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*****I**

REPORT

on the proposal for a directive of the European Parliament and of the Council on the geological storage of carbon dioxide and amending Council Directives 85/337/EEC, 96/61/EC, Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC and Regulation (EC) No 1013/2006 (COM(2008)0018 – C6-0040/2008 – 2008/0015(COD))

Committee on the Environment, Public Health and Food Safety

Rapporteur: Chris Davies

Rapporteur for opinion(*):
Françoise Grossetête, Committee on Industry, Research and Energy

(*) Associated committees - Rule 47 of the Rules of Procedure

Symbols for procedures

- * Consultation procedure
majority of the votes cast
- **I Cooperation procedure (first reading)
majority of the votes cast
- **II Cooperation procedure (second reading)
majority of the votes cast, to approve the common position
majority of Parliament's component Members, to reject or amend the common position
- *** Assent procedure
majority of Parliament's component Members except in cases covered by Articles 105, 107, 161 and 300 of the EC Treaty and Article 7 of the EU Treaty
- ***I Codecision procedure (first reading)
majority of the votes cast
- ***II Codecision procedure (second reading)
majority of the votes cast, to approve the common position
majority of Parliament's component Members, to reject or amend the common position
- ***III Codecision procedure (third reading)
majority of the votes cast, to approve the joint text

(The type of procedure depends on the legal basis proposed by the Commission.)

Amendments to a legislative text

In amendments by Parliament, amended text is highlighted in ***bold italics***. In the case of amending acts, passages in an existing provision that the Commission has left unchanged, but that Parliament wishes to amend, are highlighted in **bold**. Any deletions that Parliament wishes to make in passages of this kind are indicated thus: [...]. Highlighting in *normal italics* is an indication for the relevant departments showing parts of the legislative text for which a correction is proposed, to assist preparation of the final text (for instance, obvious errors or omissions in a given language version). Suggested corrections of this kind are subject to the agreement of the departments concerned.

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(*) Associated committees - Rule 47 of the Rules of Procedure

DRAFT EUROPEAN PARLIAMENT LEGISLATIVE RESOLUTION

on the proposal for a directive of the European Parliament and of the Council on the geological storage of carbon dioxide and amending Council Directives 85/337/EEC, 96/61/EC, Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC and Regulation (EC) No 1013/2006

(COM(2008)0018 – C6-0040/2008 – 2008/0015(COD))

(Codecision procedure: first reading)

The European Parliament,

- having regard to the Commission proposal to the European Parliament and the Council (COM(2008)0018),
 - having regard to Articles 251(2) and 175(1) of the EC Treaty, pursuant to which the Commission submitted the proposal to Parliament (C6-0040/2008),
 - having regard to Rule 51 of its Rules of Procedure,
 - having regard to the report of the Committee on the Environment, Public Health and Food Safety and the opinion of the Committee on Industry, Research and Energy (A6-0414/2008),
1. Approves the Commission proposal as amended;
 2. Calls on the Commission to refer the matter to Parliament again if it intends to amend the proposal substantially or replace it with another text;
 3. Instructs its President to forward its position to the Council and Commission.

Amendment 1

Proposal for a directive – amending act

Recital 3

Text proposed by the Commission

Amendment

(3) Commission Communication of 10 January 2007 "Limiting global climate change to two degrees Celsius – The way ahead for 2020 and beyond" clarifies that in the context of the envisaged global reduction of greenhouse gas emissions of 50% by 2050, a reduction in greenhouse gas emissions of 30% in the developed

deleted

world by 2020 is required, rising to 60-80% by 2050, that this reduction is technically feasible and the benefits far outweigh the costs, but that, to achieve it, all mitigation options must be harnessed.

Justification

As the climate situation is more serious than previously thought, and we should take the consequences of this new scientific understanding and raise our ambition when it comes to climate change mitigation, see proposed change in 3 a (new) by Wijkman. Until recently, scientific consensus set the safe zone to avoid the worst effects of climate change at 450 ppm whereas new finding now show that the critical level starts already at 350 ppm.

Amendment 2

**Proposal for a directive – amending act
Recital 3 a (new)**

Text proposed by the Commission

Amendment

(3a) Recent scientific findings show that atmospheric concentration of carbon dioxide must be reduced to below 350 parts per million. The ultimate objective for the EU should be the gradual elimination of greenhouse gas emissions from fossil fuel use within the European Union by 1 January 2050, which would imply emission reduction in the order of 60% by 2035 and 80-90% by 2050.

Justification

As the climate situation is more serious than previously thought the recent forum held in Tällberg, Sweden, with the participation of scientists from NASA and Stockholm Environment Institute suggest that we must reduce atmospheric CO₂ to levels below 350 ppm (parts per million) in order to avoid catastrophic effects. Until recently, scientific consensus set the safe zone to avoid the worst effects of climate change at 450 ppm whereas new finding now show that the critical level starts already at 350 ppm.

Amendment 3

Proposal for a directive – amending act
Recital 4

Text proposed by the Commission

(4) Carbon dioxide capture and geological storage (CCS) is **a** means of mitigating climate change. It consists of the capture of carbon dioxide (CO₂) from industrial installations, its transport to a storage site and its injection into a suitable geological formation for the purposes of permanent storage.

Amendment

(4) Carbon dioxide capture and geological storage (CCS) is **one of the** means of mitigating climate change. It consists of the capture of carbon dioxide (CO₂) from industrial installations, its transport to a storage site and its injection into a suitable **underground** geological formation for the purposes of permanent storage. **So as not to obviate the anticipated benefits of CCS technology in terms of reduced CO₂ emissions, special care must be taken to ensure that this technology does not serve as an incentive to increase the number of generating plants fired by conventional fuels.**

Justification

Geological storage of carbon dioxide (CCS) is not the only means of mitigating climate change.

In Article 3 of the document, it is pointed out that geological storage of carbon dioxide (CSC) is a process taking place in underground rock formations.

Amendment 4

Proposal for a directive – amending act
Recital 4 a (new)

Text proposed by the Commission

Amendment

(4a) According to estimates carried out with a view to assessing the impact of the proposed directive, provided that CCS is supported by the EU Emissions Trading Scheme, and assuming a 20% reduction in greenhouse gas emissions by 2020, seven million tonnes of CO₂ could be stored by 2020, and up to 160 million tonnes by 2030. The CO₂ emissions avoided in 2030 would account for some 15% of the reductions required in Europe.

Amendment 5

Proposal for a directive – amending act Recital 5 a (new)

Text proposed by the Commission

Amendment

(5a) CCS is just one of the measures being developed to combat climate change, in addition to the use of renewable energies and increasing energy saving and efficiency. Member States should therefore not neglect funding measures and other support regarding energy saving policies and environmentally sound renewables. In this context, CCS development should under no circumstances lead to a reduction of these efforts both in research and financial terms.

Justification

In announcing on last 10 January 2008 to the EP the forthcoming adoption on the 23.1.2008 of the proposals of directives concerning measures to fight climate change, including CCS, the Commission stressed the need to implement all measures aiming to energy saving and efficiency supporting a sustainable EU economic development mainly by investing in renewable energy sources and reduction of CO2 emissions: CCS is one of these instrument but not the only one.

Amendment 6

Proposal for a directive – amending act Recital 7

Text proposed by the Commission

Amendment

(7) The European Council of 8 and 9 March 2007 also urged the Member States and the Commission to work towards strengthening research and development and developing the necessary technical, economic and regulatory framework in order to remove existing legal barriers and to bring environmentally safe CCS to

(7) The European Council of 8 and 9 March 2007 also urged the Member States and the Commission to work towards strengthening research and development and developing the necessary technical, economic and regulatory framework in order to remove existing legal barriers and ***promote the development of infrastructure***

deployment with new fossil power plants, if possible by 2020.

facilities so as to bring environmentally safe CCS to deployment with new fossil power plants, if possible by 2020.

Justification

In the original version, the emphasis was placed on establishing a regulatory framework so as to remove existing legal barriers. The technical and economic frameworks were addressed only peripherally, however. It is pointless to establish a technical and an economic framework without developing infrastructure facilities.

Amendment 7

Proposal for a directive – amending act Recital 7a (new)

Text proposed by the Commission

Amendment

(7a) Each of the different components of capture, transport and storage of CO₂ has been the object of demonstration projects on a smaller scale than that required for their industrial application. However, they still need to be integrated into a complete CCS process, and technological costs need to be reduced. The main CO₂ storage projects which include the participation of EU enterprises are the Sleipner project in the North Sea (Statoil) and the In Salah project in Algeria (Statoil, BP and Sonatrach). The large-scale pilot projects under way are the Schwartze Pumpe project in Germany (Vattenfall), the CCS project in the Lacq basin in France (Total), and the El Bierzo project in Spain (CIUDEN).

Amendment 8

Proposal for a directive – amending act Recital 7 b (new)

Text proposed by the Commission

Amendment

(7b) It is imperative that EU efforts on CCS demonstration within an integrated

policy framework start as soon as possible, including in particular focused research and development (R&D) efforts by means of pilot projects and public awareness and acceptance measures. If the European Union retains its position as world leader in the development of CCS technologies, and given rapid commercial deployment of these technologies, EU undertakings will benefit from new trade outlets in third countries such as China and India.

Amendment 9

Proposal for a directive – amending act Recital 13 a (new)

Text proposed by the Commission

Amendment

(13a) Beside a legislative framework for storage sites, incentives for further development of the technology, support for the installation of demonstration plants, as well as a legal framework created by the Member States for ensuring transport, should be put in place as quickly as possible in order to successfully advance the use of CCS technologies.

Justification

Clarification that further legal decisions are necessary to provide financial support for CCS technologies and demonstration plants.

Amendment 10

Proposal for a directive – amending act Recital 14

Text proposed by the Commission

Amendment

(14) This Directive should apply to the geological storage of CO₂ within the territory of the Member States, their

(14) This Directive should apply to the geological storage of CO₂ within the territory of the Member States, their

exclusive economic zones and on their continental shelves. The Directive should not apply to research projects. It should, however, apply to demonstration projects ***with a total intended storage of 100 kilo tonnes or more. This threshold would also seem appropriate for the purposes of other relevant Community legislation.*** The storage of CO₂ in geological formations extending beyond the territorial scope of this Directive and the storage of CO₂ in the water column should not be permitted.

exclusive economic zones and on their continental shelves. The Directive should not apply to research projects. It should, however, apply to demonstration projects. The storage of CO₂ in geological formations extending beyond the territorial scope of this Directive and the storage of CO₂ in the water column should not be permitted.

Justification

The threshold for demonstration projects outside the Directive is much too low and would render many demonstration projects impossible.

Amendment 11

**Proposal for a directive – amending act
Recital 14 a (new)**

Text proposed by the Commission

Amendment

(14a) Enhanced hydrocarbon recovery (the recovery of hydrocarbon additional to that produced naturally by fluid injection or other means) should be excluded from the scope of this Directive.

Justification

Enhanced hydrocarbon recovery is already done and is an economically viable activity. Besides, enhanced hydrocarbon recovery does not lead to a net emission reduction.

Amendment 12

**Proposal for a directive – amending act
Recital 15**

Text proposed by the Commission

Amendment

(15) Member States should retain the right to determine the areas ***within their***

(15) In determining whether a geological formation should be used as a storage

territory from which storage sites may be selected. The selection of the appropriate storage site is crucial to ensure that the stored CO₂ will be completely contained for the indefinite future. A site should **therefore** only be selected as a storage site, if **there is no significant** risk of leakage, **and if in any case no significant environmental or health impacts are likely to occur**. This should be determined through a characterisation and assessment of a potential storage complex pursuant to specific requirements.

site, apart from the environment and safety criteria addressed in this Directive other essential interests of Member States will also be involved, in particular economic and financial interests related to the protection of hydrocarbon reservoirs, a Member State's interest in a high degree of hydrocarbon self-sufficiency and interests of a Member State as owner of hydrocarbon reservoirs. These essential interests are not affected by this Directive. Member States should retain the right to determine the areas from which storage sites may be selected. **This includes the right of Member States not to allow any storage in parts or on the whole of their territory.** The selection of the appropriate storage site is crucial to ensure that the stored CO₂ will be completely contained for the indefinite future. **Member States should accordingly be allowed to take account of their geological characteristics, for example seismicity, in the most objective and effective way possible in selecting storage sites.** A site should only be selected as a storage site, if **under the proposed conditions of use no risk of leakage is anticipated that could have a negative impact on human health or the environment.** This should be determined through a characterisation and assessment of a potential storage complex pursuant to specific requirements.

Justification

The proposal refers to environment and health risks in connection with the selection of storage sites only. However, there will be also other essential interests in Member States, (in particular economic and financial interests) which are related to the selection of hydrocarbon reservoirs. It is necessary to clarify that those interests are not affected by the Directive.

This sentence has to be included for the purpose of clarifying the rights of Member States. The word 'significant' leaves room for uncertainty. It would be wholly unacceptable for a commercial storage permit to be granted if a leakage was anticipated (Oxford English Dictionary definition – “regarded as probable”) that could have a detrimental effect upon human health or the environment.

The Member States should be allowed to select storage sites since they are best informed about specific local geological characteristics and, in the light of this information, are best able to decide whether the necessary investment can be made.

Amendment 13

Proposal for a directive – amending act Recital 15 a (new)

Text proposed by the Commission

Amendment

(15a) Member States should make a realistic assessment of the storage capacity available within their territory and send these assessments to the Commission before 2012. This information should be made public.

Justification

So far we do not really know how much storage capacity is available in Europe. There are different estimations but those are not really precise. However, it is important to clarify how much CO₂ we can really store.

Amendment 14

Proposal for a directive – amending act Recital 16

Text proposed by the Commission

Amendment

(16) Member States should determine in which cases exploration is required to generate the information necessary for the site selection. Such exploration should be made subject to a permit requirement. Member States should ensure that the procedures for the granting of exploration permits are open to all entities possessing the necessary capacities and that the permits are granted on the basis of objective, published criteria. In order to protect and encourage exploration investments, exploration permits should be granted for a limited volume area and for a **limited time**, during which time the holder of the permit should have the sole right to

(16) Member States should determine *the cases* in which exploration is required to generate the information necessary for the site selection. Such exploration should be made subject to a permit requirement. Member States should ensure that the procedures for the granting of exploration permits are open to all entities possessing the necessary capacities and that the permits are granted on the basis of objective, published **and non-discriminatory** criteria. In order to protect and encourage exploration investments, exploration permits should be granted for a limited volume area and for a **period of up to three years, renewable for further**

explore the potential CO₂ storage complex. Member States should ensure that no conflicting uses of the complex are permitted during this time.

*periods of up to three years, for as long as is necessary to carry out the activities for which the exploration permit is granted, during which time the holder of the permit should have the sole right to explore the potential CO₂ storage complex. Member States should ensure that no conflicting uses of the complex are permitted during this time. **If no activities are carried out, Member States should ensure that the exploration permit is withdrawn and can be granted to other entities.***

Amendment 15

Proposal for a directive – amending act Recital 17

Text proposed by the Commission

(17) Storage sites should not be operated without a storage permit. The storage permit should be the core instrument to ensure that the substantial requirements of the Directive are met and that geological storage hence takes place in an environmentally safe way.

Amendment

(17) Storage sites should not be operated without a storage permit. The storage permit should be the core instrument to ensure that the substantial requirements of the Directive are met and that geological storage hence takes place in an environmentally safe way. ***The explorer, who will generally have made substantial investments, should be favoured over competitors in the granting of the storage permit.***

Justification

Creates incentives to carry out exploration.

This adds more clarity and removes any possibility of a storage site operating without a storage permit.

Amendment 16

**Proposal for a directive – amending act
Recital 18**

Text proposed by the Commission

(18) *All* draft storage permits **should be submitted** to the Commission **in order for it to be able to** issue **an** opinion **on the draft permits** within **six** months **of their submission**. The national authorities should take **this** opinion into consideration when taking a decision on the permit and should justify any departure from the Commission's opinion. The review at Community level should help to ensure consistency in implementation of the requirements of the Directive across the Community and also enhance public confidence in CCS, especially in the early phase of the implementation of the Directive.

Amendment 17

**Proposal for a directive – amending act
Recital 19**

Text proposed by the Commission

(19) The competent authority should review and where necessary update or withdraw the storage permit *inter alia* if it has been notified of **significant** irregularities or leakages, if the reports submitted by the operators or the inspections carried out show non-compliance with permit conditions or if it is made aware of any other failure by the operator to meet the permit conditions. After the withdrawal of a permit, the competent authority should either issue a new permit or close the storage site. In the meantime, the competent authority should take over the responsibility for the storage site including all ensuing legal obligations. **To the extent possible**, costs incurred should be recovered from the former

Amendment

(18) **The Member States should submit** draft storage permits to the Commission **which should** issue **a consultative** opinion within **three** months. The national authorities should take **such an** opinion into consideration when taking a decision on the permit and should justify any departure from the Commission opinion. The review at Community level should help to ensure consistency in implementation of the requirements of the Directive across the Community and also enhance public confidence in CCS, especially in the early phase of the implementation of the Directive.

Amendment

(19) The competent authority should review and where necessary update or withdraw the storage permit *inter alia* if it has been notified of irregularities or leakages **that could have a negative impact on human health or the environment.**, if the reports submitted by the operators or the inspections carried out show non-compliance with permit conditions or if it is made aware of any other failure by the operator to meet the permit conditions. After the withdrawal of a permit, the competent authority should either issue a new permit or close the storage site. In the meantime, the competent authority should take over the responsibility for the storage site including all ensuing legal obligations. Costs

operator.

incurred should be recovered from the former operator.

Justification

The word 'significant' leaves room for uncertainty.

The competent authority shall recover any costs incurred from the former operator. Naturally, the terms of such recovery will be defined by each national legal system.

Amendment 18

**Proposal for a directive – amending act
Recital 21**

Text proposed by the Commission

Amendment

(21) Monitoring is essential to assess whether injected CO₂ is behaving as expected, whether any migration or leakage occurs, and whether any identified leakage is damaging the environment or **human health**. To that end, Member States should ensure that during the operational phase, the operator monitors the storage complex and the injection facilities on the basis of a monitoring plan designed pursuant to specific monitoring requirements. The plan should be submitted to and approved by the competent authority.

(21) Monitoring is essential to assess whether injected CO₂ is behaving as expected, whether any migration or leakage occurs, and whether any identified leakage is damaging the environment or **any form of life**. To that end, Member States should ensure, **through verification and validation**, that during the operational phase, the operator monitors the storage complex and the injection facilities on the basis of a monitoring plan designed pursuant to specific monitoring requirements. The plan should be submitted to and approved by the competent authority. ***In the case of geological storage under the seabed, monitoring should further be adapted to the uncertainty and operational difficulties associated with managing CCS technology in the marine environment. The specific requirements of the monitoring plan should comply with the requirements of Directive 2003/87/EC.***

Justification

Member States should control the quality of monitoring performed by the operator. Further, all necessary measures to avoid that CO₂ storage causes harm to the marine environment, should be taken.

In order to avoid any health implications a possible leakage might have not only on humans but also on a variety of ecosystem agents, monitoring should incorporate impacts on all life-forms. For example it is important to also monitor the impacts on local marine ecosystems as any negative impacts could have direct implications for the health of these ecosystems and indirect impacts on humans. Therefore it is essential to review all life-forms.

Amendment 19

Proposal for a directive – amending act Recital 26

Text proposed by the Commission

(26) The responsibility for the storage site, including all ensuing legal obligations, should be transferred to the competent authority, if and when all available evidence indicates that the stored CO₂ will be completely contained for the indefinite future. To this end, the operator should prepare a report documenting that the criterion has been fulfilled and submit it to the competent authority for approval of the transfer. All draft approval decisions should be submitted to the Commission ***in order for it to be able to issue an*** opinion on the draft approval decisions ***within six months of their submission***. The national authorities should take this opinion into consideration when taking a decision on the approval and should justify any departure from the ***Commission's*** opinion. As the review of draft storage permits at Community level, the review of draft approval decisions should help to ensure consistency in implementation of the requirements of the Directive across the Community and also enhance public confidence in CCS, especially in the early phase of the implementation of the Directive.

Amendment

(26) The responsibility for the storage site, including all ensuing legal obligations, should be transferred to the competent authority, if and when all available evidence indicates that the stored CO₂ will be completely contained for the indefinite future ***and that all the requirements contained in the storage permit are met***. To this end, the operator should prepare a report documenting that the criterion has been fulfilled and submit it to the competent authority for approval of the transfer. All draft approval decisions shall be submitted to the Commission ***which should, within three months of its receipt, issue a consultative*** opinion on the draft approval decisions. The national authorities should take ***such*** an opinion into consideration when taking a decision on the approval and should justify any departure from the ***Commission*** opinion. As the review of draft storage permits at Community level, the review of draft approval decisions should help to ensure consistency in implementation of the requirements of the Directive across the Community and also enhance public confidence in CCS, especially in the early phase of the implementation of the Directive.

Amendment 20

Proposal for a directive – amending act Recital 27

Text proposed by the Commission

(27) After the transfer of responsibility, ***monitoring should*** be allowed to cease, ***but should be re-activated, if leakages or significant irregularities are identified.*** There should be no recovery of costs incurred by the competent authority from the former operator after the transfer of responsibility.

Amendment

(27) After the transfer of responsibility, ***regular inspections may*** be allowed to cease ***and monitoring can be reduced to a minimum level which allows for identification of leakages or significant irregularities. If any leakages or significant irregularities are identified, the necessary corrective measures should be taken by the competent authority.*** There should be no recovery of costs incurred by the competent authority from the former operator after the transfer of responsibility. ***In the event that the closure of the storage site and/or transfer of responsibility was based on inaccurate or false information or negligence on the part of the operator, liability for the costs of corrective measures and any damage caused to human health or the environment should remain with the operator.***

Amendment 21

Proposal for a directive – amending act Recital 28

Text proposed by the Commission

(28) Financial provision should be made *provided* in order to raise confidence that closure and post-closure obligations, obligations arising from inclusion under Directive 2003/87/EC, and obligations

Amendment

(28) Financial provision should be made in order to raise confidence that closure and post-closure obligations, obligations arising from inclusion under Directive 2003/87/EC, and obligations under this

under this Directive to take corrective measures in case of significant irregularities or leakages, can be met. Member States should ensure that financial provisions, by way of financial security or any other equivalent, are made by the applicant prior to the ***submission of the permit application***

Directive to take corrective measures in case of significant irregularities or leakages, can be met. Member States should ensure that financial provisions, by way of financial security or any other equivalent, are made by the applicant prior to the ***issue of a permit***.

Amendment 22

Proposal for a directive – amending act Recital 29

Text proposed by the Commission

(29) Access to CO₂ transport networks and storage sites ***could become*** a condition for entry into or competitive operation within the internal electricity and heat market, depending on the relative prices of carbon and CCS. It is therefore appropriate to make arrangements for potential users to obtain such access. This should be done in a manner to be determined by each Member State, applying the objectives of fair and open access and taking into account *inter alia* the transport and storage capacity which is available or can reasonably be made available ***as well as the proportion of its CO₂ reduction obligations pursuant to international legal instruments and to Community legislation intended to meet through CO₂ capture and geological storage. Member States should also establish dispute settlement mechanisms to enable expeditious settlement of disputes regarding access to CO₂ transport networks and storage sites.***

Amendment

(29) ***Transparent and non-discriminatory*** access to CO₂ transport networks and storage sites, ***irrespective of the geographical location of potential users within the European Union, should be*** a condition for entry into or competitive operation within the internal electricity and heat market, depending on the relative prices of carbon and CCS. It is therefore appropriate to make arrangements for potential users to obtain such access ***on a non-discriminatory basis***. This should be done in a manner to be determined by each Member State ***in consultation with the Commission***, applying the objectives of fair and open access and taking into account *inter alia* the transport and storage capacity which is available or can reasonably be made available, ***and the demand for cross-border transit flows of CO₂. Regulated access to transport infrastructures should be considered as a sensible option for operators during the first few years of the commercial development of CCS.***

Justification

It is important to ensure that operators in Member States such as Greece are not unduly disadvantaged by their geographic location or potential limitations on development of storage sites.

Objective and published criteria are not sufficient to ensure non-discrimination, which is nevertheless an important criterion needing to be guaranteed in the internal market.

Amendment 23

Proposal for a directive – amending act Recital 30

Text proposed by the Commission

(30) Provisions are required to ensure that in cases of transboundary CO₂ transport, transboundary storage sites or transboundary storage complexes, the competent authorities of the Member States concerned shall meet the requirements of this Directive and of all other Community legislation jointly.

Amendment

(30) Provisions are required to ensure that in cases of transboundary CO₂ transport, transboundary storage sites or transboundary storage complexes, the competent authorities of the Member States concerned shall meet the requirements of this Directive and of all other Community legislation jointly, ***as well as all international agreements to which Member States and/or the Community are parties.***

Justification

In case of transboundary transport and storage sites, all Member-States, and the national public, should be effectively involved in the relevant decision-making.

Amendment 24

Proposal for a directive – amending act Recital 31

Text proposed by the Commission

(31) The competent authority should establish and maintain a register of all closed storage sites and surrounding storage complexes, including maps of their spatial extent to be taken into consideration by the competent national authorities in relevant planning and permitting procedures. The register should also be reported to the Commission.

Amendment

(31) The competent authority should establish and maintain a register of all ***operating and*** closed storage sites and surrounding storage complexes, including maps of their spatial extent to be taken into consideration by the competent national authorities in relevant planning and permitting procedures. The register should also be reported to the Commission.

Justification

Storage site operation may continue for a very long time. Registers that will be used as a source of reference for many other purposes need to be comprehensive and to include both operating and closed storage sites.

Amendment 25

Proposal for a directive – amending act Recital 35

Text proposed by the Commission

(35) Directive 85/337/EEC should be amended to cover capture and transport of CO₂ streams for the purposes of geological storage as well as storage sites pursuant to this Directive. Directive 96/61/EC should be amended to cover capture of CO₂ streams for the purposes of geological storage from installations covered by that Directive. Directive 2004/35/EC should be amended to cover the operation of storage sites pursuant to this Directive.

Amendment

(35) Directive 85/337/EEC should be amended to cover capture and transport of CO₂ streams for the purposes of geological storage as well as storage sites pursuant to this Directive. Directive 96/61/EC should be amended to cover capture of CO₂ streams for the purposes of geological storage from installations covered by that Directive. Directive 2004/35/EC should be amended to cover the ***transport of CO₂ for geological storage purposes and*** operation of storage sites pursuant to this Directive.

Justification

The transport of CO₂ should also fall under the Directive on environmental liability (2004/35/EC).

Amendment 26

Proposal for a directive – amending act Recital 37

Text proposed by the Commission

(37) The transition to low-carbon power generation requires that new investments in fossil fuel power generation are made in such a way as to facilitate substantial reductions in emissions. To this end, Directive 2001/80/EC of the European Parliament and of the Council of 23 October 2001 on the limitation of emissions of certain pollutants into the air

Amendment

(37) The transition to low-carbon power generation requires that new investments in ***firstly and most importantly, alternative forms of energy such as renewable energy and, secondly,*** fossil fuel power generation, are made in such a way as to facilitate substantial reductions in emissions. To this end, Directive 2001/80/EC of the European Parliament

from large combustion plants should be amended to require that all combustion plants, for which the original construction license or the original operating licence is granted after the entry into force of this Directive, have suitable space on the installation site for the equipment necessary to capture and compress CO₂ and that the availability of suitable storage sites and transport networks, as well as the technical feasibility of retrofitting for CO₂ capture, have been assessed.

and of the Council of 23 October 2001 on the limitation of emissions of certain pollutants into the air from large combustion plants should be amended to require that all combustion plants, for which the original construction license or the original operating licence is granted after the entry into force of this Directive, have suitable space on the installation site for the equipment necessary to capture and compress CO₂ and that the availability of suitable storage sites and transport networks, as well as the technical feasibility of retrofitting for CO₂ capture, have been assessed.

Amendment 27

Proposal for a directive – amending act Article 1 – paragraph 1

Text proposed by the Commission

1. This Directive establishes a legal framework for the geological storage of carbon dioxide (hereinafter "CO₂").

Amendment

1. This Directive establishes a legal framework for the ***transport and environmentally safe*** geological storage of carbon dioxide (hereinafter "CO₂") ***to contribute to the fight against climate change.***

Amendment 28

Proposal for a directive – amending act Article 1 – paragraph 2

Text proposed by the Commission

2. The purpose of geological storage is ***permanent containment of CO₂*** in such a way as to prevent ***or reduce as far as possible negative effects on the environment and any resulting risk to human health.***

Amendment

2. The purpose of geological storage is ***to provide an alternative to the release of CO₂ into the atmosphere by containing it permanently and safely underground*** in such a way as to prevent, ***or where that is not feasible, to eliminate as far as possible any negative impact on human health or***

the environment.

Amendment 29

Proposal for a directive – amending act

Article 2 - paragraph 1

Text proposed by the Commission

1. This Directive shall apply to the geological storage of CO₂ on the territory of the Member States, their exclusive economic zones and on their continental shelves within the meaning of the United Nations Convention on the Law of the Seas (UNCLOS).

Amendment

1. This Directive shall **only** apply to the geological storage of CO₂ on the territory of the Member States, their exclusive economic zones and on their continental shelves within the meaning of the United Nations Convention on the Law of the Seas (UNCLOS). **Enhanced hydrocarbon recovery shall be excluded from the scope of this Directive.**

Justification

Enhanced hydrocarbon recovery is already done and is an economically viable activity. Besides, enhanced hydrocarbon recovery does not necessarily lead to a net emission reduction.

Amendment 30

Proposal for a directive – amending act

Article 2 - paragraph 2

Text proposed by the Commission

2. This Directive shall not apply to geological storage of CO₂ undertaken for research, development or testing of new products and processes.

Amendment

2. This Directive shall not apply to geological storage of CO₂ undertaken for research, development or testing of new products and processes, **nor to the geological storage of CO₂ or gas mixtures containing CO₂ being injected for the purpose of and as a measure to increase the exploitation of hydrocarbons in the storage site. It shall, however, apply to demonstration and commercial projects with a total intended storage of 100 kilotonnes or more.**

Justification

It has not been clarified unambiguously, that injecting CO₂ for the purpose of increasing exploitation of hydrocarbons (enhanced oil or gas recovery) is exempted from the scope of application of the directive or that the directive leaves this eventually to the interpretation by the Member States. A clarification is highly desirable.

Intended not to exclude the application of the Directive to commercial CO₂ storage projects.

Amendment 31

Proposal for a directive – amending act

Article 2 - paragraph 3

Text proposed by the Commission

3. The storage of CO₂ ***in geological formations extending*** beyond the area referred to in paragraph 1 shall not be permitted.

Amendment

3. The storage of CO₂ in ***a storage site with a storage complex extending*** beyond the area referred to in paragraph 1 shall not be permitted. ***This shall not apply where a level of protection comparable to that provided by this Directive is guaranteed for the entire storage complex.***

Justification

Geological formations may extend for thousands of km. Consequently a ban on storage in a geological formation extending beyond the borders of the EU would not be helpful. However, where CO₂ is stored on a site with a storage complex extending beyond the borders of the EU, it needs to be ensured that the stored CO₂ cannot escape on the other side of the border with impunity.

Amendment 32

Proposal for a directive – amending act

Article 2 – paragraph 4

Text proposed by the Commission

4. The storage of CO₂ in the water column shall not be permitted.

Amendment

4. The storage of CO₂ in the water column ***or on the sea bed*** shall not be permitted.

Amendment 33

Proposal for a directive – amending act
Article 3 - point 1

Text proposed by the Commission

(1) 'geological storage of CO₂' means injection into and storage of CO₂ streams in underground geological formations;

Amendment

(1) 'geological storage of CO₂' means injection into and ***environmentally safe*** storage of CO₂ streams in underground geological formations;

Justification

See justification to Article 1, paragraph 1.

Amendment 34

Proposal for a directive – amending act
Article 3 - point 1 a (new)

Text proposed by the Commission

Amendment

(1a) 'enhanced hydrocarbon recovery' means the recovery of hydrocarbon additional to that produced naturally by fluid injection or other means;

Justification

Definition of enhanced hydrocarbon recovery.

Amendment 35

Proposal for a directive – amending act
Article 3 – point 3

Text proposed by the Commission

(3) 'storage site' means a ***specific*** geological formation used for the geological storage of CO₂;

Amendment

(3) 'storage site' means a ***defined area*** ***within a*** geological formation used for the geological storage of CO₂;

Amendment 36

Proposal for a directive – amending act Article 3 – point 5

Text proposed by the Commission

(5) 'leakage' means any release of CO₂ from the storage complex;

Amendment

(5) 'leakage' means any **measurable** release of CO₂ from the storage complex.

Amendment 37

Proposal for a directive – amending act Article 3 - point 6 a (new)

Text proposed by the Commission

Amendment

(6a) "hydraulic unit" means a hydraulically connected pore space where pressure communication can be measured by technical means and which is bordered by flow barriers (faults, salt domes, lithological boundaries) or by the wedging out or outcropping of the formation;

Justification

Several storage units may be contained within a structure known as a hydraulic unit. A hydraulic unit extends beyond the area covered by a 'storage complex' as defined in Article 3(6). Within such a structure, parallel injection operations may have a significant impact upon each other, and for that reason permits for storage there should be granted only to one operator at a time.

Amendment 38

Proposal for a directive – amending act Article 3 – point 7

Text proposed by the Commission

(7) 'exploration' means assessing potential storage complexes by means of a specific procedure including activities such as carrying out geological surveys by physical or chemical means and drilling to obtain

Amendment

(7) 'exploration' means assessing potential storage complexes by means of a specific procedure including activities such as carrying out geological surveys by physical or chemical means and drilling to obtain

geological information about strata in the potential storage complex.

geological information about strata in the potential storage complex, **and injection tests to determine the characteristics of the storage site.**

Amendment 39

Proposal for a directive – amending act Article 3 - point 8

Text proposed by the Commission

(8) 'exploration permit' means a written and reasoned decision authorising exploration issued by the competent authority pursuant to the requirements of this Directive;

Amendment

(8) 'exploration permit' means a written and reasoned decision authorising exploration **in a geological formation which has been found to be suitable in accordance with the conditions set out in Article 4**, issued by the competent authority **of a Member State** pursuant to the requirements **of national law and** of this Directive;

Justification

The amendment defines more precisely the authority issuing an exploration permit.

No permits should be given for the exploration of sites, unless the site is absolutely safe.

Amendment 40

Proposal for a directive – amending act Article 3 - point 9 a (new)

Text proposed by the Commission

Amendment

(9a) 'transport operator' means any natural or legal, private or public person, who operates or controls the transport of CO₂ to the storage site or to whom decisive economic power over the technical functioning of the transport network has been delegated under national legislation;

Justification

Transport operator is defined and should be fully unbundled from the storage site operator and the power generator.

Amendment 41

Proposal for a directive – amending act Article 3 - point 10

Text proposed by the Commission

(10) 'storage permit' means a written and reasoned decision authorising the geological storage of CO₂ in a storage site, issued by the competent authority pursuant to the requirements of this Directive;

Amendment

(10) 'storage permit' means a written and reasoned decision authorising the geological storage of CO₂ in a storage site, ***containing all the elements required under Article 9 and specifying the conditions under which such storage may take place***, issued by the competent authority pursuant to the requirements of this Directive;

Justification

A storage permit should include all the elements set out in Article 9.

Amendment 42

Proposal for a directive – amending act Article 3 – point 11

Text proposed by the Commission

(11) 'substantial change' means a change which may have significant effects on the environment;

Amendment

(11) 'substantial change' means a change ***that is incompatible with the storage permit or which may result in an increased risk of leakage or*** which may have significant effects on the environment ***or on human health***;

Amendment 43

Proposal for a directive – amending act Article 3 – paragraph 16

Text proposed by the Commission

(16) 'significant irregularity' means any

Amendment

(16) 'significant irregularity' means any

irregularity in the injection or storage operations or in the *condition of the site itself, which implies* the risk of a leakage;

irregularity in the injection or storage operations, or in the *performance of the storage complex, that materially increases* the risk of a leakage *or risks to the environment or human health*;

Justification

The prime goal is to ensure that the storage of CO₂ is environmentally safe and safe for human health.

The definition of "significant irregularity" should specifically relate to the possibility that something may have occurred beneath the ground surface that suggests a real need for corrective measures to be taken to prevent the possible future risk of leakage.

Amendment 44

Proposal for a directive – amending act Article 3 – point 17

Text proposed by the Commission

(17) 'corrective measures' mean any measures taken to correct significant irregularities or to close leakages in order to prevent or *minimise* the release of CO₂ from the storage complex;

Amendment

(17) 'corrective measures' mean any measures taken to correct significant irregularities or to close leakages in order to prevent or *halt* the release of CO₂ from the storage complex;

Amendment 45

Proposal for a directive – amending act Article 3 - point 18

Text proposed by the Commission

(18) 'closure' of a CO₂ storage site means the definite cessation of CO₂ injection into that storage site;

Amendment

(18) 'closure' of a CO₂ storage site means the definite cessation of CO₂ injection into that storage site *including decommissioning measures such as removing the injection facilities and sealing the storage site*;

Justification

In a mining context the term 'closure' includes decommissioning activities and should

therefore be used in that sense here. The term is not used uniformly in the subsequent text, meaning in some cases, as here in paragraph 18, solely ‘cessation of CO₂ injection operations’ and in other contexts including decommissioning activities.

Amendment 46

Proposal for a directive – amending act Article 3 - point 20 a (new)

Text proposed by the Commission

Amendment

(20a) ‘capture ready plant ’ means a combustion plant [with a capacity of 300 megawatts (thermal) or more] which has suitable space on the installation site for the equipment necessary to capture and compress CO₂ and where the availability of suitable storage sites and suitable transport facilities has been properly assessed.

Justification

The definition would be necessary for the Polish proposal of changes to the text of Article 35a and deletion of Article 32.

Amendment 47

Proposal for a directive – amending act Article 3 - point 20 b (new)

Text proposed by the Commission

Amendment

(20b) ‘monitoring’ means the gathering of data and reporting obligations, in all possible ways which are described in Annex I, to ensure the environmentally safe storage of CO₂ in three phases:

- (a) pre-injection or background data,***
- (b) during-injection, or during the storage site operation, and***
- (c) closure, and post-closure or permanent monitoring obligations.***

All monitoring phases should be subject to adequate and separate verification and

validation procedures, pursuant to the requirements of this Directive;

Justification

Monitoring is the process of checking to ensure:

- a. a “set limit” is met,*
- b. recording that this monitoring activity occurred, and*
- c. reporting of the results.*

Amendment 48

**Proposal for a directive – amending act
Article 3 - point 20 c (new)**

Text proposed by the Commission

Amendment

(20c) 'verification' means the process of ensuring the proper - according to scientific knowledge - monitoring procedures are in place;

Justification

Monitoring should be accompanied by verification and validation, in order to ensure the safety of the site.

Amendment 49

**Proposal for a directive – amending act
Article 3 - point 20 d (new)**

Text proposed by the Commission

Amendment

(20d) 'demonstration projects' means projects intended to demonstrate by 2015 the environmentally safe long-term application of CO₂ geological storage, pursuant to the requirements of this Directive.

Justification

The demonstration projects stated in the 2007 and 2008 Spring Council Conclusions will

provide for the necessary practical experience with regard to the deployment of CCS technology in industrial level.

Amendment 50

Proposal for a directive – amending act Article 4 – paragraph 1

Text proposed by the Commission

1. Member States retain the right to determine the areas from which storage sites may be selected pursuant to the requirements of this Directive.

Amendment

1. Member States retain the right to determine ***and monitor*** the areas from which storage sites may be selected pursuant to the requirements of this Directive ***and on the basis of a full geological survey. This includes the right of Member States not to allow any storage in parts or in the whole of their territory.***

Justification

The amendment adds the important element of a full geological survey.

This sentence has to be included for the purpose of clarifying the rights of Member States.

Amendment 51

Proposal for a directive – amending act Article 4 – paragraph 1 a (new)

Text proposed by the Commission

Amendment

1a. Member States shall make a realistic assessment of the storage capacity available within their territory. Member States shall send these assessments to the Commission before 2012. This information shall be made public.

Justification

So far we do not know how much storage capacity is available in Europe. There are different estimations but they are not really precise. It is important to know how much CO2 we can really store.

Amendment 52

Proposal for a directive – amending act Article 4 – paragraph 2

Text proposed by the Commission

2. A geological formation shall only be selected as a storage site, if under the proposed conditions of use **there is no significant risk of leakage, and if no significant negative environmental or health impacts are likely to occur.**

Amendment

2. A geological formation shall only be selected as a storage site, if **application of the criteria specified in Annex I demonstrates that** under the proposed conditions of use no risk of leakage **has been identified. The storage site selected should not jeopardise other energy options such as renewables or the security of the EU's energy supply.**

Amendment 53

Proposal for a directive – amending act Article 4 – paragraph 3

Text proposed by the Commission

3. The suitability of a geological formation for use as a storage site shall be determined through a characterisation and assessment of the potential storage complex and surrounding area pursuant to the criteria specified in Annex I.

Amendment

3. The suitability of a geological formation for use as a storage site shall be determined through a characterisation and assessment of the potential storage complex and surrounding area pursuant to the criteria specified in Annex I **and by following best practice and guidelines that shall be developed by the Commission.**

Justification

The annexes provide the basic framework necessary for assessing a potential storage site but the implementation process will be improved, and there will be greater public confidence, if the requirement is introduced that best practice is followed and guidelines are produced to assist competent authorities in Member States.

Amendment 54

**Proposal for a directive – amending act
Article 4 – paragraph 3 a (new)**

Text proposed by the Commission

Amendment

3a. This Directive shall not affect essential economic interests of Member States related to hydrocarbon reservoirs.

Justification

This paragraph has to be included for the reasons of clarifying the rights of MS.

Amendment 55

**Proposal for a directive – amending act
Article 5 – paragraph 2**

Text proposed by the Commission

Amendment

2. Member States shall ensure that the procedures for the granting of exploration permits are open to all entities possessing the necessary capacities and that the permits are granted on the basis of objective, published criteria.

2. Member States shall ensure that the procedures for the granting of exploration permits are open to all entities possessing the necessary capacities and that the permits are granted on the basis of objective, published ***non-discriminatory*** criteria.

The procedures shall take account of the fact that holders of exploration permits will own the data obtained during the exploration and will have priority should they apply for a storage permit before the expiry of the exploration permit. Member States may introduce requirements for the subsequent sale or transfer of any data obtained during the validity of the exploration permit in order to facilitate any subsequent competition for a storage permit should the holder of the exploration permit not wish to apply for a storage permit or if it fails to satisfy other conditions.

Justification

The potential for contradiction in the procedures proposed by the Commission must be resolved. While the process of awarding both exploration and subsequent storage permits should be non-discriminatory there will be no incentive for carrying out exploration work on a commercial basis unless the likelihood exists that those who do it will also be able to undertake CO₂ storage or be recompensed for their investment. The procedure for awarding exploration permits should therefore take account of the fact that it is directly linked to the procedure for the subsequent award of storage permits.

Amendment 56

Proposal for a directive – amending act Article 5 – paragraph 3

Text proposed by the Commission

3. Exploration permits shall be granted for a limited volume area ***and for a maximum of two years, renewable once for a maximum of two years.***

Amendment

3. Exploration permits shall be granted for a limited volume area ***and a maximum three- year period, to enable the activities for which the exploration permit has been granted to be carried out.***

The period of validity of an exploration permit shall not exceed the estimated time required to carry out the activity for which it was issued. A competent authority may extend an exploration permit if its period of validity is not sufficient to complete the activity in question and the activity has been carried out in accordance with the exploration permit. In this case, an extension shall be for a period of no more than three years.

Amendment 57

Proposal for a directive – amending act Article 5 – paragraph 4

Text proposed by the Commission

4. The holder of an exploration permit shall have the sole right to explore the potential CO₂ storage complex. Member States shall ensure that no conflicting uses of the

Amendment

4. The holder of an exploration permit shall have the sole right to explore the potential CO₂ storage complex. Member States shall ensure that no conflicting uses of the

complex are permitted during the period of validity of the permit.

complex are permitted during the period of validity of the permit ***and that the interests and property rights of third parties holding pre-existing hydrocarbon, coal or other mineral production licences will be respected and preserved when CO₂ storage site exploration permits are awarded. Where the holder of the exploration permit, on completion of a successful exploration, applies for a storage permit, his application shall be given preferential treatment.***

Justification

Amendment to emphasise the rights of other undertakings operating in the same geographical area.

Exploration firms invest substantial resources in exploring the subsoil and bear the risk of an unsuccessful outcome. This amendment seeks to encourage a willingness to carry out exploration of the subsoil with a view to its suitability for CO₂ storage.

Amendment 58

Proposal for a directive – amending act Article 5 – paragraph 4 a (new)

Text proposed by the Commission

Amendment

4a. The exploration permit shall no longer be valid as from the date of its expiry unless prior to this time its holder applies for a storage permit for the same area in accordance with Article 6.

The holder of the exploration permit shall have the sole right to apply for a storage permit pursuant to Articles 6 and 7 up to the date of its expiry.

Pre-injection monitoring should be proposed and included in the exploration permit.

Justification

The potential for contradiction in the procedures proposed by the Commission must be resolved. While the process of awarding both exploration and subsequent storage permits should ideally be non-discriminatory there will be no incentive for carrying out exploration

work on a commercial basis unless the likelihood exists that those who do it will also be able to undertake CO2 storage or be recompensed for their investment. It must also be assumed that holders of exploration permits will retain the intellectual and commercial rights to the data they gather, and that it will be impossible for others to operate a storage site unless they purchase the rights to this data. The holders of an exploration permit must therefore be given preference when the procedure for the award of a storage permit commences.

Pre-injection monitoring is very important to ensure that there is relevant data available, and thus proper monitoring later.

Amendment 59

Proposal for a directive – amending act Article 6 – paragraph 1

Text proposed by the Commission

1. Member States shall ensure that no storage site is operated without a storage permit.

Amendment

1. Member States shall ensure that no storage site is operated without a storage permit, ***that there shall be only one operator for each storage site, and that no conflicting uses of the storage complex are permitted during the period of validity of the permit.***

Justification

To ensure absolute clarity about responsibilities and liabilities there must be only one operator of a storage site; this needs emphasising particularly to avoid possible conflict with petroleum rights holders in the case of offshore storage.

Amendment 60

Proposal for a directive – amending act Article 6 – paragraph 2

Text proposed by the Commission

2. Member States shall ensure that the procedures for the granting of storage permits are open to all entities possessing the necessary capacities and that the permits are granted on the basis of objective, published criteria.

Amendment

2. Member States shall ensure that the procedures for the granting of storage permits are open to all entities possessing the necessary capacities and that the permits are granted on the basis of objective, published ***and non-discriminatory*** criteria.

Justification

Objective and published criteria are not sufficient to ensure non-discrimination, which is nevertheless an important criterion needing to be guaranteed in the internal market.

Amendment 61

Proposal for a directive – amending act

Article 6 – paragraph 2 a (new)

Text proposed by the Commission

Amendment

2a. Member States shall retain the right to refuse storage permits on serious grounds. Such refusal shall be duly substantiated.

Justification

The Member State authorities must have the possibility of withholding storage permits if there are serious grounds for this, such as failure of the applicant to meet the necessary conditions or non-fulfilment of the objective criteria which have been made known.

Amendment 62

Proposal for a directive – amending act

Article 7 – introductory part

Text proposed by the Commission

Amendment

Applications to the competent authority for storage permits shall include the following information:

Applications to the competent authority for storage permits shall include ***at least*** the following information:

Justification

The addition is based on the wording of the Landfill Directive: it ensures that the directive sets merely the minimum requirements for the permit application and that the Member States may if necessary require further documentation.

Amendment 63

Proposal for a directive – amending act
Article 7 – point 3 a (new)

Text proposed by the Commission

Amendment

(3a) a financial assessment of the cost of capturing and safely storing CO₂. This will take into account alternative means of supplying the required energy through measures such as demand-side energy efficiency improvements and renewable energy;

Justification

A financial assessment of carbon capture and storage is required for all new plants to send clear signals of the true cost of power from CO₂ fossil fuel plants to investors. This should be compared against other means of meeting the energy need from demand-side energy efficiency improvements and/or renewable energy supply.

Amendment 64

Proposal for a directive – amending act
Article 7 – paragraph 4

Text proposed by the Commission

Amendment

(4) the total quantity of CO₂ ***to be*** injected and stored as well as the prospective sources, composition of CO₂ streams ***and*** injection rates;

(4) the total quantity of CO₂ ***which may be*** injected and stored, ***depending on the characteristics of the storage area***, as well as the prospective sources, composition of CO₂ streams, injection rates ***and pressures, the location of injection facilities and the transport methods***;

Justification

Essential information required in order to make a proper assessment.

Amendment 65

Proposal for a directive – amending act
Article 7 – point 4 a (new)

Text proposed by the Commission

Amendment

(4a) Description of measures to prevent significant irregularities;

Justification

The documents which the applicant is currently required to supply do not include any details of advance measures to prevent significant irregularities in normal operation. In the interest of uniform standards throughout Europe, and to bring the text into line with the Landfill Directive, Article 7 should be extended to include these details. Thanks to the new definition of ‘significant irregularities’, this addition covers both leakages and other risks to the environment and human health.

Amendment 66

Proposal for a directive – amending act
Article 7 – point 4 b (new)

Text proposed by the Commission

Amendment

(4b) the availability of transport linking the site with prospective capture points, as well as its economic viability, having regard to the distance of the storage site from such points;

Justification

It is important for the competent authorities to know, where the actual storage could take place.

Amendment 67

Proposal for a directive – amending act
Article 7 – point 6

Text proposed by the Commission

Amendment

(6) a proposed corrective measures plan pursuant to Article 16(2);

(6) a proposed corrective measures plan pursuant to Article 16(2), ***including***

emergency evacuation measures;

Justification

There needs to be a good plan for evacuation in cases of emergency.

Amendment 68

Proposal for a directive – amending act
Article 7 – paragraph 9

Text proposed by the Commission

(9) proof of *the* financial security or other equivalent provision as required under Article 19.

Amendment

(9) proof of financial *standing of the applicant and of its ability to put in place the adequate* security or other equivalent provision as required under Article 19 *before commencement of the CO₂ injection process;*

Justification

For the purpose of the Directive evidence of the financial standing of the undertaking, or its parent company, should be sufficient at the time the application is made.

Financial security is an important tool for ensuring that operators will meet their obligations under this Directive, and should therefore be set at an adequate level.

Amendment 69

Proposal for a directive – amending act
Article 7 – paragraph 9 a (new)

Text proposed by the Commission

Amendment

(9a) a proposed public information and consultation plan in accordance with Directive 2003/4/EC that shall endeavour to ensure that the maximum technical and other decision-making information is made available to the public when the application is first submitted and when any revisions are made, and that the public has a formal opportunity to submit comments to the competent authority.

Justification

Reinforcing existing legal requirements regarding the provision of environmental information.

Amendment 70

**Proposal for a directive – amending act
Article 8 – point 1 - introductory parts**

Text proposed by the Commission

Amendment

(1) the competent authority is satisfied that:

(1) the competent authority, ***on the basis of the application submitted pursuant to Article 7***, is satisfied that:

Justification

Process of reviewing draft storage permits would result in delay and complexity in the application process. We suggest that national regulations shall require to inform the Commission when new permits are issued. Simultaneously Member States shall have the option of getting a second non – binding opinion on a draft permit from the Commission for overall assistance in implementing this Directive

Amendment 71

**Proposal for a directive – amending act
Article 8 – point 1 – point a**

Text proposed by the Commission

Amendment

(a) all relevant requirements of this Directive are met;

(a) all relevant requirements of this Directive ***and of relevant Community law*** are met;

Justification

This reference makes it clear that Community law applies.

The wording of Article 8 as a whole is rather vague as to whether it guarantees that refusal of a storage permit will be mandatory if particular requirements are not met.

Amendment 72

Proposal for a directive – amending act Article 8 – point 1 – point b

Text proposed by the Commission

(b) the management of the storage site will be in the hands of a ***natural person who is technically competent and reliable to manage the site; professional and technical development and training of this person and all staff are provided;***

Amendment

(b) the management of the storage site will be in the hands of a ***financially sound and technically competent operator; provision shall be made for the training, professional and technical development of all personnel;***

Amendment 73

Proposal for a directive – amending act Article 8 – paragraph 1 – point b a (new)

Text proposed by the Commission

Amendment

(ba) in the case of more than one operator injecting into the same hydrostatically connected system, the potential pressure interactions are such that both sites simultaneously can meet the requirements of this Directive;

Justification

The competent authority must take care not to issue permits to two operators who might make use of a hydrostatically connected storage complex, not least because if there are parallel injection operations it will prove difficult to be absolutely certain how to allocate responsibility for liabilities.

Amendment 74

Proposal for a directive – amending act Article 9 – introductory part

Text proposed by the Commission

The permit shall contain the following:

Amendment

The permit shall contain ***at least*** the following:

Justification

By analogy with the Landfill Directive, this addition seeks to ensure that the directive sets merely the minimum requirements as to the content of the permit and that the Member States may if necessary impose further conditions.

Amendment 75

Proposal for a directive – amending act Article 9 – point 2

Text proposed by the Commission

Amendment

(2) precise location and delimitation of the storage site **and** storage complex;

(2) precise location and delimitation of the storage site, **the** storage complex **and the hydraulic unit**;

Justification

Adjustment in line with amendments creating new Article 3(6a) and new Article 8(1).

Amendment 76

Proposal for a directive – amending act Article 9 – point 3

Text proposed by the Commission

Amendment

(3) the total quantity of CO₂ authorised to be geologically stored and maximum injection rates;

(3) **rules governing the start-up and operation of the storage site**, the total quantity of CO₂ authorised to be geologically stored and maximum injection rates **and pressures**;

Justification

The first addition serves to harmonise the text with the requirements of Article 9 of the Landfill Directive; the inclusion of injection pressures results from the addition to Article 7(4).

Amendment 77

Proposal for a directive – amending act Article 9 – point 4

Text proposed by the Commission

Amendment

(4) requirements for the composition of the

(4) requirements for the composition of the

CO₂ stream and the CO₂ acceptance procedure pursuant to Article 12, and, if necessary, further requirements for injection and storage;

CO₂ stream and the CO₂ acceptance procedure pursuant to Article 12, and, if necessary, further requirements for injection and storage, ***in particular to prevent significant irregularities***;

Justification

Follows on from amendment to Article 7(4).

Amendment 78

**Proposal for a directive – amending act
Article 9 – point 5**

Text proposed by the Commission

(5) the approved monitoring ***plan***, the obligation to implement the ***plan*** and requirements for updating ***it*** pursuant to Article 13 as well as reporting requirements pursuant to Article 14;

Amendment

(5) the approved monitoring ***and emergency plans***, the obligation to implement the ***plans*** and requirements for updating ***them*** pursuant to Article 13 as well as reporting requirements pursuant to Article 14;

Justification

To increase public confidence in CCS safety

Amendment 79

**Proposal for a directive – amending act
Article 10**

Text proposed by the Commission

Commission review of draft storage permits

1. Member States shall ***inform the Commission of all draft storage permits, the permit applications and any other material taken into consideration by the competent authority when adopting its draft decision. Within six months of their submission to the Commission, the Commission may issue an opinion on the***

Amendment

Commission review of draft storage permits

1. Member States shall ***introduce the following procedure:***

draft permits.

(a) applicants for storage permits shall provide the competent authority with two copies of all documentation required.

(b) the competent authority shall, upon receipt of the documentation from the applicant, provide the Commission with details of each application for a permit and all other material that shall be taken into account by the competent authority when it seeks to make a decision on the award of a storage permit.

(c) the Commission shall confirm receipt of the required documentation to the competent authority upon its arrival.

(d) the competent authority shall inform the Commission of any draft storage permit decision. The Commission shall, within three calendar months of the date of submission, issue a consultative opinion on the draft permit.

(e) a decision by a Member State to award a storage permit shall be made public as shall any consultative opinion issued by the Commission.

2. The competent authority shall notify the final decision to the Commission stating the reasons if it deviates from the Commission opinion.

2. The competent authority shall notify the final decision to the Commission stating the reasons if it deviates from the Commission opinion.

Amendment 80

Proposal for a directive – amending act Article 11 – paragraph 2

Text proposed by the Commission

2. Member States shall ensure that no substantial change is implemented without a new storage permit issued in accordance with this Directive.

Amendment

2. Member States shall ensure that no substantial change is implemented without a new storage permit issued in accordance with this Directive. ***The provisions of Directive 85/337/EEC shall also apply in this case.***

The Commission shall establish specific qualitative and quantitative

environmental indicators, together with prices, the exceeding of which shall constitute a substantial change. Qualitative and quantitative indicators shall be established in accordance with the regulatory procedure with scrutiny referred to in Article 28(2).

Justification

In case of transboundary CO₂-transport and/or storage, all requirements of the Directive on the assessment of environmental effects should apply.

The term 'substantial change' is somewhat vague and qualitative and quantitative indicators should therefore be introduced by the Commission.

Amendment 81

**Proposal for a directive – amending act
Article 11 – paragraph 3 – introductory part**

Text proposed by the Commission

3. The competent authority shall review and where necessary update or withdraw the **storage** permit:

Amendment

3. The competent authority shall review and where necessary update or withdraw the permit ***without compensating the holder, or require the permit holder to undertake corrective measures:***

Justification

Added the words "without indemnification" in order to avoid situation in which competent authorities as required by the provisions in the Directive and the following national provisions aimed at the protection of the environment and human health will have to pay indemnification to the operators in view of necessary amendments to be introduced in the relevant permits they hold.

See justification to Article 11, paragraph 2.

Amendment 82

Proposal for a directive – amending act Article 11 –paragraph 3 –point a

Text proposed by the Commission

(a) if it has been notified of significant irregularities or leakages pursuant to Article 16(1);

Amendment

(a) if it has been notified **or made aware** of significant irregularities or **any** leakages pursuant to Article 16(1);

Amendment 83

Proposal for a directive – amending act Article 11 –paragraph 4

Text proposed by the Commission

4. After a **permit has been withdrawn** pursuant to paragraph 3, **the competent authority shall either issue a new storage permit or close the storage site pursuant to point (c) of Article 17(1)**. Until a new storage permit has been issued, the competent authority shall take over the responsibility for the storage site, including all ensuing legal obligations. **To the extent possible**, the competent authority shall recover any costs incurred from the former operator.

Amendment

4. After a **competent authority has reviewed, updated or withdrawn a storage permit** pursuant to paragraph 3, **and in the event that CO₂ has been stored, the operator shall retain responsibility for the storage site, including all ensuing legal obligations. Where the operator does not meet his obligations under Art 17 (1), and until a new storage permit has been issued, the competent authority shall take over the responsibility for the storage site, including all ensuing legal obligations. The competent authority shall recover any costs incurred from the former operator. Where this is not possible, recourse shall be had to the financial security under Article 19(2).**

Amendment 84

Proposal for a directive – amending act Article 12 – paragraph 1

Text proposed by the Commission

1. A CO₂ stream shall consist **overwhelmingly** of carbon dioxide. **To this end**, no waste and other matter may be added for the purpose of disposing of that waste or other matter. **However**, a CO₂ stream may contain incidental associated substances from the source, capture or injection process. Concentrations of those substances shall be below levels that would adversely affect the integrity of the storage site and relevant transport infrastructure and pose a **significant** risk to the environment or breach the requirements of applicable Community legislation.

Amendment

1. A CO₂ stream shall consist **of not less than 95%**, of carbon dioxide **and shall not contain corrosive substances such as H₂S and SO₂. This level may be revised under the review procedure provided for in Article 36a in the light of future scientific evidence.** No waste and other matter may be added for the purpose of disposing of that waste or other matter. A CO₂ stream may contain incidental associated substances from the source, capture or injection process, **and trace elements added to assist in monitoring and verifying CO₂ migration.** Concentrations of those substances shall be below levels that would adversely affect the integrity of the storage site and relevant transport infrastructure and pose a risk to the environment or breach the requirements of applicable Community legislation.

Amendment 85

Proposal for a directive – amending act Article 13 – paragraph 1 – introductory part

Text proposed by the Commission

1. Member States shall ensure that the operator carries out monitoring of the injection facilities, the storage complex (including **where possible** the CO₂ plume), and where appropriate the surrounding environment for the purpose of:

Amendment

1. Member States shall ensure that the operator carries out monitoring of the injection facilities, the storage complex (including the CO₂ plume), and where appropriate the surrounding environment for the purpose of:

Justification

The most important part of any monitoring plan is to determine whether there have been significant changes in the storage patterns of the CO₂ (in particular whether there has been

migration that might lead to leakage), and whether action needs to be taken to address them.

Monitoring the CO₂ plume is essential if potential leakage is to be anticipated, so the words 'where possible' should be deleted.

Amendment 86

Proposal for a directive – amending act Article 13 – paragraph 1 – point a

Text proposed by the Commission

(a) comparison between the actual and modelled behaviour of CO₂ in the storage site;

Amendment

(a) comparison between the actual and modelled behaviour of CO₂ **and formation water** in the storage site;

Justification

In addition to the behaviour of the CO₂, any changes in the formation water in the storage site should be monitored, partly in order to observe any displacement effects.

Amendment 87

Proposal for a directive – amending act Article 13 – paragraph 1 – point a (new)

Text proposed by the Commission

Amendment

(aa) verifying the amount of stored CO₂;

Justification

See justification to Article 13, paragraph 1, introductory part.

Amendment 88

Proposal for a directive – amending act Article 13 – paragraph 1 – point c

Text proposed by the Commission

(c) detecting leakage of CO₂;

Amendment

(c) detecting leakage of CO₂ **in accordance with Directive 2003/87/EC and of substances set in motion by it;**

Justification

The detection of substances set in motion in the sub-seabed by CO₂ leakages is one of the monitoring and supervision obligations under Annex 4 of the Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter (London Protocol). Since the directive will apply in areas also covered by the London Protocol, international law requires the extension of the monitoring obligation to cover such substances.

Amendment 89

Proposal for a directive – amending act Article 13 – paragraph 1 – point d

Text proposed by the Commission

(d) detecting **significant** adverse effects for the surrounding environment, human populations, or users of the surrounding biosphere;

Amendment

(d) detecting adverse effects for the surrounding environment, **water forming part of the hydrological cycle**, human populations, or users of the surrounding biosphere;

Justification

The existing wording of point (d) is too general. The new wording is more precise and includes water forming part of the hydrological cycle in the scope of the directive.

Amendment 90

Proposal for a directive – amending act Article 13 – paragraph 1 – point (f)

Text proposed by the Commission

(f) **assessing** whether the stored CO₂ will be completely contained for the indefinite future.

Amendment

(f) **updating the assessment of the safety and integrity of the storage site in the short and long term, including the assessment of** whether the stored CO₂ will be completely contained for the indefinite future.

Justification

See justification to Article 13, paragraph 1, introductory part.

Amendment 91

**Proposal for a directive – amending act
Article 13 – paragraph 1 a (new)**

Text proposed by the Commission

Amendment

1a. In the case of geological storage under the seabed, the monitoring requirements set out in paragraph 1 shall further be adapted to the uncertainty and operational difficulties associated with managing CCS technology in the marine environment.

Justification

All necessary measures to avoid that CO₂ storage causes harm to the marine environment, should be taken.

Amendment 92

**Proposal for a directive – amending act
Article 13 – paragraph 2**

Text proposed by the Commission

Amendment

2. The monitoring shall be based on a monitoring plan designed by the operator pursuant to the requirements laid out in Annex II, submitted to and approved by the competent authority pursuant to Articles 7(5) and 9(5). The plan shall be updated pursuant to the requirements laid down in Annex II and in any case every five years to take account of ***technical developments***. Updated plans shall be re-submitted for approval to the competent authority.

2. The monitoring shall be based on a monitoring plan designed by the operator pursuant to the requirements laid out in Annex II, ***including details on the monitoring in accordance with the guidelines established pursuant to Articles 14 and 23(2) of Directive 2003/87/EC***, submitted to and approved by the competent authority pursuant to Articles 7(5) and 9(5). The plan shall be updated pursuant to the requirements laid down in Annex II and in any case every five years to take account of ***changes to the assessed risk of leakage, new scientific knowledge, and improvements in best available technology***. Updated plans shall be re-submitted for approval to the competent authority. ***The monitoring plan and any updated plans shall be made available for public inspection.***

Justification

The monitoring and reporting requirements need to be aligned with those of the ETS Directive.

The regulatory process needs to be adjusted to take account of lessons learnt through experience and new technical knowledge.

To maintain confidence it must be emphasised that the monitoring plans shall be made known to the public.

Amendment 93

Proposal for a directive – amending act Article 14 – introductory part

Text proposed by the Commission

At a frequency to be determined by the competent authority, and in any event at least once a year, the operator shall submit to the competent authority:

Amendment

At a frequency to be determined by the competent authority, and in any event at least once a year, the operator shall submit to the competent authority, ***in a harmonised reporting format so as to ensure consistency and transparency of the information reported.***

Justification

A common reporting format is necessary in order to ensure consistency and transparency

Amendment 94

Proposal for a directive – amending act Article 14 – paragraph 3

Text proposed by the Commission

(3) proof of the maintenance of ***the*** financial security pursuant to Articles 19 and 9(9);

Amendment

(3) proof of the ***putting in place and*** maintenance of financial security pursuant to Articles 19 and 9(9) ;

Justification

The amendment provides for some flexibility in the provision of financial security, not least to allow for the financial standing of any parent company to be taken into account.

Amendment 95

Proposal for a directive – amending act Article 15 – paragraph 3

Text proposed by the Commission

3. Routine inspections shall be carried out **at least** every year. They shall examine the relevant injection and monitoring facilities as well as the full range of relevant environmental effects from the storage complex.

Amendment

3. Routine inspections shall be carried out every year **in the first five years after the injection has started and thereafter as often as deemed necessary by the competent authority**. They shall examine the relevant injection and monitoring facilities as well as the full range of relevant environmental effects from the storage complex.

Justification

If there is a problem it is most likely to become apparent soon after the injection process has commenced, and regular inspections are therefore appropriate. However, the geology of each storage site will differ and it should be up to competent authorities to determine the longer term inspection regime most appropriate for the circumstances.

Amendment 96

Proposal for a directive – amending act Article 16 – paragraph 1

Text proposed by the Commission

1. Member States shall ensure that in case of significant irregularities or leakages, the operator immediately notifies the competent authority and takes the necessary corrective measures.

Amendment

1. Member States shall ensure that in case of significant irregularities or leakages **that could have a negative impact on human health or the environment, as defined by the criteria to be determined in the guidelines referred to in Article 4(3)**, the operator immediately notifies the competent authority and takes the necessary corrective measures.

Justification

Concrete measurable criteria and guidelines of reference are needed

Amendment 97

**Proposal for a directive – amending act
Article 16 – paragraph 2**

Text proposed by the Commission

2. The corrective measures referred to in paragraph 1 shall be taken on the basis of a corrective measures plan submitted to and approved by the competent authority pursuant to Articles 7(6) and 9(6);

Amendment

2. The corrective measures referred to in paragraph 1 shall be taken on the basis of a corrective measures plan submitted to and approved by the competent authority **and the Commission** pursuant to Articles 7(6) and 9(6). **Those measures shall be made public.**

Justification

The binding review at Community level is necessary to ensure consistency in implementation of the requirements. Citizens should have full access to this information.

Amendment 98

**Proposal for a directive – amending act
Article 16 – paragraph 3**

Text proposed by the Commission

3. The competent authority may at any time **request** the operator to take additional or different corrective measures than those laid out in the corrective measures plan. It may also at any time take corrective measures itself and shall then recover the costs from the operator.

Amendment

3. The competent authority may at any time **require** the operator to take additional or different corrective measures than those laid out in the corrective measures plan, **and in particular to provide for the implementation of emergency evacuation plans in the event of a significant risk of leakage.** It may also at any time take corrective measures itself and shall then recover the costs from the operator

Justification

There is a significant difference between request and require. Require will strengthen the competent authority's possibility to act.

Amendment 99

Proposal for a directive – amending act Article 17 – paragraph 1 – point b

Text proposed by the Commission

(b) at the request of the operator, after authorisation of the competent authority;

Amendment

(b) at the request of the operator, after authorisation of the competent authority; **or**

Amendment 100

Proposal for a directive – amending act Article 17 – paragraph 2

Text proposed by the Commission

2. After a storage site has been closed pursuant to paragraph 1 points (a) or (b), the operator remains responsible for maintenance, monitoring, control, reporting, and corrective measures pursuant to the requirements laid down in this Directive, as well as for all ensuing obligations under other relevant provisions of Community legislation, until the responsibility for the storage site is transferred to the competent authority pursuant to Article 18(1) to (4). **The operator shall also be responsible for sealing** the storage site and **removing** the injection facilities.

Amendment

2. After a storage site has been closed pursuant to paragraph 1 points (a) or (b), the operator remains responsible for maintenance, monitoring, control, reporting, and corrective measures pursuant to the requirements laid down in this Directive, as well as for all ensuing obligations under other relevant provisions of Community legislation, until the responsibility for the storage site is transferred to the competent authority pursuant to Article 18(1) to (4). **Closure shall not be complete until the operator has sealed** the storage site and **removed** the injection facilities.

Justification

This amendment is needed on the one hand to enable Art. 18(1) to be applied, and on the other to prevent responsibility for the closed storage site being transferred to the competent authority before the storage site has been completely sealed and all the injection facilities removed pursuant to Article 18(1).

Amendment 101

Proposal for a directive – amending act Article 17 – paragraph 3 – introductory part

Text proposed by the Commission

3. The obligations referred to in paragraph 2 shall be fulfilled on the basis of a post-closure plan designed by the operator based on best practice and in accordance with the requirements laid down in Annex II 2. A provisional post-closure plan shall be submitted to and approved by the competent authority pursuant to Articles 7(7) and 9(7). Prior to the closure of a storage site pursuant to points (a) or (b) of paragraph 1, the provisional post-closure plan shall be:

Amendment

3. The obligations referred to in paragraph 2 shall be fulfilled on the basis of a post-closure plan designed by the operator based on best practice and ***guidelines that shall be developed by the Commission*** in accordance with the requirements laid down in Annex II 2. A provisional post-closure plan shall be submitted to and approved by the competent authority pursuant to Articles 7(7) and 9(7). Prior to the closure of a storage site pursuant to points (a) or (b) of paragraph 1, the provisional post-closure plan shall be:

Amendment 102

Proposal for a directive – amending act Article 17 – paragraph 3 – point a

Text proposed by the Commission

(a) updated as necessary, ***in particular in view of*** best practice;

Amendment

(a) updated as necessary, ***taking account of risk analysis, best practice and technological improvements, but not imposing new requirements of an unreasonable nature;***

Amendment 103

Proposal for a directive – amending act Article 17 – paragraph 4

Text proposed by the Commission

4. After a storage site has been closed pursuant to paragraph 1 point (c), the competent authority shall remain responsible for maintenance, monitoring,

Amendment

4. After a storage site has been closed pursuant to paragraph 1 point (c), the competent authority ***of the Member State*** shall remain responsible for maintenance,

control, and corrective measures pursuant to the requirements laid down in this Directive as well as for all ensuing obligations under other relevant provisions of Community legislation. The post-closure requirements pursuant to this Directive shall be fulfilled on the basis of the provisional post-closure plan submitted to and approved by the competent authority pursuant to Articles 7(7) and 9(7), which shall be updated as necessary.

monitoring, control, and corrective measures pursuant to the requirements laid down in this Directive as well as for all ensuing obligations under other relevant provisions of Community legislation. The post-closure requirements pursuant to this Directive shall be fulfilled on the basis of the provisional post-closure plan submitted to and approved by the competent authority *of the Member State* pursuant to Articles 7(7) and 9(7), which shall be updated as necessary. *Where the competent authority takes these measures itself, it shall recover the costs from the operator. Where this is not possible, recourse shall be had to the financial security under Article 19(2).*

Amendment 104

Proposal for a directive – amending act Article 18 –paragraph 1

Text proposed by the Commission

1. Where a storage site has been closed pursuant to points (a) or (b) of Article 17(1), the responsibility for the closed site, including all ensuing legal obligations, shall ***be transferred to the competent authority on its own initiative or upon request from the operator***, if and when all available evidence indicates that the stored CO₂ will be completely contained for the indefinite future. To this end, the operator shall prepare a report documenting that ***this criterion has*** been met and submit it to the competent authority for the latter to approve the transfer of responsibility.

Amendment

1. Where a storage site has been closed pursuant to points (a) or (b) of Article 17(1), the responsibility for the closed site, including all ensuing legal obligations, shall ***remain with the operator for a post-closure interim period of at least 50 years. Transfer to the competent authority shall only occur at the end of this period***, if and when all available evidence indicates that the stored CO₂ will be completely contained for the indefinite future ***and the criteria laid down in the storage permit for transferring responsibility have been met***. To this end, the operator shall prepare a report documenting ***that the criteria have*** been met and submit it to the competent authority for the latter to approve the transfer of responsibility.

Amendment 105

Proposal for a directive – amending act Article 18 – paragraph 2

Text proposed by the Commission

2. Member States shall inform the Commission of all draft decisions of approval prepared by the competent authority pursuant to paragraph 1, including the reports submitted by the operator and any other material taken into consideration by the competent authority when arriving at its conclusion. Within **six** months of their submission to the Commission, the Commission **may** issue **an** opinion on the draft decisions of approval.

Amendment

2. . Member States shall inform the Commission of all draft decisions of approval prepared by the competent authority pursuant to paragraph 1, including the reports submitted by the operator and any other material taken into consideration by the competent authority when arriving at its conclusion. Within **three** months of their submission to the Commission, the Commission **shall** issue **a consultative** opinion on the draft decisions of approval.

Amendment 106

Proposal for a directive – amending act Article 18 – paragraph 4

Text proposed by the Commission

4. Together with the decision of approval referred to in paragraph 3, the competent authority may communicate updated requirements for the sealing of the storage site and the removal of the injection facilities pursuant to Article 17(2) and (3) to the operator. The transfer of responsibility shall take place after the site has been sealed and the injection facilities have been removed.

Amendment

4. Together with the decision of approval referred to in paragraph 3, the competent authority may communicate updated **and reasonable** requirements for the sealing of the storage site and the removal of the injection facilities pursuant to Article 17(2) and (3) to the operator. The transfer of responsibility shall take place after the site has been sealed and the injection facilities have been removed.

Justification

The operator should not have to risk the uncertainty that legally unreasonable requirements may be imposed on it by a competent authority that may be seeking to avoid accepting the long term responsibility for the site that is fundamental to the Directive.

Amendment 107

Proposal for a directive – amending act Article 18 –paragraph 5

Text proposed by the Commission

5. After the transfer of responsibility pursuant to paragraphs 1 to 4, monitoring may *cease*. However, if any leakages or significant irregularities are identified, monitoring shall be *reactivated* as required to assess the scale of the problem and the effectiveness of corrective measures.

Amendment

5. After the transfer of responsibility pursuant to paragraphs 1 to 4, monitoring may ***be reduced to the minimum level necessary to identify leakages or significant irregularities***. However, if any leakages or significant irregularities are identified ***as a result of monitoring and other procedures or as a result of information obtained for any other purpose***, monitoring shall be ***undertaken*** as required to assess the scale of the problem and the effectiveness of corrective measures.

Amendment 108

Proposal for a directive – amending act Article 18 –paragraph 6

Text proposed by the Commission

6. There shall be no recovery of costs incurred from the former operator after the transfer of responsibility to the competent authority pursuant to paragraphs 1 to 4.

Amendment

6. There shall be no recovery of costs incurred from the former operator after the transfer of responsibility to the competent authority pursuant to paragraphs 1 to 4. ***This shall not apply in cases where it is established that, due to the fault or negligence of the operator, or through an act of deliberate and wilful falsification, the evidence provided for the purposes of paragraph 1 is based on inaccurate or incomplete information. In this case the operator shall remain liable for the costs of corrective measures to remedy any damage to human health or the environment.***

In other cases, the costs may be covered by the fund established under Article 19a,

financed by operators' contributions and managed by the competent authority

Amendment 109

Proposal for a directive – amending act Article 19 –paragraph 1

Text proposed by the Commission

1. Member States shall ensure that adequate provisions, by way of financial security or any other equivalent, on the basis of modalities to be decided by the Member States, are made by the applicant prior to the ***submission of the application for a storage permit*** to ensure that all obligations arising under the permit issued pursuant to this Directive, including closure procedures and post-closure provisions, as well as any obligations arising from inclusion under Directive 2003/87/EC can be met.

Amendment

1. Member States shall ensure that adequate provisions, by way of financial security or any other equivalent, on the basis of modalities to be decided by the Member States, are made by the applicant prior to the ***issue of a permit*** to ensure that all obligations arising under the permit issued pursuant to this Directive, including closure procedures and post-closure provisions, as well as any obligations arising from inclusion under Directive 2003/87/EC can be met.

The Commission shall provide guidelines in accordance with which Member States may decide on the amount of financial security required.

Amendment 110

Proposal for a directive – amending act Article 19 a (new)

Text proposed by the Commission

Amendment

Article 19 a

Financial mechanism

In Member States which allow storage on their territory, a financial instrument shall be established and maintained through annual contributions paid by storage site operators upon

commencement of CO₂ injection and until the closure of the storage site. This fund shall be held and administered by the competent authority.

The operators' contributions shall be proportionate to the capacity of the storage site in volume units of CO₂, operating history in storing CO₂ and the risk profile of the site according to the parameters set out in Annex I. Contributions shall continue until the transfer of responsibility to the competent authority is completed.

The fund shall be used to cover the costs of monitoring, oversight and remediation incurred by the competent authority after transfer of responsibility.

Justification

The creation of a financial mechanism will provide additional financial security to Member States to cover the costs of monitoring, oversight and remediation once responsibility for storage sites is transferred from the operators. It will also provide a supplementary revenue source for Member States in instances of financial insolvency on the part of operators.

Amendment 111

Proposal for a directive – amending act Article 20 – paragraph 1

Text proposed by the Commission

1. Member States shall take the necessary measures to ensure that potential users are able to obtain access to CO₂ transport networks and to storage sites for the purposes of geological storage of the produced and captured CO₂, in accordance with paragraphs 2 to 4.

Amendment

1. Member States shall take the necessary measures to ensure that potential users are able to obtain access to CO₂ transport networks and to storage sites for the purposes of geological storage of the produced and captured CO₂, in accordance with paragraphs 2 to 4. ***However, users shall bear the full costs of access to such networks and sites. To that end, pipelines for which new permits are issued shall in general be designed in such a way that they are suited to take any CO₂ stream of a given minimum quality, to be determined under the comitology procedure.***

Justification

This amendment makes it possible to prevent restriction of access and discrimination on the grounds of alleged technical incompatibility. It also gives every plant builder in Europe the assurance that their own CO₂ – provided they prepare it to a given quality standard – will not be excluded from the transport network on the grounds of technical incompatibility.

Power generators should cover the costs of transporting (and eventually storing) their CO₂ emissions.

Amendment 112

Proposal for a directive – amending act Article 20 – paragraph 2 – introductory part

Text proposed by the Commission

2. The access referred to in paragraph 1 shall be provided in a manner determined by the Member State. The Member State shall **apply** the objectives of fair and open access, taking into account:

Amendment

2. The access referred to in paragraph 1 shall be provided in a **transparent and non-discriminatory** manner determined by the Member State. The Member State shall **ensure** the objectives of fair and open access, taking into account:

Amendment 113

Proposal for a directive – amending act Article 20 – paragraph 2 – point a

Text proposed by the Commission

(a) the storage capacity which is **or can reasonably be made** available within the areas determined under Article 4, and the transport capacity which is **or can reasonably be made** available;

Amendment

(a) the storage capacity which is available within the areas determined under Article 4, and the transport capacity which is available;

Justification

Deletion of making available under reasonable conditions proposed – this would, according to our estimation, correspond with an obligation of extension. In the sense of economic viability with regard to the high investment costs it must be possible to conclude long-term contracts with customers on the access to transportation/storage site.

Amendment 114

Proposal for a directive – amending act Article 20 – paragraph 2 – point e a (new)

Text proposed by the Commission

Amendment

(ea) the need to ensure that adequate provisions are made to establish conditions for cross-border and transit flows of CO₂ in a manner that avoids distortions of competition resulting from the geographical location of potential users within the EU.

Justification

It is important to ensure that operators in Member States such as Greece are not unduly disadvantaged by their geographic location or potential limitations on development of storage sites.

Amendment 115

Proposal for a directive – amending act Article 21 – paragraph 1

Text proposed by the Commission

Amendment

1. Member States shall ensure that they have in place dispute settlement arrangements, including an authority independent of the parties with access to all relevant information, to enable disputes relating to access to CO₂ transport networks and to storage sites to be settled expeditiously, taking into account the criteria referred to in Article 20(2) and the number of parties which may be involved in negotiating such access.

1. Member States shall ensure that they have in place dispute settlement arrangements, including an authority independent of the parties with access to all relevant information.

The authority should seek:

(a) to enable disputes relating to the development of CO₂ infrastructure and access to CO₂ transport networks and to storage sites to be settled expeditiously, taking into account the criteria referred to in Article 20(2) and the number of parties

which may be involved in negotiating such access;

(b) to provide mediation between a competent authority and the holders of exploration or storage permits in the case of differences that might otherwise result in legal disputes.

Justification

A dispute settlement procedure that can provide mediation to avoid the need for expensive and lengthy legal challenges will be useful and should not be reserved solely to deal with matters involving the transport network. It should also be available to mediate in disputes between the competent authority and operators or permit applicants. Therefore, a revised version of the dispute settlement provision should be introduced under Article 23 a (new) - Chapter 6 (General Provisions).

Amendment 116

**Proposal for a directive – amending act
Article 21 – paragraph 2 a (new)**

Text proposed by the Commission

Amendment

2a. The settlement of cross-border disputes concerning relations between Member States and third countries shall be governed by international law.

Justification

The part of the geosphere including the storage complex may prove larger than suggested to date by geological surveys and may extend beyond frontiers into the territory of third countries.

Amendment 117

**Proposal for a directive – amending act
Article 22**

Text proposed by the Commission

Amendment

Member States shall establish or designate the competent authority or authorities responsible for fulfilling the duties established under this Directive. Where more than one competent authority is

Member States shall establish or designate the competent authority or authorities responsible for fulfilling the duties established under this Directive. Where more than one competent authority is

designated, the work of these authorities undertaken pursuant to this Directive shall be co-ordinated.

designated, **Member States shall establish arrangements for the coordination of** the work of these authorities undertaken pursuant to this Directive.

Amendment 118

Proposal for a directive – amending act Article 22 a (new)

Text proposed by the Commission

Amendment

Article 22a

Technical Review Committee

The Commission shall establish a technical review committee to assist it in the preparation of best practice guidelines for the use of competent authorities and operators. The proceedings of the committee shall be open and transparent.

Amendment 119

Proposal for a directive – amending act Article 24 – title

Text proposed by the Commission

Amendment

Register of **closed** storage sites

Register of storage sites

Justification

Storage site operation may continue for a very long time. Registers that will be used as a source of reference for many other purposes need to be comprehensive and to include both operating and closed storage sites. However, to avoid unnecessary bureaucracy there should be no need to provide Brussels with details of every change more than once every three years.

Amendment 120

Proposal for a directive – amending act Article 24 – paragraph 1

Text proposed by the Commission

1. The competent authority shall establish and maintain a register of all closed storage sites and surrounding storage complexes, including maps of their spatial extent.

Amendment

1. The competent authority shall **immediately** establish and **thereafter** maintain a register of all **operating and** closed storage sites and surrounding storage complexes, including maps of their spatial extent **as well as other information relevant to determining that the stored CO₂ is permanently and completely contained.**

Justification

See justification to Article 24, title.

The register should serve to provide all necessary information making it possible to estimate and evaluate risks posed by the storage complex and activities which might endanger it. Maps alone are not sufficient for this purpose.

Amendment 121

Proposal for a directive – amending act Article 24 – paragraph 2

Text proposed by the Commission

2. The register shall be taken into consideration by the competent national authorities in relevant planning procedures and when permitting any activity that could affect or be affected by the geological storage of CO₂ in **the** closed storage sites.

Amendment

2. The register shall be taken into consideration by the competent national authorities in relevant planning procedures and when permitting any activity that could affect or be affected by the geological storage of CO₂ in **operating and** closed storage sites.

Justification

See justification to Article 24, title.

Amendment 122

Proposal for a directive – amending act Article 24 – paragraph 3

Text proposed by the Commission

3. The register shall be reported to the Commission **after it has been** established **and whenever it is updated**.

Amendment

3. The register shall be reported to the Commission **when it is** established.
Updated reports shall be submitted every three years together with the reports provided for in Article 25(1).

Justification

See justification to Article 24, title.

Amendment 123

Proposal for a directive – amending act Article 27

Text proposed by the Commission

The Commission may **amend** the annexes. Those measures, designed to amend non-essential elements of this Directive, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 28(2).

Amendment

The Commission may **propose amendments to** the annexes. Those measures, designed to amend non-essential elements of this Directive, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 28(2).

Amendment 124

Proposal for a directive – amending act Article 30 - point - 1 (new)

Directive 96/61/EC

Article 9 - paragraph 3 - subparagraphs 3 to 6

Text proposed by the Commission

Amendment

In Article 9(3) of Directive 96/61/EC, the third, fourth, fifth and sixth subparagraphs are deleted.

Justification

The 2003 ETS Directive banned the use of the 1996 IPPC directive to regulate CO2 emissions from large industrial installations, save in certain specific circumstances. The increasing urgency to cut GHG emissions and therefore the need to use other instruments in addition to ETS, for example output-based emissions performance standards, makes this ban no longer appropriate and therefore it should be removed.

Amendment 125

Proposal for a directive – amending act

Article 31

Directive 2000/60/EC

Article 11 – paragraph 3 – point j – indent 3 a

Text proposed by the Commission

- 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 authorised under Directive XX/XX/EC of the European Parliament and of the Council.(*);

Amendment

- injection of carbon dioxide streams for storage purposes into geological formations which for natural reasons are permanently unsuitable for other purposes, ***and which are considered as isolated formations as regards the migration of CO₂***, provided that such injection is authorised under Directive XX/XX/EC of the European Parliament and of the Council(*).

Justification

In favour of the “precautionary principle”, Article 31 of the draft should be modified.

Amendment 126

Proposal for a directive – amending act

Article 32

Directive 2001/80/EC

Article 9a

Text proposed by the Commission

In Directive 2001/80/EC, the following Article 9a is inserted:

Amendment

Directive 2001/80 is amended as follows:

"Article 9a

Member States shall ensure that all combustion plants with a capacity of 300 megawatts or more for which the original construction licence or, in the absence of such a procedure, the original operating licence is granted after the entry into force of Directive XX/XX/EC of the European Parliament and of the Council. (*), have suitable space on the installation site for the equipment necessary to capture and compress CO₂ and that the availability of suitable storage sites and suitable transport facilities, and the technical feasibility of retrofitting for CO₂ capture have been assessed.

(1) The following point 14 is added in Article 2:

"(14) 'emission performance standard' means the maximum permissible quantity of CO₂ that may be emitted to air per unit of electrical output, calculated as grams per kilowatt hour (g CO₂/kwh) on an annual average basis."

(2) The following Article 4 is inserted:

"Article 4a

1. Member States shall ensure that from 1 January 2015 the operating permit for all electricity-generating large combustion installations with a capacity greater than 300MW granted a construction permit or, in the absence of such a procedure, granted an original operating permit after 1 January 2015 include conditions requiring compliance with an emission performance standard of 500 g CO₂/kWh.

2. By 31 December 2014, the Commission shall conduct a review of the provisions of this Article. The review shall consider in particular the emission performance standard referred to in paragraph 1, the possibility of widening the scope to include existing installations and installations other than those generating electricity, and of introducing derogations to address the concerns of Member States that may be unable to comply with the requirement referred to in paragraph 1. The review shall include the participation of all relevant stakeholders and, on its conclusion, the

Commission shall bring forward appropriate proposals.

Justification

The above text replaces entirely the Commission's proposal in Article 32 and the related amendments, i.e. AMs 73-75, 240, 399-408 and ITRE 58.

Amendment 127

Proposal for a directive – amending act

Article 33

Directive 2004/35/EC

Annex III – paragraph 14

Text proposed by the Commission

Amendment

14. The operation of storage sites pursuant to Directive XX/XX/EC of the European Parliament and of the Council.(*);

14. The ***transport of CO₂ for geological storage purposes, as well as the*** operation of storage sites pursuant to Directive XX/XX/EC of the European Parliament and of the Council.(*) ***until the transfer of responsibility to the competent authority;***

Justification

Transport of CO₂ should also be included in the environmental liability Directive (Directive 2004/35/EC).

The current wording, which is confined to the operation of storage sites, could mean that environmental damage occurring after closure would not be covered by the liability scheme under the Environmental Liability Directive. The proposed amendment makes it clear that the operator remains responsible for eliminating environmental damage until liability has been transferred to the competent authority.

Amendment 128

Proposal for a directive – amending act

Article 35 a (new)

Text proposed by the Commission

Amendment

Article 35a

Commission reporting

1. On the basis of experience acquired with the capture, geological sequestration and transport of carbon and in the light of changes in the international situation, the Commission shall, by 31 December 2012, publish a report on progress with the development and deployment of technology enabling the capture and storage of CO₂ produced in association with power generation from fossil fuel sources.

2. This report shall include, but not be limited to, consideration of the following:

- progress with the deployment, through commercial-scale demonstration projects, of the technology within the Member States;***
- progress with the development of the technology, including the energy efficiency of the capture process (the "energy penalty"); and its likely timescale for commercial availability;***
- latest estimates of the costs associated with constructing and operating a combustion plant fitted with such technology; and***
- latest estimates of the availability and capacity of suitable infrastructure for the transport and geological storage of CO₂ within Member States.***

3. On the basis of this report the Commission shall, if necessary, present a legislative proposal amending the Directive.

Justification

This amendment requires the Commission to review the directive and make a revised proposal by no later than 31 December 2012. This is in order to give some time for additional demonstration projects to come forward within Member States while also giving the Commission an early opportunity to re-consider the important issue of mandating CCS technology for new fossil-fuel power plant. This will be important not only to ensure that all possible measures to reach the 2020 targets are used but also to help maintain the industrial competitiveness of the EU in developing and deploying new technologies on a global scale.

Amendment 129

Proposal for a directive – amending act Article 36 a (new)

Text proposed by the Commission

Amendment

Article 36a

Review and further developments

1. On the basis of experience with the application of this Directive, including the reports referred to in Article 25, and particularly in the light of experience with CCS demonstration plants, taking into account technical progress and the most recent scientific knowledge, the Commission shall draw up a report by 2016 on the application of this Directive, taking account inter alia of:

(a) whether the permanent capture of CO₂ in this way has as far as possible prevented or reduced any negative effects on the environment and has ruled out any resulting danger to human health;

(b) the provisions applicable to power-producing combustion plants with a rated output of 300 MW or more, with reference to Article 32;

(c) the provisions concerning third-party access in Articles 20 and 21.

2. The Commission shall submit its report to the European Parliament and the Council, accompanied where necessary by legislative proposals.

Justification

In the light of technical progress and the most recent state of scientific knowledge, the Commission should carry out a review of the directive.

Amendment 130

Proposal for a directive – amending act
Article 36 – paragraph 1 – subparagraph 1

Text proposed by the Commission

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by [**1 year** after publication] at the latest. They shall forthwith communicate to the Commission the text of those provisions and a correlation table between those provisions and this Directive.

Amendment

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by [**2 years** after publication] at the latest. They shall forthwith communicate to the Commission the text of those provisions and a correlation table between those provisions and this Directive.

Justification

Present knowledge on the subject of geological storage of carbon dioxide is too inadequate to have this obligation now. We suggest to consider the imposition of “capture ready” obligation but not before the directive review stage in accordance with the article 35a. Energy sector should not be put risk of bearing costs related to CCS until the technology is completely tested within demonstration projects. Only costs related to R&D (Research and Development) in scope of CO₂ capture, transport and geological storage seem to be justified.

Amendment 131

Proposal for a directive – amending act
Annex I – paragraph 1

Text proposed by the Commission

The characterisation and assessment of storage sites referred to in Article 4 shall be carried out in four steps according to the following criteria. Derogations from one or more of these criteria **are** permitted so long as the capacity of the characterisation and assessment to enable the determinations pursuant to Article 4 is not affected.

Amendment

The characterisation and assessment of storage sites referred to in Article 4 shall be carried out in four steps according to **best available techniques** and the following criteria. Derogations from one or more of these criteria **may be** permitted **by the competent authority** so long as the capacity of the characterisation and assessment to enable the determinations pursuant to Article 4 is not affected. **The Commission shall seek the assistance of the technical review committee to produce the guidelines, provided for in Article 4(3), for competent authorities on**

effective use of the criteria according to best available techniques.

Justification

The competent authority must determine what information is needed in each case to make appropriate judgements to best assess the risk of leakage. Some of the criteria are unclear, and they vary greatly in importance, so the production of guidelines on best available techniques is essential.

Amendment 132

**Proposal for a directive – amending act
Annex I – Step 1 – introductory part**

Text proposed by the Commission

Sufficient data shall be accumulated to construct a volumetric and dynamic three-dimensional (3-D)-earth model for the storage site and storage complex including the caprock, and the surrounding area including the hydraulically connected areas. This data shall cover at least the following intrinsic **complex** characteristics:

Amendment

To establish the risk of leakage sufficient **information and** data shall be accumulated to construct a volumetric and dynamic three-dimensional (3-D)-earth model for the storage site and storage complex including the caprock, and the surrounding area including the hydraulically connected areas. This data shall cover at least the following intrinsic characteristics **of the storage complex**:

Amendment 133

**Proposal for a directive – amending act
Annex I – Step 1 – point (g)**

Text proposed by the Commission

(g) Presence and condition of natural and man-made pathways which could provide leakage pathways;

Amendment

(g) Presence and condition of natural and man-made pathways **including wells and boreholes** which could provide leakage pathways;

Amendment 134

**Proposal for a directive – amending act
Annex I – Step 1 – point (k)**

Text proposed by the Commission

(k) Possible interactions with other activities (e.g. exploration, production and storage of hydrocarbons, geothermal use of aquifers);

Amendment

(k) Possible interactions with other activities (e.g. exploration, production and storage of hydrocarbons), ***especially competition with renewable energy sources (e.g. geothermal use of aquifers) and underground water reserves;***

Justification

During the evaluation of storage sites there should be special attention for competition between CO₂ storage and renewable energy sources, such as geothermal use of aquifers.

Amendment 135

**Proposal for a directive – amending act
Annex I – Step 1 – point (l)**

Text proposed by the Commission

(l) Proximity to the potential CO₂ source(s) (including estimates of the total potential mass of CO₂ economically available for storage).

Amendment

(l) Proximity to the potential CO₂ source(s) (including estimates of the total potential mass of CO₂ economically available for storage, ***since transport over long distances can become prohibitively expensive***), ***as well as availability of a safe and adequate transport network.***

Justification

Long distance transport of CO₂ can become very expensive and therefore competent authorities need to know if there is enough storage capacity available in a certain area.

Amendment 136

**Proposal for a directive – amending act
Annex I – Step 3 – point 3.1 (a)**

Text proposed by the Commission

(a) Possible injection rates ***and*** CO₂ properties;

Amendment

(a) Possible injection rates, CO₂ properties ***and their change according to***

temperature and pressure;

Justification

Change in physical and chemical properties of CO₂ with temperature and pressure may influence security characterization and modelling results

Amendment 137

**Proposal for a directive – amending act
Annex I – Step 3 – point 3.1 (e)**

Text proposed by the Commission

Amendment

(e) Short and long-term simulations (to establish CO₂ fate and behaviour over decades and millennia including the *solution velocity* of CO₂ in water).

(e) Short and long-term simulations (to establish CO₂ fate and behaviour over decades and millennia including the *dissolution rate* of CO₂ in water).

Justification

For technical clarification purposes.

Amendment 138

**Proposal for a directive – amending act
Annex I – Step 3 – point 3.1 (f)**

Text proposed by the Commission

Amendment

(f) Pressure volume behaviour vs. time of the storage formation;

(f) Pressure *and* volume behaviour vs. time of the storage formation;

Justification

For technical clarification purposes.

Amendment 139

**Proposal for a directive – amending act
Annex I – Step 3 – point 3.1 (o)**

Text proposed by the Commission

Amendment

(o) The rate of migration (in *open-*

(o) The rate of migration (in

ended reservoirs);

reservoirs);

Justification

Open-ended reservoirs should not be allowed because they can pose danger to the human and environment

Amendment 140

**Proposal for a directive – amending act
Annex I – Step 3 – point 3.3 (c)**

Text proposed by the Commission

(c) Critical parameters affecting potential leakage (*e.g.* maximum reservoir pressure, maximum injection rate, sensitivity to various assumptions in the static geological Earth model(s) etc.);

Amendment

(c) Critical parameters affecting potential leakage (*e.g.* maximum reservoir pressure, maximum injection rate, **temperature**, sensitivity to various assumptions in the static geological Earth model(s) etc.);

Justification

For technical clarification purposes.

Amendment 141

**Proposal for a directive – amending act
Annex I – Step 4 – point (a)**

Text proposed by the Commission

(a) *Exposure assessment* – based on the characteristics of the environment and distribution of human population above the storage complex, and the potential behaviour and fate of leaking CO₂ from potential pathways identified under Step 3;

Amendment

(a) *Exposure assessment* – based on the characteristics of the environment, and **the** distribution **and activities** of **the** human population above the storage complex, and the potential behaviour and fate of leaking CO₂ from potential pathways identified under Step 3;

Justification

The assessment should not only be based on the environment and the population but also on the surrounding activities.

Amendment 142

Proposal for a directive – amending act Annex I – Step 4 – point (b)

Text proposed by the Commission

(b) *Effects assessment* – based on the sensitivity of particular species, communities or habitats linked to potential leakage events identified under Step 3. Where relevant it shall include effects of exposure to elevated CO₂ concentrations in the biosphere (including soils, marine sediments and benthic waters (asphyxiation; hypercapnia) and **reduced** pH in those environments as a consequence of leaking CO₂). It shall also include an assessment of the effects of other substances that may be present in leaking CO₂ streams (either impurities present in the injection stream or new substances formed through storage of CO₂). These effects shall be considered at a range of temporal and spatial scales, and linked to a range of different magnitudes of leakage events.

Amendment

(b) *Effects assessment* – based on the sensitivity of particular species, communities or habitats linked to potential leakage events identified under Step 3. Where relevant it shall include effects of exposure to elevated CO₂ concentrations in the biosphere (including soils, marine sediments and benthic waters (asphyxiation; hypercapnia) and **decreased** pH in those environments as a consequence of leaking CO₂). It shall also include an assessment of the effects of other substances that may be present in leaking CO₂ streams (either impurities present in the injection stream or new substances formed through storage of CO₂). These effects shall be considered at a range of temporal and spatial scales, and linked to a range of different magnitudes of leakage events.

Justification

For technical clarification purposes. “Reduced” has another meaning in professional literature (a chemical reaction where a chemical species accept electrons).

Amendment 143

Proposal for a directive – amending act Annex II – paragraph 1 – point 1.1 – subparagraph 3 - introductory part

Text proposed by the Commission

The choice of monitoring technology shall be based on best practice available at the time of design. The following options shall be considered and used as appropriate:

Amendment

The choice of monitoring technology shall be based on best practice available at the time of design, **and will be updated according to development of the best practices available**. The following options shall be considered and used as appropriate:

Justification

Technological developments are fast, it is important to use the best practices available.

Amendment 144

**Proposal for a directive – amending act
Annex II – paragraph 1 – point 1.1 (k)**

Text proposed by the Commission

(k) technologies that provide information about ***pressure volume*** behaviour and areal/vertical saturation distribution of CO₂-plume by applying numerical 3-D-simulation to the 3-D-geological models of the storage formation established pursuant to Article 4 and Annex I;

Amendment

(k) technologies that provide information about ***pressure - volume*** behaviour and areal/vertical saturation distribution of CO₂-plume by applying numerical 3-D-simulation to the 3-D-geological models of the storage formation established pursuant to Article 4 and Annex I;

Justification

For technical clarification purposes.

EXPLANATORY STATEMENT

For many decades to come the world will rely upon the use of coal to generate a significant proportion of its electricity. Without the use of Carbon Capture and Storage technology to prevent the release into the atmosphere of CO₂ it will be impossible to achieve the global reduction in emissions necessary to prevent very severe consequences of climate change.

The Directive sets the framework and conditions for use of CCS technology in Europe. It introduces requirements for the separation and capture of CO₂, and for its transport by pipeline. It explains the procedure for the identification and safe use of storage sites in rock deep underground. The legislation provides for a private operator to pass responsibility to a Member State for the very long term storage of CO₂, but only after there is near absolute certainty that the possibility of leakage has been reduced to zero.

The Commission also proposes that all new power plants be built as 'capture-ready', capable of being equipped with CCS facilities during their operational lifetimes.

CCS will not be viewed favourably by every environmentalist; burying CO₂ is hardly an ideal 'green' solution. But it may act as a bridging technology, helping our industrial civilisation buy time to develop alternatives on the scale necessary to permit a wholesale shift from fossil fuels to zero carbon means of power production. It can be applied to gas-fired power stations and can help to avoid emissions from major industrial complexes. Combined with the use of biomass in power stations it can help achieve net negative emissions, complementing renewable energy. But the priority must be to use it to deal with the problem of coal.

Coal is responsible for 24% of Europe's CO₂ emissions, yet these fade into insignificance compared with the quantities generated elsewhere. The USA uses coal to generate 50% of its electricity, in India the figure is 70% and in China it is 80%. Some 850 new and replacement coal fired power stations are planned in these three countries alone. With demand growing fast the International Energy Agency predicts a 70% increase in the world-wide use of coal by 2030, and this is in addition to all that will be done to promote electricity generation from renewable sources and to cut energy use.

The importance of developing the use of CCS in Europe cannot be underestimated. Deployed to its full potential it could secure a 50% reduction in our CO₂ emissions by 2050. The cap imposed on the power sector by the emissions trading system will play the major role in ensuring that CO₂ reductions take place, with the price of allowances discouraging the construction of coal-fired power plants not CCS equipped, but it is the global picture that is so important.

CCS techniques not only require an extensive infrastructure but reduce the overall efficiency of the electricity generation process by as much as 25 per cent. They inevitably increase the price of electricity generated by coal for no short term economic benefit. Their sole purpose is to prevent the release of CO₂ emissions into the atmosphere to help the fight against global warming. If the European Union does not set an example by encouraging rapid development of the technology there will be no hope of persuading India and China to adopt its use or to

persuade these countries that it should be a requirement of a future international agreement on tackling climate change. The enormous output of CO₂ from the growing number of coal-fired power stations will increase with every year of delay, and the gas will remain in the atmosphere for many, many decades to come.

Legitimate public concerns about the use of CCS technology must be addressed but must also be placed in context. Fears have been expressed that the transport and storage of inert CO₂ presents a danger, but it hardly compares to the transport and storage of methane that takes place across Europe as a matter of routine. This toxic, inflammable and explosive greenhouse gas is not only stored in scores of underground locations but is even piped into millions of homes - where it is set alight!

CO₂ capture technology is still relatively immature. New techniques must be developed and existing ones scaled up to meet the demands of a large combustion plant. Yet the indications are that these obstacles can quickly be overcome and it is encouraging that Alstom, in May 2008, became the first major manufacturer to state that CCS-equipped generating plants would be commercially available from 2015 so long as work commences shortly on the proposed demonstration projects that will help us learn-by-doing, testing technologies and reducing costs.

There are worries that CO₂ cannot be securely stored deep underground but that it might leak, escaping into the atmosphere to present a health danger of some kind and negating the very purpose for which it was stored in the first place. Carbon dioxide is a natural component of the air we breathe and only very intense concentrations at a particular location are ever likely to cause a problem. The IPCC envisages leakage rates of no more than 1 per cent every 1,000 years, a period four times longer than the entire history of industrial civilisation. Nonetheless, in the opinion of the Rapporteur, any leakage that can be anticipated to have a negative impact on human health or the environment is unacceptable.

Our experience of CO₂ storage is still limited, and it is very important that the locations of storage sites are chosen with caution and only after intensive study, but the greatest risk of leakage will occur when the injection is taking place and immediately afterwards. This should not be a problem we are passing to future generations unsolved. The Norwegian Government reports that after 10 years of injection operations at Sleipner beneath the North Sea there has not only been no leakage but no migration outside the limits predicted. With the passing of time stored CO₂ becomes more stable and leakages even more improbable.

The Rapporteur appreciates the advice and recommendations given by a host of companies and organisations in preparing this report. In particular he thanks the Commission for its help in preparing amendments to revise, and improve, the draft legislation. However, differences in approach remain and the Rapporteur accepts sole responsibility for his conclusions and recommendations.

Long term costs of the use of CCS systems are expected to be comparable with other electricity generating technologies once the saving in EU ETS allowances is taken into account, but first movers will pay a high price and will require some form of public support.

In March 2007 the European Council pledged its support for construction by 2015 of up to 12

large scale CCS demonstration plants. It is to be hoped that the additional funding necessary to bring these to fruition can be secured before the entry into force of this Directive.

15.9.2008

OPINION OF THE COMMITTEE ON INDUSTRY, RESEARCH AND ENERGY (*)

for the Committee on the Environment, Public Health and Food Safety

on the proposal for a directive of the European Parliament and of the Council on the geological storage of carbon dioxide and amending Council Directives 85/337/EEC, 96/61/EC, Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC and Regulation (EC) No 1013/2006 (COM(2008)0018 – C6-0040/2008 – 2008/0015(COD))

Rapporteur (*): Françoise Grossetête

(*) Associated committees – Rule 47 of the Rules of Procedure

SHORT JUSTIFICATION

The Commission communication on limiting global climate change to 2 degrees Celsius explains that, in order to achieve a 50% reduction in global CO₂ emissions by 2050, emissions from developed countries will have to be reduced by 30% by 2020 and then by 60-80% by 2050. In order to make these objectives feasible, we need to exploit all emissions reduction options, such as: incentives to limit our fossil fuel consumption; the replacement of fossil fuels by other alternative energy sources; and CO₂ capture and storage (CCS).

CO₂ storage consists of restricting the emission of CO₂ into the atmosphere by capturing it at its production source and storing it in the subsoil where it can no longer have an impact on global warming. This solution has the benefit of addressing the problem of greenhouse gas emissions at source. However, the technology must meet high standards for the appropriate selection and management of sites so as to reduce the risk of leakage as far as possible.

Carbon sequestration will be useful principally for major industrial plants, such as power stations fired by liquid, solid or gaseous fossil fuels (oil, coal and natural gas respectively), gas refineries, fertiliser plants and other sites producing large quantities of CO₂. Emissions from coal-fired power stations account for a quarter of CO₂ emissions in Europe and a large proportion of the growth in emissions in Asia. Given the likely proliferation of coal-fired power stations in Europe and worldwide, there is much interest in the development of technologies for the geological capture and storage of CO₂.

What now needs to be done is to reduce the cost of this technology. The cost of CCS is made up partly of infrastructure expenses for the capture, transport and storage of CO₂, and partly of the costs of operating these infrastructures for the storage of CO₂. The capture, transport and injection of CO₂ calls for the expenditure of a certain amount of energy. At its present price, the technology requires a prior investment 30-70% higher than for 'traditional' power stations. Operating costs, too, far exceed those of coal-fired power stations not equipped with CCS technology. So CCS will only be deployed if the price of a tonne of CO₂ emissions avoided falls below the price of carbon.

The EU Emissions Trading Scheme (EU ETS), will be the main incentive to the deployment of CCS. Under the EU ETS, CO₂ captured and stored under proper security conditions in accordance with the legal framework laid down by the EU will be deemed not to have been emitted. According to estimates carried out for the impact assessment on the proposed directive, given that CCS is provided for in the EU ETS and assuming a 20% reduction in greenhouse gas emissions by 2020, 7 million tonnes of CO₂ could be stored in 2020, and up to 160 million tonnes by 2030. The CO₂ emissions avoided in 2030 would account for some 15% of the reductions required in Europe.

It will be essential to find financial incentives to transform CCS into a joint action which is more than a mere structure for coordinating a 'network of projects'. The European and national public authorities must help firms to cover the initial costs of CCS until the technology is commercially viable. This financial outlay must be regarded as essential during the transitional period between current fossil fuel energies, which will remain predominant over the next few decades, and the alternative energies which will gradually replace them.

New infrastructures will need to be built in Europe to make this transition a success. R+D efforts must be pursued, but these technologies must be tried out now to demonstrate their reliability and pilots projects and demonstrators must be built in the European Union. We will also have to consider possible ways of demonstrating technologies whereby fossil fuels, particularly coal, can be used with a view to sustainable development. The Commission should determine, on that basis, the best means of supporting the design, construction and operation of up to 12 large-scale demonstration plants.

CCS technology can only become commercially viable if industry and public bodies put in place energy initiatives and strong financial incentives in good time. This technology should place the EU in the fore-front worldwide among the wide range of clean, efficient, low-carbon energy technologies.

The Commission proposal forms a good basis for discussion, since it provides a clearer and more useful legal framework for CO₂ storage. It also provides a firm framework for both the authorisation and the follow-up process: division into phases, type of technical evidence to be supplied at each stage, consultations, monitoring, preventive measures, corrective measures to be taken in the event of a problem, financial guarantees, inspections, follow-up, third-party access, etc. This text does not appear to present any insurmountable problems, subject to a few adjustments and clarifications.

CCS could become considerably less attractive if Member States were able to ban any storage of CO₂ or even any exploration of CO₂ storage sites on their territory. The approach to, and degree of enthusiasm for, CCS technology varies from one Member State to another. Some

Member States do not possess any precise studies on storage capacities or sites on their territories.

In early 2007 the Commission proposed that a large proportion of the plants emitting the greatest quantity of CO₂ should make their structures compatible with CCS technology by 2020. This idea was abandoned on the grounds that the technology was not financially attractive at that time. The forthcoming directive could introduce a rendezvous clause for the revision of the directive. Such revision might involve making CCS compulsory from a given date for new combustion plants of over 300 MW. The requirement for all new power plants to take into account the future implementation of CCS (the concept of 'ready-to-capture') will remain rather limited in its effect unless clear objectives are set.

Questions may also be raised over the very short time allowed for the exploration stage, including in particular tests on the injection of small quantities of CO₂ to back up studies ahead of requests for authorisation to store CO₂. Experience in searching for natural gas storage sites seems to show that much longer periods are needed for the exploration stage in a given geological context.

More research is needed on the possible environmental effects of CO₂ retention, and of leakages into the marine or land environment. The questions concerning property rights and liability in case of leakage promise to be the trickiest.

CCS is not as popular a solution as wind, tidal or solar energy. New developments will be needed, particularly as regards storage, and several obstacles will thus have to be overcome before CCS can become a fully-fledged technique for CO₂ emissions reduction.

AMENDMENTS

The Committee on Industry, Research and Energy calls on the Committee on the Environment, Public Health and Food Safety, as the committee responsible, to incorporate the following amendments in its report:

Amendment 1

Proposal for a directive – amending act

Recital 4

Text proposed by the Commission

(4) Carbon dioxide capture and geological storage (CCS) is a means of mitigating climate change. It consists of the capture of carbon dioxide (CO₂) from industrial installations, its transport to a storage site and its injection into a suitable geological formation for the purposes of permanent storage.

Amendment

(4) Carbon dioxide capture and geological storage (CCS) is a means of mitigating climate change. It consists of the capture of carbon dioxide (CO₂) from industrial installations, its transport to a storage site and its injection into a suitable geological formation for the purposes of permanent storage. *So as not to obviate the*

anticipated benefits of CCS technology in terms of reduced CO₂ emissions, special care must be taken to ensure that this technology does not serve as an incentive to increase the number of generating plants fired by conventional fuels.

Amendment 2

Proposal for a directive – amending act Recital 4 a (new)

Text proposed by the Commission

Amendment

(4a) According to estimates carried out with a view to assessing the impact of the proposed directive, provided that CCS is supported by the EU Emissions Trading Scheme, and assuming a 20% reduction in greenhouse gas emissions by 2020, seven million tonnes of CO₂ could be stored by 2020, and up to 160 million tonnes by 2030. The CO₂ emissions avoided in 2030 would account for some 15% of the reductions required in Europe.

Amendment 3

Proposal for a directive – amending act Recital 7 a (new)

Text proposed by the Commission

Amendment

(7a) The CO₂ capture, transport and storage components have all separately been the subject of pilot projects, but they have yet to be incorporated into a complete CCS process, and the costs of the technology still have to be reduced. The largest CO₂ storage projects in which EU undertakings are involved are the Sleipner project in the North Sea (Statoil) and the In Salah project in Algeria (Statoil, PB and Sonatrach). Other current pilot projects are the Vattenfall project in Schwarze Pumpe in

Germany/the Land of Brandenburg and the CCS project being carried out by Total in the Lacq area in France.

Justification

Clarification in comparison with the amendment in the draft opinion that the projects carried out to date have not been demonstration projects but pilot projects.

Amendment 4

**Proposal for a directive – amending act
Recital 7 b (new)**

Text proposed by the Commission

Amendment

(7b) It is imperative that EU efforts on CCS demonstration within an integrated policy framework start as soon as possible, including in particular focused R&D efforts by means of pilot projects and public awareness and acceptance measures. If the European Union retains its position as world leader in the development of CCS technologies, and given rapid commercial deployment of these technologies, EU undertakings will benefit from new trade outlets in third countries such as China and India.

Amendment 5

**Proposal for a directive – amending act
Recital 13 a (new)**

Text proposed by the Commission

Amendment

(13a) In addition to a legislative framework for the storage site, incentives for further development of the technology, support for the installation of demonstration plants, as well as a legal framework created by the Member States for ensuring transport of CO₂, are necessary as quickly as possible in order to successfully advance the use of CCS

technologies.

Justification

Clarification that more legal decisions on and financial support for CCS technologies and demonstration plants are needed.

Amendment 6

Proposal for a directive – amending act
Recital 14

Text proposed by the Commission

(14) This Directive should apply to the geological storage of CO₂ within the territory of the Member States, their exclusive economic zones and on their continental shelves. The Directive should not apply to research projects. It should, however, apply to demonstration projects with a total intended storage of **100 kilo tonnes** or more. This threshold would also seem appropriate for the purposes of other relevant Community legislation. The storage of CO₂ in geological formations extending beyond the territorial scope of this Directive and the storage of CO₂ in the water column should not be permitted.

Amendment

(14) This Directive should apply to the geological storage of CO₂ within the territory of the Member States, their exclusive economic zones and on their continental shelves. The Directive should not apply to research projects. It should, however, apply to demonstration projects with a total intended storage of **150 kilo tonnes** or more. This threshold **should allow existing or planned R&D pilot projects in Member States to be excluded from the scope of this Directive and** would also seem appropriate for the purposes of other relevant Community legislation. The storage of CO₂ in geological formations extending beyond the territorial scope of this Directive and the storage of CO₂ in the water column should not be permitted.

Justification

Some of the largest R&D pilot projects presently initiated in several EU countries have a capacity of about 30 MW for a total injection of about 120 to 140 kt. The threshold proposed by the EU Commission to exclude R&D pilot projects will not allow the exclusion of such R&D pilots from the scope of the directive with, as consequence, the fact that the directive risks to interfere with the authorization obtained by the national authorities for the performance of those R&D pilot projects. For such reasons, it is essential to increase to 150 kt the Commission proposed threshold of 100 kt.

Amendment 7

**Proposal for a directive – amending act
Recital 15**

Text proposed by the Commission

(15) Member States should retain the right to determine the areas within their territory from which storage sites may be selected. The selection of the appropriate storage site is crucial to ensure that the stored CO₂ will be completely contained for the indefinite future. A site should **therefore** only be selected as a storage site, if there is no significant risk of leakage, and if in any case no significant environmental or health impacts are likely to occur. This should be determined through a characterisation and assessment of a potential storage complex pursuant to specific requirements.

Amendment

(15) Member States should retain the right to determine the areas within their territory from which storage sites may be selected. The selection of the appropriate storage site is crucial to ensure that the stored CO₂ will be completely contained for the indefinite future. **Member States should accordingly be allowed to take account of their geological characteristics, for example seismicity, in the most objective and effective way possible in selecting storage sites.** A site should only be selected as a storage site, if there is no significant risk of leakage, and if in any case no significant environmental or health impacts are likely to occur. This should be determined through a characterisation and assessment of a potential storage complex pursuant to specific requirements.

Justification

The Member States should be allowed to select storage sites since they are best informed about specific local geological characteristics and, in the light of this information, are best able to decide whether the necessary investment can be made.

Amendment 8

**Proposal for a directive – amending act
Recital 16**

Text proposed by the Commission

(16) Member States should determine in which cases exploration is required to generate the information necessary for the site selection. Such exploration should be made subject to a permit requirement. Member States should ensure that the procedures for the granting of exploration permits are open to all entities possessing the necessary capacities and that the

Amendment

(16) Member States should determine in which cases exploration is required to generate the information necessary for the site selection. Such exploration should be made subject to a permit requirement. Member States should ensure that the procedures for the granting of exploration permits are open to all entities possessing the necessary capacities and that the

permits are granted on the basis of objective, published criteria. In order to protect and encourage exploration investments, exploration permits should be granted for a limited volume area and for a **limited time**, during which time the holder of the permit should have the sole right to explore the potential CO₂ storage complex. Member States should ensure that no conflicting uses of the complex are permitted during this time.

permits are granted on the basis of objective, published **and non-discriminatory** criteria. In order to protect and encourage exploration investments, exploration permits should be granted for a limited volume area and for a **three-year period, renewable thereafter for further periods of three years, for as long as is necessary to carry out the activities for which the exploration permit is granted**, during which time the holder of the permit should have the sole right to explore the potential CO₂ storage complex. Member States should ensure that no conflicting uses of the complex are permitted during this time. **If no activities are carried out, the Member States should ensure that the exploration permit is withdrawn and can be granted to other entities.**

Amendment 9

Proposal for a directive – amending act Recital 17

Text proposed by the Commission

(17) Storage sites should not be operated without a storage permit. The storage permit should be the core instrument to ensure that the substantial requirements of the Directive are met and that geological storage hence takes place in an environmentally safe way.

Amendment

(17) Storage sites should not be operated without a storage permit. The storage permit should be the core instrument to ensure that the substantial requirements of the Directive are met and that geological storage hence takes place in an environmentally safe way. **The explorations carried out, and the necessary investments made as a result, justify an expectation on the part of the holder of the exploration permit that they will be the holder of the storage permit.**

Justification

Create incentives for the carrying out of exploration.

Amendment 10

Proposal for a directive – amending act Recital 18

Text proposed by the Commission

(18) All draft storage permits should be submitted to the Commission in order for it to be able to issue an opinion on the draft permits within six months of their submission. The national authorities should take this opinion into consideration when taking a decision on the permit and should justify any departure from the Commission's opinion.

The review at Community level should help to ensure consistency in implementation of the requirements of the Directive across the Community and also enhance public confidence in CCS, especially in the early phase of the implementation of the Directive.

Amendment

(18) The Member States should have the opportunity to submit the draft storage permit to the Commission which may issue a consultative opinion within three months of the date of the submission.

The review at Community level should help to ensure consistency in implementation of the requirements of the Directive across the Community and also enhance public confidence in CCS, especially in the early phase of the implementation of the Directive.

Amendment 11

Proposal for a directive – amending act Recital 19

Text proposed by the Commission

(19) The competent authority should review and where necessary update or withdraw the storage permit inter alia if it has been notified of significant irregularities or leakages, if the reports submitted by the operators or the inspections carried out show non-compliance with permit conditions or if it is made aware of any other failure by the operator to meet the permit conditions. After the withdrawal of a permit, the competent authority should either issue a new permit or close the storage site. In the meantime, the competent authority should take over the responsibility for the storage site including all ensuing legal obligations.

Amendment

(19) The competent authority should review and where necessary update or withdraw the storage permit inter alia if it has been notified of significant irregularities or leakages, if the reports submitted by the operators or the inspections carried out show non-compliance with permit conditions or if it is made aware of any other failure by the operator to meet the permit conditions. After the withdrawal of a permit, the competent authority should either issue a new permit or close the storage site. In the meantime, the competent authority should take over the responsibility for the storage site including all ensuing legal obligations.

To the extent possible, costs incurred should be recovered from the former operator.

Costs incurred should be recovered from the former operator.

Justification

When the competent authority undertakes the responsibility of a site due to irregularities, leakages, or failures from the part of the operator, costs should still burden the operator.

Amendment 12

Proposal for a directive – amending act Recital 21

Text proposed by the Commission

(21) Monitoring is essential to assess whether injected CO₂ is behaving as expected, whether any migration or leakage occurs, and whether any identified leakage is damaging the environment or human health. To that end, Member States should ensure that during the operational phase, the operator monitors the storage complex and the injection facilities on the basis of a monitoring plan designed pursuant to specific monitoring requirements. The plan should be submitted to and approved by the competent authority.

Amendment

(21) Monitoring is essential to assess whether injected CO₂ is behaving as expected, whether any migration or leakage occurs, and whether any identified leakage is damaging the environment or human health. To that end, Member States should ensure that during the operational phase, the operator monitors the storage complex and the injection facilities on the basis of a monitoring plan designed pursuant to specific monitoring requirements. The plan should be submitted to and approved by the competent authority. ***The specific requirements of the monitoring plan should comply with the requirements of Directive 2003/87/EC.***

Amendment 13

Proposal for a directive – amending act Recital 26

Text proposed by the Commission

(26) The responsibility for the storage site, including all ensuing legal obligations, should be transferred to the competent authority, if and when all available evidence indicates that the stored CO₂ will

Amendment

(26) The responsibility for the storage site, including all ensuing legal obligations, should be transferred to the competent authority, if and when all available evidence indicates that the stored CO₂ will

be completely contained for the indefinite future. To this end, the operator should prepare a report documenting that the criterion has been fulfilled and submit it to the competent authority for approval of the transfer. ***All draft approval decisions should be submitted to the Commission in order for it to be able to issue an opinion on the draft approval decisions within six months of their submission. The national authorities should take this opinion into consideration when taking a decision on the approval and should justify any departure from the Commission's opinion.*** As the review of draft storage permits at Community level, the review of draft approval decisions should help to ensure consistency in implementation of the requirements of the Directive across the Community and also enhance public confidence in CCS, especially in the early phase of the implementation of the Directive.

Amendment 14

Proposal for a directive – amending act Recital 28

Text proposed by the Commission

(28) Financial provision should be made *provided* in order to raise confidence that closure and post-closure obligations, obligations arising from inclusion under Directive 2003/87/EC, and obligations under this Directive to take corrective measures in case of significant irregularities or leakages, can be met. Member States should ensure that financial provisions, by way of financial security or any other equivalent, are made by the applicant prior to the ***submission of the permit application***

be completely contained for the indefinite future ***and that all the requirements contained in the storage permit are met.*** To this end, the operator should prepare a report documenting that the criterion has been fulfilled and submit it to the competent authority for approval of the transfer. ***Within three months of the date of submission, the Commission may issue a consultative opinion on the draft approval decisions.*** As the review of draft storage permits at Community level, the review of draft approval decisions should help to ensure consistency in implementation of the requirements of the Directive across the Community and also enhance public confidence in CCS, especially in the early phase of the implementation of the Directive.

Amendment

(28) Financial provision should be made in order to raise confidence that closure and post-closure obligations, obligations arising from inclusion under Directive 2003/87/EC, and obligations under this Directive to take corrective measures in case of significant irregularities or leakages, can be met. Member States should ensure that financial provisions, by way of financial security or any other equivalent, are made by the applicant prior to the ***use of the storage site.***

Amendment 15

Proposal for a directive – amending act Recital 29

Text proposed by the Commission

(29) Access to CO₂ transport networks and storage sites could become a condition for entry into or competitive operation within the internal electricity and heat market, depending on the relative prices of carbon and CCS. It is therefore appropriate to make arrangements for potential users to obtain such access. This should be done in a manner to be determined by each Member State, applying the objectives of fair and open access and taking into account inter alia the transport and storage capacity which is available or can reasonably be made available as well as the proportion of its CO₂ reduction obligations pursuant to international legal instruments and to Community legislation intended to meet through CO₂ capture and geological storage. Member States should also establish dispute settlement mechanisms to enable expeditious settlement of disputes regarding access to CO₂ transport networks and storage sites.

Amendment

(29) Access to CO₂ transport networks and storage sites could become a condition for entry into or competitive operation within the internal electricity and heat market, depending on the relative prices of carbon and CCS. It is therefore appropriate to make arrangements for potential users to obtain such access ***under non-discriminatory conditions***. This should be done in a manner to be determined by each Member State, applying the objectives of fair and open access and taking into account inter alia the transport and storage capacity which is available or can reasonably be made available as well as the proportion of its CO₂ reduction obligations pursuant to international legal instruments and to Community legislation intended to meet through CO₂ capture and geological storage. ***Regulated access to transport infrastructures should be considered as a sensible option for operators during the first few years of the commercial development of CCS.*** Member States should also establish dispute settlement mechanisms to enable expeditious settlement of disputes regarding access to CO₂ transport networks and storage sites

Amendment 16

Proposal for a directive – amending act Recital 30

Text proposed by the Commission

(30) Provisions are required to ensure that in cases of transboundary CO₂ transport, transboundary storage sites or transboundary storage complexes, the

Amendment

(30) Provisions are required to ensure that in cases of transboundary CO₂ transport, transboundary storage sites or transboundary storage complexes, the

competent authorities of the Member States concerned shall meet the requirements of this Directive and of all other Community legislation jointly.

competent authorities of the Member States concerned shall meet the requirements of this Directive and of all other Community legislation jointly, ***as well as all international agreements to which Member States and/or the Community are party.***

Justification

In case of transboundary transport and storage sites, all Member-States, and the national public, should be effectively involved in the relevant decision-making.

Amendment 17

**Proposal for a directive – amending act
Recital 31**

Text proposed by the Commission

(31) The competent authority should establish and maintain a register of all closed storage sites and surrounding storage complexes, including maps of their spatial extent to be taken into consideration by the competent national authorities in relevant planning and permitting procedures. The register should also be reported to the Commission.

Amendment

(31) The competent authority should establish and maintain a register of all ***operating and*** closed storage sites and surrounding storage complexes, including maps of their spatial extent to be taken into consideration by the competent national authorities in relevant planning and permitting procedures. The register should also be reported to the Commission.

Justification

Since the operation of storage sites might last for very long, it is necessary to have a register of these sites as well, in the interests of both safety and transparency.

Amendment 18

**Proposal for a directive – amending act
Recital 37**

Text proposed by the Commission

(37) The transition to low-carbon power generation requires that new investments in fossil fuel power generation are made in such a way as to facilitate substantial

Amendment

(37) The transition to low-carbon power generation requires that new investments in ***firstly and most importantly, alternative forms of energy such as renewable energy***

reductions in emissions. To this end, Directive 2001/80/EC of the European Parliament and of the Council of 23 October 2001 on the limitation of emissions of certain pollutants into the air from large combustion plants should be amended to require that all combustion plants, for which the original construction license or the original operating licence is granted after the entry into force of this Directive, have suitable space on the installation site for the equipment necessary to capture and compress CO₂ and that the availability of suitable storage sites and transport networks, as well as the technical feasibility of retrofitting for CO₂ capture, have been assessed.

and, secondly, fossil fuel power generation are made in such a way as to facilitate substantial reductions in emissions. To this end, Directive 2001/80/EC of the European Parliament and of the Council of 23 October 2001 on the limitation of emissions of certain pollutants into the air from large combustion plants should be amended to require that all combustion plants, for which the original construction license or the original operating licence is granted after the entry into force of this Directive, have suitable space on the installation site for the equipment necessary to capture and compress CO₂ and that the availability of suitable storage sites and transport networks, as well as the technical feasibility of retrofitting for CO₂ capture, have been assessed.

Amendment 19

Proposal for a directive – amending act Article 1 – paragraph 2

Text proposed by the Commission

2. The purpose of geological storage is permanent containment of CO₂ in such a way as to prevent **or reduce** as far as possible the negative effects on the environment and **any resulting risk to** human health.

Amendment

2. The purpose of geological storage is permanent **and safe** containment of CO₂ in such a way as to prevent as far as possible the negative effects on the environment and human health.

Amendment 20

Proposal for a directive – amending act Article 2 – paragraph 4

Text proposed by the Commission

4. The storage of CO₂ in the water column shall not be permitted.

Amendment

4. The storage of CO₂ in the water column **or on the sea bed** shall not be permitted.

Amendment 21

Proposal for a directive – amending act Article 3 – point 3

Text proposed by the Commission

(3) 'storage site' means a specific geological formation **used** for the geological storage of CO₂;

Amendment

(3) 'storage site' means a specific **part of a** geological formation **that is adequate** for the geological storage of CO₂;

Justification

Specification.

Amendment 22

Proposal for a directive – amending act Article 3 – point 5

Text proposed by the Commission

(5) 'leakage' means **any** release of CO₂ from the storage complex;

Amendment

(5) 'leakage' means **significant** release of CO₂ from the storage complex;

Justification

Specification and adoption to the description of the Commission with reference to the IPCC special report on CCS.

Amendment 23

Proposal for a directive – amending act Article 3 – point 7

Text proposed by the Commission

(7) 'exploration' means assessing potential storage complexes by means of a specific procedure including activities such as carrying out geological surveys by physical or chemical means and drilling to obtain geological information about strata in the potential storage complex.

Amendment

(7) 'exploration' means assessing potential storage complexes by means of a specific procedure including activities such as carrying out geological surveys by physical or chemical means and drilling to obtain geological information about strata in the potential storage complex, **and injection tests to determine the characteristics of the storage site.**

Amendment 24

Proposal for a directive – amending act Article 3 – point 8

Text proposed by the Commission

(8) 'exploration permit' means a written and reasoned decision authorising exploration issued by the competent authority pursuant to the requirements of this Directive;

Amendment

(8) 'exploration permit' means a written and reasoned decision authorising exploration ***in a geological formation which has been found to be suitable according to the conditions set out in Article 4***, issued by the competent authority pursuant to the requirements of this Directive;

Justification

It should be made express that exploration permits may only be granted where the criteria for site selection have been satisfied.

Amendment 25

Proposal for a directive – amending act Article 3 – point 10

Text proposed by the Commission

(10) 'storage permit' means a written and reasoned decision authorising the geological storage of CO₂ in a storage site, issued by the competent authority pursuant to the requirements of this Directive;

Amendment

(10) 'storage permit' means a written and reasoned decision authorising the geological storage of CO₂ in a storage site, ***and containing all the elements required under Article 9***, issued by the competent authority pursuant to the requirements of this Directive;

Justification

For the sake of coherence and completeness, the content of the storage permit shall make part of the relevant definition.

Amendment 26

Proposal for a directive – amending act Article 3 – point 11

Text proposed by the Commission

(11) ‘substantial change’ means a change which may have significant effects on the environment;

Amendment

(11) ‘substantial change’ means a change ***incompatible with the storage permit*** which may have significant effects on the ***air, terrestrial and aquatic*** environment, ***and on health and safety***;

Amendment 27

Proposal for a directive – amending act Article 3 – point 17

Text proposed by the Commission

(17) ‘corrective measures’ means any measures taken to correct significant irregularities or to close leakages in order to prevent or ***minimise*** the release of CO₂ from the storage complex;

Amendment

(17) ‘corrective measures’ means any measures taken to correct significant irregularities or to close leakages in order to prevent or ***halt*** the release of CO₂ from the storage complex;

Amendment 28

Proposal for a directive – amending act Article 3 – point 20 a (new)

Text proposed by the Commission

Amendment

(20a) "hydraulic unit" means a hydraulically connected pore space where pressure communication can be measured by technical means.

Justification

The operation of different storage facilities within the same hydraulic unit necessarily impacts the other facilities operated in the hydraulic unit. Within one hydraulic unit, storage permits may be issued to only one operator at any one time.

Amendment 29

Proposal for a directive – amending act Article 4 – paragraph 2

Text proposed by the Commission

2. A geological formation shall only be selected as a storage site, if under the proposed conditions of use there is no significant risk of leakage, and if no significant negative environmental or health impacts are likely to occur.

Amendment

2. A geological formation shall only be selected as a storage site, if under the proposed conditions of use there is no significant risk of leakage, and if no significant negative ***impacts on the air, terrestrial and aquatic environment, or on health and safety*** are likely to occur. ***The storage site selected should not jeopardize other energy options such as renewables or the EU's energy supply security.***

Amendment 30

Proposal for a directive – amending act Article 5 – paragraph 2

Text proposed by the Commission

2. Member States shall ensure that the procedures for the granting of exploration permits are open to all entities possessing the necessary capacities and that the permits are granted on the basis of objective, published criteria.

Amendment

2. Member States shall ensure that the procedures for the granting of exploration permits are open to all entities possessing the necessary capacities and that the permits are granted on the basis of objective, published ***and non-discriminatory*** criteria.

Justification

This amendment aims to avoid distortions of competition in the internal market of CO₂ storage.

Amendment 31

Proposal for a directive – amending act Article 5 – paragraph 3

Text proposed by the Commission

3. Exploration permits shall be granted for

Amendment

3. Exploration permits shall be granted for

a limited volume area and for *a maximum of two years, renewable once for a maximum of two years.*

a limited volume area and for *a three-year period, for the purpose of carrying out the activities for which the exploration permit is granted.*

The period of the validity of the exploration permit can be prolonged, for successive periods of three years, for as long as is necessary to carry out the activities for which the exploration permit is granted, especially if the permit holder is known to have made continuous exploration efforts.

Before guaranteeing exploration permits, the Member States shall make arrangements in order to ensure that the permit is not illegally used to prevent investments.

Amendment 32

Proposal for a directive – amending act Article 5 – paragraph 4

Text proposed by the Commission

4. The holder of an exploration permit shall have the sole right to explore the potential CO₂ storage complex. Member States shall ensure that no conflicting uses of the complex are permitted during the period of validity of the permit.

Amendment

4. The holder of an exploration permit shall have the sole right to explore the potential CO₂ storage complex. Member States shall ensure that no conflicting uses of the complex are permitted during the period of validity of the permit. *After this period, the CO₂ storage exploration permit shall either be converted into a CO₂ storage permit or shall be relinquished for the total area covered.*

Justification

Exploration is linked to high costs. In order to create incentives for investments, it is necessary to ensure that the successful carrying out of the exploration is connected with a CO₂ storage permit.

Amendment 33

Proposal for a directive – amending act
Article 6 – paragraph 2

Text proposed by the Commission

2. Member States shall ensure that the procedures for the granting of storage permits are open to all entities possessing the necessary capacities and that the permits are granted on the basis of objective, published criteria.

Amendment

2. Member States shall ensure that the procedures for the granting of storage permits are open to all entities possessing the necessary capacities and that the permits are granted on the basis of objective, published **and non-discriminatory** criteria.

Justification

This amendment aims to create a level playing field and avoid distortions of competition in the market of CO₂ storage.

Amendment 34

Proposal for a directive – amending act
Article 6 – paragraph 2 a (new)

Text proposed by the Commission

Amendment

2a. Member States shall retain the right to withhold storage permits on serious grounds. Such refusal shall be duly substantiated.

Justification

The Member State authorities must have the possibility of withholding storage permits if there are serious grounds for this, such as failure of the applicant to meet the necessary conditions or non-fulfilment of the objective criteria which have been made known.

Amendment 35

Proposal for a directive – amending act
Article 6 – paragraph 2 b (new)

Text proposed by the Commission

Amendment

2b. The holder of a storage permit has the sole right to store CO₂ in the storage site. Member States shall ensure that no

conflicting uses of the storage site are permitted during the period of the validity of the storage permit.

Justification

Necessity to classify competences and the responsibility for risks.

Amendment 36

**Proposal for a directive – amending act
Article 7 – point 4**

Text proposed by the Commission

(4) the total quantity of CO₂ **to be** injected and stored as well as the prospective sources, composition of CO₂ streams and injection rates;

Amendment

(4) the total quantity of CO₂ **which may be** injected and stored, **depending on the characteristics of the storage area**, as well as the prospective sources, composition of CO₂ streams and injection rates;

Amendment 37

**Proposal for a directive – amending act
Article 7 – point 6**

Text proposed by the Commission

(6) a proposed corrective measures plan pursuant to Article 16(2);

Amendment

(6) a proposed corrective measures plan pursuant to Article 16(2), **including emergency evacuation measures**;

Justification

This amendment aims to ensure that necessary precautions shall be taken to protect human lives in case of an accident.

Amendment 38

**Proposal for a directive – amending act
Article 7 – point 9**

Text proposed by the Commission

(9) proof of **the** financial security or other

Amendment

(9) proof of **adequate** financial security or

equivalent provision as required under Article 19;

other equivalent provision as required under Article 19;

Justification

Financial security is an important tool for ensuring that operators will meet their obligations under this Directive, and should therefore be set at an adequate level.

Amendment 39

**Proposal for a directive – amending act
Article 8 – point 1 – point b**

Text proposed by the Commission

(b) the management of the storage site will be in the hands of a natural person who is technically competent and reliable to manage the site; professional and technical development and training of this person and all staff are provided;

Amendment

(b) the management of the storage site will be in the hands of a natural *or legal* person who is *financially*, technically *and environmentally* competent and reliable to manage the site; professional and technical development and training of this person and all staff are provided;

Amendment 40

**Proposal for a directive – amending act
Article 8 – point 1 – point b a (new)**

Text proposed by the Commission

Amendment

(ba) no other storage permits have been issued within the hydraulic unit;

Justification

The operation of different storage facilities within the same hydraulic unit necessarily impacts the other facilities operated in the hydraulic unit. Within one hydraulic unit, storage permits may be issued to only one operator at any one time.

Amendment 41

Proposal for a directive – amending act
Article 8 – point 2

Text proposed by the Commission

Amendment

(2) the Commission **has issued** its opinion on the draft permit pursuant to Article 10(1);

(2) the Commission **may issue, on the request of the Member States**, its opinion on the draft permit pursuant to Article 10(1);

Justification

Debureaucratisation and subsidiarity.

Amendment 42

Proposal for a directive – amending act
Article 8 – point 3

Text proposed by the Commission

Amendment

(3) the competent authority has considered this opinion pursuant to Article 10(2).

deleted

Justification

A compulsory opinion from the Commission would entail additional red tape.

Amendment 43

Proposal for a directive – amending act
Article 9 – point 2

Text proposed by the Commission

Amendment

(2) precise location and delimitation of the storage site **and** storage complex;

(2) precise location and delimitation of the storage site, **the** storage complex **and the hydraulic unit**;

Justification

The operation of different storage facilities within the same hydraulic unit necessarily impacts the other facilities operated in the hydraulic unit. Within one hydraulic unit, storage permits may be issued to only one operator at any one time.

Amendment 44

Proposal for a directive – amending act Article 9 – point 4 a (new)

Text proposed by the Commission

Amendment

(4a) the requirement to begin storage activities within two years from obtaining the storage permit;

Amendment 45

Proposal for a directive – amending act Article 10

Text proposed by the Commission

Amendment

Commission review of draft storage permit

Transmission of draft storage permits and rejected applications

1. Member States shall inform the Commission of all draft storage permits, the permit applications and any other material taken into consideration by the competent authority when adopting its draft decision. Within ***six months*** of their submission to the Commission, the Commission may issue ***an*** opinion on the draft permits.

1. Member States shall inform the Commission of all draft storage permits, permit applications and any other material taken into consideration by the competent authority when adopting its draft decision. Within ***three months*** of their submission to the Commission, the Commission may issue ***a consultative*** opinion on the draft permits.

2. ***The competent authority shall notify the final decision to the Commission, stating the reasons if it deviates from the Commission opinion.***

2. ***Member States shall inform the Commission about granted or rejected applications for CO₂ storage permits.***

Amendment 46

Proposal for a directive – amending act Article 11 – paragraph 2 – subparagraph 1 a (new)

Text proposed by the Commission

Amendment

The Commission shall establish specific qualitative and quantitative

environmental indicators, together with prices, the exceeding of which shall constitute a substantial change. Qualitative and quantitative indicators shall be established under the regulatory procedure with scrutiny referred to in Article 28(2).

Justification

The term ‘substantial change’ is somewhat vague and qualitative and quantitative indicators should therefore be introduced by the Commission.

Amendment 47

Proposal for a directive – amending act Article 11 – paragraph 4

Text proposed by the Commission

4. After a permit has been withdrawn pursuant to paragraph 3, the competent authority shall either issue a new storage permit or close the storage site pursuant to point (c) of Article 17(1). Until a new storage permit has been issued, the **competent authority shall take over the responsibility** for the storage site, including all ensuing legal obligations. **To the extent possible**, the competent authority shall recover any costs incurred from the former operator.

Amendment

4. After a permit has been withdrawn pursuant to paragraph 3, the competent authority shall either issue a new storage permit or close the storage site pursuant to point (c) of Article 17(1). Until **the site is closed or until** a new storage permit has been issued, the **former operator shall remain responsible** for the storage site, including all ensuing legal obligations. **If no action is taken by the former operator**, the competent authority **shall carry out the work itself and** shall recover any costs incurred from the former operator.

Amendment 48

Proposal for a directive – amending act Article 12 – paragraph 1

Text proposed by the Commission

1. A CO₂ stream shall consist overwhelmingly of carbon dioxide. To this end, no waste and other matter may be added for the purpose of disposing of that waste or other matter. However, a CO₂

Amendment

1. A CO₂ stream shall consist overwhelmingly of carbon dioxide. To this end, no waste and other matter may be added for the purpose of disposing of that waste or other matter. However, a CO₂

stream may contain incidental associated substances from the source, capture or injection process. Concentrations of those substances shall be below levels that would adversely affect the integrity of the storage site and relevant transport infrastructure and pose a significant risk to the environment or breach the requirements of applicable Community legislation.

stream may contain incidental associated substances from the source, capture or injection process **and substances necessary for transportation due to safety reasons**. Concentrations of those substances **shall be determined on the basis of specific qualitative and quantitative specifications and** shall be below levels that would adversely affect the integrity of the storage site and relevant transport infrastructure and pose a significant risk to the environment or breach the requirements of applicable Community legislation. **The Commission shall establish the qualitative and quantitative specifications in accordance with the regulatory procedure with scrutiny referred to in Article 28(2).**

Justification

Given that the criteria and procedures are unclear, it is for safety reasons necessary for certain quantitative and qualitative specifications to be established by the Commission.

Amendment 49

Proposal for a directive – amending act Article 13 – paragraph 1 – point c

Text proposed by the Commission

(c) detecting leakage of CO₂;

Amendment

(c) detecting leakage of CO₂ **in accordance with Directive 2003/87/EC**;

Amendment 50

Proposal for a directive – amending act Article 13 – paragraph 1 – point f

Text proposed by the Commission

(f) assessing whether the stored CO₂ will be completely contained for the indefinite future.

Amendment

(f) assessing whether the stored CO₂ will be completely contained for the indefinite future **by updating the assessment of the short- and long-term safety and integrity of the site.**

Amendment 51

Proposal for a directive – amending act Article 13 – paragraph 1 a (new)

Text proposed by the Commission

Amendment

1a. In the case of geological storage under the seabed, the monitoring requirements set out in paragraph 1 shall further be adapted to the uncertainty and operational difficulties associated with managing CCS technology in the marine environment.

Justification

Storage under the seabed should be monitored more carefully, in view of its difficulties, not least with regard to the leakage detection, and of the particular vulnerability of marine ecosystems.

Amendment 52

Proposal for a directive – amending act Article 16 – paragraph 2

Text proposed by the Commission

Amendment

2. The corrective measures referred to in paragraph 1 shall be taken on the basis of a corrective measures plan submitted to and approved by the competent authority pursuant to Articles 7(6) and 9(6);

2. The corrective measures referred to in paragraph 1 shall be taken on the basis of a corrective measures plan submitted to and approved by the competent authority pursuant to Articles 7(6) and 9(6). ***These measures shall be notified to the Commission and be made public.***

Justification

In order to ensure transparency, the European Commission and the public should be informed on corrective measures.

Amendment 53

Proposal for a directive – amending act Article 16 – paragraph 3

Text proposed by the Commission

3. The competent authority may at any time request the operator to take additional or different corrective measures than those laid out in the corrective measures plan. It may also at any time take corrective measures itself and shall then recover the costs from the operator.

Amendment

3. The competent authority may at any time request the operator to take additional or different corrective measures than those laid out in the corrective measures plan, ***and in particular to provide for the implementation of emergency evacuation plans in the event of a significant risk of leakage.*** It may also at any time take corrective measures itself and shall then recover the costs from the operator

Amendment 54

Proposal for a directive – amending act Article 18 - paragraphs 1 to 5

Text proposed by the Commission

1. Where a storage site has been closed pursuant to points (a) or (b) of Article 17(1), the responsibility for the closed site, including all ensuing legal obligations, shall be transferred to the competent authority on its own initiative or upon request from the operator, if and when all available evidence indicates that the stored CO₂ will be completely contained for the indefinite future. To this end, the operator shall prepare a report documenting that this criterion has been met and submit it to the competent authority for the latter to approve the transfer of responsibility.

2. Member States shall inform the Commission of all draft decisions of approval prepared by the competent authority pursuant to paragraph 1, including the reports submitted by the

Amendment

1. Where a storage site has been closed pursuant to points (a) or (b) of Article 17(1), the responsibility for the closed site, including all ensuing legal obligations, shall be transferred to the competent authority on its own initiative or upon request from the operator, if and when all available evidence indicates that the stored CO₂ will be completely contained for the indefinite future ***and that all the requirements set out in the storage permit are complied with.*** To this end, the operator shall prepare a report documenting that this criterion has been met and submit it to the competent authority for the latter to approve the transfer of responsibility.

2. Member States shall inform the Commission of all draft decisions of approval prepared by the competent authority pursuant to paragraph 1, including the reports submitted by the

operator and any other material taken into consideration by the competent authority when arriving at its conclusion. Within **six months** of their submission to the Commission, the Commission may issue **an** opinion on the draft decisions of approval.

3. The competent authority shall notify the final decision to the Commission, **stating the reasons if it deviates from the Commission opinion.**

4. Together with the decision of approval referred to in paragraph 3, the competent authority may communicate updated requirements for the sealing of the storage site and the removal of the injection facilities pursuant to Article 17(2) and (3) to the operator. The transfer of responsibility shall take place after the site has been sealed and the injection facilities have been removed.

5. After the transfer of responsibility pursuant to paragraphs 1 to 4, monitoring may cease. However, if any leakages or significant irregularities are identified, monitoring shall be reactivated as required to assess the scale of the problem and the effectiveness of corrective measures.

Amendment 55

Proposal for a directive – amending act Article 19 – paragraph 1

Text proposed by the Commission

1. Member States shall ensure that adequate provisions, by way of financial security or any other equivalent, on the basis of modalities to be decided by the Member States, are made by the applicant **prior to the submission of the application**

operator and any other material taken into consideration by the competent authority when arriving at its conclusion. Within **three months** of their submission to the Commission, the Commission may issue **a consultative** opinion on the draft decisions of approval.

3. The competent authority shall notify the final decision to the Commission.

4. Together with the decision of approval referred to in paragraph 3, the competent authority may communicate updated requirements for the sealing of the storage site and the removal of the injection facilities pursuant to Article 17(2) and (3) to the operator. The transfer of responsibility shall take place after the site has been sealed and the injection facilities have been removed.

5. After the transfer of responsibility pursuant to paragraphs 1 to 4, monitoring may cease **or be limited**. However, if any leakages or significant irregularities are identified, monitoring shall be reactivated as required to assess the scale of the problem and the effectiveness of corrective measures.

Amendment

1. Member States shall ensure that adequate provisions, by way of financial security or any other equivalent, on the basis of modalities to be decided by the Member States, are made by the applicant **after the granting of** a storage permit to

for a storage permit to ensure that all obligations arising under the permit issued pursuant to this Directive, including closure procedures and post-closure provisions, as well as any obligations arising from inclusion under Directive 2003/87/EC can be met.

ensure that all obligations arising under the permit issued pursuant to this Directive, including closure procedures and post-closure provisions, as well as any obligations arising from inclusion under Directive 2003/87/EC can be met.

Justification

Prevention of unnecessary high costs.

Amendment 56

**Proposal for a directive – amending act
Article 23**

Text proposed by the Commission

In cases of transboundary transport of CO₂, transboundary storage sites or transboundary storage complexes, the competent authorities of the Member States concerned shall meet the requirements of this Directive and of other relevant Community legislation jointly.

Amendment

In cases of transboundary transport of CO₂, transboundary storage sites or transboundary storage complexes, the competent authorities of the Member States concerned shall meet the requirements of this Directive and of other relevant Community legislation jointly. ***For transboundary storage sites, the competent authority responsible for granting permits is the one from the Member State on whose territory the largest part of the storage site is presumed to be located.***

Justification

Clarification of the responsibilities.

Amendment 57

**Proposal for a directive – amending act
Article 27**

Text proposed by the Commission

The Commission may ***amend*** the annexes. Those measures, designed to amend non-

Amendment

The Commission may ***propose amendments to*** the annexes. Those

essential elements of this Directive, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 28(2).

measures, designed to amend non-essential elements of this Directive, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 28(2).

Amendment 58

Proposal for a directive – amending act

Article 32

Directive 2001/80/EC

Article 9a – paragraph 1 a (new)

Text proposed by the Commission

Amendment

1a. Member States shall ensure that power-producing combustion plants with a capacity of 300 MW or more, for which an authorisation to start operation was requested after the entry into force of Directive XX/XX/EC, are required to comply with the best available technology based on performance and efficiency, in order to optimise the use of fossil fuels and compensate for the loss of efficiency resulting from the capture, transport and storage of CO₂.

Amendment 59

Proposal for a directive – amending act

Article 32

Directive 2001/80/EC

Article 9a – paragraph 1 b (new)

Text proposed by the Commission

Amendment

1b. On the basis of experience acquired in relation to the capture, geological sequestration and transport of carbon and in the light of changes in the international situation, the Commission shall submit a new proposal before 31 December 2015.

The new proposal shall set a date from which all new combustion plants with a

capacity of 300 MW or more are to be equipped with CO2 capture and storage devices, and shall provide for a transitional period to enable existing plants to be adapted gradually.

Amendment 60

Proposal for a directive – amending act Article 36 - paragraph 1 - subparagraph 1

Text proposed by the Commission

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by [**1 year** after publication] at the latest. They shall forthwith communicate to the Commission the text of those provisions and a correlation table between those provisions and this Directive.

Amendment

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by [**two years** after publication] at the latest. They shall forthwith communicate to the Commission the text of those provisions and a correlation table between those provisions and this Directive.

Amendment 61

Proposal for a directive – amending act Annex I – paragraph 1

Text proposed by the Commission

The characterisation and assessment of storage sites referred to in Article 4 shall be carried out in four steps according to the following criteria. Derogations from one or more of these criteria are permitted so long as the capacity of the characterisation and assessment to enable the determinations pursuant to Article 4 is not affected.

Amendment

The characterisation and assessment of storage sites referred to in Article 4 shall be carried out in four steps according to the following criteria **and on the basis of the best available technique**. Derogations from one or more of these criteria are permitted so long as the capacity of the characterisation and assessment to enable the determinations pursuant to Article 4 is not affected.

Justification

Completion.

Amendment 62

Proposal for a directive – amending act Annex I – step 1 – point h

Text proposed by the Commission

(h) Domains surrounding the storage complex that may be affected by the storage of CO₂ in the storage site;

Amendment

(h) Domains surrounding the storage complex that may be affected by the storage of CO₂ in the storage site, ***as well as the delimitation of the hydraulic unit;***

Justification

The operation of different storage facilities within the same hydraulic unit necessarily impacts the other facilities operated in the hydraulic unit. Within one hydraulic unit, storage permits may be issued to only one operator at any one time.

Amendment 63

Proposal for a directive – amending act Annex I – step 1 – point k

Text proposed by the Commission

(k) Possible interactions with other activities (e.g. exploration, production and storage of hydrocarbons, geothermal use of aquifers);

Amendment

(k) Possible interactions with other activities (e.g. exploration, production and storage of hydrocarbons), ***and especially competition with renewable energy sources (e.g. geothermal use of aquifers);***

Justification

The use of a site for storing CO₂ should compromise neither the use of renewable sources of energy, for which the EC has binding target, nor other options which are crucial to its security of supply.

PROCEDURE

Title	Geological storage of carbon dioxide	
References	COM(2008)0018 – C6-0040/2008 – 2008/0015(COD)	
Committee responsible	ENVI	
Opinion by Date announced in plenary	ITRE 19.2.2008	
Associated committee(s) - date announced in plenary	10.4.2008	
Drafts(wo)man Date appointed	Françoise Grossetête 27.3.2008	
Discussed in committee	5.6.2008	16.7.2008
Date adopted	11.9.2008	
Result of final vote	+: 31	-: 2
	0: 1	
Members present for the final vote	Jan Březina, Jerzy Buzek, Dragoş Florin David, Pilar del Castillo Vera, Den Dover, Nicole Fontaine, András Gyürk, David Hammerstein, Mary Honeyball, Romana Jordan Cizelj, Anne Laperrouze, Eluned Morgan, Reino Paasilinna, Aldo Patriciello, Francisca Pleguezuelos Aguilar, Anni Podimata, Vladimír Remek, Teresa Riera Madurell, Mechtild Rothe, Paul Rübig, Britta Thomsen, Catherine Trautmann, Claude Turmes, Nikolaos Vakalis, Alejo Vidal-Quadras	
Substitute(s) present for the final vote	Dorette Corbey, Avril Doyle, Christian Ehler, Juan Fraile Cantón, Matthias Groote, Françoise Grossetête, Vittorio Prodi, Dirk Sterckx	
Substitute(s) under Rule 178(2) present for the final vote	Johannes Lebech	

PROCEDURE

Title	Geological storage of carbon dioxide			
References	COM(2008)0018 – C6-0040/2008 – 2008/0015(COD)			
Date submitted to Parliament	23.1.2008			
Committee responsible Date announced in plenary	ENVI 19.2.2008			
Committee(s) asked for opinion(s) Date announced in plenary	ITRE 19.2.2008			
Associated committee(s) Date announced in plenary	ITRE 10.4.2008			
Rapporteur(s) Date appointed	Chris Davies 21.2.2008			
Discussed in committee	26.2.2008	5.5.2008	5.5.2008	23.6.2008
	9.9.2008			
Date adopted	7.10.2008			
Result of final vote	+: -: 0:	54 1 6		
Members present for the final vote	Adamos Adamou, Georgs Andrejevs, Margrete Auken, Liam Aylward, Pilar Ayuso, Irena Belohorská, Johannes Blokland, John Bowis, Frieda Brepoels, Hiltrud Breyer, Martin Callanan, Dorette Corbey, Magor Imre Csibi, Chris Davies, Avril Doyle, Mojca Drčar Murko, Jill Evans, Anne Ferreira, Karl-Heinz Florenz, Elisabetta Gardini, Matthias Groote, Françoise Grossetête, Satu Hassi, Gyula Hegyi, Jens Holm, Caroline Jackson, Christa Klač, Eija-Riitta Korhola, Holger Kraemer, Urszula Krupa, Marie-Noëlle Lienemann, Peter Liese, Jules Maaten, Marios Matsakis, Linda McAvan, Roberto Musacchio, Riitta Myller, Péter Olajos, Miroslav Ouzký, Vladko Todorov Panayotov, Vittorio Prodi, Frédérique Ries, Guido Sacconi, Daciana Octavia Sârbu, Amalia Sartori, Richard Seiber, Bogusław Sonik, María Sornosa Martínez, Antonios Trakatellis, Evangelia Tzampazi, Thomas Ulmer, Anja Weisgerber, Åsa Westlund, Anders Wijkman, Glenis Willmott			
Substitute(s) present for the final vote	Kathalijne Maria Buitenweg, Bairbre de Brún, Karsten Friedrich Hoppenstedt, Caroline Lucas, Andres Tarand			
Substitute(s) under Rule 178(2) present for the final vote	Dieter-Lebrecht Koch			