



INTERNATIONAL GAS UNION

“GROWING TOGETHER TOWARDS A FRIENDLY PLANET”



Dear Madam, Dear Sir,

The Working Committee 2 “Gas storage” (WOC2) of the International Gas Union (IGU) would appreciate to have your contribution to the “Program of competition in honour of 100 anniversary of underground gas storage (UGS)”. Program is based on sponsorship of WOC2 members. Your active involvement in this Program provides an excellent opportunity to show your capability and to declare about your active position in actively developing international gas industry.

About IGU

The International Gas Union (IGU) is a worldwide non-profit organization. The objective of IGU is to promote the technical and economic progress of the gas industry. The members of IGU are associations and entities of the gas industries in 83 countries. It cooperates with many global energy organizations. IGU's working organization covers all domains of the gas industry.

About WOC2

The Working Committee 2 (WOC2) is a one of the Committee of IGU. It deals with Underground Gas Storage. It is led by:

Chair Person: Ladislav Goryl (Slovakia), **Vice Chair:** Nikita Barsuk (Russia), **Secretary:** Maria Polakova (Slovakia)

The work of WOC2 during the 2012-2015 triennium is supported by three study-groups:

Study group SG2.1 (led by Vladimir Lorenc, Slovakia): Updating and improving the IGU UGS database

Study group SG2.2 (led by Fabien Favret, France): Definition of some best practices in UGS operation and design: reduction of methane emissions, well integrity management, CO₂ sequestration, maximum operation of salt caverns

Study group SG2.3 (led by Nikita Barsuk, Russia): Skills and Competencies for UGS activities

About the World Gas Conference in Paris

The IGU organizes the World Gas Conference (WGC) which takes place every 3 years. The WGC is a major event where well-known leaders, strategists, stakeholders and the industry meet. The next WGC will take place in Paris (France) in June 2015.

The objective of the **SG2.3** in the triennium is to provide status and deliver some sorts of solutions for increasing attractiveness of gas industry but especially storages. The winning authors of “Program of competition among student's and young specialist's thesis in honour of 100th anniversary of UGS” will get the floor to present their works at the World gas conference as a part of WOC2 session.



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The general conditions for participation are as follows:

The “Program of competition in honour of 100th anniversary of UGS” is dedicated for students and young specialists working with or willing to work in UGS industry. The limiting age of the candidates is thirty. Authors of the three best theses will be awarded free participation to the world gas conference in Paris 2015 free of charge.

Authors are requested to submit papers relating to the topics and format instructions below.

The WOC-2 Competition Committee will evaluate all abstracts submitted and determine the selection for competition. Official notification of acceptance or rejection of an abstract will be emailed to the corresponding person on September 30, 2014.

Criteria for selection shall be based upon:

- Conformity to the purpose of the respective subject
- Relevance to the competition theme “100 anniversary of UGS” and topics announced.
- Author feet declared requirements (age, status)

The WOC 2 Competition Committee will evaluate all abstracts selection for competition according to specially developed score system. Criteria for scoring shall be based upon:

- Relevance and degree of benefit to the gas industry
- Originality
- Actuality
- Personal contribution
- Content and execution quality

WOC2 will select up to 3 winners and inform all participants of competition about scores received.

Official notification of competition results will be declared on November 15, 2014. Nomination letter will be emailed to the corresponding person.

Format Instructions for theses

Submission period: January 02, 2014 – June 15, 2014

Submission method: Abstracts will be accepted in a soft format at the e-mail: N.Barsuk@adm.gazprom.ru

However, in exceptional cases where local infrastructure for accessing the internet is unavailable, submissions of hard copies by ordinary means (fax or regular mail) will be accepted. Contact information: Mr. Nikita Barsuk, Nametkina str. 16, JSC “GAZPROM”, Department of gas transportation underground storage and utilization, Moscow GSP-7, 117997, Russia

No. of words: 20,000 words (approximately)

Language: English

File format: All abstracts must be in Microsoft Word format (doc)

Abstract format:

1. Title page: according to attached title page draft template
2. Body text typing: single spacing in 12-point Arial font size
3. Simple interline spacing paragraphs
4. Paper size: A4 (210 x 297mm)
5. Margins: 2.5cm



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Abstract layout:

1. Table of contents
2. Background
3. Aims
4. Methods
5. Results
6. Summary/Conclusions

Maximum size of a graph, 320 x 240 dpi

Word document should not exceed 5MB

Abbreviations/Acronyms Should be spelt out in full when first mentioned, followed by the abbreviation or acronym in brackets

Restrictions: Avoid mentioning brand names. Indicate if there is a conflict of interest.

Each participant is required to complete a registration form:

Participant's

Surname: _____

First name: _____

Subject of paper: _____

The Company/University: _____

Position/Faculty: _____

Correspondence address: _____

Telephone: Country code, City code, No.

Fax: Country, code City code, No.

E-mail: _____

Contacts

All necessary information and instructions you can find on the website www.IGU.org.

If you need any further information please contact:

n.barsuk@adm.gazprom.ru

maria.polakova@nafta.sk

Or call Nikita Barsuk at +7 -495-719-68-35

or Polakova Maria at +421-34-697-46-76

TOPICS

Strategic vision of IGU 2012 – 2015, The 4 pillars



Topics of these corresponds to “gold” and “green” strategic pillars of WGC Paris 2015

Samples of titles of thesis:

2. Combination with renewables & electricity

- New roles of storages (support of renewable energies, energy storage, electric grid balancing, and etc.) and their impact on storage design and operation;
- CAES (Compressed air energy storage) with heat recovery (capturing heat generated during a phase of air compression and its usage for pre-heating of expanded gas)
- Concept “Gas to power” and usage of underground gas storage for storing (mixture of natural gas with hydrogen, synthetic gas, hydrogen storage, biomethane)

3. Natural gas for sustainable development

- Reduced emissions and increased efficiency in compression technology;
- UGS facilities as a core and cost-effective tools to match supply and demand on peak and seasonal basis;
- Technical improvements in design or operation to use the capacities of the UGS facilities at their maximum;
- End-user and gas market needs in terms of operation flexibility and reliability of UGS, plus gas withdrawal and injection rates;
- Partial replacement of cushion gas with nonhydrocarbon gases (projects on CO₂ sequestration or nitrogen injection);
- New technologies for new projects (salt caverns with two wells, multi-cycling mode, drilling in strongly depleted field, etc.);
- Efficient operation, technical and economical optimization, balancing energy consumption in real-time vs prices forecast.



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OFFERS TO SPONSORS

Dear Colleagues,

You are hereby cordially invited to take part in the “**Program of competition in honour of 100th anniversary of UGS**”

Time and venue: January 02, 2014 – November 15, 2014, WGC Paris 2015

Be the sponsor of our Competition Program and don't miss the opportunity to present your company! We are certain that cooperation will be of benefit to all participants and will help you make new business contacts.

1. Platinum sponsor EUR 10,000

- Logo on the title page of the collected papers and other Program materials;
- One page announcement in the collected papers (print run of 100) **or alternatively** a one page description of the company and introduction to its products and the area of their application in the collected papers;
- Space for a stand in front of the Program venue in framework of WGC Paris 2015;
- Provision of materials for Program files;
- Opportunity for presenting advertising materials;

2. Gold sponsor EUR 5,000

- Logo on the title page of the collected papers and other Program materials;
- A note (of about 500 words) describing the company and introducing its products and the area of their application in the collected papers;
- Space for a stand in front of the Program venue in framework of WGC Paris 2015;

3. Silver sponsor EUR 3,000

- Logo on the title page of the collected papers and other Program materials;
- 100 words describing the company and introducing its products and the area of their application in the collected papers;

Price listed including all relevant taxes

Best Regards

Georges Liens

IGU co-ordination committee Chair

Ladislav Goryl

IGU WOC2 Chair Person