

# Indo-Norwegian Cooperation Programme 2014 (INCP)

---

## **Project Entitled:**

**Roadmap for Decarbonisation of Indian Energy System Exploring Innovative Solutions**

## **Collaborators**

### **University of Stavanger, Norway (UiS)**

- Prof. Mohsen Assadi
- Prof. Oluf Langhelle

### **Global Change Programme- Jadavpur University (GCP-JU)**

- Prof. Sudipta De ( Indian Project Coordinator)
- Prof. Joyashree Roy

## **About the Project**

The overall goal of INCP is to develop and strengthen balanced cooperation between high quality higher education institutions in India and Norway at Masters and Ph.D levels. Meeting energy demand with low/zero/negative CO<sub>2</sub> emission is a global challenge. Developing clean and efficient technology for power generation including CO<sub>2</sub> capture therefore has emerged as a common goal. This project envisages development of a network of experts and young researchers for sharing of knowledge and practices in these fields for long term collaboration in education and research in a mutually beneficial way which can pave the way towards understanding the opportunities and challenges of development and implementation of sustainable energy in the long run.

Introduction of new technology in real world not only depends on innovation of the technology but also economic feasibility and social acceptability. Hence, exploration of socio-economic fallouts of the introduction of new technology in the framework of local and national governing structure of the place of this application has also to be critically explored. The proposed technological aspects will be examined in energy

system transition framework and multilevel governance framework of the two countries.



Norwegian members with JU team at GCP-JU

## Project Objective

Developing long term cooperation between two partner Institutes (UiS and JU) in education and research broadly in the field of 'sustainable energy' in a multi-disciplinary approach involving industry, other Institutes and stakeholders in both countries.

## Outcomes to date

- Regarding education, existing courses on 'sustainable energy' in India and abroad are reviewed. Introduction of such an international PG course at UiS is shared. Similar interdisciplinary course at Jadavpur University is being explored.
- One big discussion forum (with about 100 participants) was organized jointly with the oldest Chamber of Commerce and Industry of India on 'Sustainable Energy Education' involving industry people, academia, NGOs, consulates etc. DVDs of the program and a report on it is submitted.
- Visited the best thermal power plant in eastern India to explore development of Artificial Intelligence based tools for performance improvement. Norwegian group has already implemented similar projects in EU.
- Identification of key areas of research cooperation - distributed polygeneration, bio energy, IGCC, sustainability transition, multilevel governance.

- Assessment of IGCC performance with Indian coal is initiated. One abstract in International Conference accepted. Similar works with EU coals are already done by UiS.



'Sustainable Energy' education program at BCCI, Kolkata



JU team visiting University of Stavanger