

## IEA Expert Workshop

# The Role of Process Integration for Greenhouse Gas Mitigation in Industry

**Time:** Tuesday April 4, 09.00-Wednesday April 5, 16.30

**Venue:** Forschungszentrum Jülich Projektträger, Rudi-Dutschke-Straße 18, 10969 Berlin.

## PROGRAMME

Tuesday April 4

**9.00-9.30 Welcome and Introduction**

*Gudrun Maass, chair of IEA, EUWP*

*Thore Berntsson, chair of IEA, IETS*

**9.30-10.15 GHG Mitigation in Industry**

The role of industry in meeting the GHG mitigation targets: *Thore Berntsson*

Industrial energy use and CO<sub>2</sub> emissions in IEA modelling - Key challenges and tools for modelling process integration: *Kira West, IEA Secretariat, Paris, France*

**10.15-10.35 Coffee/tea**

**10.35-12.15 PI in Grassroot or Revamping Situations in Process Industry**

Process integration in petroleum refining – a perspective and future trends: *Robin Smith, University of Manchester, UK*

Process integration in the chemical and petrochemical industries: *Les Bolton, BP plc, UK*

Pulp and paper industry: *Philippe Navarri, NRCan, Canada*

Process integration in iron and steel: *Lawrence Hooley, Swerea MEFOS, Sweden*

**12.15-13.15 Lunch\***

**13.15-13.55 Discussion**

**13.55-16.10 PI and Novel Technologies and Systems**

**(incl. coffee)**

Biorefineries: *Paul Stuart, École Polytechnique Montréal, Canada*

Shale gas production: infrastructure design, water management, and impact on electric power generation and new chemical processes: *Ignacio Grossmann, Carnegie Mellon University, Pittsburgh, USA*

Work and heat exchange networks (WHENS) for PI in sub-ambient processes: *Truls Gundersen, Norwegian University of Science and Technology (NTNU), Trondheim, Norway*

Simultaneous water and energy optimization in large scale systems: *Thokozani Majazi, Wits University, South Africa*

Refinery of the future - from modular design to connected plants: *Frank Zhu, UOP LLC, A Honeywell Company, USA*

**16.10-17.00 Discussion**

**17.00-17.15 National Presentation**

Improved predictive methods in energy efficiency: *Carsten Ernst, Ökotec, Germany*

Wednesday April 5

**8.30-10.10 PI and Process Intensification**

Process Integration within the broader context of process intensification supporting greenhouse gas mitigation: *Jeffrey Sirola, US (via link or given by Rafiqul Gani)*

Sustainable Process Synthesis–Intensification: *Rafiqul Gani, DTU, Denmark*

**PI in Industrial Clusters and Energy conversion**

Growing fuel, fuelling growth: *Diane Hildebrandt, University of South Africa, South Africa*

Industrial symbiosis: from energy requirements to large scale integration: *François Marechal, École Polytechnique Fédérale de Lausanne, Switzerland*

**10.10-10.30 Coffee/tea**

**10.30-11.20 Discussion**

**11.20-11.35 National Presentation**

*Henrique Matos, Instituto Superior Technico, Portugal*

**11.35-14.15 PI as a Tool for Future Radical GHG Mitigation in Industrial Systems (incl. lunch)**

Systems aspects of GHG mitigation: opportunities and challenges: *David C. Miller, National Energy Technology Laboratory, U.S. Department of Energy, USA*

**Lunch\***

Process integration for the synthesis of carbon management networks

Part 1: Carbon constrained energy planning and extensions

Part 2: Carbon sequestration and negative emissions systems

*Dominic Foo, University of Nottingham Malaysia Campus, Malaysia*

*Raymond Tan, De La Salle University, the Philippines*

Assessing the long-term impact of PI measures in industrial systems: *Simon Harvey, Chalmers University of Technology, Gothenburg, Sweden*

**14.15-14.35 Coffee/tea**

**14.35-15.20 Discussion**

**15.20-16.45 General Discussion**

e. g.:

- Opportunities for GHG mitigation in different industrial sectors- assessments
- Need for information about opportunities, from success stories, etc
- Who shall use methods and tools available and under development?
- Need for education and training
- How to promote PI in revamping logistics
- How to include PI in novel technology and systems developments in industry
- How to include PI in large studies on potentials for industrial GHG mitigation (e. g. in IEA)

Abstracts can be found at the IETS TCP website: <http://www.iea-industry.org/activities>

\*Lunch is served at the Hilton at Gendarmenmarkt, Mohrenstrasse 30. Drinks are not included.

---

**About the TCP on Industrial Technologies and Systems (IETS TCP)**

Information or material of the IETS TCP (formally organised under the Implementing Agreement on Industrial Energy-Related Technologies and Systems) do not necessarily represent the views or policies of the IEA Secretariat or of the IEA's individual Member countries. The IEA does not make any representation or warranty (express or implied) in respect of such information (including as to its completeness, accuracy or non-infringement) and shall not be held liable for any use of, or reliance on, such information.