

We hereby provide information from our institution/department/industry to be included in the list of CCS-institution/industry to be published on the ACT-homepage ([www.act-ccs.eu](http://www.act-ccs.eu)).

1. Name of Institution:  
Institute for Energy Technology
2. Abbreviation:  
IFE
3. Department:  
Dept. of Environmental Technology, Dept. of Process and Fluid Flow  
Technology, Dept of. Materials and Corrosion Technology
4. Speciality (ies) field within CCS:

**Storage:** Coupled geomechanical/reservoir modelling of CO<sub>2</sub> injection; geochemical characterization of rocks and fluids; batch and flow through experiments on fluid/rock interaction under reservoir conditions; development of monitoring methods from CO<sub>2</sub> on-shore and off-shore leakage, mineralogical characterization of reservoir rock (Material Characterization laboratory), characterization of storage reservoirs (Stable Isotope laboratory).

**Capture:** Development of novel energy and cost efficient processes and materials for CO<sub>2</sub> capture in both pre-/post-combustion power production and energy intensive industries; Energy use optimization in industrial processes and process integration.

**CO<sub>2</sub> quality and corrosion:** Through experiments and modelling determine the safe operation window (safe CO<sub>2</sub> specifications) for pipelines, ships and injection systems handling CO<sub>2</sub> with impurities. When do impurities react and form corrosive phases? What is the resulting corrosion rate? IFE has flow loop and autoclave systems that can operate at high CO<sub>2</sub> pressure (200 bar +) with accurate control (ppm level) of added impurities (H<sub>2</sub>S, O<sub>2</sub>, SO<sub>x</sub>, NO<sub>x</sub>, H<sub>2</sub>S....). See the Web-page for more information about experimental facilities and publications.

**Transport:** Accurate predictions of fluid dynamic behaviour of CO<sub>2</sub> w/impurities in long transport pipelines, with emphasis on situations where the CO<sub>2</sub> enters the multiphase flow region. This is, for example, used to estimate need for pressure boosting, evaluate likeliness of hydrate formation and to study planned and accidental depressurisation scenarios,

**Utilization:** use of CO<sub>2</sub> in leaching of minerals and other industrial processes

5. Web-page:

[www.ife.no](http://www.ife.no)

6. Other info:

IFE operates a Sorption-Enhanced Reforming (SER) 30 kW<sub>th</sub> pilot for hydrogen production with integrated CO<sub>2</sub> capture at the HyNor Lillestrøm hydrogen research facilities. For details, see

<http://hynor-lillestrom.no/testsender/reformer/>;

<http://www.ife.no/no/ife/laboratorier/experimental-facilities-for-environmental-technologies-development/dual-bubbling-fluidized-bed-reactor-prototype>;

IFE operates a multiphase flow rig for study of CO<sub>2</sub> pipeline transport. For details, see <http://www.ife.no/en/ife/laboratories/co2-flow-loop/co2-flow-loop>.

7. Contact persons:

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