Düsseldorf: The city stands for a variety of fascinations. A mix of Rhenish charm and sophisticated elegance makes the city irresistible. No wonder that Düsseldorf has been re-elected one of the cities with the best quality of life worldwide.

Halle 8B, Messe Düsseldorf, **Eingang Nord** Düsseldorf, Germany

## **Organisation**

#### Conference fees

If registered until February 3rd, 2017 

Member of OTTI and supporting organisations: . . . . € 450,00

If registered after February 3rd, 2017

Member of OTTI and supporting organisations: . . . . € 490,00

If 3 or more delegates of a company are registered at the same time, each will enjoy 10% discount of the registration fee.

Fees cover two coffee breaks, one lunch and one day admisson to the exhibition part of Energy Storage Europe.

Registration fees of OTTI e.V. events are exempt from VAT as per § 4 Absatz 22 UStG. Please find conditions of participation and cancellation as well as data protection guidelines at: www.otti.de/service/datenschutz.html

Conference language is English.

Photo credits

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## **Supporting Organisations**

















## Registration

#### Only online registration available. To register for the conference please visit: www.otti.eu/registration/PTG-5203

Please use the text box "Further Notification" for your specifics regarding a reduced conference fee for members of OTTI and supporting organisations.

Fill in your first name and last name, your company address and address for billing.

Upon receipt of your registration you will receive the registration confirmation.

Onlineregistration



By registering for the 6<sup>th</sup> Conference Power-to-Gas, you agree to the transfer of your registration data to Messe Düsseldorf GmbH.

## Further conferences and seminars

#### Zukünftige Stromnetze für Erneuerbare Energien **ZNE-5137**

31.01./01.02.2017. Berlin

Dezentrale Einbindung von Wärme in Nah- und Fernwärmenetze **DEW-5215** 

08.02.2017, Frankfurt

#### 32. Symposium Photovoltaische Solarenergie SOL-5144

8.-10.03.2017, Kloster Banz, Bad Staffelstein

## **Conference management**

#### Leonore Nanko. Bernd Porzelius

OTTI - Renewable Energies Wernerwerkstraße 4 93049 Regensburg, Germany

Phone +49 941 29688-24 +49 941 29688-17 leonore.nanko@otti.de

## **About OTTI**

OTTI is a non profit organisation founded in 1977. Our purpose is to stimulate industrial economy by providing state-of-the-art information, initiating processes, developing visions, and also by training managerial personnel. We establish long term networks with experts and key-players from industry, science, and administration.

# 6th Conference



## Power-to-Gas

and Power-to-X for Europe's Energy **Transition** 

Halle 8B. Messe Düsseldorf. Eingang Nord, Messe Düsseldorf Düsseldorf, Germany March 15th, 2017







www.otti.de

## Chairman's Message

OTTI welcomes you to a special day on Power-to-Gas – focusing on the industrial implementation and further development of technology and framework conditions. Energy storage has become a major topic in the European energy union. Power-to-Gas and Power-to-X play a vital role in this transformation of Europe's energy systems, especially as storage demand increases due to delayed power network expansion. In Europe, we have an existing gas infrastructure of thousands of kilometres and cubic metres to store and transport energy. Power-to-Gas is the "charger" for this infrastructure and fuels it with green gas. Further, Power-to-X will be also necessary for the decarbonisation of our chemical industries.

Besides fundamental research laying the ground for industrial implementation, there are various Power-to-Gas and Power-to-Fuel pilot plants and demonstration facilities that show the technical feasibility and market readiness of this new technology. An outlook and update of the developing markets, frameworks and economic business models concludes the event. Meet the major players and experts in this extraordinary and vivid field of energy storage.

Please register at www.otti.eu to learn more about the newest scientific and technological advances in the field of renewable energy storage.

Prof. Dr.-Ing. Michael Sterner Head of Energy Storage, Technical University OAS, Regensburg, Germany

# Official side event of Energy Storage Europe and IRES

As official side event of Energy Storage Europe and the  $11^{th}$  IRES conference the  $6^{th}$  OTTI Conference Power-to-Gas will take place at the fairground, Düsseldorf, Germany on March  $15^{th}$ , 2017.

The focus of the conference will be on projects for the European energy industry. Besides market development topics like Power-to-Gas and Power-to-X implementation in industrial MW-scale will be discussed. Meet international specialists, leading scientists and business experts of well-known companies like ThyssenKrupp, BP Europe SE, Hydrogenics and RAG and gain comprehensive information about the state of technology as well as the latest results from research and development.

Official side event of:





## **Conference Programme**

#### Wednesday, March 15th, 2017, 8.50 - 17.15 hrs

1. Opening address

Bernd Porzelius, OTTI e.V., Regensburg, Germany

2. Objective of the conference

Prof. Dr.-Ing. Michael Sterner, Technical University OAS, Regensburg, Germany

#### Policy and Framework

3. ERIG – European network for Gas innovation – "Connecting electrons and molecules"

Hans Rasmussen, Deutscher Verein des Gas- und Wasserfaches e.V. DVGW, Bonn, Germany

4. EU-Fuel Quality and Renewable Energy Directives - Current status of implementation in Germany and other EU-States
Dr. Florian Valentin, von Bredow Valentin Herz Rechtsanwälte,
Berlin, Germany

5. U.S. status of Power-to-gas and other multi-sector hydrogen activities

Josh Eichman, PhD, National Renewable Energy Laboratory, Golden, CO, USA

 HySA (Hydrogen South Africa) initiative: road map towards hydrogen production and application

Dmitri Bessarabov, PhD, North-West University, HySA, Potchefstroom, South Africa

#### Research

Techno-economical view of hydrogen and Power-to-X toward the sustainable society

Dr. Katsuhiko Hirose, WPI Visiting Professor, International Institute for Carbon-Neutral Energy Research, Kyushu University, Fukuoka, Japan

8. STORE&GO - Demonstrating Opportunities for Power-to-Gas on European Level

Dr. Frank Graf, DVGW-Forschungsstelle am Engler-Bunte-Institut des Karlsruher Instituts für Technologie (KIT), Karlsruhe, Germany

 Underground Sun Storage, Seasonal Storage of Renewable Energy in depleted Gas Reservoirs, latest results of an in-situ field experiment

Stephan Bauer, RAG Rohöl-Aufsuchungs Aktiengesellschaft, Wien, Austria

10. Power-to-X optimization, simulation and experimental work: NeoCarbon Energy and Soletair projects

Jouni Savolainen, VTT Technical Research Centre of Finland, Espoo, Finland

#### **Projects and Practical Implementation**

11. Potential of Power-to-Gas in Refineries
Dr. Ruprecht Brandis, BP Europa SE, Berlin, Germany

12. Zero CO<sub>2</sub>-emission chemical plants
Dr. Lukas Lüke, thyssenkrupp Uhde Chlorine Engineers GmbH, Dortmund, Germany

**13.** Ontario 2MW Power-to-Gas for Regulation Services Project Rob Harvey, Hydrogenics, Misissauga, Canada

## Chairman

#### Prof. Dr.-Ing. Michael Sterner

Prof. Dr.-Ing. Michael Sterner is professor for energy storage and renewable energy systems at the Technical University OAS in Regensburg in Germany. Together with colleagues, he developed the storage technology Power-to-Gas. He is one main author of the Springer-book "Energy storage", member of VDE and also co-author for the Special Report on Renewable Energy [SRREN] at IPCC. Prof. Sterner counsels the European Commission, the German government and various federal and local administrations.



## **Your Speakers**

#### Stephan Bauer

RAG Rohöl-Aufsuchungs Aktiengesellschaft, Wien, Austria

#### Dmitri Bessarabov, PhD

North-West University, HySA, Potchefstroom, South Africa

#### Dr. Ruprecht Brandis

BP Europa SE, Berlin, Germany

#### Josh Eichman, PhD

National Renewable Energy Laboratory, Golden, CO, USA

#### Dr. Frank Graf

DVGW-Forschungsstelle am Engler-Bunte-Institut des Karlsruher Instituts für Technologie (KIT), Karlsruhe, Germany

#### **Rob Harvey**

Hydrogenics, Misissauga, Canada

#### Dr. Katsuhiko Hirose

WPI Visiting Professor, International Institute for Carbon-Neutral Energy Research, Kyushu University, Fukuoka, Japan

#### Dr. Lukas Lüke

thyssenkrupp Uhde Chlorine Engineers GmbH, Dortmund, Germany

#### Hans Rasmussen

Deutscher Verein des Gas- und Wasserfaches e.V. DVGW, Bonn, Germany

#### Jouni Savolainen

VTT Technical Research Centre of Finland, Espoo, Finland

#### Dr. Florian Valentin

von Bredow Valentin Herz Rechtsanwälte, Berlin, Germany

## You will meet

Gas supply companies, engineering offices, energy consultants and energy managers, plant manufacturers and operators, utilities and municipal utilities, representatives of the biogas sector, development engineers from industry, authorities, municipalities, district offices, ministries, universities, colleges and research institutes, producers from the energy sector, network operators, gas and electricity traders