



## INTERNATIONAL SCIENTIFIC & EXPERT MEETING OF GAS PROFESSIONALS

04 – 06 of May 2016, Opatija, Croatia



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The International Scientific & Expert Meeting of Gas Professionals and the gas equipment exhibition were held successfully in the Congress Centre of the Grand Hotel Adriatic, Opatija, Croatia on 4th till 6th of May 2016. The largest annual gas event in South-East Europe, organized by the Croatian Gas Centre Ltd. and Croatian Gas Association, gathered more than 550 participants from 22 European countries. Those were mostly gas and energy experts, managers from leading European energy companies, scientists from renowned European universities, gas transmission representatives, suppliers, producers and distributors of gas, representatives of large gas consumers and producers and traders of gas equipment from Croatia and abroad. Totally 230 various gas and energy companies and organizations were present, of whom 85 from abroad and ten journalists from 10 media companies. The organization of this Meeting has been supported by the long-term partner of this conference - company Siemens d.d. and numerous long-term sponsors such as companies INA – Industrija nafte d.d., Plinacro d.o.o., Prvo plinarsko društvo d.o.o., MET Croatia Energy Trade d.o.o., Međimurje-plin d.o.o., DNV GL, Geoplin, IP Systems Ltd., Hrvatska Elektroprivreda d.d., RWE Hrvatska and co-organizer Podzemno skladište plina d.o.o. During the three days of the event a total of 48 scientific and professional papers (of which 4 invited presentations and 8 papers in poster session) and 6 technical-commercial pa-

pers (round-tables) were presented covering the following current gas topics:



### 1. Invited presentations: The effects of CO<sub>2</sub> emissions on gas and future energy systems – paper presentation and panel discussion

The first presentation from the invited lectures was given by D.Sc. Vladimir Jelavić who provided an approach to preparing the basis and the partial results related to low-carbon strategy for the Republic of Croatia by the year 2030 and a view of the year 2050. Special attention was placed on the role of gas and its role in the transition period, with an emphasis on sub-sectors and the reference scenario NUR along with scenarios relating to gradual transitions NU1 and strong transitions NU2. A presentation is also given of the necessary measures for the decarbonisation of society and which ultimately benefit the community. D.Sc. Stevo Kolundžić commented on the market position of natural gas in relation to

the low-carbon strategy in a global sense and the challenges faced by today's gas sector. This was followed by M.Sc. Miralda van Schot from the Energy Delta Institute, who presented a study analysing an example of intelligent collaboration on the North Sea, based upon which existing oil and gas platforms on the sea become suitable for converting wind power into hydrogen, methane or synthetic gas using conversion process as well as the storage, transportation and sale of gas from offshore platforms, gas production from renewable energy sources, specifically from the North sea, utilising the power-to-gas model. The next very interesting talk by M.Sc. Lisa Andresen presented the TransiEnt.EE research project from the Hamburg University of Technology, involving investigation of the transient behaviour of associated energy networks with a high proportion of renewable energy sources and presenting a numerical assessment of the gas network utilisation as a flexible option for supplying energy from fluctuating renewable sources.

In presenting new technological solutions in the gas and energy sector, Mario Opačak, company director of Vaillant, pointed out all the advantages of an efficient hybrid system equipped with a 3kW heat pump, whereas the Viessmann hybrid solutions based on a twin energy source in a single device providing high flexibility and a secure future was expounded by Ivana Lajtman.

The initial lectures were the basis for a panel discussion chaired by Prof.D.Sc. Igor Dekanić with panelists D.sc. Vladimir Jelavić, D.sc. Stevo Kolundžić, D.Sc. Dalibor Pudić and Branko Radošević. The conclusion of the discussion was that Croatia needs to find its own path in the low carbon strategy using all its existing comparative advantages, while adhering to economic and social factors.

## 2. Development of intelligent technology in gas and energy systems

The above topic was commenced with a presentation explaining the experience of Germany in optimisation of gas network pressure manage-

ment, primarily in regard to detection and control of possible gas due to gas leakages. Moreover, the practical possibilities of controlling gas consumption in a new way via remote data processing and resolving issues regarding non-payers using a new technology and meters that can remotely shut off gas flow until users settle their financial obligations. Due to replacing the conventional operations and rationalising costs, a new approach and new technology has been designed and presented in mapping and monitoring gas pipelines, including the use of drones, which are capable of recording and gathering information resulting in time-savings and the acquisition of more precise final data. A software solution for billing and collecting charges for natural gas – Faros, is a new contribution to processing data where its features are explained utilising practical examples and which is already in use. The last presentation encompassed issues relating to the upgrading and reconstruction of compressor stations in order to improve the Okoli underground gas storage, which has provided insight into all activities undertaken for the purpose of reliable operation and cost reduction.



## 3. Planned development projects in the Republic of Croatia (gas pipelines, compressor stations and the LNG terminal)

The third topic focuses on the basic elements of the highly developed and reliable existing gas network in the Republic of Croatia, the national transporter - Plinacro. A presentation is given on current preparations for implementing the ter-

minal infrastructure of the potential LNG project on the island of Krk, along with an overview of undertaken actions and money obtained from EU funds. Likewise, an overview is given of the technological development and progress in maintaining a gas system in terms of pipeline controls and security, including ongoing improvement of chromatographic monitoring of gas quality and the modernisation of quality data transmission. In regard to the issue of the status of LNG at a global level, the presentation covered the most important global gas producers and consumers, including commercial trends and perspectives in the future.

#### 4. Utilisation of gas and reduction of CO<sub>2</sub> emissions

The presentation covers the technological de-



velopment of gas production, specifically a new (container type) cooling system in use at the Sandrova Compressor Station, by the company INA - industrija nafte d.d. for the purpose of achieving a higher gas quality and preparations for the distribution system. Insight was also given into application of tertiary methods in increasing oil recovery of hydrocarbons at the Ivanić-Grad and Žutice oil fields by injecting CO<sub>2</sub> and the associated prospects, as well as being a possible model for other projects. A description was also given of the technology behind the organic Rankin cycle the purpose of which is to reduce CO<sub>2</sub> in the oil and gas industry, where the potential of micro-co-generation devices in fuel cell technology is also

treated as a future option.

#### 5. Introductory presentation and panel discussion: Supplying gas in a liberalised market

Lectures preceding the panel discussion provides a clear overview of inequality in the level of development of the natural gas market in the region, where Serbia is a country in which the process of market liberalisation and finding the path to supply diversification is yet to begin, including Hungary which already possesses 6 years in successful application of the above mentioned. Temporary cancelling the principle of “take or pay” in the contract between Naftogaz and Gazprom is presented in the context of possible future consequences and the supply of natural gas by Ukraine. In contrast, Croatia, which has in a short time made progress in developing its market, anticipates next year the final phase of market liberalisation, specifically households. The treated issues such as deregulation of prices to households, implementation of the balancing code, the role of REMIT the development of an LNG terminal, were a introduction to a broad panel discussion - a panel of representatives covering all factors of the gas chain and chaired by Prof.D.Sc. Igor Dekanić. The conclusion at the end of the panel discussion was rational knowledge that the companies acting as suppliers and distributors will face a big challenge in terms of personnel, organisational and financial aspects due to new market competition in the future and accompanied by the substantial role of the Croatian Energy Regulatory Agency as the regulator.

#### 6. Technical, economic and other issues associated with the LNG and LPG

The future role of gas is one of the most important points in future energy consumption, and is associated with very uncertain predictions in pricing gas, as elaborated in the introduction. Subsequently, a reference was made to explaining optimisation of urban gas networks in the future thermal energy market, and thereafter a look at the models of assessing risks associated

with the gas usage in industry using examples from France. Gas has one of the most significant roles in decarbonisation of the transport industry, and a presentation of possibilities and potential in the Republic of Croatia was given in regard to the low-carbon strategy, which precluded talks on LNG in the transport industry. An in-depth presentation is given of the possible LNG uses as a substitute for diesel fuel in maritime transport on the Adriatic Sea, and a thorough overview of the possible development of LNG consumption in smaller scopes such as truck transport, smaller boats, port infrastructure and the like, including practical examples from the EU. The issues involving losses due to evaporation of LNG and expenses incurred during transport on tankers, were the focus of talks held at the end after the afternoon presentations.

### 7. Gas meters and calibration stations issues, the gas supply and demand relationship in Dalmatia

At the beginning, the importance of compliance with industrial standards and checking



leakages at flange connections were given including the proper choice of materials for safety reasons. Subsequently, a presentation was given of current state of laboratory operations in testing the calibration of gas flow meters in the Republic of Croatia, where from a total of 9 laboratories, 6 of them have obtained or are in the process of obtaining accreditation as inspection bodies. Experience acquired in Germany was also presented,

including the use of closed high-pressure calibration systems for meters, and thereafter data on the mode of operation of ultrasonic gas flow meters under operating conditions after calibration using air at atmospheric pressure. Finally, the final section of the topic presents the latest indicators on progress of the gasification of Dalmatia which seem to be encouraging, given that half-yearly gas consumption in 2016 totalled practically almost the total amount for 2017.

### 8. Technical regulations and rules of the profession for safe and efficient gas use

The development and significance of odorization in the gas system of the Czech Republic was emphasised by the company RWE, due to reduced operating costs and an increase in safety levels. Likewise, particular emphasis was placed on the safety zone in manner of operation and access by the Ex Agency through application of EU regulations in areas of natural gas and liquid petroleum gas plants. Subsequently, the proactive approach of DVGW and its role in organising the gas market was expounded. Finally, the legal problem of utilising EU funds through a fast-track procedure was presented and the way of simultaneously undertaking coordination with public authorities, which proved to be a limiting factor in ongoing implementation of projects.

As was the case in previous years, this time as well, due to the large number of registered papers the poster session was organized. Total of 8 scientific & professional papers from Croatia and abroad were published and presented.

At the same time in front of the Grand Hotel Adriatic congress hall premises the largest three-day exhibition of gas equipment in South-East Europe took place where 44 exhibitors of whom 15 from abroad, presented their products and services. The exhibition was attended by representatives of gas equipment manufacturers and traders who have actively participated as exhibitors at Opatija Meetings of gas professionals for a number of years, but also a significant number of

new exhibitors, from Croatia and especially from abroad, have participated for the first time, which proves continued growth of interest for exhibiting on the annual gas technology exhibition in Opatija.

At the end of this year's conference, **Prof.D Sc. Šunić, president of Croatian Gas Association**, thanked all participants who have contributed to the success and quality of the annual gas event, which has managed to gather even more experts than the last year and once again proved its quality and size despite the challenging times we have been witnessing for many years. Prof. Sunic also announced the next conference, the **32<sup>nd</sup> International Scientific & Expert Meeting of Gas Professionals**, which will take place again in **Opatija on 3<sup>rd</sup> till 5<sup>th</sup> of May, 2017**.

The rest of important professional messages with various explanations will be published in the next issue of the professional magazine PLIN no. 2/2016 (lipanj) and on the [event website](#).

Photos from the 31st Meeting can be viewed on the event website under [Gallery](#).