Final report

1.1 Project details

Project title	Dansk deltagelse i IEA-EOR samarbejdet (2017-20)
Project identification (program abbrev. and file)	Journalnr.: 64017-05214
Name of the programme which has funded the project	EUDP
Project managing compa- ny/institution (name and ad- dress)	Danmarks Tekniske Universitet DTU Kemi Kemitorvet 207 2800 Kgs. Lyngby
Project partners	-
CVR (central business register)	30060946
Date for submission	31 August 2020

1.2 Short description of project objective and results (Dansk og engelsk)

Det Internationale Energi Agentur (IEA) har siden 1979 haft et TCP (Technology Collaboration Programme) inden for Enhanced Oil Recovery, IEA-EOR. Dette samarbejde har haft fokus på en effektiv olieindvinding. Verdens olieresurser bliver gradvist vanskeligere at tilgå, hvorfor en optimal indvinding fra eksisterende felter bliver mere og mere vigtig. Danmarks deltagelse bidrager til en effektiv udnyttelse af de danske olieresurser ved at bringe international erfaring ind i de danske R&D-miljøer. Projektet er fuldt ud gennemført i forhold til ansøgningen og har opfyldt sit formål.

The International Energy Agency (IEA) has since 1979 had a TCP (Technology Collaboration Programme) within Enhanced Oil Recovery, IEA-EOR. This collaboration has focused on efficient oil recovery. The world's oil resources are gradually getting more difficult to access. Therefore, the optimal recovery from existing fields become more and more important. Denmark's participation contributes to an efficient exploitation of the Danish oil resources by bringing international experience into the Danish R&D environments. The project was completed in accordance with the application and has fulfilled its purpose.

1.3 Executive summary

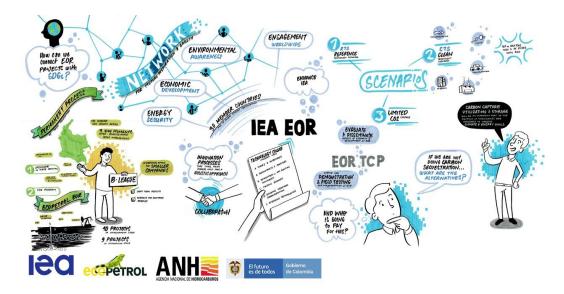
The international parties are represented in the IEA-EOR Executive Committee by experts, who meet once a year for a symposium and a workshop with contributions within various topics of relevance for EOR. The collaboration is Task Sharing, i.e. it has no budget and the meetings have over the years developed from closed to more open sessions where information is shared with the public.

In addition to the Executive Committee the annual meetings are attended by an international network of experts of 50-75 technical experts. This supports the creation of many international collaborative projects.

The special focus of IEA and the most valuable outcome of the activity is the core of international experts who through this forum maintains a network. In this way new knowledge from one part of the world can quickly be implemented other places.

Through the Danish participation authorities, companies, and R&D institutions have had access to information about ongoing EOR R&D n a big international network.

1.4 Project objectives

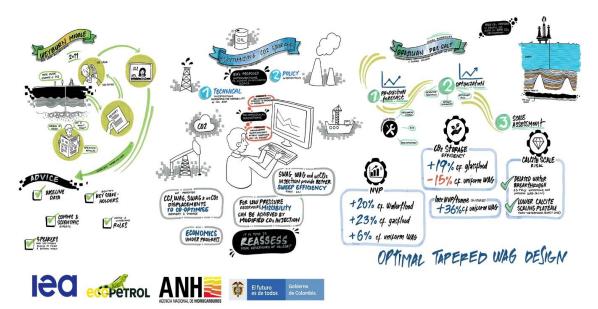


This figure was presented at the annual meeting in Colombia, 2019. It very nicely illustrates the interplay between the IEA, the TCP, and local authorities and industry.

The objective is to ensure that Denmark benefits from other countries experience and contributes with our own expertise to the network. The project does not undertake any research activities, it only serves as a forum to exchange knowledge and mutual inspiration.

1.5 Project results and dissemination of results

During the last three years the collaboration continued satisfactorily. In 2018 Denmark hosted the Workshop & Symposium as well as the Executive Committee meeting. The event was very successful and involved the Danish Energy Agency, and Total. Several Danish research groups, institutions, and companies have been involved including DHRTC.



This figure - also presented at the meeting in Colombia - sows examples of the discussions and learnings that exchanged during the Workshop and Symposium. Again it should be underlined that the TCP is task sharing and therefore no specific research results are produced within the project.

1.6 Utilization of project results

The knowledge obtained from participating in the TCP has been very useful for Danish research activities. The network has been made available to relevant Danish parties at different times during the project period. This includes Maersk Oil/Total, DONG E&P/INEOS, HESS, Welltec, and other companies, as well as R&D institutions. During the years of participation I have presented the EOR TCP at several occasions e.g. Society of Petroleum Engineering Copenhagen Section, Center for Energy Resources Engineering - DTU, and Danish Hydrocarbon Research & Technology Centre (DHRTC).

1.7 Project conclusion and perspective

The project has fulfilled its purpose and is considered very successful. The future perspectives for EOR in Denmark are unclear. Currently new exploration licenses are not being issued and there is no indications from netiher the Danish oil industry nor the authorities that EOR is considered as a future strategy in Denmark. This I base on discussions with various stakeholder.

If CCUS is to be implemented the Danish oil and gas reservoirs can become very important and is the reservoir technology related to CO2 injection. The Workshop and Symposium in 2020 has been postponed to the Fall and will be held as an online meeting with only few presentations.

In my opinion, it would still be valuable for Denmark to stay up to date with the development in the global EOR community, but this should be decided based at a political and strategic level since the commercial currently interest is very low. Should it be decided that Denmark will continue in the EOR TCP I am willing to continue as the Danish delegate.

Annex

Relevant links:

On this web site the program and many presentations from the IEA-EOR Workshop and Symposium can be found going back to 2000

http://iea-eor.ptrc.ca/eor.asp

User name: iea_eor Password: eor!0416