

# Regulating CCS – an update and a look ahead

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# Introduction

- SEPA's Regulatory & Advisory Roles
- Regulatory development
- SEPA project - amine release to air
- Emissions Performance Standard
- Look Ahead

# SEPA's Current Regulatory/ Advisory Roles

## Regulator/Competent Authority

- Pollution Prevention Control (PPC)
- Emissions Trading System (ETS)
- COMAH

## Advisor

- Planning - Statutory Consultee
- Carbon Capture Readiness/Carbon Capture advice (space & technical retrofit) to Scottish Government
- BRef

# SEPA project - amine release to air

- Post combustion amine capture technology
- Late 2010 - Mongstad project identified issues of amine degradation product emissions and effects.
- Can SEPA permit a post combustion amine scrubbing project

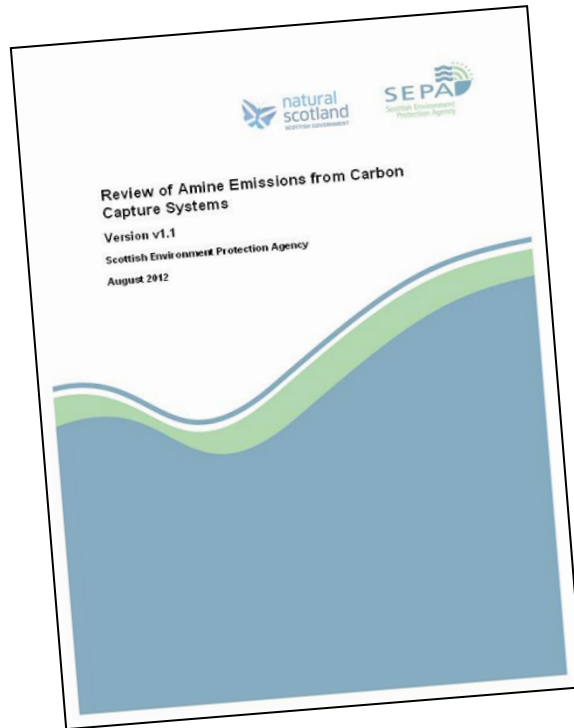
# Amine Emissions From Carbon Capture Systems

## SEPA Amines Research

- assessment of emissions of amine compounds from post combustion carbon capture systems.
- The work focuses on
  - extent of emissions of amines to the environment
  - atmospheric chemistry of these compounds,
  - potential health and environmental benchmarks and
  - current status of measurement techniques.

The work has been peer reviewed

# Amine Emissions From Carbon Capture Systems - Substances



- Review of publically available sources only
- Post Combustion Amine Scrubbing Systems Only
- 41 Pages, 125 supporting references
- Peer reviewed by Edinburgh University and IEAGHG, comments by CCSA

# Amine Emissions From Carbon Capture Systems – Next Steps

- Update study periodically (new publications and demonstration plant results)
- Developers need to be clear about emissions and impacts when applying
- Input into Environment Agency research programme (e.g. ambient monitoring, monitoring / measurement protocols and environmental standards)

# Amine Scrubbing Conclusions

- It should be possible to permit a post combustion amine scrubbing system.
- There are still some unknowns.....
- SEPA has not stopped working in this area, we have a starting place and the two pilot projects in England should help us build on the work done to date.
- Significant private sector information that is not as yet publically available.
- It should be possible to abate nitrosamines etc.



# Emissions Performance Standard

Our role:

- SEPA will administer the EPS in Scotland and (as in the case of the European Union Emissions Trading System (EU ETS)) the Environment Agency will manage the UK EPS Registry
- Similar to the way in which the existing Large Combustion Plant Directive (LCPD) National Emissions Reduction Plan (NERP) register is managed.

# Look Ahead

- Implementation of EPS & EMR
- CCS & CCR in the BRef process

# Thanks

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