

*The impact of fossil fuels
on environment and
climate – the imperative
of the energy transition*

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Agenda



- 1. The oil sector and its interaction with environmental media***
- 2. How to deal with impacts? Environmental law and its relation to the energy sector***
- 3. Activities of the Energy Community in the field of environment and climate***

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Issues – in general

WATER



SOIL

AIR

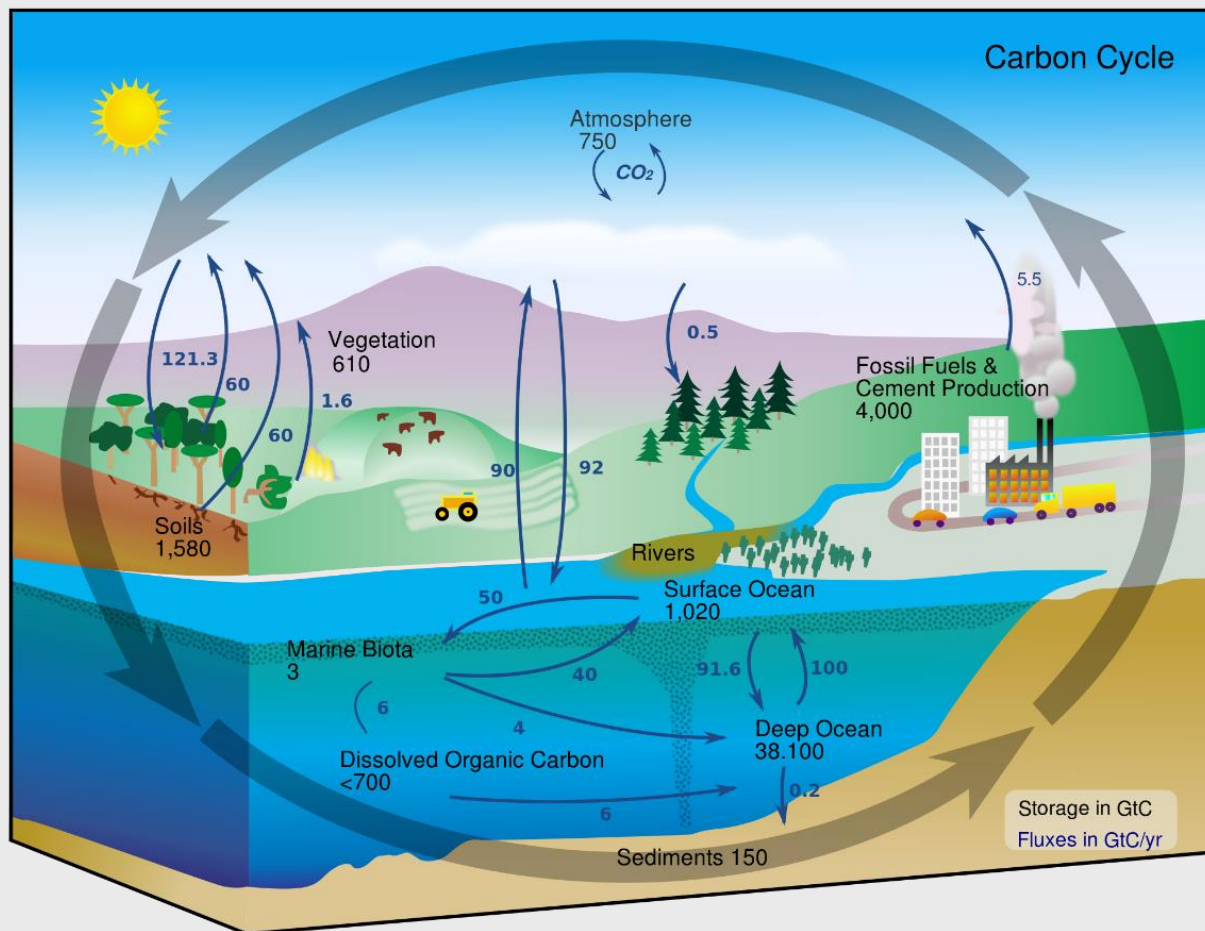


Environmental impacts and the oil sector

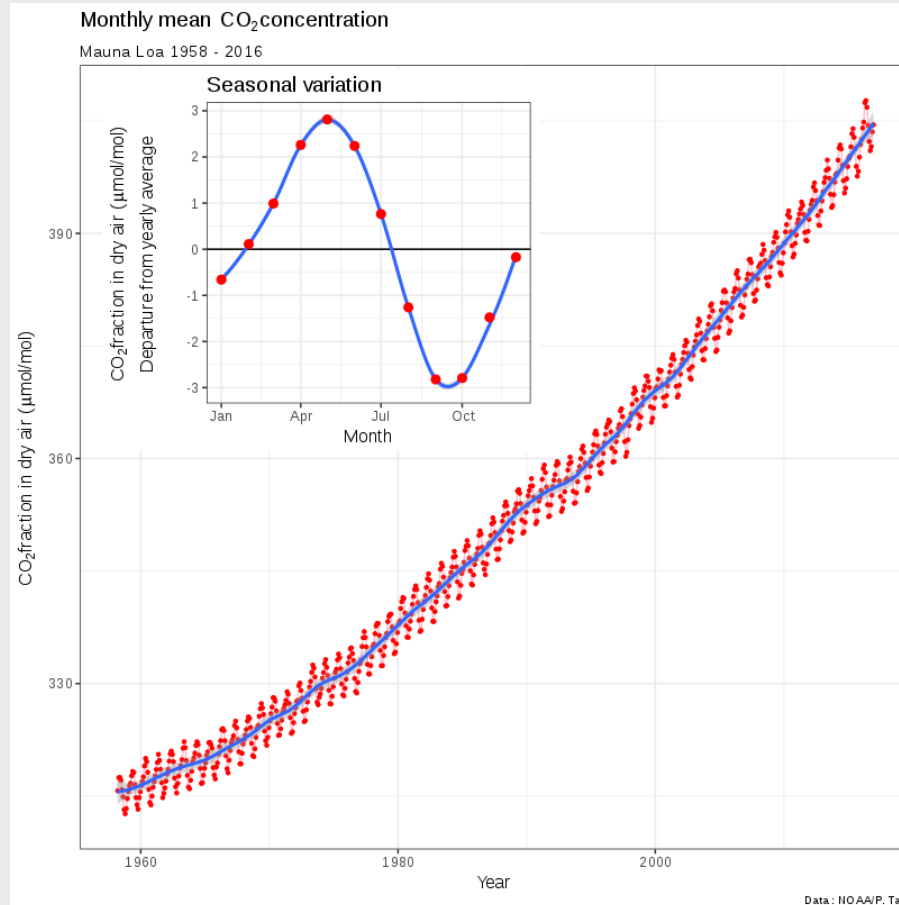


- *Emission related to the mining*
- *transport*
- *conversion / transmission / use of energy (upstream / downstream)*
- *Emissions into air*
- *water*
- *soil (waste)*
- *Climate change (greenhouse gas emissions)*

Accelerating the carbon cycle



Increase in greenhouse gas concentration



Source: NOAA

Greenhouse gases

Gas	Tropospheric concentration (1000-1750)	Trophospheric concentration (recent)	Atmospheric lifetime (years)	100 year global warming potential (GWP)
Carbon-dioxide	280 ppm	400 ppm	50-200	1
Methane	0.7 ppm	1. 875 ppm	12	25
Nitrous oxide	0.270 ppm	0.321 ppm	114	296
Perflouro-methane	40 ppt	80 ppt	>50 000	5700
Sulfur-hexafluoride	0	4.2 ppt	3200	24 000

Source: IPCC

Effects of climate change



- ***More extreme weather events (floods/draughts, thunderstorms, etc.)***
- ***More constraint on the energy sector***
- ***Freshwater use***
- ***Feedback loops (e.g. permafrost methane, deep sea methane)***
- ***To avoid very negative effects → the imperative of the energy transition***

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Ex ante and ex post approaches



- *Ex ante: environmental impact assessment / strategic environmental assessment*
- *Ex post: measures for the limitation of emissions (mitigation) or to cope with the results (adaptation)*
- *Mitigation measures: can be regulatory (“command and control”) or market-based*
- *Adaptation: e.g. flood protection, agriculture, specific issues in mountain areas*

The Industrial Emissions Directive



- *Adopted in 2010, framework directive*
- *Concept of “best available techniques”*
- *Chapter II – refineries*
- *Chapter III – minimum requirements for combustion plants*
- *Setting emission limit values for SO₂, NO_x and dust (particulate matter) for plants with a rated thermal input (RTI) \geq 50 MW*
- *ELVs may vary based on the RTI of the plant and on the type of fuel used (solid, liquid, gaseous)*



- ***“A cornerstone of the EU's policy to combat climate change and its key tool for reducing industrial greenhouse gas emissions cost-effectively” (COM)***
- ***Cap and trade system***
- ***From Phase I to Phase IV***
- ***Pro: Phase I of the EU ETS (2005–2007) was a "learning phase" designed primarily to establish baselines and create the infrastructure for a carbon market, not to achieve significant reductions, Phase II worked much better, mandatory auctioning will do the trick***
- ***Con: over-allocation, windfall profits, price volatility, failure to meet its goals***

The carbon price



Effects of the MSR kicking in

EUA price (front-year contract), 2 Jan 2017-August 2018 (€/t)



Source: Bloomberg



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The environmental dimension



Title II: “Acquis of the Energy Community” → NETWORK ENERGY
geographical scope: Contracting Parties


Environment

- **EIA Directive** – after entry into force
- **SEA Directive** – as of 1 March 2018
- **Sulphur in Fuels Directive** – as of 1 January 2012
- **LCP Directive (2001/80/EC)** – as of 1 January 2018
- Art. 4(2) of the **Wild Birds Directive (79/409/EEC)** – after entry into force
- Endeavour to accede/implement: **Kyoto Protocol; IPPC Directive (96/61/EC)**
- **Chapter III and Annex V of IED (2010/75/EU)** – as of 1 January 2018 for new plants (2013 decision), as of 1 January 2028 for existing plants (2015 decision)

Future of the Energy Community



- Several **recommendations** regarding new acquis (remarkable environmental dimension – SEA, ELD, **FQD**, IED Ch. II and IV, AQD, **ETS**)
- *Integrated energy and climate planning – the cornerstone of the energy transition*
- *Policy Guidelines of the Secretariat on the development of National Energy and Climate Plans (June 2018)*

The background is a satellite-style image of the Earth at night, showing city lights. Overlaid on this are numerous glowing blue lines that represent energy transmission paths, connecting various points across the globe.

*Thank you for your
attention!*

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Picture credits: Energy Community photo contest; courtesy of the Contracting Parties; istockphoto.com