



**iets**

# **Industrial Energy-Related Technologies and Systems**

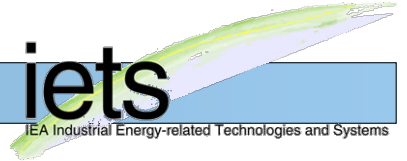
*A Technology Collaboration Programme  
established under the auspices of the International  
Energy Agency*

# Countries participating in IETS

The logo for IETS (IEA Industrial Energy-related Technologies and Systems) features the word "iets" in a lowercase, sans-serif font. The letters are white and set against a blue rectangular background. To the right of the text, there is a stylized graphic element consisting of overlapping, curved shapes in shades of green and yellow, suggesting energy or technology. Below the blue background, the full name "IEA Industrial Energy-related Technologies and Systems" is written in a small, black, sans-serif font.

- **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

# 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

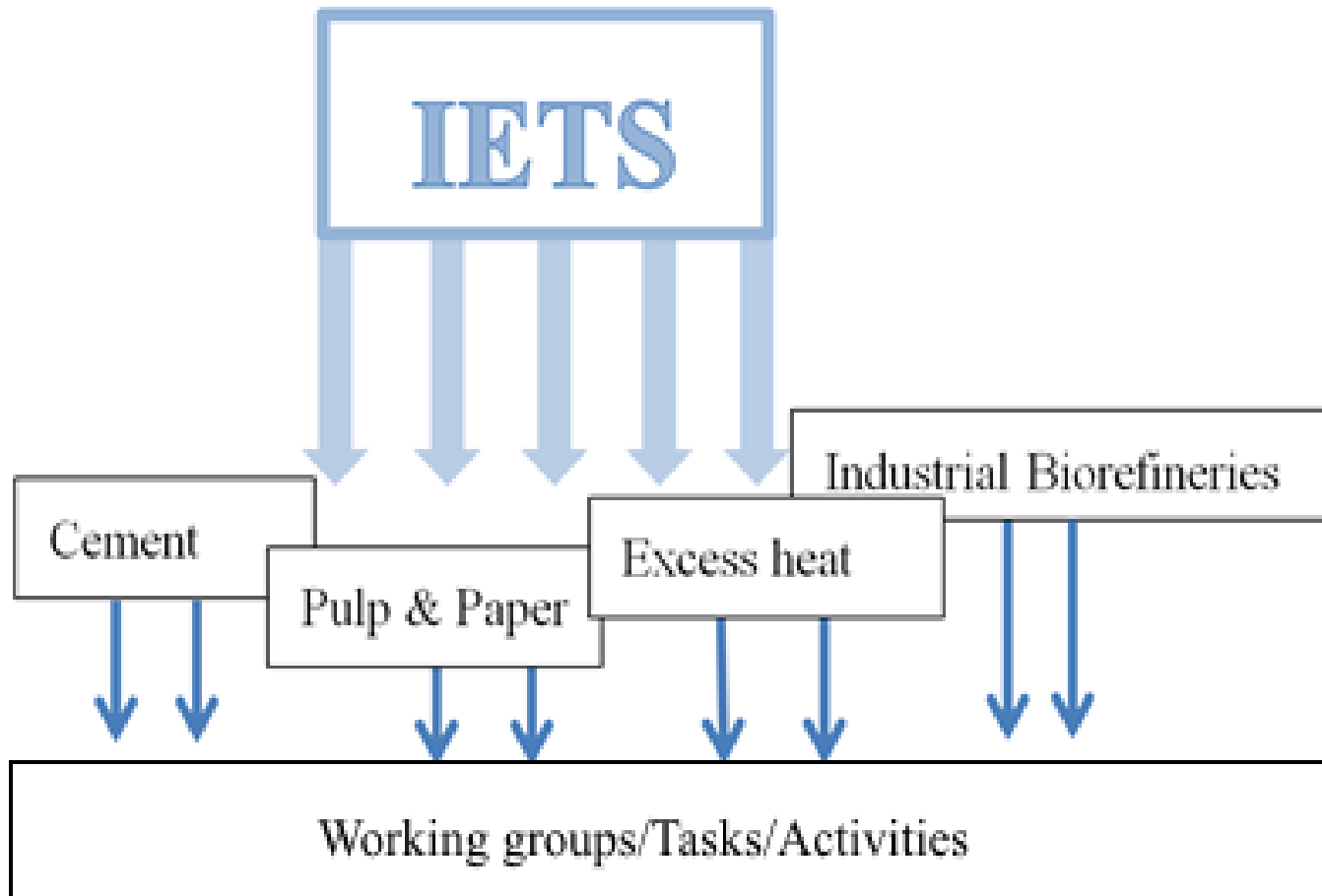
*For more information about IETS: <http://www.iea-industry.org/>*

# Strategy



- Develop long-standing annexes in strategic areas
- Develop National Support Groups
- Allow non-IETS organisations as sponsors
- Work more closely 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

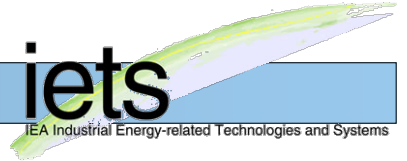


# Industry Involvement



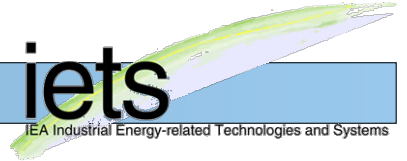
- The interest from industry in IETS is increasing due to higher demands/interests for energy efficiency and GHG mitigation
- The industry interest is on the Annex level and not so much on the TCP level
- Interest from national joint industry-academia projects/consortia to participate in annexes
- A 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)

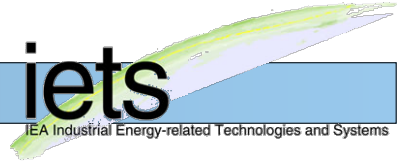
# Workshops



- 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

## **IETS Executive Committee Chair**

Prof. Thore Berntsson, Chalmers University of Technology, Sweden

[thore.berntsson@chalmers.se](mailto:thore.berntsson@chalmers.se)

### **Vice Chair**

Maurits Clement, NL Energie en Klimaat, Agentschap NL  
The Netherlands

[maurits.clement@agentschapnl.nl](mailto:maurits.clement@agentschapnl.nl)

### **Vice Chair**

Clemente Pedro Nunes, Instituto Superior Tecnico  
Portugal

[pedronunes@gml.pt](mailto:pedronunes@gml.pt)

### **IETS Secretariat (Sweden)**

Administration & information: Heléne Johansson, Chalmers Industriteknik

[helene.johansson@cit.chalmers.se](mailto:helene.johansson@cit.chalmers.se)

Technical support: Per-Åke Franck, CIT Industriell Energi

[per-ake.franck@cit.chalmers.se](mailto:per-ake.franck@cit.chalmers.se)

For IETS delegate contacts, visit <http://www.iea-industry.org>

## Main conclusions from the Process Integration (PI) Jubilee Conference in Gothenburg March 18-20<sup>th</sup>

Themes for Day 1, Day 2 and Day 3 were (in short)

- Methodology,
- Applications, and
- System aspects (environmental perspectives) respectively.

A workshop on teaching aspects on PI was held during the afternoon of day 3.

- Three main conclusions from the conference:

# Main Conclusions

- The strategic use of PI in the future
- Need for success stories and application areas
- The academia-industry gap
- The educational concern

## Possible tasks in an IETS PI annex

- PI as a tool for strategic planning (and not only for calculating efficiency improvements in percentage) – what tools are available?
- Success stories and lessons learned – What can PI do for industry? (Includes identifying industrial needs, since those may be assumed but not confirmed.)
- Address the possible approaching scarcity of good engineers. Identify success stories in this aspect as well

# Workshop Aims

- To give an overview of:
  - New developments
  - New application areas
  - Success stories
- Role of PI in future strategic planning
- Role of PI in industrial GHG mitigation

# Outcome

- Report including
  - Abstracts from all presentations
  - All slides from presentations
  - Summaries from discussions
  - Main conclusions
  - Suggestions for further work

# Target Groups

- IEA Secretariat
- IEA Country Governments
- Industrial and governmental decision makers
- International and national R&D funding organisations