

European Commission's Proposal for a Directive on CCS - 23rd January 2008 Opinion of the European coal industry

31st May 2008

The Proposal for a Directive corresponds basically to the conceptions of the European coal industry and is therefore welcome. This is particularly true of the following aspects of the European Commission's Proposal:

I. Restriction of the Commission's Proposal on CO₂ storage

The main contents of the Proposal are the regulation of CO₂ storage and the elimination of legal obstacles for the storage of CO₂ in current legislation. This is endorsed because legislation currently in force can in the main be referred to for the separation and transport of CO₂.

II. Including CCS in the Emissions Trading Scheme (Recital 23)

In Recital 23 of the Proposal, it is pointed out that liability for climate damage as a result of leakages is to be covered by the inclusion of CO₂ storage sites into the Emissions Trading Scheme (ETS).

The approach of including CCS technology in the ETS is supported. This market-based approach is to be preferred to mandatory CCS. The extent to which the Commission's proposed amendment of the Emissions Trading Scheme Directive -also dated 23rd January 2008- is actually adequate to make CCS operational by means of market mechanisms in the long-term has to be analysed and discussed in connection with the Commission's Proposal to amend Directive 2003/87/EC.

III. Removal of obstacles in current legislation (Articles 31 and 34)

In Articles 31 and 34, the European Commission proposes amendments to the Waste Directive and to the Water Framework Directive, to make CO₂ storage compatible with these directives. EURACOAL also explicitly welcomes this.

IV. Degree of purity of CO₂ streams (Article 12)

The Commission does not give a rigid definition of the degree of purity of CO₂ streams. The European Commission correctly lays down that the concentration of other substances in the CO₂ stream may not adversely affect the integrity of the storage site and transport infrastructure. The degree of purity must be geared to the prevailing conditions and circumstances of the concerned CO₂ transport infrastructure and storage sites.

In addition to these welcome aspects, the Commission has also proposed regulations that require further, deeper discussion when finalising the Directive. Precisely the following regulations are to be mentioned here:

I. Scope of the Directive and prohibition of CO₂ storage (Article 2, § 3)

According to Article 2, § 3, "The storage of CO₂ in geological formations extending beyond the areas referred to in paragraph 1" shall not be permitted.

As this forbids CO₂ storage in areas as mentioned in § 1 (high territory of the Member States, their exclusive economic zones and their continental shelves), should this regulation not refer to "geological formations" (compare with definition in Article 3, § 4), but to "storage sites" (compare with definition in Article 3, § 3 and III below), defining which parts of geological formations are effectively suitable for CO₂ storage?

Request:

Article 2, § 3 should therefore read as follows:

"The storage of CO₂ in *storage sites* which extend beyond areas mentioned in § 1 is forbidden."

II. Definition of the term "geological storage of CO₂" (Article 3, § 1)

Geological storage of CO₂ is defined in Article 3, § 1 as "the injection into and storage of CO₂ streams in underground geological formations".

It is not clear whether Enhanced Oil Recovery (EOR) / Enhanced Gas Recovery (EGR) measures are to be considered as CO₂ storage in the sense of this Directive, because according to the Proposal, no definite purpose must be pursued when injecting and storing CO₂.

Request:

For reasons of legal security, it should be clarified in the further procedure whether the "geological storage of CO₂" covers EOR/EGR measures in the sense of this Directive.

III. Definition of the concept „storage site“ (Article 3, § 3)

In Article 3, § 1, the concept of "storage sites" is equated with a particular geological formation. This is not founded from a geological point of view. Geological formations can spread over some ten thousand up to millions km². Therefore, only part of a geological formation can be considered as "storage site". It is even probable that, as time goes by, several storage sites would be concerned in a geological formation and eventually also approved. Furthermore, such a part of a geological formation does not become storage site because it is used to store CO₂, but merely by the fact that it is suitable for storage.

Request:

Article 3, § 3 should therefore be worded as follows:

„Storage sites“: *part of a specific geological formation that is suitable for the geological storage of CO₂*“.

IV. Definition of the concept of „leakage“ (Article 3, § 5)

According to Article 3, § 5, leakage refers to the “release of CO₂ from the storage site complex”. If interpreting this definition literally, a leakage would also occur when minute quantities of CO₂ are released. This is justified neither by technical safety nor by climate protection reasons. Among specialists it is acknowledged that absolute CO₂-tightness cannot be achieved. In the reasoning for the Proposal, the Commission itself refers (see pages 4/5 of the Explanatory Memorandum under the heading "Summary of advice received and used") to the Special Report of the IPCC on CCS that assumes that even properly selected, managed and decommissioned storage sites do not have to prove absolute CO₂-tightness.

This should also be reflected in the definition of the term "leakage". A leakage should therefore only be mentioned if an (actually not avoidable) release of a not insignificant quantity of CO₂ occurs.

Request:

Article 3, § 5 should therefore read as follows:

"Leakage": the *not insignificant* release of CO₂ from the storage site.

V. Duration of exploration permits (Article 5, § 3)

The exploration permit is granted, in accordance with Article 5, § 3, in principle for a maximum of two years, renewable once for a maximum of two years.

The exploration of the underground to examine its suitability for the sustainable storage of CO₂ will take a long time, for various reasons. Gathering the wide-ranging information requested in Annex I is to be mentioned first, treading new technical ground, including the imponderables that go with it. Furthermore, it must be noted that before actually investigating, contractual negotiations with land-owners have to take place. In addition, regulations on the conservation of natural habitats and of wild flora and fauna are to be considered, so that for investigation, further permission might need to be obtained. In fact, according to experience, only four months a year are available for these exploration activities. Complex seismic investigations and drillings also have to be completed.

Therefore, the two-year validity will definitely not be sufficient to work through Annex I and come to a well-founded test result. The 2-year prolongation would be the rule. But in many cases, also because of specific imponderables and the size of the areas to be examined, this prolongation would not be sufficient to analyse the underground within the time allotted, considering the above-mentioned considerations. Enterprises would therefore risk that these investigations, involving high risk capital, would be started but not completed/be interrupted because of the lack of further prolongation.

Regulation is therefore necessary, making adaptation to actual local conditions possible. The model for this could be the tried and tested regulation of Article 4b of Directive 94/22/EC on the conditions for granting and using authorizations for the prospection, exploration and production of hydrocarbons.

Request:

Article 5, § 3 should therefore read as follows:

"Exploration permits are granted only for a limited volume area. *The duration of an exploration permit does not exceed the period necessary to carry out the activities for which*

the exploration permit is granted. However, the competent authorities may prolong the exploration permit where the stipulated duration is insufficient to complete the activity in question and where the activity has been performed in accordance with the exploration permit.

VI. Protection of investments for the holder of an exploration permit (Article 5, § 4)

The European coal industry considers this to be a crucial issue. Article 4, § 3 of the Commission's Draft Proposal for a Directive (October 2007) foresaw that exploration permits (in case of a positive outcome of the investigation of the underground) can be converted into a storage permit. Such a regulation would give the investigating enterprise -investing substantial amounts in the exploration of the underground and furthermore, already accepting the risk of a negative investigation- the opportunity to have, at least in case of success, first access to the storage site. This would at least provide protection of investment in the case of successful exploration.

A regulation granting priority for the exploration permit to the exploring enterprise in case of success is still absent from the Proposal.

It is to be feared that, without such a regulation, enterprises will hardly be ready to explore because for them there would be no special benefits deriving from the storage permit. They would explore with their own money and thereby only create the basis for storage applications, on equal terms for everyone, by everyone. On the contrary, the aim is to promote willingness to investigate the underground for its suitability to store CO₂. An important contribution could be a regulation that again takes up the regulation foreseen in the Draft Proposal.

Request:

Article 5, § 4 should therefore be completed by the following 3rd sentence:

„After this time, the CO₂ storage exploration permit shall either be converted into a CO₂ storage permit or else shall be relinquished for the total area covered.”

VII. Storage permits (Articles 6 to 9)

Articles 6 to 9 deal with the contents of an application for a storage permit as well as the prerequisites and contents of a storage permit.

Articles 6 to 9 let us assume that both the application and the storage permit be taken as a basis for the planned quantities of CO₂. In particular Article 7, § 4 and Article 9, § 3 do not appear to stipulate the volume available in the storage site, but rely on the quantity of CO₂ foreseen by the applicant. This points to the fact that filing applications and granting permits do not depend on the actual volume of the entire storage area. Therefore, another applicant could at the same time apply to fill the remainder of the storage site as its sole operator. Then two operators would operate the same storage site. In this case, separating competencies and liability issues would be not conceivable. Furthermore, the possibility foreseen in Article 18 to close down a storage site and transfer the responsibility to the state for one of the (two) operators, with operation continuing by the second operator, would not be feasible.

It should therefore be clarified in the Directive that for a storage site there can only be one operator at any one time. This is the only way to avoid difficulties of keeping competencies

and liability separate. A comparable regulation concerning exploration permits is already contained in the Proposal under Article 5, § 4. The content of this regulation should apply also to storage permits.

Request:

Article 6 should therefore be completed by the following 3rd paragraph:

"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 validity of the storage permit".

When filing an application, the operator can only evaluate the total quantity to be stored as well as the composition of the CO₂ stream. This should be taken into consideration when filing an application. As in principle there should only be one operator for a storage site, the filing of an application should therefore not refer to the quantity the operator intends to store but to the potential of the site.

Article 7, § 4 should therefore be formulated as follows:

"expected total quantities of CO₂ which can be injected and stored as well as the expected sources and the expected composition of the CO₂ streams and injection rates"

VIII. Corrective measures plan (Article 9, § 6 and Article 16, § 1)

According to Article 9, § 6, storage permit regulations should include corrective measures plan in case of significant irregularities or leakages. Article 16, § 1 stipulates that the operator should take the necessary correction measures if significant irregularities or leakages occur.

There are no objections to the measures of the corrective measures plan. However, if interpreting the regulations literally, the resulting obligations mentioned would be already apply to very slight leakages. This is however not justified by reasons of technical safety or climate protection. The IPCC Special Report on CCS does also not assume absolute tightness of the storage site. It should therefore be clarified that the regulations mentioned refer only to "significant irregularities or significant leakages".

Request:

Article 9, § 6 and Article 16, § 1 should therefore read as follows:

Article 9, § 6: "the stipulation that the competent authority be notified, in cases of significant irregularities or *significant* leakages, of the approved corrective measures plan and the obligation, in cases of significant irregularities or *significant* leakages, to implement the corrective measures plan in accordance with Article 16;"

Article 16, § 1: "Member States shall ensure that the operator notify the competent authority immediately if significant irregularities or *significant* leakages occur and implement the necessary corrective measures."

IX. Commission review of draft storage permits (Articles 10 and 18, § 2)

According to Article 10, § 1, Member States must forward the draft storage permit with all relevant annexes to the European Commission before granting a storage permit. The European Commission then has six months to issue an opinion; it can let this period elapse. If

the European Commission issues an opinion within the six months and if the competent authority at national level wants to deviate from it, this must be justified to the Commission in writing. The introduction of such review by the Commission is new and contradicts the proven system of the Commission's competence to review subsequently.

Such a right of the Commission to review would in fact lead to a joint application of the Directive, also not desired by the Member States, by the competent authorities at national level and the European Union Commission. Furthermore, there is a risk of delays in the procedure. Before granting the permit, the period of six months would apply in each case, even if it turns out later that the Commission let the period elapse. The stipulation on additional reviews by the Commission thereby contradicts the justified efforts to decrease red tape at European level. It should be deleted. It would at most be a good idea for Member States to inform the European Commission about granted storage permits.

Such a right to review by the Commission is basically not necessary. Also without such a right to review, pursuant to Article 226 of the European Treaty, the Commission already has a right to examine the decisions taken by the competent authorities at national level and issue an opinion and if necessary inform the European Court of Justice. This procedure according to Article 226 of the European Treaty is the proven and sufficient implementation instrument of the Commission in order to supervise adherence to European legal obligations. A right to review as in Article 10 -and pursuant to Article 18, § 2 the decisions on the transfer of responsibility to the national level -is not necessary.

Request:

The heading of Article 10 should read as follows:

"transmission of storage permit to the European Commission"

The text of Article 10 should read as follows:

"The competent authority communicates the decision concerning the storage permit to the European Commission."

The previous Article 18, § 2 should be deleted.

Article 18, § 3 should be completed by a new 2nd paragraph worded as follows:

"The competent authority communicates the agreement decision concerning the transfer of responsibility to the Commission, in accordance with paragraph 1."

Furthermore, for editorial reasons, Article 8, § 2 and 3 should be deleted.

X. Review of storage permits every five years (Article 11, § 3d)

According to Article 11, § 3 of the Proposal, the competent authority examines and updates the storage permit every five years or withdraws storage permission if necessary. No criteria are mentioned for these opportunities to take action, because it is clear from the structure of Article 11, § 3 that the conditions mentioned under letters a to c represent independent legal bases and do not refer to regular examination after five years pursuant to Article 11, § 3 d. This is not compatible with the protection of the inventory of permits and inadmissibly reduces security of investment.

An additional obligation to review every five years without providing reasons is however not justified and increases the time and effort required from enterprises and authorities. Article 11, § 3 letters a to c already contain sufficient facts for examinations and if necessary up-dates or withdrawal of storage permits in case of irregularities. Furthermore, there is also the obligation resulting from Article 14 for the operator to report at least annually. In addition, pursuant to Article 15, § 3, the competent authority has to accomplish 3 routine inspections at least once per year. There is not need for the additional examination pursuant to Article 11, § 3d.

Request:

Therefore d should be deleted from Article 11, § 3.

XI. Composition of the CO₂ streams (Article 12)

Article 12 of the Proposal for a Directive prescribes no strict degree of purity of the CO₂ streams. As already described above, this is supported. It cannot however be excluded that the CO₂ stream -as with natural gas- must be attached for technical safety reasons e.g. smelly substances. With a literal interpretation, such additives would probably not be included under "incidental associated substances", which in accordance with Article 12, § 1 may be contained in the CO₂ stream because such smelly substances are not added to the CO₂ stream incidentally. Here, an addition seems necessary to Article 12, § 1 for reasons of clarity.

Request:

Therefore Article 12, § 1, sentence 2 should read as follows:

"However, a CO₂-Strom may contain incidental substances resulting from the source or from the capture or injection process *and substances necessary for transport because of safety reasons*"

XII. Transfer of responsibility (Article 18)

According to Article 18, § 1, the legal obligations of the operator 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. This means that a transfer of responsibility to the authorities is excluded because sufficient evidence will never be available that can establish with certainty the complete containment of the stored CO₂.

XIII. Financial security (Article 19)

Article 19 covers regulations on financial security. It is to be welcomed that no determined form of financial security is given. Here, the necessary scope for implementation is granted to Member States and enterprises.

The range of financial security has to be geared towards obligations, resulting from the granted permit, including storage and post-closure provisions. Financial security provided by the enterprises will therefore represent a substantial volume

In view of the capital tied with this and in view of the gradually developing need for security, it is however not adequate that financial security is to be achieved in accordance with the Proposal already completely before applying for a storage permit. It cannot be required of enterprises to present securities for storage and post-closure provisions already when filing for

an application (with an uncertain outcome). It would be adequate that financial security would have to be provided gradually, with the increasing need for security, beginning at the earliest when the storage permit is granted.

A comparable stipulation, fulfilling these basic requests, already exists in Article 14 of the Directive 2006/21/EC on the management of waste from extractive industries and it should accordingly also be used for CO₂ storage.

Request:

Therefore, Article 19 should read as follows:

"1. Each Member State shall ensure that the holder of the permit has sufficient financial means before beginning an activity of CO₂ storage according to the modalities specified by the Member State - in form of financial security or equivalent, so that

a) all obligations which are established by the granted storage permit in agreement with this Directive, including the stipulations on decommissioning, can be followed;

b) at the given time, means for the execution of the post-closure provisions plan are available;

c) the obligations resulting from the inclusion of CO₂ storage in the guideline 2003/87/EC can be followed,

2. The calculation of the amount of financial security specified in paragraph 1 is based on the following factors:

a) the obligations probably resulting from the inclusion of CO₂ storage in the 2003/87/EC Directive;

b) the acceptance that independent and technically qualified third parties evaluate and accomplish the necessary measures to adhere to the obligations specified in paragraph 1.

3. The amount of financial security is adapted appropriately at regular intervals to the range of the respective obligations.

4. If the competent authority permits the decommissioning pursuant to Article 17, § 1 a) or b), then it confirms in writing to the operator that it is released from its obligation mentioned in § 1 of this Article to provide security, with the exception of the post-closure obligations pursuant to Article 17, § 2."

XIV. Transboundary co-operation (Article 23)

In the case of transboundary storage sites, it should be excluded that several authorities of different Member States grant permits for the same storage sites. Only in this way can liability responsibilities be defined sufficiently clearly.

After Article 23, sentence 1, the following 2nd sentence should therefore be added:

Request:

"For transboundary storage sites, the national authority responsible for granting permits is that of the Member State on whose territory the presumably largest part of the storage site is located."

XV. Amendment of Directive 2001/80/EC (Article 32)

According to Article 32 of the Commission's Proposal, Member States shall ensure "that all combustion plants with a capacity of 300 megawatts or more for which the original construction license 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". The majority of EURACOAL Members could follow the Commission's Proposal. A minority rejects it, referring to insufficient experience with demonstration projects at the moment".

XIII. Criteria for characterisation and assessment of storage sites referred to in Article 4 (Annex I)

Annex I contains a four-step system to draft documents characterising and assessing storage sites. Reference to Annex I derives from Article 4, § 3 of the Proposal.

The work listed in Annex I is however only partially state of the art, partly at the limit of Research and Development (R&D) or completely R&D (e.g. stage 3.1., b). In order to maintain the quantity of application documents and the time needed for drafting them within a realistic time-span, a reference should be adopted that the best available technique has to be taken into account when producing the application documents.

Request:

Therefore sentence 1 of the first paragraph of Annex 1 should read as follows:

"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".

The European coal industry is available for a constructive dialogue at any time.