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## Welcome address

Welcome to the ninth issue of the SENERES Newsletter. SENERES is the project founded within frames of FP7 Capacities RegPot Programme. The main objective of the SENERES project is to reinforce and develop research and demonstration potential of the Institute of Power Engineering (Poland) and to set up the **Sustainable Energy Research and Development Centre SENERES** focused on high efficient low-carbon energy technologies: energy generation from biomass, clean coal technologies and fuel cells.

The SENERES Newsletter is a source of periodical information about SENERES project activities. It disseminates results of SENERES Centre research work and the Centre's development. It also delivers the most important information about the development of research, events and possibilities of research funding in SENERES thematic area.



## SENERES Events

### SENERES Seminar - 30.10.2013

#### **SOFC optimisation and small CHP installations on the basis of SOFC**

The seminar/workshop that was held on the 30<sup>th</sup> of October 2013 in the Institute of Power Engineering (8 Mory St, Warsaw) was organized within frames of two projects of the EU's 7<sup>th</sup> Framework Programme: SENERES (Sustainable Energy Research Centre and Development Centre) and FC DISTRICT (New  $\mu$ -CHP network technologies for energy efficient and sustainable districts), realized by the Institute of Power Engineering.

The seminar was combined with the visit of a pilot installation, prepared in frames of FC DISTRICT project. There were twenty eight participants of the seminar, including employees from Fuel Cells Laboratory, Thermal Processes Department, CENERG, Mostostal Warszawa, number of representatives of technical universities from Poland and representatives of industry from Sweden.

Dr Andrzej Sławiński, SENERES project coordinator started the seminar by welcoming all participants, especially guests that arrived to Warsaw for the seminar. He also delivered a presentation showing the frames of SENERES project. He concentrated mainly on presenting the achievements obtained so far within the projects:

- Conducted exchanges of scientists between the partner institutions;
- Recruited researchers in the area of biomass, clean coal technologies and fuel cells;
- Purchased equipment;
- Conducted workshops;
- Participation of SENERES scientist in international conferences;
- Dissemination activities;
- Project management.

**Figure 1: Andrzej Sławiński, SENERES Coordinator, presenting the achievements of the project**



The second speaker – Juliusz Żach, representing Mostostal S.A. Warszawa, FC-DISTRICT project coordinator delivered presentation giving an overview of FC-DISTRICT project and its main achievements.



**Figure 2: Juliusz Żach, presenting the background of the FC-DISTRICT project**

The next presentation, entitled New challenges in small energy sources – CHP case was delivered by Dr Tomasz Golec – the head of Thermal Processes Department, actively involved in SENERES project realization. He has showed, among the others, the level of the advancement of small cogeneration unit in Thermal Processes Department.



**Figure 3: Tomasz Golec presenting new challenges in small energy sources**

Next two presentation were devoted to fuel cells development. Dr Janusz Jewulski, the head of Fuel Cells Department of the Institute of Power Engineering has delivered a presentation *Fuel cells for future electricity and heat production*, showing the perspectives of technologies being under development of his laboratory.

The second presentation concerning fuel cells was prepared by the researcher employed within the frames of SENERES project in the CEREL branch of the Institute, Jan Pieter Ouweltjes. He originally is a researcher of ECN in Netherlands, specializing in Solid Oxide Fuel Cells (SOFC) system. Pieter Ouweltjes presented the level of development of SOFC single cells and stacks in CEREL branch.

**Figure 4 Janusz Jewulski, explaining the advantages of fuel cells as u-CHP source of energy**



After the presentations concerning very technical details of energy technologies, Dr Zygmunt Parczewski, the expert on national and European energy and climate policy, employed in the Energy Research Integration Centre CENERG has presented European and Polish standards and procedures for CHP energy production. He went into details of European Union directives and other laws supporting high efficient cogeneration.

The next presentation concerning German experiences with fuel cells as small CHP units was delivered by Sławomir Kakietek, the employee of the Thermal Processes Department.



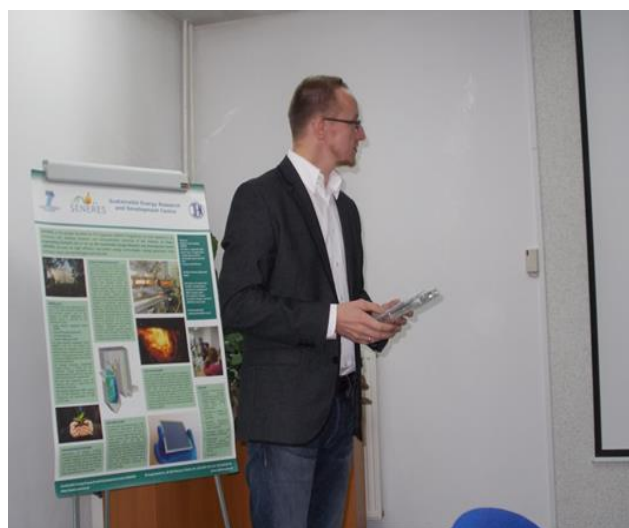
**Figure 6: Zygmunt Parczewski presenting u-CHP standards and economy**

The next speaker Göran Johansson from Powerpipe Systems AB, presented Swedish experiences with new technologies for insulated pipes production and installation. He showed a special type of insulated pipes, that was used in pilot installation, prepared within FC-District project. The subsequent presentation, delivered by Dr Sławomir Kakietek also concerned New installations for energy savings.

After Dr Sławomir Kakietek presented IEn input to FC-District project.



**Figure 5: Goran Johansson presenting a new insulated pipe**



**Figure 7: Sławomir Kakietek is describing the Polish demo site of FC-DISTRICT project**

Subsequently Marcin Chmielewski, representing Mostostal Warszawa S.A., has delivered a presentation concerning EINSTEIN Project (Effective Integration of Seasonal Thermal Energy Storage systems IN existing buildings).

After all presentations short discussion took place, the seminar was summarized by the organizers: Dr Andrzej Sławiński – SENERES project coordinator and Juliusz Żach – FC-DISTRICT project coordinator.

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### **SENERES Seminar 27.01.2014 Biomass, clean coal technologies, SOFC - next steps in technologies development**

SENERES team has organised the Scientific Seminar on the 27th of January 2014.

It took place in Arco Conference Centre in Warsaw. The Seminar Agenda included presentations of scientists from IEn's Thermal Processes Department including Fuel Cells Laboratory who presented results of their latest research.

It has gathered almost all researchers from SENERES's key units: Thermal Processes Department, Fuel Cells Department and Energy Research Integration Centre CENERG.



SENERES coordinator Andrzej Sławiński (PhD) together with Tomasz Golec PhD (SENERES Scientific coordinator) have welcomed all participants.

After the introduction the following researchers have given their presentations:

T. Golec/B. Świątkowski

T. Golec/B. Świątkowski

P. Płaza

A. Milewska

J. Hercog

M. Stefański

I. Pięta

M. Wierzbicki

J. Kupecki

R. Antunes

A. Celińska

J. Ilmurzyńska

M. Siedlecki

A. Jakubiak

K. Białobłocki

S. Kakietek