

# FROM SCIENCE TO POLICY ADVICE - REPORTING GREENHOUSE GAS EMISSIONS BASED ON SCIENCE

HANNE BACH

DIRECTOR, DCE – DANISH CENTRE FOR ENVIRONMENT AND ENERGY



# Presentation overview

---

- › DCE – Danish Centre for Environment and Energy – areas of expertise
- › Reporting greenhouse gas emissions and sinks
- › Developing the research base for GHG sinks
- › Monitoring, reporting and advice in the future

# DCE – DANISH CENTRE FOR ENVIRONMENT AND ENERGY

**Activities:** Research based monitoring, reporting, advice and dissemination

- › 400 researchers and academic staff;
- › 320 mio. DKK budget per year;
- › 375 peer reviewed papers per year
- › 200 scientific reports, briefs, publications etc.



**Clients:** Ministry of Environment; Ministry of Climate, Energy and Building; Government of Greenland; local authorities; private sector; authorities in other countries; EU - DG env., research etc.

# DCE areas of expertise

---

- › **Marine and freshwater ecosystems**
- › **Terrestrial ecosystems**
- › **Arctic ecosystems**
- › **Biodiversity** – nature conservation, wild life and ecosystem services
- › **Climate change** adaptation and mitigation
- › **Air pollution and chemicals** – environmental and human health
- › **Environmental economics, policy analysis, resource efficiency**



# REPORTING GREENHOUSE GAS EMISSION SINKS

- › UNFCCC/KYOTO PROTOCOL – GHG emission reduction target for Denmark: 20% from 1990-2008/2012
- › Emissions from the sectors: energy, agriculture, transport, industry, waste etc.
- › Denmark decided to use Art. 3.3 and 3.4: Land Use and Land Use Change – LULUCF to meet commitments
- › Removal by sinks through afforestation, deforestation, forest management, cropland management, grazing land management and revegetation

# DEVELOPING THE RESEARCH BASE

---

- › Land use and land use change for Denmark
- › Modelling carbon balance for agricultural land
- › Mapping and characterization of organic soils
- › Mapping of agricultural and forest soil carbon content incl. changes
- › Mapping of hedges and changes in hedges
- › Emission/sink factors for agriculture land and forest areas

# MONITORING, REPORTING AND ADVICE



- › Art. 3.3 and 3.4 reported from 2008 onwards
- › Methods and documentation app. by UN in 2010
- › Final reporting of 2008-2012 in 2014.
- › From 2014 onwards:
  - Annual reporting; Improve methodologies
  - Certain new aspects included (harvested wood products)

# BENEFITS AND CHALLENGES

## > Benefits

- Improvement of methods and knowledge for the subject
- Synergies with other policy areas such as implementation of the Water Framework Directive



## > Challenges

- Expectations may not materialize
- Research results may be experienced as a pain rather than appearing helpful