

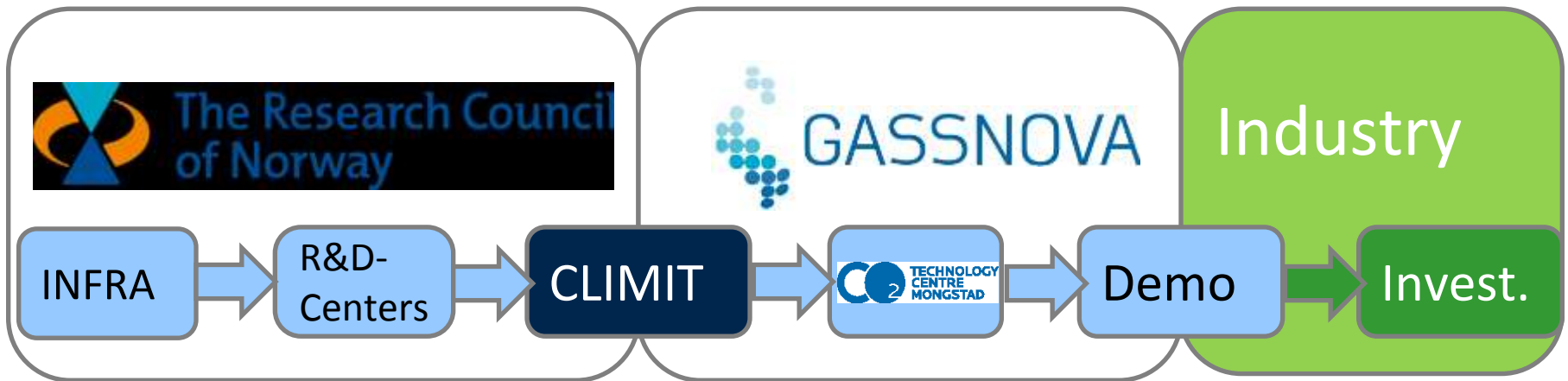
The Norwegian instruments for CCS development

UKCCSRC Biannual Meeting 8-9 September 2015 at Strathclyde University
Åse Slagtern (asl@rcn.no)

Policy Instruments for CCS in Norway



Accelerated development of CCS technology



Technology Centre Mongstad

- Technology Centre Mongstad is an important part of the Norwegian CCS strategy
- Ambitions:
 - Test verify and demonstrate technology
 - Generate knowledge for owners
 - Knowledge sharing
 - Encourage the development of a market for CCS



Norwegian R&D-instruments for CCS-development:

- CLIMIT R&D - more than 150 projects since 2005
 - Yearly budget 7.75 mill GBP
- FME – CCS Research Centres (BIGCCS & SUCCESS)
 - Yearly budget 2.3 mill GBP for 8 years
- Research Infrastructure
 - ECCSEL 15,5 mill GBP

CLIMIT

BIGCCS
International CCS Research Centre

SUCCESS
Subsurface CO₂ storage- Critical Elements and Superior Strategy

 ECCSEL

CO₂

CO₂

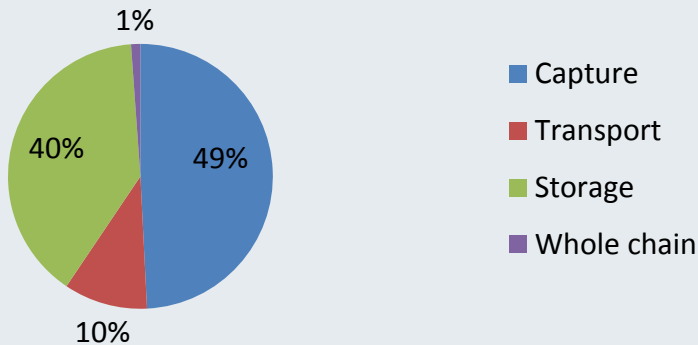
CO₂



CLIMIT R&D and CLIMIT Demo portfolio

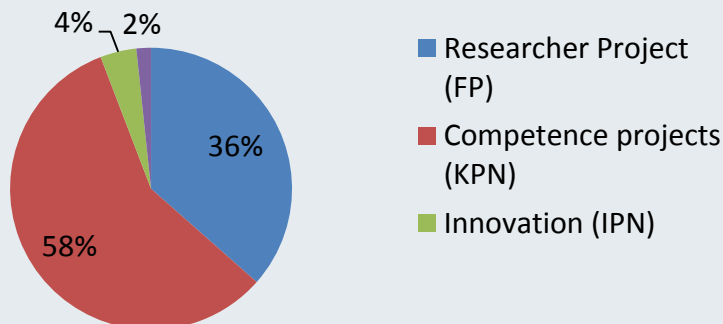
R&D CLIMIT R&D: Distribution per technical area

Active projects per end of 2014



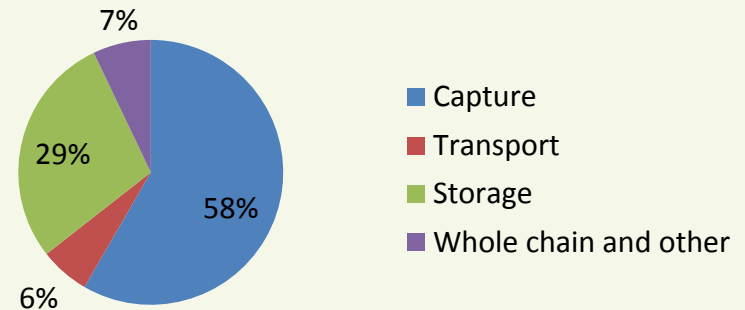
CLIMIT R&D: Distribution per development stage

Active projects per end of 2014



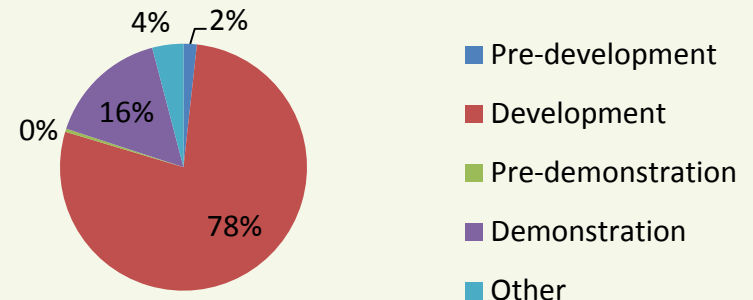
Demo CLIMIT Demo: Distribution per technical area

Active projects, per end of 2014



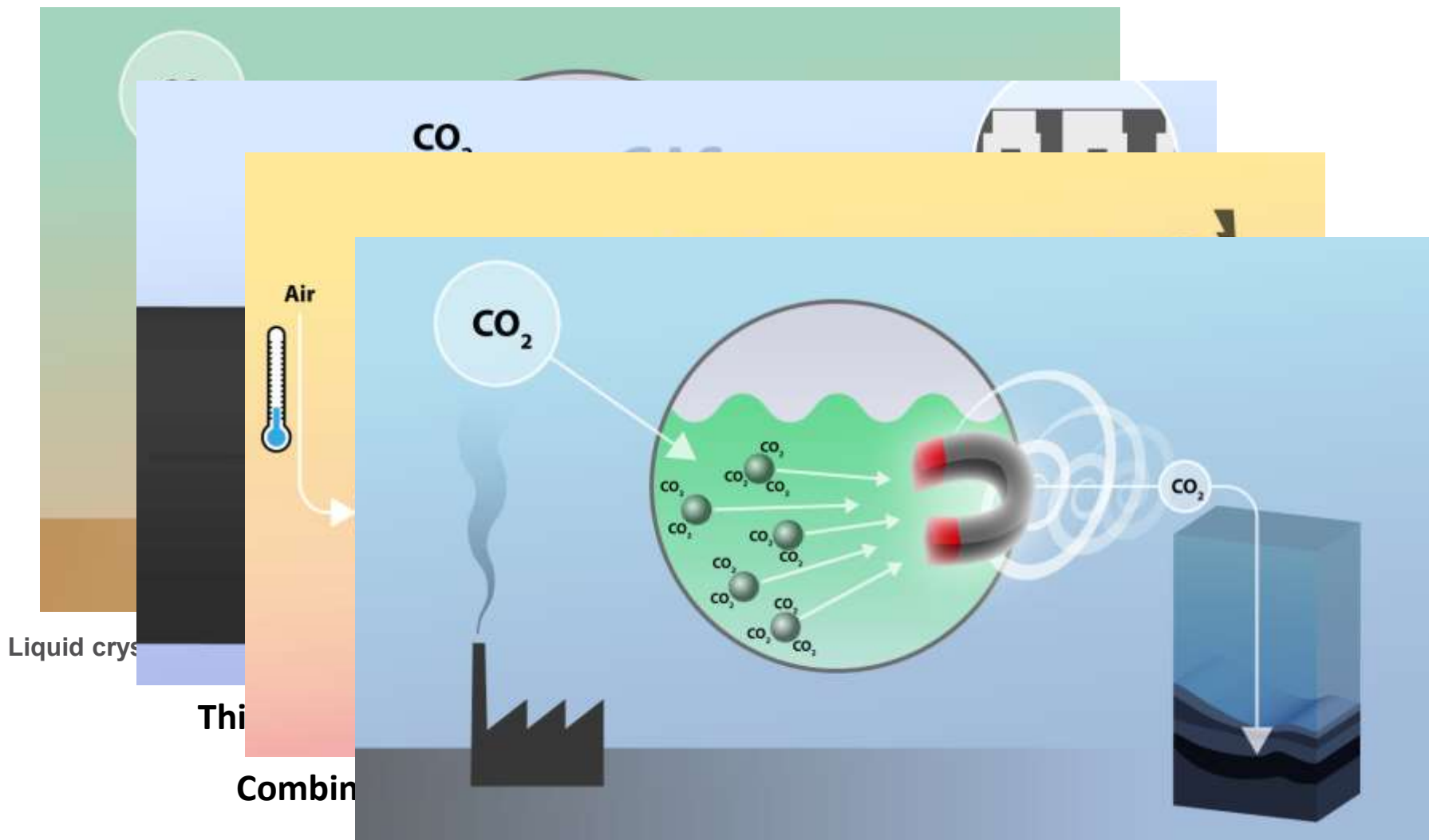
CLIMIT Demo: Distribution per development stage

On going projects, per end of 2014



- Total investments CLIMIT R&D and CLIMIT Demo since 2005 116 mill GBP

New concepts for CO₂ capture



CO₂ capture using magnetic nanoparticles (SINTEF MK and NTNU)

Europe's first CO₂ capture test facility in cement industry, Brevik, Norway

Partners:
Norcem, HeidelbergCement and
ECRA (European Cement Research
Academy)

- Small Scale Test Centre
- Basis for qualification of CO₂ capture technologies
- Project on behalf of the European Cement Industry
- Evaluation of full scale capture
- Total budget: 93 MNOK

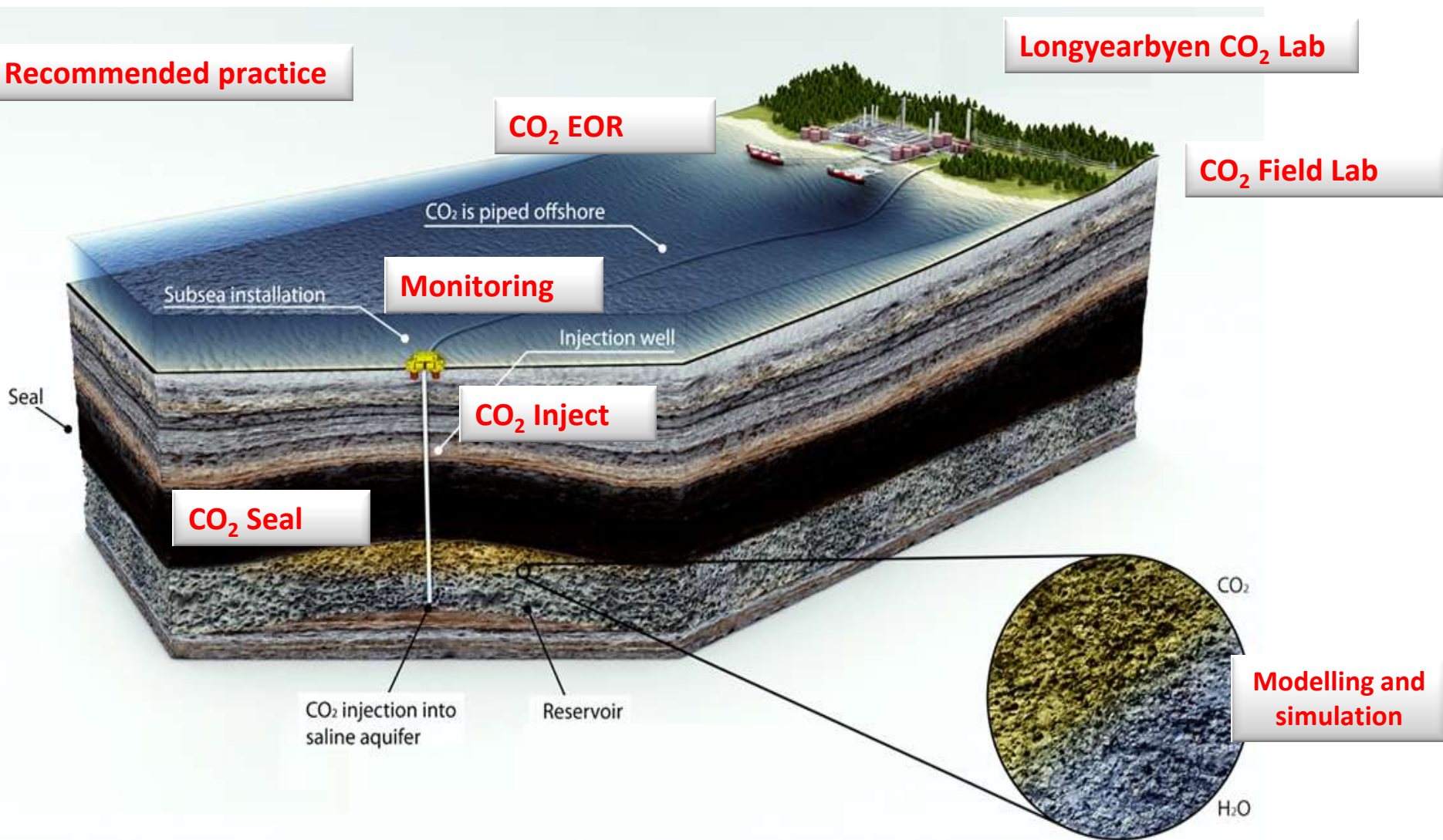
CLIMIT - CO₂ storage - Examples

Recommended practice

Longyearbyen CO₂ Lab

CO₂ EOR

CO₂ Field Lab



International cooperation is essential

- EU

- Horizon 2020



- ERA NET Cofund initiative on CCS



- Strategic Energy Technology Plan (SET-plan)

- ZEP – Zero Emissions Platform
- EERA – European Energy Research Alliance

- IEA Greenhouse programme (IEA-GHG)

- Carbon Sequestration Leadership Forum (CSLF)

- MoU OED (Norway) - DOE (USA)

- MoU Research Council of Norway - Joint Research Centre (EU)

- Bilateral cooperation with UK, the Netherlands, Germany

To conclude:

- Norway is committed to CCS
- More details on CCS strategy will be launched in October with the state budget
- The R&D efforts of Norway have been important for the development of CCS
- International cooperation is an essential part of deployment of CCS

