



MINISTRY OF
ENVIRONMENT AND
FORESTS

CCS LEGAL AND REGULATORY FRAMEWORK RISK ASSESSMENT OF THE CO₂ TRANSPORT FOR CCS TECHNOLOGY

CO₂ PROJECT TRACCS-BLACK SEA ERA.NET

November 2012

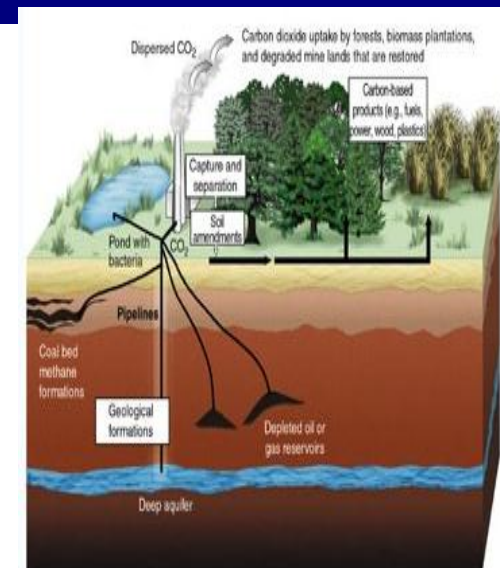
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CCS LEGAL AND REGULATORY FRAMEWORK

RISK ASSESSMENT OF THE CO₂ TRANSPORT FOR CCS TECHNOLOGY

Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) no. 1013/2006 was published in Official Journal of the European Union on 05 June 2009.

Directive 2009/31/EC on the geological storage of carbon dioxide was transposed in national legislation through Government Emergency Ordinance no. 64/2011 on the geological storage of carbon dioxide

Draft law for approving Government Emergency Ordinance no. 64/2011 on the geological storage of carbon dioxide will be approved by Parliament as soon as possible.



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“Retrofitting for carbon dioxide capture ”

Government Decision no. 440/2010 on the limitation of emissions of certain pollutants into the air from large combustion plants – art. 9(2)(3)

Operators of new large combustion plants - type III with a rated electrical output of 300 megawatts or more for which the original construction licence, including environment licence or, in the absence of such a procedure, the original operating licence is granted after on 25 June 2009 have obligation to assess whether the following conditions are met:

- suitable storage sites are available;
- it was analysed the technical and economic feasibility of transport facilities;
- it was analysed the technical and economic feasibility of retrofitting for carbon capture.



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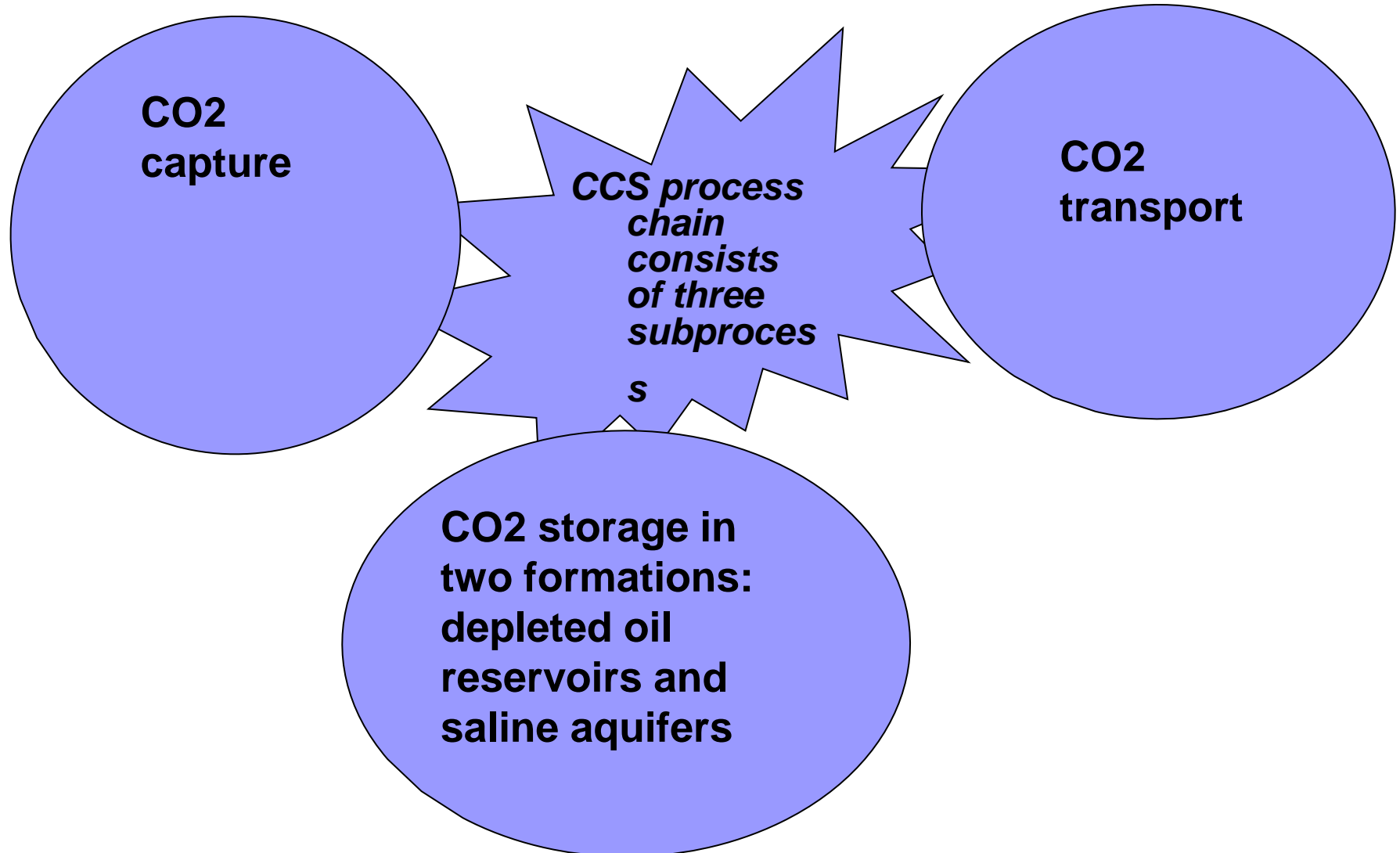
“Retrofitting for carbon dioxide capture ”

If, after evaluation, the conditions stipulated at paragraph 2 are met, the competent public authority for environmental protection has the following obligations:

- a) verify if on the installation site is reserved a suitable space for the equipment necessary to capture and compress CO₂
- b) establish on the basis of the assessment referred to in paragraph 2 and other available information, if the conditions concerning the protection of the environment and human health are met.

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RISK ASSESSMENT OF THE CO2 TRANSPORT FOR CCS TECHNOLOGY

Directive on the geological storage of carbon dioxide covers only geological storage of carbon dioxide

CO2 capture	Council Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment	Government Decision no. 445/2009 on impact assessment of certain public and private projects on the environment modified and completed by GD no. 17/2012
	Directive 2008/1/EC of the European Parliament and of the Council concerning integrated pollution prevention and control	Law no. 205/2010 approving Government Emergency Ordinance no. 40/2010 amending Government Emergency Ordinance no. 152/2005 concerning integrated pollution prevention and control approved with amendments by Law no. 84/2006



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CO2 transport	Council Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment	Government Decision no. 445/2009 on impact assessment of certain public and private projects on the environment modified and completed by GD no. 17/2012
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RISK ASSESSMENT OF THE CO2 TRANSPORT FOR CCS TECHNOLOGY

Geological storage of carbon dioxide	Council Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment	Government Decision no. 445/2009 on impact assessment of certain public and private projects on the environment modified and completed by GD no. 17/2012
	Directive 2003/87/EC of the European Parliament and of the Council on establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC	Government Decision no. 780/2006 on establishing a scheme for greenhouse gas emission allowance trading with as subsequently amended;
	Directive 2004/35/CE of the European Parliament and of the Council on environmental liability with regard to the prevention and remedying of environmental damage	Government Emergency Ordinance no. 68/2007 on environmental liability with regard to the prevention and remedying of environmental damage, approved by Law no. 19/2008, as amended (Government Emergency Ordinance no. 64/2011 on the geological storage of carbon dioxide)

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RISK ASSESSMENT OF THE CO₂ TRANSPORT FOR CCS TECHNOLOGY

Legal barriers have been removed:

Directive
2000/60/EC –EU
Water Framework
Directive

injection of carbon dioxide streams for storage purposes into geological formations which for natural reasons are permanently unsuitable for other purposes, provided that such injection is made in accordance with Directive CCS or excluded from the scope of that Directive pursuant to its Article 2(2);

Water Law no.
107/1996, as
amended

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RISK ASSESSMENT OF THE CO₂ TRANSPORT FOR CCS TECHNOLOGY

Legal barriers have been removed:

Directive
2006/12/CE on
waste


gaseous effluents emitted
into the atmosphere
and carbon dioxide
captured and
transported for the
purposes of geological
storage and
geologically stored in
accordance with
Directive CCS or
excluded from the
scope of that Directive
pursuant to its Article
2(2);

Law no. 211/2011 on
waste;

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RISK ASSESSMENT OF THE CO₂ TRANSPORT FOR CCS TECHNOLOGY

Legal barriers have been removed:



Regulation (EC)
no. 1013/2006 on
shipments of
waste

Shipments of
CO₂ for the
purposes of
geological
storage are
excluded
from the
scope of
Regulation



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PROBLEMS

- ▶ Energy efficiency
- ▶ We need more knowledge in the field security:
 - Transport of CO₂ is different from the natural gas transport
 - No long term experience in the security storage site
 - Purity CO₂ stream
- ▶ Detection and quantification of CO₂ leakage
- ▶ High costs in terms of CCS technology



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The European Commission has issued four guidance documents to support coherent implementation of the CCS Directive across the EU Member States:

- CO₂ Storage Life Cycle Risk Management Framework
- Characterisation of the Storage Complex, CO₂ Stream Composition, Monitoring and Corrective Measures
- Criteria for Transfer of Responsibility to the Competent Authority
- Financial Security (Art. 19) and Financial Mechanism (Art. 20)

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CO₂ capture and storage technology presents a particular interest, take in consideration that energy production based on fossil fuels (especially coal) will continue to have weighting on medium term.

When technology will become commercial, we will have two options related to energy production from coal and other fossil sources:

- a) energy production in existing plants (possibly upgraded), but with the purchase of CO₂ emission rights according to ETS;
- b) construction of new plants, more efficient with CCS technology. For such facilities will not be required to purchase emission rights.



THANK YOU FOR YOUR ATTENTION!