Industrial Energy-Related Technologies and Systems

A Technology Collaboration Programme established under the auspices of the International Energy Agency
Countries participating in IETS

- **Austria**: The Climate and Energy Fund of the Austrian Federal Government
- **Belgium**: University of Liège and VITO - Flemish Institute for Technological Research NV
- **Denmark**: Danish Energy Agency
- **Germany**: Forschungszentrum Jülich GmbH
- **Korea**: Korea Institute of Energy Technology Evaluation and Planning (KETEP)
- **Netherlands**: RVO Netherlands Enterprise Agency
- **Norway**: ENOVA SF
- **Portugal**: Instituto Superior Técnico, University of Lisbon
- **Sweden**: Swedish Energy Agency
- **United States**: U.S. Department of Energy
Contribution to environmental protection

Worldwide energy use for different sectors 2012 (left), and CO2 emissions from different sectors 2012 (right). CO2 emissions from electricity use is included. (Source: IEA Key World Energy Statistics 2014)
General Gaps and Barriers

- Knowledge, technically, economically, environmentally
- Knowledge transfer to industry
- Capacity in industry for knowledge take-up and strategic thinking
- Policy instruments and their development
- Strategy for e.g. roadmapping in a situation with huge system transitions
- New technologies/innovations not the only solution, also combinations of many existing concepts
- International cooperation on R&D, demo, deployment, knowledge
The IETS Annexes

The core of the IETS activities is carried out in so called Annexes. Current on-going Annexes include:

- Annex IX - Energy Efficient Separation Technologies Systems
- Annex XI - Industry-based Biorefineries
- Annex XIII - Industrial Heat Pumps
- Annex XIV - Process integration in the iron and steel industry
- Annex XV - Industrial Excess Heat Recovery
- Annex XVI - Energy Efficiency in SME’s
- Annex XVII - Membrane filtration for energy-efficient separation of lignocellulosic biomass components

For more information about IETS: http://www.iea-industry.org/
Strategy

• Develop long-standing annexes in strategic areas
• Develop National Support Groups
• Allow non-IETS organisations as sponsors
• Work more slosely with other TCP:s
• Include industry-specific as well as cross-cutting technologies and systems
• Increase the number of workshops/conferences on GHG mitigation opportunities
New Annex development structure
Industry Involvement

• The interest from industry in IETS is increasing due to higher demands/interests for energy efficiency and GHG mitigation
• The industry interest is on the Annex level and not so much on the TCP level
• Interest from national joint industry-academia projects/consortia to participate in annexes
• A matrix on interest in different technologies in different industry types and countries has been developed
Planned Annexes

- Industrial automation and digitalization from an energy perspective
- Electrification in industry
- Long-term evaluation of novel industrial processes and systems (Ex-ante evaluation)
Workshops

- International process integration workshop, Berlin April 4-5
  The role of PI for industrial GHG mitigation, by invitation
  International report on opportunities
- Bioenergy week jointly with IEA, Bioenergy, Gothenburg Mai 15-19
  Joint workshop on large industrial biorefineries
  ExCo meetings
  IEA Bioenergy task activities
- Workshop on Multiple Benefits in process industry
- Workshop on digitalisation and automation for energy efficiency
Conclusions

- IETS deals with all aspects of energy in all types of industry
- Our strategy is to develop long-standing annexes, national support groups and allowing non-IETS sponsors for improved knowledge transfer
- Industry involvement is crucial, sometimes as parts of consortia, i.e. academia, industry, society cooperation important
- New technologies and new system solutions important
- We develop inputs for more strategic thinking
- We develop more cooperation with e.g. other TCP:s
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