

Learning from the Evaluation of the EU's CCS Directive/Policy for the Netherlands

Hans Bolscher

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Evaluation of the CCS Directive

Goal of the evaluation:

- Evaluation of the CCS Directive:
Fit for purpose?
- But also looking at the enabling Policy:
What is needed?
- Together with TNO and Ricardo-AEA
- See: www.ccs-directive-evaluation.EU

Evaluation of the CCS Directive

Our approach:

- ❑ An inclusive process with all relevant stakeholders.
- ❑ Methodological pillars:
 - Literature review
 - Stakeholder consultations
 - Case studies
- ❑ Interested stakeholders participate in the review through:
 - Online questionnaire
 - Interviews
 - Stakeholder meeting (8 Sept and 7 Nov)
 - Focus groups (13 - 15 Oct)

Main Recommendation

- ❑ All draft not final yet
- ❑ Our main recommendation will be NOT to open the Directive for full review at this stage.
- ❑ This is because there has not yet been enough experience or learning on CCS in Europe to justify this.
- ❑ Still, some aspects related to the Directive can benefit from review.
- ❑ Two issues stand out as most relevant:
 - Guidance Document 4 (GD4) needs to be altered.
 - Article 33 needs strengthening.

General CCS Directive Issues

1. Not open review now
2. Do not include CDU in the same discussion

Capture-Related Issues in the CCS Directive

1. Article 33 on Capture Readiness is not clear/strong enough.
Needs better implementation extension to industry
2. Article 38 speaks of EPS ...
We concluded: it should not be a discussion under the Review
But it should be under 'enabling policy'
3. Bio-CCS: relevant: for policy and ETS not for Directive
4. Industrial CCS: Very relevant, but more for policy

Storage-Related Issues in the CCS Directive 1

1. Article 10: Eu-MS permitting proces: keep as it is
2. EHR: in Directive OK in policy more attention
3. Permance: keep the wording
4. Transboundary CO₂ transport: London protocol really needs attention

Storage-Related Issues in the CCS Directive 2

5. The Articles 17-20: Financial aspects

These articles deal with closure and post-closure obligations, transfer of responsibility, financial security and financial mechanisms:

Conclusion: Major issue!

But...directive is flexible enough

6.Guidance document 4: To alarming and to restrictive, needs rewording

Evaluation of the EU's CCS enabling policy

Recommended actions

CCS enabling policy

- ❑ Europe is well behind and no longer leading
- ❑ Lack of demos
- ❑ Low EUA price

Recommendation:

Stronger support at MS and EU level

- General governance and CCS Roadmap (Theme 1)
- Financial support of CCS (Theme 2 'carrots')
- Regulatory support of CCS (Theme 3 including 'sticks')

Guiding principles for support measures:

- Technology neutrality
- EC and MS complementarity
- Coherence of short and long term measures

1. General governance and CCS Roadmap

Recommendations:

- A. EC to propose to MSs that they develop national 2050 low carbon (minus 80%) roadmaps
- B. To develop an EU CCS Roadmap
- C. To better incorporate CCS in the EU 2030 Framework for Climate and Energy
- D. To develop more in-depth knowledge on storage location

2. Financial support for CCS (the 'carrots')

Recommendations:

A. More funding for early stage:

A - 1 To continue research (Horizon 2020)

A - 2 Expand EU funding for CCS demonstration projects (NER 400)

NB But much stronger MS funding for CCS

B. To strengthen the business case for CCS deployment

B - 1 Higher CO₂ price via ETS in the long term

B - 2 Operational support in early years of commercial deployment

3. Regulatory support for CCS (including some 'sticks')

Recommendations:

- A. To strengthen CO₂ capture retrofit provision (Article 33)
- B. To consider EPS standard for implementation before 2030
- C. To make CCS mandatory for power and/or large industries

Lessons for the Netherlands:

1. Do we really need or want CCS and by when...?

Roadmap 2050

Energie Akkoord

2. What support is needed

Regulatory.....good

Researchgood

Financialbad

Public support/understanding..... bad

Recommendations for the Netherlands:

1. Talk publically about the need for CCS
2. Support RES more and more effectively
3. Put Your Money where Your Mouth Is
4. Do not mingle Carbon Dioxide Utilization with CCS
5. Force ROAD to get started

Thank you for your attention
Any questions?

Hans.Bolscher@Tripleeconsulting.com

www.tripleeconsulting.com

www.ccs-directive-evaluation.eu

www.scotproject.org

