational. Incorporate a grandfathering mechanism to safeguard existing and advancing projects. Prioritize de-risking investment for creation of infrastructure and cluster development, including maritime solutions.
4. **Ownership:** Differentiate between onshore transport versus offshore transport and storage. Onshore networks may have natural monopoly characteristics and require horizontal unbundling in line with existing rules for TSOs. The other parts of the value chain cannot be characterized as a natural monopoly. Ownership unbundling and regulated third-party access is therefore unnecessary for offshore transport and storage. Competition law provides safety net against any abuse of a dominant position.
5. **Technology neutrality:** Provide flexibility for use of all modes of CO_2 transport, enabling first mover projects to select a transport-chain concept optimally suited for their individual project. To this end, the TEN-E Regulation should be amended to expand the scope of PCI/PMI projects to explicitly include non-pipeline-based CO_2 transport. The regulation should also be technology-neutral across all emitter segments and storage concepts, but be geared towards achieving safe and permanent storage.
6. **CO_2 standards:** Refrain from introducing CO_2 standards into regulations before solid technical evidence from operational experience is available. If regulatory requirements for CO_2 specifications become relevant at a later stage, they should aim to maintain capture, transport and storage concept flexibility.
7. **Accelerated permitting:** Shorten and simplify permitting procedures as much as possible, e.g. through use of enforceable deadlines, digital tools, and single point of contacts or one-stop shops. Enable cluster-level permitting for shared networks. Work towards facilitating permitting for cross-border projects and strengthen cross-border integration through mutual recognition of permits.
8. **Financing:** Public-private-partnerships (PPPs) have proven effective and should play a central role in financing transport infrastructure. Right-sized infrastructure enabling rapid scaling of CCS in Europe commensurate with climate objectives cannot be financed via network tariffs alone. Regulation can only deal with this problem by delaying cost recovery through inter-temporal cost allocation. This will result in lower prices in the early network development phases but puts the financing risk with the network operator. EU-level PPP-mechanisms should therefore be introduced as part of the CO_2 market and infrastructure regulation. The financing strength of these mechanisms should be commensurate with EU/EEA ambitions for industrial carbon management (ICM), as set out in the EU ICM strategy.

9. **Network planning:** Network planning should take a stepwise approach and avoid overly complex plans aimed at system wide design and optimisation in the early market phase. Regional coordination should be strengthened through the development of joint infrastructure and cross-border cooperation tools.