

Changing the Scope of the Directive: Monitoring, Reporting & Verification Issues

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Outline

- Small emitters: improvement of cost-effectiveness
- Adding activities and gases: status quo & outlook
- Transferred CO₂
- Carbon capture and storage
- Aviation
- Summary

Small emitters

Biomass Monitoring (MRG 2007)

- Application of no-tier approaches allowed
- Not considered for determination of minor source streams and de-minimis
- Mass-balance approach accepted for mixed biofuels from closed processes
- Definition for “pure” (97%) added

Monitoring for Small Emitters (MRG 2007)

- Definition of small emitter: installation with verified emissions <25,000 tonnes of CO₂ p. yr
- Activity data can be taken from purchasing records without further uncertainty considerations
- Application of low tier approaches generally allowed
- Simplified treatment of uncertainty based on technical specification of metering devices
- Member States may waive requirement for EN ISO 17025 accreditation of laboratories
- Member States may waive verification site visits
- Member States may permit the use of simplified monitoring plans

Summary

- Resource requirements for monitoring & reporting of installations using pure biomass reduced to potentially less than one man day per year
- Resource requirements for monitoring & reporting for small emitters reduced to potentially less than two man days per year
- Verification for small emitters can be executed potentially within one man day per day
- Guidance & implementation by Member States plus appropriate use of IT key for real cost reductions

Adding activities and gases: status quo & outlook

Opting-in into the EU ETS

Article 24 of EU-ETS Directive

- Possibility for unilateral inclusion of additional activities and gases by Member States starting in 2008
- Subject to approval by Commission, taking into account effects on the internal market, potential distortions of competition, the environmental integrity of the scheme and reliability of the planned monitoring system.
- The Commission may, on its own initiative, or shall, on request by a Member State, adopt monitoring and reporting guidelines for emissions from activities ... if **monitoring and reporting of these emissions can be carried out with sufficient accuracy.**

Accuracy Requirements (MRG2007)

- Annex I: Thresholds for maximum uncertainty of annual emission level using fall-back approach:

Installation Category	Uncertainty threshold to be met for total annual emission value
A	$\pm 7.5 \%$
B	$\pm 5.0 \%$
C	$\pm 2.5 \%$

- Annex XII: Uncertainty thresholds for use of continuous emission monitoring systems:
 $\pm 10\%$, $\pm 7.5\%$, $\pm 5\%$ & $\pm 2.5\%$ (annual level)

Case Study: Opt-in of N₂O from Chemical Industry (I)

- Requested in NAP-2 drafts by several Member States: N₂O emissions from production of
 - nitric acid
 - adipic acid
 - caprolactam
 - glyoxal and glyoxylic acid

Case Study: Opt-in of N₂O from Chemical Industry (II)

- Thresholds set out in Annex I and XII of MRG define the achievable accuracy
- Commission is currently starting the development of dedicated monitoring guidelines for emissions of N₂O from the chemical industry
- N₂O guidelines will be proposed as new Annex XIII to MRG 2007
- Approval through committology procedure as specified in Article 14 of Directive

Basis for new activities and gases in MRG 2007

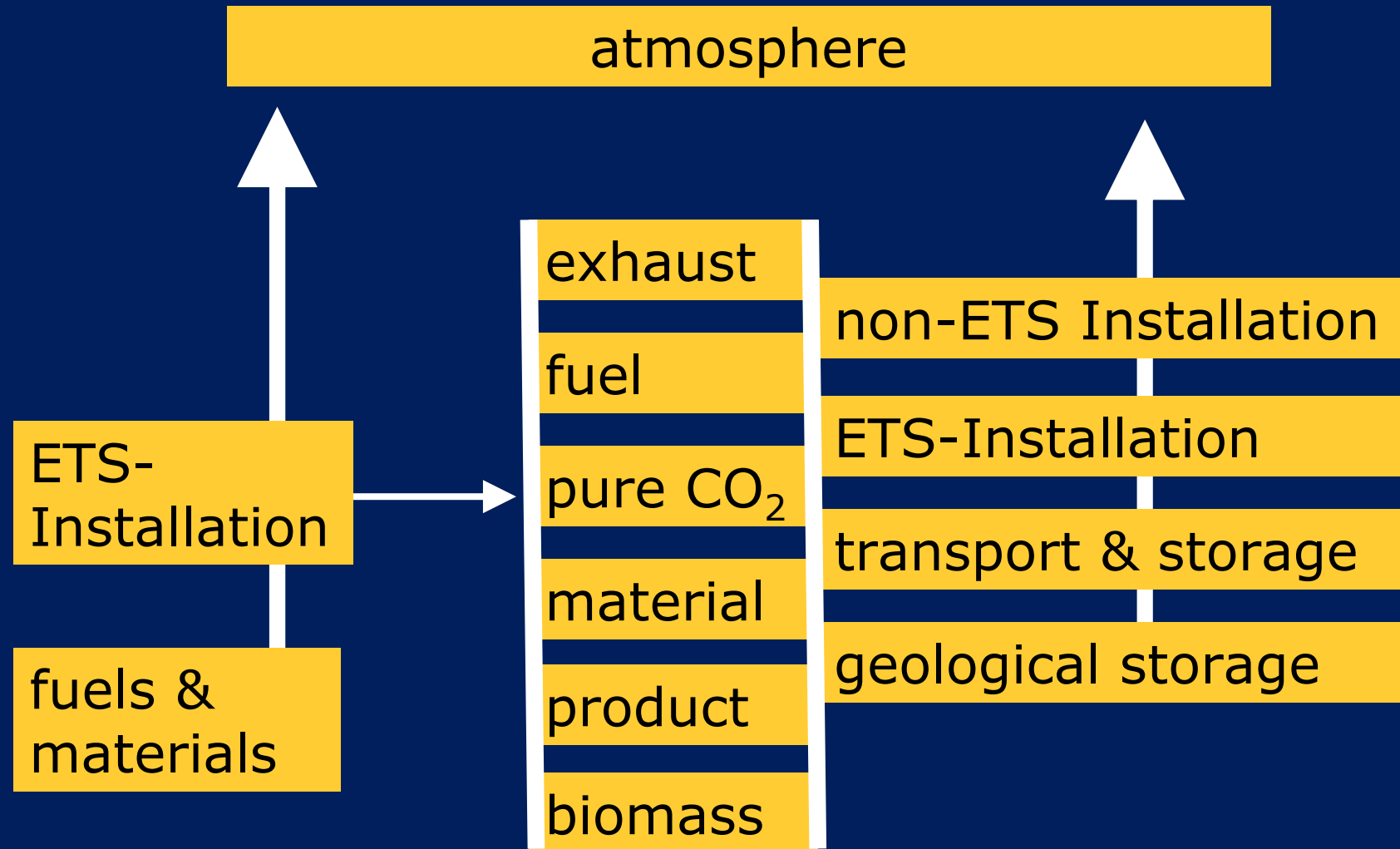
- Annex II flexible for broad range of combustion activities
- Fall-back approach of Annex I
- Requirements for continuous measurement in Annex XII

Issues: adding gases & activities

- Directive: General criteria and outline of options for acceptance of new activities and gases
- MRG 2007 can inform about specific requirements
- Cross-cutting provisions of Annex I, Annex II and XI and fall-back approach of MRG 2007 sufficient for most opted-in new gases and activities
- Cost-effectiveness of permitting and MRV plus need for legal certainty warrants amendment of MRG by means of Comitology procedure
- Review of Directive: simplify standard route for opt-ins

Transferred CO₂

Transfer of CO₂ & Carbon



Status Quo

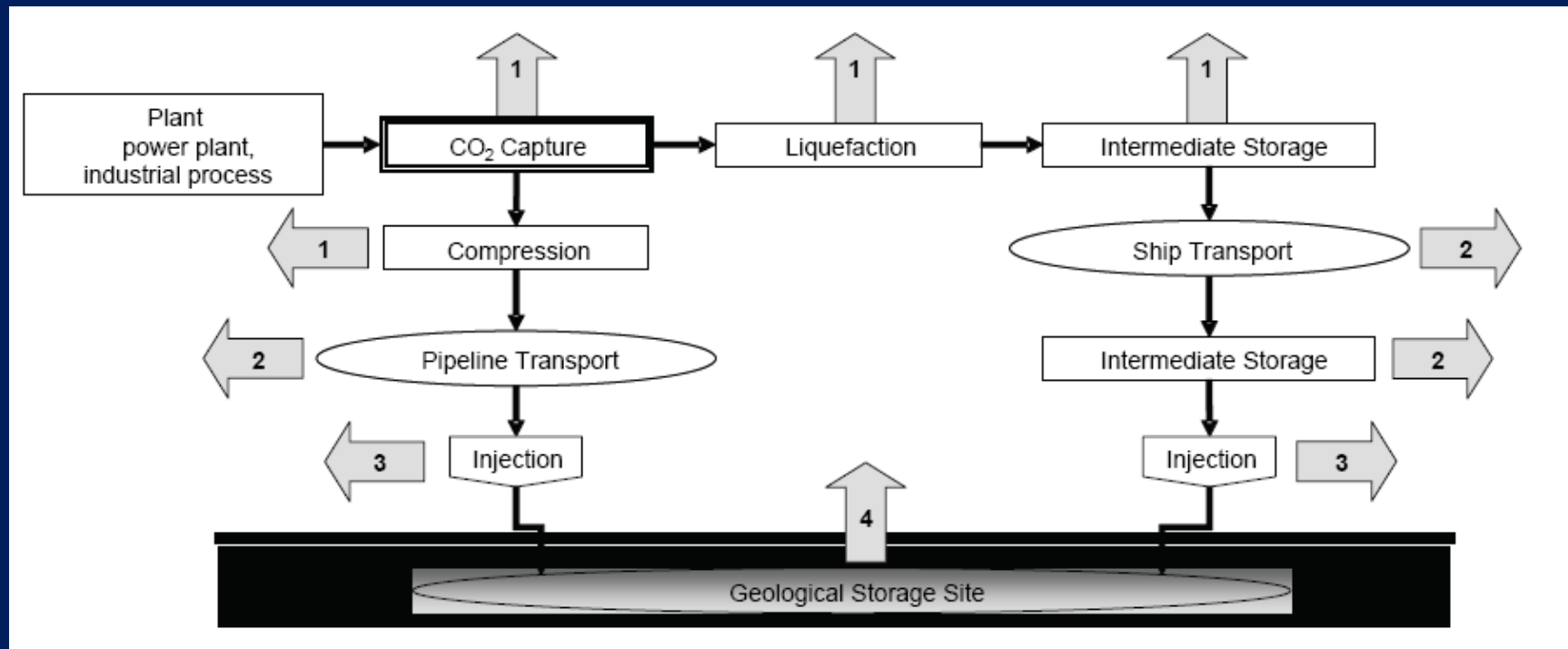
- Directive takes a “direct emissions approach” considering emissions from ETS installations
- Real conditions can be diverse: Iron & steel, pulp production (PCC), refinery/greenhouses, spray-dried carbonates, inherent CO₂ in natural gas,...
- EU-MRG 2004 and EU-MRG 2007 attempt to defines rules for transfers into and out of installations

Transferred CO₂: Issues

- Currently transfers of CO₂ are covered exclusively via EU-MRG
- Revised Directive needs a legally robust approach on transfers of CO₂ & carbon
- Key objectives: Transparency, environmental integrity and consistency with IPCC/UNFCCC accounting

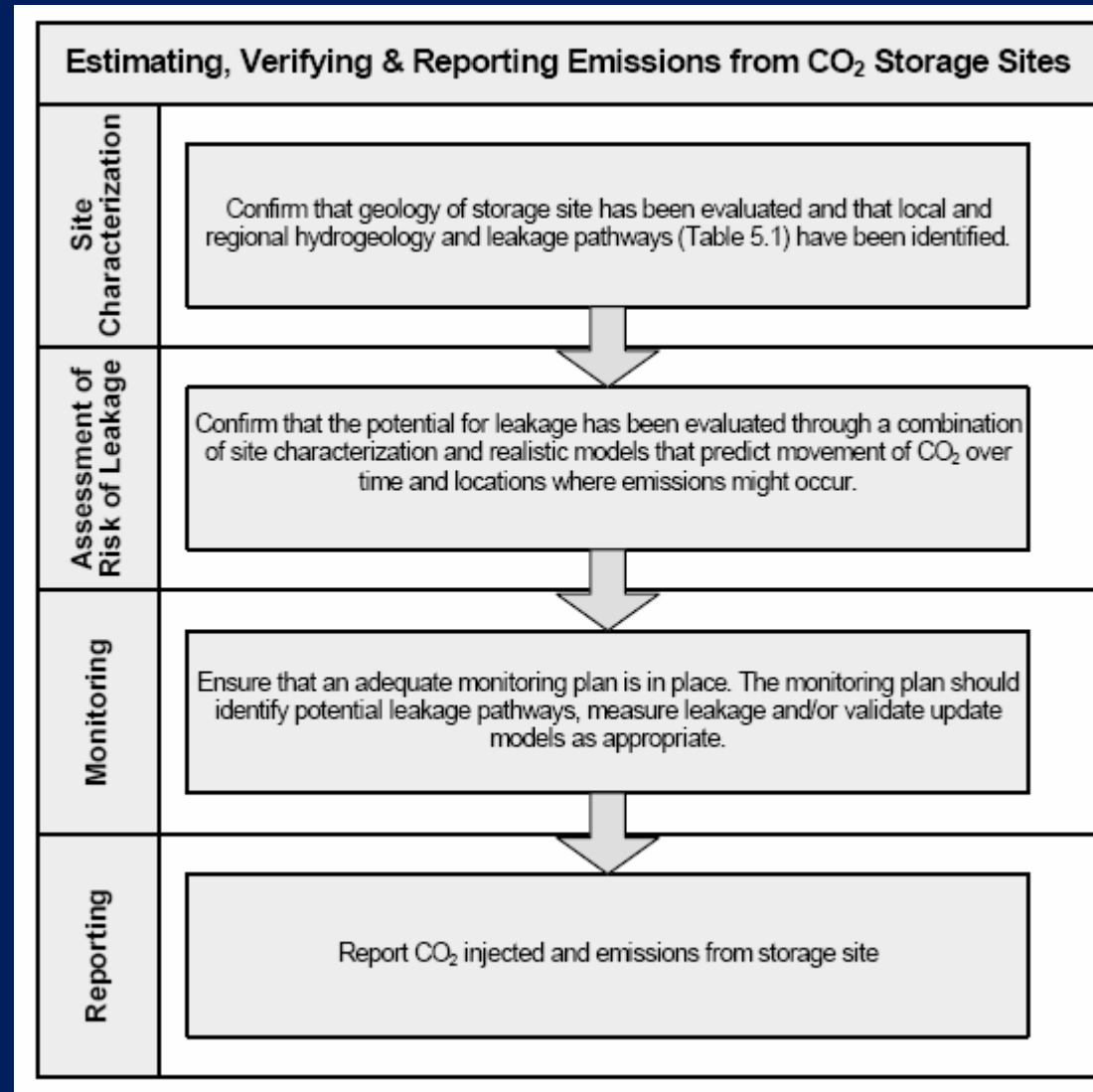
Carbon Capture & Storage

CCS Source Categories (2006 IPCC GL)



1 - Capture, 2 - Transport, 3 - Injection, 4 - Storage

IPCC 2006 Guidelines – Volume 2



CCS: Issues

- More than geological storage site to be considered: range of monitoring & verification issues to be considered
- Revised Directive needs a legally robust approach on carbon capture, transfer, use and storage
- Key objectives: Transparency, environmental integrity and consistency with IPCC/UNFCCC accounting

Aviation

Aviation: Monitoring & Reporting

- Monitoring and reporting for one installation has little overlap with that of an aircraft operator (tonne kilometers and fuel consumption)
- General provisions of Directive in Article 14 applicable
- Annex IV is inappropriate for aviation data
- Guidance on monitoring in MRG 2004 and MRG 2007 is insufficient for aviation
- Dedicated guidance on monitoring and reporting of aviation data needed

Aviation: Verification

- Verification of activity data reported for an aircraft operator (tonne kilometers / fuel consumption) different from situation for single installations
- General provisions of Directive in Article 15 and Annex V applicable with few exceptions
- Guidance on verification in MRG 2004 and MRG 2007 limited and inappropriate for aviation
- Dedicated guidance on verification of aviation data essential

Summary

Summary

- Monitoring, reporting & verification for small emitters greatly simplified from 2008 onwards
- Transferred CO₂: responsibilities beyond the factory fence?!
- Addition of complex activities requires amendments of Directive, MRG and specific verification guidance
- The addition of simple activities is straightforward

Thank you for your attention!

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