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Influencing EU policy
- The Bellona perspective

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The Bellona Foundation

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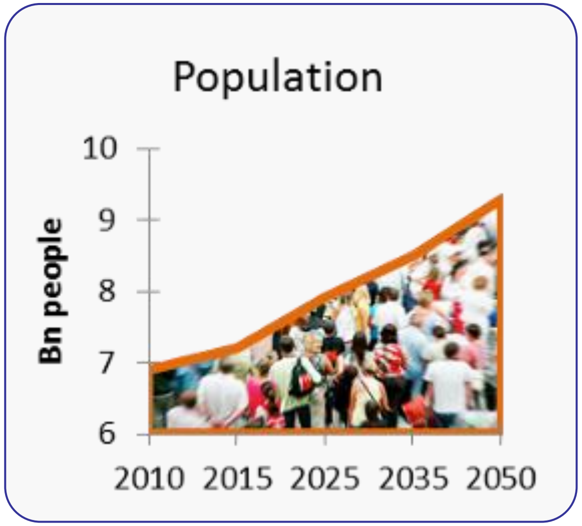
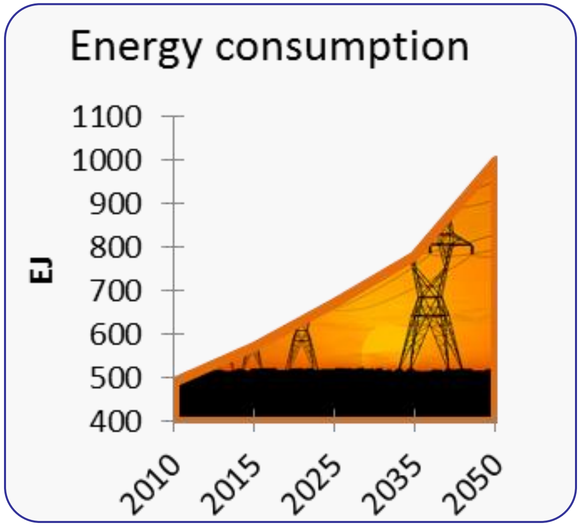
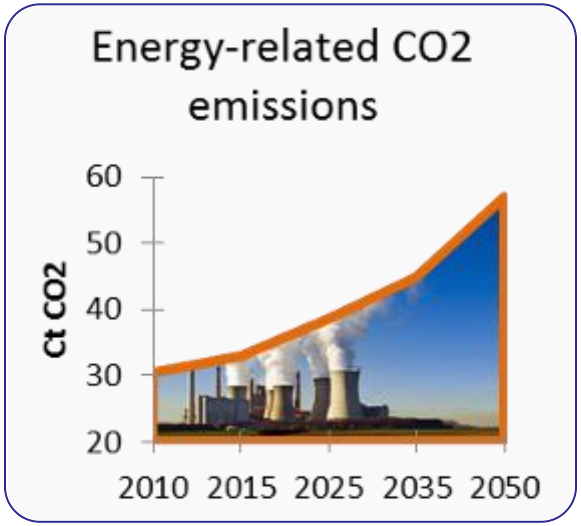
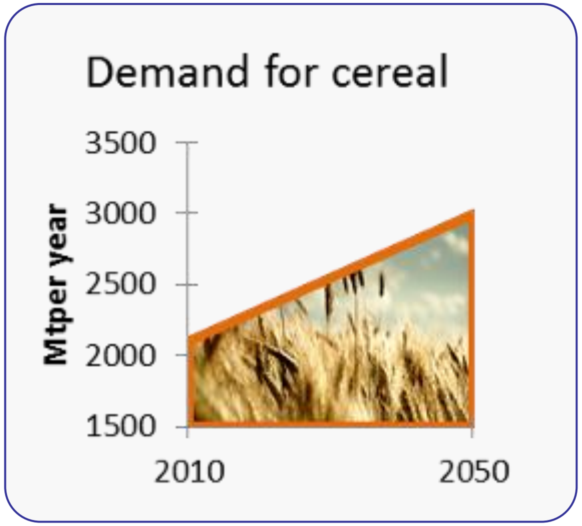
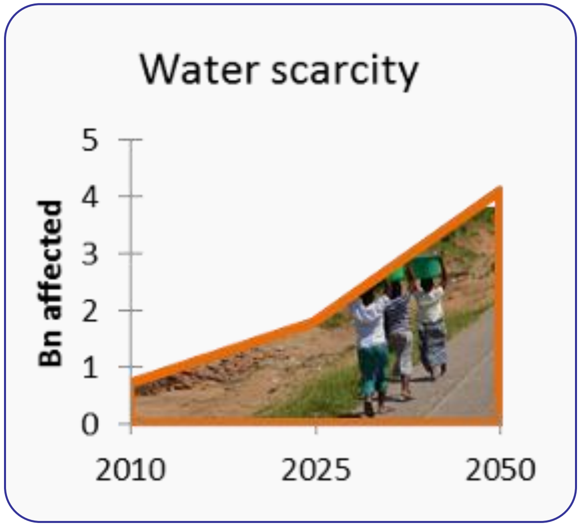
Some Global Trends

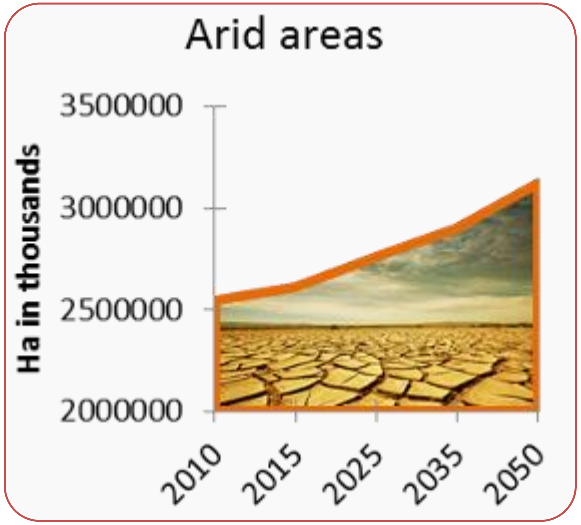






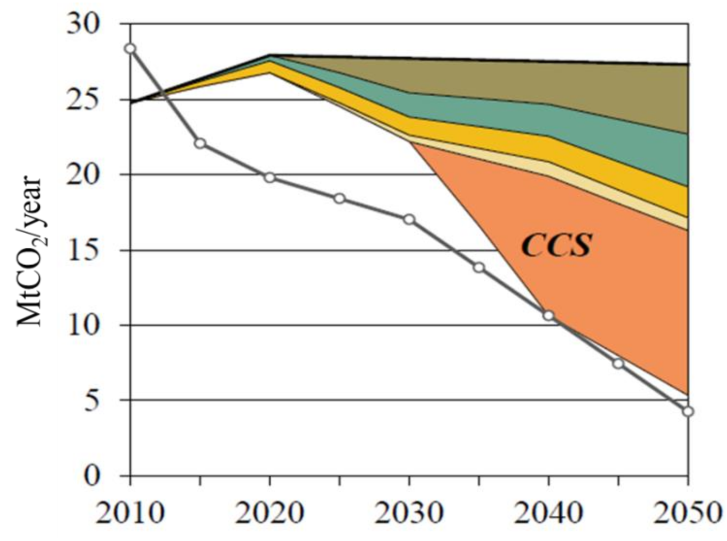






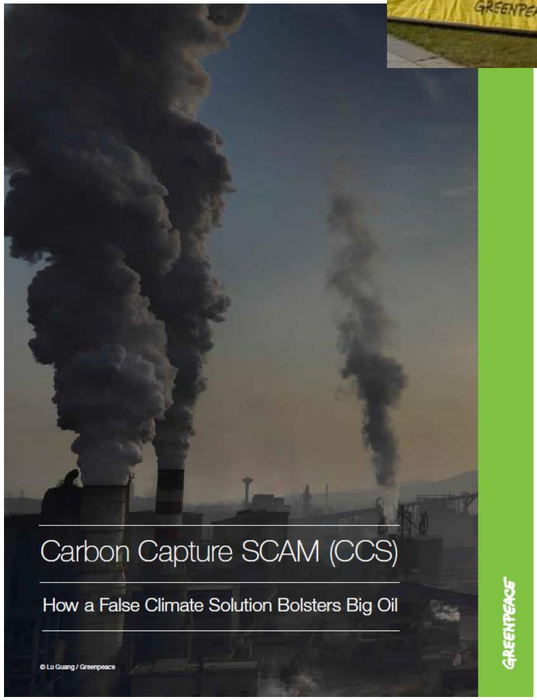
Why CCS?

- **EU Energy Roadmap 2050** recognises necessity of CCS
- **IPCC AR5** calls for CCS and negative emissions, attained via Bio-CCS, to keep temperature rise below 2°C.
- **IEA report**: Bio-CCS could remove 800 million tonnes of CO_2 from the atmosphere every year by 2050 using available sustainable biomass.
- Without CCS the cost of mitigation would increase by 138% (AR5).
- Coal and lignite together constitute 80% of EU fossil fuel reserves.



Why is it crucial that we support CCS?

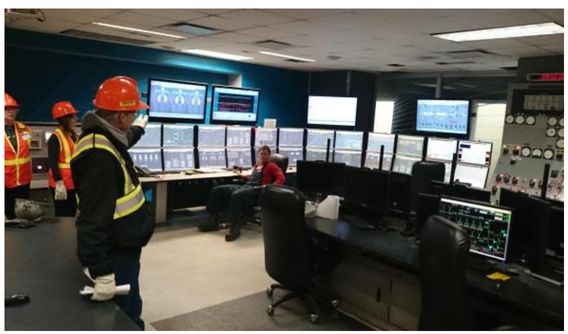
- CCS will divert attention and funding from renewable energy sources
- CCS allows the continuation of the fossil industry
- CCS is a “fake” technology that is being promoted to greenwash CO_2 emissions from the fossil sector
- CCS is expensive
- CO_2 is dangerous and storage unsafe
- Solutions exist (renewable and energy efficiency) why waste time and effort on CCS
- CCS only treats the symptoms and does not tackle the route problem



World's first full-scale CCS plant is open

Canada wins CCS race with Boundary Dam, Saskatchewan

'Seeing is believeing'



What does this mean for Europe:

There are no longer any technological excuses not to deliver CCS – only lack of political will

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What we do here in Brussels

- CCS
- EU climate policy (EU ETS reform)
- Bioenergy
- Electromobility
- Energy Storage

Spot the internal combustion engine?

E-mobility

Why it is so important?

- ✓ EVs as a tool for transport sector decarbonisation
- ✓ EVs as a means to boost energy security and cut reliance on fossil fuels
- ✓ EVs as a solution to air pollution

Important barriers remain:

- Higher costs of ownership and revenue loss for public authorities
- Limited driving range
- Lack of public awareness

How we work?

European Commission

Proposes legislation

EUROPEAN PARLIAMENT

Co-decision

Some examples of Bellona's success stories

BELLONA brief
EUROPA

ENSURING ENERGY SUPPLY SECURITY IN EUROPE WITH CCS

EUROPEAN COMMISSION

Brussels, 28.5.2014
COM(2014) 330 final

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

European Energy Security Strategy

SWD(2014) 330 final}

Hydrocarbons and clean coal

The exploitation of conventional oil and gas resources in Europe, both in traditional production areas (e.g. the North Sea) and in newly discovered areas (e.g. Eastern Mediterranean, Black Sea), should be developed in full compliance with energy and environmental legislation, including the new Offshore Safety Directive[22]. Producing oil and gas from unconventional sources in Europe, and especially shale gas, could partially compensate for declining conventional gas production[23] provided issues of public acceptance and environmental impact are adequately addressed[24]. To date, first exploration activities are on-going in some Member States. A more accurate overview of EU's unconventional reserves (economically recoverable resources) is necessary in order to enable possible commercial scale production.

Over the past two decades both the domestic production and consumption of coal has declined in the EU. However, coal and lignite still represent a significant share in electricity generation in several Member States and about 27% at EU level. Although the EU is currently importing approximately 40% of its solid fuels, this is procured from a well-functioning and diversified global market providing the Union with a secure import base. Coal and lignite's CO_2-emissions mean that they only have a long-term future in the EU if using Carbon Capture and Storage (CCS). CCS also offers the potential to further improve gas and oil recovery that would otherwise remain untapped. Therefore, bearing in mind the rather limited uptake of CCS to date, further efforts in research, development and deployment should be made in order to fully benefit from this technology.

Success stories (2)

Zero emissions platform

An Executable Plan for enabling CCS in Europe

September 2015

Executive Summary

Emitting CO_2 to the atmosphere is currently much cheaper than storing it safely underground. Emitters can pay an 'ETS wergild[1]' and are divorced from all the consequences of their actions, yet if they try to sequester CO_2 they risk taking on liability for decades under the CO_2 Storage Directive. Those factors serve, along with the lack of a near-term business case, to prolong the current inertia on CCS in the EU. Urgent action is now required to deliver CO_2 storage projects and enabling infrastructure in preparation for commercial deployment. This requires an Executable Plan, owned by the European Commission.

This note sketches the contours of such a plan, describing how the Commission can effectively and rapidly aid wide uptake of CCS in Europe; delivering additional CCS projects in power and industry; progressing the development of CCS hubs in Europe; and supporting the appraisal of storage capacity required for commercial CCS deployment.

The Executable Plan has been prepared in response to discussion of the 5 Point Action Plan (ANNEX 1) for CCS, presented by ZEP to the Vice-President on 22 May and the Commissioner on 29 April. It draws solely on existing policies and public financing opportunities, with the aim to enable their most efficient and effective use. It is designed to feed into the SET Plan preparation and next steps on the Energy Union Strategy.

The proposed plan builds on ZEP's insights into the principles for development of CCS in Europe, in particular the need to: decouple the capture of CO_2 from transport and storage (T&S) (section II); develop CCS in phases through (expanding) infrastructure hubs (section I and II); optimise available funding and create mechanisms to commercialise CCS (sections II and III); and engage MS though 2050

Why CCS?

Carbon Capture and Storage (CCS) is an indispensable component of national and global decarbonisation pathways of the IPCC, the IEA, and the European Commission. The EU 2050 Energy Roadmap relies heavily on the deployment of CCS to meet EU-wide decarbonisation targets.[1] CCS deployment provides a huge opportunity for Europe to meet its energy, climate and societal goals. In particular to achieve its GHG emissions reduction targets at lower cost, while satisfying energy security concerns, where the benefit to Europe is estimated at € 2-4 trillion up to 2050 for the energy sector alone[2]. In addition several core industries (e.g. steel, cement, chemicals) cannot decarbonise without CCS. Success requires having large-scale storage and transport infrastructure in place and a CCS industry prepared. The EU has a key role to play in facilitating Member State (MS) action and enabling cost-efficient deployment. This includes enabling the delivery of CO_2 Transport & Storage infrastructure, and timely appraisal of storage capacity in the vicinity of major CO_2 emission concentrations.

[1] 2050 Energy Strategy, European Commission DG ENER (2011)

[2] CCS and the Electricity Market, ZEP (2014)

[1] In ancient Germanic law, the amount of compensation paid by a person committing an offense to the injured party

1

SET PLAN 2015

Driving ambition in carbon capture storage and use deployment

9. Step up research and innovation activities on the application of carbon capture and storage (CCS) and the commercial viability of carbon capture and use (CCU):

Enhanced efforts by Member States, in the implementation of large-scale integrated chain CCS demonstration projects in both power and industrial sectors, are necessary to gain experience, bring down costs and demonstrate safe and reliable underground storage of CO_2.

At the EU level, apart from the support planned under Horizon 2020, future CCS projects may be able to benefit from the proposed Innovation Fund to support highly innovative, low-carbon first-of-a-kind projects; and the Modernisation Fund, to support modernisation of energy systems in 10 lower-income Member States.

Research and innovation should support carbon and energy intensive industries to explore the feasibility of CCS, focusing primarily on sectors with high-purity sources of CO_2 to minimise capture costs. CCU options, such as transforming CO_2 into fuels, chemicals and material, could further improve the economic case for CCS.

More on Bellona's work on CCS

- Bellona Environmental CCS Team (BEST)
- Vice-Chair European Technology Platform for Zero Emission Fossil Fuel Power Plants (ZEP)
- Established and Chaired Joint Task Force Bio-CCS with ZEP and European Biofuels Technology Platform (Advisory Board Member)
- CCS coalition; EPS coalition; ENGO network


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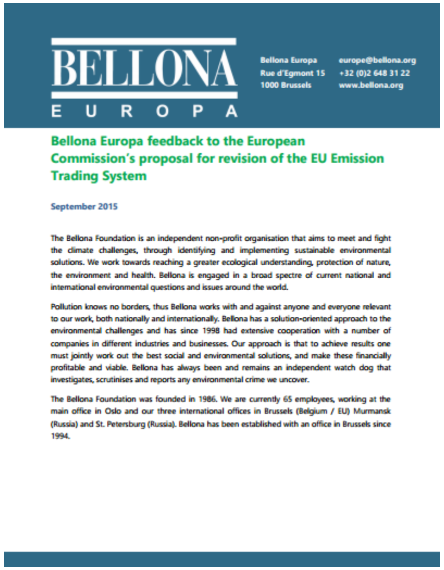
Bellona Europa response to the CCS Directive Review Survey

July 2014

The Bellona Foundation is an independent non-profit organisation that aims to meet and fight the climate challenges, through identifying and implementing sustainable environmental solutions. We work towards reaching a greater ecological understanding, protection of nature, the environment and health. Bellona is engaged in a broad spectre of current national and international environmental questions and issues around the world.

Pollution knows no borders, thus Bellona works with and against anyone and everyone relevant to our work, both nationally and internationally. Bellona has a solution-oriented approach to the environmental challenges and has since 1998 had extensive cooperation with a number of companies in different industries and businesses. Our approach is that to achieve results one must jointly work out the best social and environmental solutions, and make these financially profitable and viable. Bellona has always been and remains an independent watch dog that investigates, scrutinises and reports any environmental crime we uncover.

The Bellona Foundation was founded in 1986. We are currently 65 employees, working at the main office in Oslo and our three international offices in Brussels (Belgium / EU) Murmansk (Russia) and St. Petersburg (Russia). Bellona has been established with an office in Brussels since 1994.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Bellona Europa feedback to the European Commission's proposal for revision of the EU Emission Trading System

September 2015

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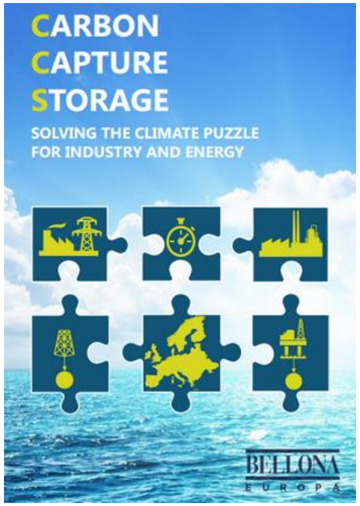

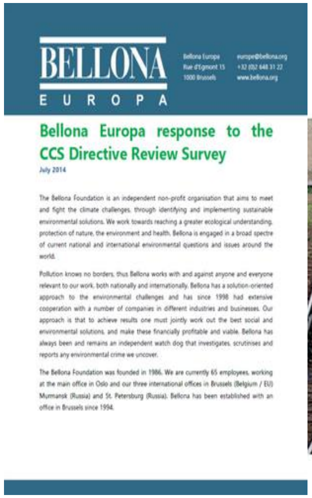
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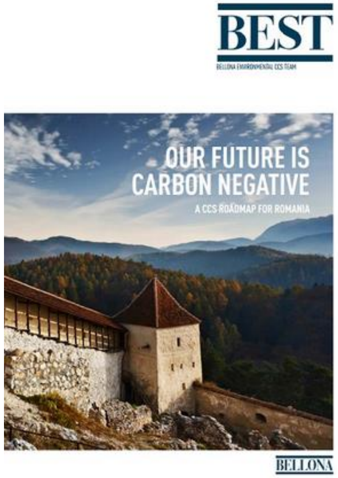
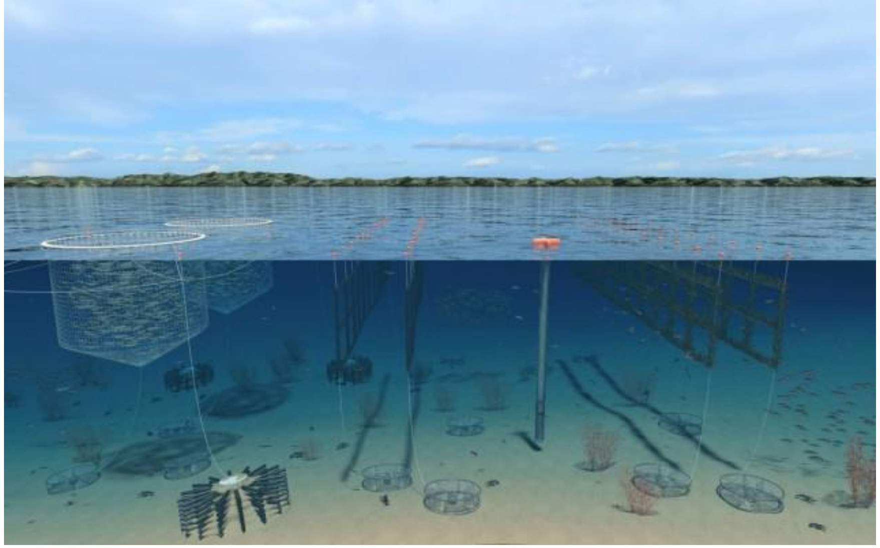


Bellona Projects

Sahara Forest

Ocean Forest



Objective:

the promotion of the sustainable production of biomass