

Carbon Credit – Carbon Removals – Carbon Offsets

A summary of EU legislative framework and voluntary schemes
for reducing CO2

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Introductory remarks

- The purpose of this presentation is to provide an overview of:
 - EU rules on CO2 offsets and removals
 - Non-regulated schemes for CO2 offsets and removals
 - How to trade removals and offsets.
- The presentation does not attempt to cover all rules and aspects but a selection of material rules and arrangements that are central to commercial exploitation of the business opportunities that the EU policies deliberately and de facto create.
- The presentation will not describe the CO2 quota system and trading with quotas bought or traded under the EU rules. The presentation does not review specific products or markets/market places.
- The presentation is probably of greatest interest for activities that wish to become net zero and activities that need to buy quotas but where buying removals under the proposed new EU rules may be an alternative.
- The UN sustainability goals, green deal and the EU climate law is included by references, but are generally considered known material. For those who want more information on the high level rules and principles we have included references but not described the rules as such.



EU Climate Legal Framework



UN and EU policies and high level instruments

- [UN Sustainability goals](#)
- [European Green Deal](#)
- [European Climate Law](#)
 - Writes into law the goals set out in the European Green Deal
 - Set the long-term direction of travel for meeting the 2050 climate neutrality objective through all policies, in a socially fair and cost-efficient manner
 - Set a more ambitious EU 2030 target, to set Europe on a responsible path to becoming climate-neutral by 2050
 - Create a system for monitoring progress and take further action if needed
 - Provide predictability for investors and other economic actors
 - Ensure that the transition to climate neutrality is irreversible



Material EU legislation/policies

- EU Circular Economy Action Plan aims to
 - make sustainable products the norm in the EU
 - empower consumers and public buyers
 - focus on the sectors that use most resources and where the potential for circularity is high such as: electronics and ICT, batteries and vehicles, packaging, plastics, textiles, construction and buildings, food, water and nutrients
 - ensure less waste
 - make circularity work for people, regions and cities
 - lead global efforts on circular economy



Selected EU legislation

- [Proposal for Nature Restoration Law](#)
 - 20% EU's land and sea should be covered by restoration measures by 2030
 - Approved by Council June 2023
- [2009/31/EC](#) - CSS directive on geological Storage
 - EU rules for national regimes for storing CO2 underground
- [2003/87/EC](#) - ETS directive
 - Scheme for greenhouse gas emission allowance trading within the Community
- [Reg 2018/2066/EC](#) - Commission Implementing Regulation
 - Monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC
- [LULUCF regulation](#)
 - EU rules on land use, land use change and forestry
 - Separate land-based net carbon removals target of 310 million tonnes of CO2 equivalent by 2030



Selected EU legislation

- [Renewable Energy Directive](#)
 - Legal framework for the development of renewable energy
- [Dir. 2011/92/EU on the assessment of the effects of certain public and private projects on the environment](#)
 - Replaces 85/337EEC
 - Applies to CCS
- [Dir. 2008/1/EEC concerning integrated pollution prevention and control](#)
- [Proposal EU Directive Certification Framework for Carbon Removals](#)
 - Rules for certification of carbon removals schemes
- [EU regulation 2018/841](#) inclusion of greenhouse gas emissions and removals from land use, land use change and forestry in the 2030 climate and energy framework
- [Regulation 2021/1119](#) Climate neutrality (implementing Paris Agreement?)



Selected EU legislation

- [Commission Delegated Regulation 2021/2139](#) – Do not Significant Harm concerning forestry and underground geological storage of CO2
- [Directive 2018/2001](#) – promotion of the use of energy from renewable sources
- [Regulation 765/2008](#) - setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/93



Carbon Credits

Carbon Offsets

Carbon Removals



In brief – CO₂ credits, offsets, removals and storage

- Carbon Credits
 - Use credits to offset own production of CO₂
 - Sell non used credits
 - Buy credits to compensate for production of CO₂
- Carbon Offsets (non regulated)
 - Voluntary marked, not used in CO₂ credits trade in EU
 - May be traded in market but not used to compensate for lack of CO₂ credits
- Carbon Removals
 - EU's approved removals (proposal, not adopted yet)
 - May be used to compensate for lack of CO₂ credits
- Carbon Storage
 - Storage that satisfy [2009/31/EC](#)
 - May be used to get Carbon Credits



EU Carbon Credits – Cap and Trade System EU

- EU rules that apply in the EU/EEA
- O2 footprint/emissions. 1 credit = one ton of CO2
- Credit system being expanded to cover methane and Nitrous oxide
- How to acquire and distribute:
 - Award by national authorities based on quotas set by the Commission (based on input from member states EU/EEA)
 - Some quotas are awarded and some auctioned
 - Buy and sell quotas in market
- Award of quotas based on best in industry players
- Quotas deteriorate by Linear Reduction Factor (LRF) (phase 4 2021-2030 2,2% per year)
- Market Stability Reserve (MSR) – mechanism for stabilising market in EU carbon quotas
- European Union Emissions Trading System (EU ETS) for trading under the compulsory EU carbon credits regime
- Commission warned of heavy penalties region of inflation adjusted 100 Euros per ton



EU Carbon Credits – Cap and Trade SystemEU

- Non exhaustive list of covered industries:
 - Energy production
 - Heavy energy consuming industries (refineries, iron, aluminum, concrete, paper and glass production)
 - Air transport EEA and to and from the UK and Switzerland, air transport, road transport
 - Real property and construction
 - Other not so energy intensive industries
- Key legislation (non-exhaustive)
 - [Regulation \(eu\) 2015/757 of the european parliament and of the council of 29 april 2015 on the monitoring, reporting and verification of carbon dioxide emissions from maritime transport, and amending directive 2009/16/ec](#)
 - [Directive 2003/87/ec of the european parliament and of the council of 13 october 2003 establishing a scheme for greenhouse gas emission allowance trading within the community and amending council directive 96/61/ec](#)



If you may be subject to climate gas cap and trade rules

- Is a relevant activity covered or will it be?
- Establish relevant deadlines
- Establish project or system for compliance if covered
- Establish the public authority responsible for your business/activity regarding reporting, surveillance etc
- Find out how you obtain, trade, monitor your activity and emissions
- Establish systems for monitoring and documenting emissions etc.
- Establish systems for mandatory reporting and hand over of quotas to avoid penalties



Carbon Offsets and Removals

- Offsets - Non mandatory voluntary system
 - World wide
 - Tradable
 - Prices varies depending on quality of offsets (meaning how reliable the various offsets are/how stringent the conditions for award under various regimes are.
- Removals - EU mandatory system
 - Not yet adopted
 - Very ambitious with yeary goal of 350 million tons by 2030
 - Rules and levels are yet to be defined.
 - Best voluntary regimes an indication on how stringent the requirements will be?



Carbon Storage - Expected Volumes*

- CO2 storage by 2020 7 mill tons
- CO2 storage 2030 – 160 million tons
- Storage may at some point account for up to 15 % of reductions

*Figures and estimates vary



Voluntary Offsets Rules

Overview and sample of how it may be regulated



Overview

- Offsets sold through private sector providers.
- Rules/Quality may vary among providers => Varying prices
- Customers of project cannot claim them in own business
- Carbon storage can only be claimed in marketing once, i.e. if use Puro's certification, it cannot be used by project or project customers in their marketing
- May market social, biodiversity recycling, environmental, and agrological benefits
- Marketing aspects must be dealt with in contracts and market communication



Contract clauses and considerations

- Who is entitled to claim the benefits/credits from CCS
- Interface for CO2 footprint between project and customer
- Obligations for project regarding certification, operations, maintenance
- How long must obligations last?



Contract must contain (Puro Earth)

- *The underlying physical product's marketing and purchasing processes contain a disclaimer clarifying that even though the product is recognized to contribute to net carbon drawdown, the carbon credit associated with it is managed in Puro.earth's carbon removal registry.*

or

- *The underlying physical product's marketing and branding does not contain references to the carbon drawdown or carbon net-negativity benefits.*



EU Carbon Removals

- Commented on below



Directive on Geological Storage CO₂

Dir 2009/31



Dir 2009/31 – on Geological Storage of Carbon Dioxide

- EU Goal of removing 350 million tons of CO₂ per year by 2030
- Rules cover the following part of the value chain:
 - Transportation of CO₂ for storage
 - Storage
 - Monitoring
- In Norway implemented in «Lov om undersjøiske naturforekomster»
- Activity also subject to:
 - [1996 London Protocol to the 1972 Convention on the Prevention of Marine Pollution by Dumping Wastes and other Matter](#)
 - [Convention for the Protection of the Marine Environment of the North-East Atlantic](#)



Scope

- Storage of CO₂ in geological formations on land or under the seabed (art.1)
- Applies to all storage in EU/EEA member states territory, including exclusive economic zones continental shelves
- Member states award permits and ensure implementation, application and compliance of the directive nationally
- Directive does not apply to storage sites with intended capacity of less than 100.000 tons
- Member states may only award permit for storage complexes that do not extend beyond the states territory
- CO₂ may not be stored in the water (column)
- Only CO₂ with defined limited impurities may be stored (Art 12)



Selection of Storage Sites (art. 4)

- The member states alone decides what areas that should be open for storage
- Member states that wishes to allow storage shall make assessment of storage capacity for relevant areas (discretion of the state)
- Assessment shall be made according to the rules of Annex I
- Condition for using storage complex is that;
 - No significant risk of leakage
 - No significant environmental risk
 - No significant health risk



Exploration Permits (art. 5)

- Storage requires permit from member state
- Conditions etc up to member state but must comply with directive
- Must provide equal treatment and be non-discriminatory
- Exploration Permits may include demand for monitoring and injection tests (not exhaustive list)
- Permits shall not be longer than required to carry out the planned exploration. Permits only extended if necessary to complete and the exploration has been carried out in accordance with approved plans
- Exploration Permits are exclusive



Storage Permits – General (Art. 6)

- Storage may only occur according to the rules of the directive
- There may only be one operator for each storage permit
- Member states provide open and non-discriminatory procedures
- Storage Permit shall be given to the holder of Exploration Permit, provided:
 - That the exploration is completed
 - Any conditions in the exploration permit are fulfilled
 - Application for storage permit submitted before the expiry of the exploration permit



Storage Permits – Application (Art. 7)

- Name/address of operator
 - Proof technical competence
 - Characterisation of storage site and storage complex with assessment of security
 - Total quantity to be stored, prospective sources and transport methods, composition of CO₂, injection rates/pressures and location of facilities
- Description of measures to prevent significant irregularities
 - Monitoring plan
 - Proposed corrective measures plan
 - Provisional post closure plan
 - Proof of financial security



Storage Permits – Conditions (Art. 8 and 9)

- All requirements of the directive and other relevant EEA legislation is complied with
- Operator is financially sound
- Operator is technically competent and reliable to operate site and professional and technical development and training of the operator and staff
- If more than one storage site on one storage complex, the integrity of both/all etc must be maintained

- Location and delimitation of storage site
- Requirements for operations
- Total quantity of CO₂ to be stored, pressure limits, injection rates and pressures
- Composition of CO₂ and stream
- Approved monitoring plan
- Conditions for closure and post closure plan
-



Commission approval of storage permits

- Applications shall be sent the Commission within 1 one month of receiving it
- Comm. Issue non-binding opinion within 4 months
- Commission shall inform that it will not provide opinion within 1 month
- Member state shall send final permit to Commission
- If Commission disagrees with member state, must use general procedures EU/Treaty



Revision permit – Compliance (Art. 11)

- Any change regarding permit must be notified member state
- Member state shall review, update or withdraw the storage permit if
 - Defined cases of breach
 - It appears necessary on the basis of latest scientific and technological progress
- Review of permit after initial 5 years and thereafter every 10 years
- After withdrawal of permit the member state is responsible for compliance



Surveillance and Monitoring (Art. 13 -15)

- Detailed rules on what should be monitored
- Operator shall file reports and audits regularly and ad hoc (Art 14)
- Member state make routine and non-routine inspections



Closure

- Operator responsible for closure, including estimating costs for maintaining the storage site
- Shall provide security for future costs
- Member state may decide that transfer of responsibility only shall occur after a certain period of time. In principle shall operator provide security for all future costs with maintaining the integrity of the site



Transportation and storage

- Member states have limited obligation to ensure that existing infrastructure is made accessible for activity in connection with CSS (art. 21)



Remedies

- Leakage must be compensated by buying CO2 quotas
- Any deviations from permit must be rectified
- Operator provide financial security
- Liable under general national and EU rules
- Member state may and shall take over if operator does not rectify breach
- Costs of member state shall be recovered from operator when caused by breach
- Member state shall provide penalties and notify such to the Commission



EU Certification Framework for Carbon Removals

[Com \(2022\) 672 final](#)



Goal

“Carbon removals should be quantified in an accurate and robust way; and they should be generated only by carbon removal activities that generate a net carbon removal benefit, are additional, aim to ensure long-term storage of carbon, and have a neutral impact or co-benefit on sustainability objectives.”

Com (2022) 672 final p. 2



Purpose and Key Characteristics

1. System for certifying voluntary carbon removal that ensure harmonisation and tradable removals and avoid greenwashing
2. Guarantee consistency and quality
3. National implementation with strong Commission involvement
4. Certification based on existing general EU regimes
5. General methodology in accordance with existing certification systems
6. Applies in EU and EEA
7. Removals are much more heterogeneous than emissions with regard to maturity, cost-effectiveness, monitoring costs and represent different challenges for certification
8. Voluntary
9. Not apply to emissions falling within the scope of 2003/87 with the exception of the storage of CO₂ emission from sustainable biomass that are zero-rated



Summary Requirements - QU.A.L.I.TY (art 1 and 3)

1. Only net removals entitles allowances (1 unit = 1 ton CO₂) secured through QUALITY:
 - i. **QU**antification
 - ii. **A**dditionality and baselines
 - iii. **L**ong-term storage
 - iv. **s**ustainab**ITY**
2. Monitoring, verification and certification (reliable and transparent criteria)
3. Functioning and recognition of certification schemes by the Commission
4. Allowances to be surrendered in the event of leakage
5. Security/payments to monitor and maintain sites long term
6. Government takes over after after 20 years



Net Carbon Removal Benefit (art 4)

Net carbon removal benefit = CRbaseline – CRtotal – GHGincrease > 0

where:

- (a) CRbaseline** is the carbon removals under the baseline;
- (b) CRtotal** is the total carbon removals of the carbon removal activity;
- (c) GHGincrease** is the increase in direct and indirect greenhouse gas emissions, other than those from biogenic carbon pools in the case of carbon farming, which are due to the implementation of the carbon removal activity.



Net Carbon Removal Benefit – continued (art 4)

1. Carbon Farming - Crbaseline to be defined based on Reg 2018/841
2. Crbaseline – correspond to standard carbon removal performance of comparable activities in similar social, economic, environmental and technological circumstances and take into account geographical context
3. If justified derogate from 2 and develop individual baseline
4. Baseline periodically updated
5. Use recogn. Statistical approaches
6. Operator gather info on carbon removals and CO2 emissions



Additionality (art 5 +)

- A removal shall provide additional carbon removal compared to what would have been the case without the «removal» = Net removals
- Net removals = gross stored CO2 minus
 - Any statutory removals or thresholds
 - Only removals that are «caused» by the incentives effect of the directive. Means that removals that would have occurred without the rules shall be subtracted
 - The baseline level (only removals additional to the situation without the removals)
 - Any leakage over time must be compensated through CO2 quotas or equivalents



Only Long Term Storage (art 6)

- Removals must be longterm
- Leakage must be compensated
- Removals that are used are void (f ex cutting trees)
- Monitoring
 - Monitor and mitigate risk of release of CO2 during the monitoring period
 - Subject to appropriate liability mechanisms in the event of leakage/breach
 - Carbon farming and storage in products shall be considered released no later than end of monitoring period



Sustainability requirement

- Carbon removal activities must have neutral or positive impact on all of the following:
 - Climate change mitigation beyond the net carbon removal
 - Climate change adaptation
 - Sustainable use and protection of water and marine resources
 - Transition to circular economy
 - Pollution prevention and control
 - Protection and restoration of biodiversity and eco-systems



Certification – Registers

- EU oversees and monitor national certification and accreditation bodies
- National authorities certifies and monitor carbon removal schemes and certification bodies
- Schemes must be recognized by the Commission to be covered by the regulation.
- Schemes shall not be approved for more than 5 years at a time
- Periodic reviews of schemes
- Methodology equivalent existing certification regime



CO₂ storage Norwegian continental shelf



Norwegian Rules on Carbon Storage

- [Forskrift om utnyttelse av undersjøiske reservoarer på kontinentalsokkelen til lagring av CO2 og om transport av CO2 på kontinentalsokkelen](#)
- Legal basis – Kontinentalsokkelloven
- Government body in charge – Miljødirektoratet/, Petroleumstilsynet og Oljedirektoratet.
- <https://www.npd.no/fakta/co2-lagring/>



Applications Carbon Storage Norway

- A/S Norske Shell
- Equinor ASA
- Horisont Energi AS
- Northern Lights JV DA
- Vår Energi AS
- Aker BP ASA og OMV (Norge) AS
- Wintershall Dea Norge AS og Altera Infrastructure Group gjennom sitt datterselskap Stella Maris CCS AS
- Wintershall Dea Norge AS og CapeOmega AS



Heading our Sustainability Team



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Andreas has a wide knowledge on sustainability. His sustainability work is particularly focused on its application on his other areas of expertise; M&A, commercial contracts and public procurement. His deep understanding of legal framework combined with business acumen is particularly useful for clients seeking to make their products and value chains circular.

- SUSTAINABILITY AND CIRCULAR ECONOMY
- M&A
- COMMERCIAL CONTRACTS
- PROCUREMENT
- INTERNATIONAL CONTRACTS
- NEGOTIATION SUPPORT



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Cathrine is widely recognized for her thorough knowledge with environmental and sustainability rules. She is used by a wide range of industrial and other businesses in this field. Her long-term experience as an adviser to these industries has given her a good commercial and strategic understanding, which is reflected in the legal advice she provides.

- SUSTAINABILITY AND CIRCULAR ECONOMY
- MANUFACTURING, RETAIL AND SERVICES
- LITIGATION AND ARBITRATION