Activity Report 2010-2011
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The effects of the economic crisis and the discussions at European level regarding how to achieve EU goals on sustainability, efficiency and security of supply have had an impact on the European Gas Industry over the course of 2010.

Over the past year, natural gas consumption in Europe increased and matched 2008 levels, having decreased in 2009 due to the effects of the economic crisis. This reinforces the Gas Industry’s view that natural gas currently plays a key role and will continue to do so, with regard to achieving strategic EU energy objectives. Natural gas is not only an ideal partner for supporting intermittent renewable energies but is also a key driving force behind achieving targets for reducing CO₂ emissions and increasing efficiency through its applications in power generation, domestic heating, transport, CHP or micro-CHP.

Moreover, the implementation of the third gas directive will present new Industry challenges, such as the development of smart gas metering and the study of implementing the Smart Gas Grids concept; both topics raised by the European Commission as short and medium term targets. MARCOGAZ has been proactive in these fields generating position papers and currently leading the Smart Metering Coordination Group of CEN-CENELEC-ETSI and the Working Group of the European Commission on Smart Gas Grids.

These challenges will require cooperation between all Gas Associations and stakeholders. As a result, MARCOGAZ has worked closely with Eurogas, GERG and other Gas Associations providing technical expertise in projects and joint working groups.

MARCOGAZ continues to work with the European Commission Services and Standardization Bodies such as CEN and ISO to establish a favourable and non-discriminatory technical regulatory framework for natural gas and its applications, as well as to support the introduction of new equipment on the market.

Communicating the benefits of natural gas related to safety, reliability, cost efficiency and sustainability in the future will be one of the main objectives for all Gas Associations. The first EGATEC (European Gas Technology Conference) organised by MARCOGAZ, GERG and DGC (Danish Gas Technology Centre) who hosted the event on the 12th and 13th of May 2011 in Copenhagen and the 8th European Forum Gas, held in 2010 in Loughborough (United Kingdom) in collaboration with G ERG, National Grid, IGEM and SBGI proved to be important communication tools for our Association and our Industry to position natural gas as the link to a cleaner future by presenting the latest technological developments on infrastructure management and gas utilisation.

In 2010, the Company Geoplin Plinovodi, the Transmission System Operator of Slovenia, joined MARCOGAZ as a new Member. In the 1st half of 2011, Gasum Oy from Finland, Zebra Gasnetwerk/Enexis from the Netherlands and Scotia Gas Networks from the United Kingdom become Members. This new incorporation sees 27 Members in 22 European Countries represented at MARCOGAZ, which continues to contact potential new Members in a bid to open the Association to all European Countries.

I am pleased to present the 2010/2011 activity report displaying all of MARCOGAZ’s activities in the fields of Infrastructure, Utilisation, Safety, Health and Environment. I would like to take advantage of this opportunity to thank all Standing Committees, Working Groups and the MARCOGAZ Secretariat team for the very good job carried out over the last one and an half year.

Carlos Villalonga
President of MARCOGAZ
It becomes more and more obvious that natural gas is essential to secure a reliable long term energy supply in Europe and to build an energy system based on increased use of renewables. The International Energy Agency report "Are we entering a golden age of gas?", published in June 2011, confirmed that natural gas should play a greater role in the future global energy mix, by increasing its share in the final energy consumption which today accounts for 23% in the 22 MARCOGAZ Members Countries. The stringent European goals in terms of development of renewable energies will not be reached without the help of natural gas.

To match the very challenging goals of the European Energy Policy in 2020 firstly and 2050 later, a significant development of a safe, efficient and reliable gas infrastructure (high pressure gas grids, distribution networks, customer installations) is necessary. Maintaining and keeping the excellent safety level of the existing very extensive gas infrastructure system will continue to be a primary objective for all gas network operators.

Developing extremely efficient new gas utilisations is also a strong necessity to reduce the energy intensity. During the last year, MARCOGAZ technical activity was focusing on some of the most important aspects of the European Energy Policy by:

- promoting the introduction of new gas appliances for the residential and commercial markets such as micro CHP or Gas Heat Pumps in the current regulatory process by producing position papers and reports (Directive 2009/125/EC on Eco-design requirements);
- continuously promoting and providing advices regarding the safety of gas transmission, distribution and installations, especially by supporting technical harmonisation through European and International Standardisation (e.g. CEN/TC 234 Gas Infrastructure);
- monitoring technical aspects of high importance for the completion of the European internal energy market such as gas quality or biogas European standards and specifications;
- chairing the European Smart Metering Coordination Group (SM-CG) in charge of producing the standards necessary to roll out millions of intelligent metering in Europe;
- preparing the 1st report identifying the functionalities and services of future smart gas grids, part of energy systems of tomorrow;
- organising Technology European Conferences (EFG 2010, EGATEC 2011) to present and share technical developments and best practices;
- participating actively with other Gas Industry Associations such as Eurogas, GERG, GIE, COGEN Europe, OGP and IGU to gas advocacy actions;
- keeping close contacts with manufacturers of other energy Organisations.

This Activity Report highlights some of the main actions and achievements carried out by MARCOGAZ through a network of more than 300 high level executives and experts in 2010 and the first half of 2011.

Daniel Hec
Secretary General
Created in 1968, for technical harmonisation, MARCOGAZ has developed over the years an efficient reputation with the official bodies in the European Union and other influential partners.

MARCOGAZ chief mission is to serve its Members as the European window for any technical issue regarding natural gas.

As the only technical representative Organisation of the European Natural Gas Industry, it aims at monitoring and taking influence when needed on European technical regulation, standardisation and certification with respect to safety and integrity of gas systems and equipment, rational use of energy and environmental issues.

Promotion of modern and efficient gas utilisation and leading to energy savings and reduction of CO₂ emissions is an important part of MARCOGAZ activities.

Environment, health and safety issues related to natural gas systems and utilisation are especially of great importance for MARCOGAZ.

MARCOGAZ collects and analyses incident data regarding gas distribution and internal installations.

MARCOGAZ also gathers many technical data regarding gas infrastructure.

### Mission and tasks

#### Chief mission

**To serve its Members as the European window on technical legislation and standardisation and to promote technical conditions required for the market success of natural gas**

Achievement of the mentioned aims is sought by means of:

- Defining views and common positions on technical issues of common interest and representing these to European and International Bodies, in particular to the European Authorities, the United Nations, the European Committee for Standardisation (CEN), the International Organisation for Standardisation (ISO) and other Industry Organisations;
- Promoting and monitoring European standardisation and related certification in selected areas;
- Identifying the need for any new standards on topics of interest to the gas sector and associated research;
- Promoting technical co-operation among the Gas Industry Members;
- Promoting and organising co-operation with related Industries’ Associations, including other pipelines operating Industries and Manufacturers of equipment and appliances used for gas supply and for gas utilisation and with consumers’ Organisations.
The activities of MARCOGAZ are listed in this report, implicitly highlighting the major objective for MARCOGAZ Members to achieve an effective Industry presence and response towards public and official queries and regulatory initiatives facing the gas sector at the European level and often following through to the National level. Industry co-operation within MARCOGAZ will ensure timely information, consultation and response, while offering a platform for authoritative and consistent industry representation making most effective use of industry resources in terms of experts, knowledge and finance required.

MARCOGAZ was registered on 23rd May 2005 as an International Association under Belgian law on non-profit International Association and Foundations (laws 27th June 1921 and 02nd May 2002). Its headquarters are located in Brussels. Copy of the official statutes can be obtained from our website www.marcogaz.org.

The General Assembly of MARCOGAZ consists of delegations representing the various Gas Industry Companies and Organisations sharing in the membership.

The Executive Board, meeting normally 3 times a year, defines, adopts and controls strategies. It gives guidance to the two Standing Committees Gas Utilisation and Infrastructure, and, jointly with Eurogas, to the Joint Group Environment Health and Safety.

Industry Executives and High Level Experts are Members of the two Standing Committees and the Joint Group, in charge of their respective fields of activity.

Working Groups are set up when required to deal with specific subjects. They are disbanded when not anymore necessary. In 2010 the following Working Groups successfully achieved their targets and where disbanded: Third Party Interference and NOx. The Working Group Industrial Gas Installations was declared dormant, its activities being transferred to CEN Sector Forum Gas. In 2010 the Working Group Gas Metering included Smart Metering and Smart Grids issues and the new Working Group Air Emissions (included the Emission Trading Scheme) started.

The General Secretariat representing MARCOGAZ with all relevant external official and industry partners and servicing the activities of MARCOGAZ internal bodies, consists of one full time Executive (the Secretary General), one full time Technical Advisor, a part time Technical Advisor and one full time Executive Assistant. In 2011 a new full time Advisor will be recruited, increasing the permanent Brussels staff to 4.
General Assembly

The General Assembly held its 2010 annual session on 04th June 2010 in Athens (GR) and its 2011 annual session on 11th May 2011 in Copenhagen (DK).

On this occasion, review of the activities of the Standing Committees and Joint Group Environment Health and Safety was carried out, new work plans were approved and liaison with other bodies examined. In addition, very important strategic views for the future of the Association were discussed. In Athens, the General Assembly unanimously elected C. Villalonga (Sedigas) as President and P. Schuddebeurs (Gasunie) as Vice President of MARCOGAZ for the period 2010 – 2012. The new version of the Statutes, amended with the new membership rules, with the view of increasing the possibilities for Companies / Associations for becoming MARCOGAZ Member, was finally approved by the Belgian Ministry on 03rd May 2010. The External Organisations collaborating with MARCOGAZ were invited to present their activities (EUROGAS, IGU, GIE, and GERG).

Geoplin Plinovodi (Slovenia) joined MARCOGAZ as new Corporate Member in 2010. Zebra Gasnetwerk B.V/Enexis (the Netherlands), Gasum OY (Finland) and Scotia Gas Networks (U.K) joined MARCOGAZ as new Corporate Members in 2011. The Assembly welcomed the new Members highlighting the growing representativeness of MARCOGAZ towards stakeholders.

Executive Board at 1st July 2011

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<th>Name</th>
<th>Company</th>
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<td>Carlos Villalonga</td>
<td>SEDIGAS</td>
<td>Spain</td>
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<td>Gérard de Hemptinne</td>
<td>Fluxys S.A.</td>
<td>Belgium</td>
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<td>Marc Florette</td>
<td>GDF SUEZ</td>
<td>France</td>
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<td>Walter Girsberger</td>
<td>Swiss Gas &amp; Water Industry Association</td>
<td>Switzerland</td>
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<td>Vivi Gourioti</td>
<td>DESFA</td>
<td>Greece</td>
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<td>Dirk Gullentops</td>
<td>Synergrid</td>
<td>Belgium</td>
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<td>Peter Hinstrup</td>
<td>Danish Gas Technology Centre</td>
<td>Denmark</td>
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<td>Theo Jannemann</td>
<td>DVGW</td>
<td>Germany</td>
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<td>Milos Kebrdle</td>
<td>Czech Gas Association</td>
<td>Czech Republic</td>
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<td>Erwin Mollink</td>
<td>N.V. Nederlandse Gasunie</td>
<td>The Netherlands</td>
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<td>Liam Nolan</td>
<td>Bord Gáis Networks</td>
<td>Ireland</td>
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<td>Ratislav Nukovic</td>
<td>Eustream a.s.</td>
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<td>Dan Pantilie</td>
<td>S.C. Distrigaz Sud S.A.</td>
<td>Romania</td>
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<td>Nicolás Pericacho</td>
<td>Enagás</td>
<td>Spain</td>
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<td>Michele Ronchi</td>
<td>CIG</td>
<td>Italy</td>
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<td>David Salisbury</td>
<td>National Grid Gas PLC</td>
<td>United Kingdom</td>
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<td>Sibel Sayiner</td>
<td>Gazbir</td>
<td>Turkey</td>
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<td>Alexander Schwanzer</td>
<td>Austrian Association of Gas &amp; Water</td>
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<td>Gro Stakkestad</td>
<td>Statoil SA</td>
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<td>Walther Thielen</td>
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<td>Zlotan Zana</td>
<td>FGSZ Ltd.</td>
<td>Hungary</td>
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MARCOGAZ has its own homepage on the Internet at http://www.marcogaz.org which offers general information on the Association, its organisation and activities as well as access to major reports and publications.

Specific information regarding MARCOGAZ events, such as EGATEC, European Forum Gas or Workshops, including downloadable presentations and documentation can be found on the website.

In 2011 a Benchmarking forum and Statistical data collection module will be linked to the website.
One of the most important tasks of MARCOGAZ is to inform engineers and technicians who are working for the Gas Industry. For this reasons, beside ad hoc workshops and seminars organized on different issues such as gas quality or micro CHP, MARCOGAZ organizes the European Forum Gas which has the aim to present and exchange on the most actual technical questions interesting Gas Companies.

In 2010, IGEM and the Utility Networks Division of SBGI teamed up with MARCOGAZ (Technical Association of the European Natural Gas Industry) and GERG (European Gas Research Group) to organize the 8th annual European Forum Gas 2010 held on 06th & 07th October in Loughborough, the event provided views from across Europe and gave participants an exceptional insight into both the UK and Wider European Gas Industries.

IGEM President, Jeremy Bending, opened the event by welcoming all the delegates and thanking the speakers and sponsors. Principal sponsor was GL Noble Denton and fellow sponsors were Enterprise and Capita Symonds.

The Conference was divided into 4 sessions:
- Policy and Regulatory Issues;
- Security of supply – Fact or fiction?
- Downstream and demand side;
- Technology, innovation and best practice.

15 high level speakers highlighted issues of growing importance such as biomethane injection, shale gas, network regulation, smart meters development, qualification and competences or asset management. All presentations delivered can be viewed/downloaded from the MARCOGAZ Website.

**GASTECH 2011**

MARCOGAZ was an official supporter of GASTECH 2011 in Amsterdam, hosted by Shell. GASTECH 2011 was a premier event in the global gas calendar, offering a much-anticipated opportunity to connect with the global professional gas community in exploring issues surrounding the entire spectrum of the upstream, midstream and downstream Industry. The 250 Companies-strong GASTECH Exhibition provides attendees with an unprecedented showcase of the latest innovations, technologies, products and services.

**EU Sustainable Energy Week**

In April 2011 MARCOGAZ, EUROGAS and GERG have participated in the EU Sustainable Energy Week (EUSEW). The theme of the workshop was "Natural Gas Facilitating Sustainable Energy Solutions". The three Organizations have taken the occasion of the EUSEW to shed light on the great benefit that can be obtained by an increasing role of natural gas: further significant and quick gains in greenhouse gas reductions, enhancement of contribution of intermittent renewables, advanced technologies for gas equipment, research and innovation. MARCOGAZ presentation by J. Schweitzer (DGC) "Heating the homes of tomorrow; micro CHP and beyond" was especially well received.

**EGATEC 2011**

The first EGATEC Conference was organised on 12th & 13th May 2011 in Copenhagen (DK) under the joint auspices of MARCOGAZ, GERG and Danish Gas Technology Centre (DGC) who hosted the event.

**Essential lessons of the Conference**

The Conference concluded that the natural gas system will play an important role in the future energy mix, the major reasons being:
- Gas reserves have grown significantly over a short period of time;
- The gas network is suitable for transportation of “green” gases;
- The gas system has the buffer and storage capacity necessary for integrating the increased electricity production from solar and wind power.

A well-functioning gas system, therefore, is a prerequisite for both level of security and integration of Renewable Energy (RE) in the energy system of the future.

The challenges turn out to be the large number of decentralised gas production sites, the variations in gas quality, the interaction with electricity production and consumption as well as the creation of smart gas grids that can handle the integration of RE gases, settlement and excess electricity production.
The Conference

260 participants from 25 Countries participated in the Conference. At the same time GERG, the European Gas Research Group, was celebrating its 50th anniversary; so the GERG Academic Network contributed to the conference with a poster exhibition and papers.

The conference was opened by Datuk Abdul Rahim Hashim, President of IGU, who underlined that gas, should not be considered only a transitional solution for the future energy supply. If reserves of unconventional gas are taken into account, natural gas will last for 260 years, the same time frame as for coal. It will be possible to halve the CO₂ emission from electricity production just by replacing coal with natural gas so natural gas also offers an attractive possibility to quickly and easily reduce CO₂ emission.

He was followed by Anders Eldrup CEO of DONG Energy, and Simon Blakey, Special Envoy of Eurogas. On the second day David Carroll, President and CEO of Gas Technology Institute in Chicago made a presentation on unconventional gas.

Klaus Altfeld, from E.ON Ruhrgas, presented a number of GERG contributions to the development of the Gas Industry over the past 50 years.

5 parallel sessions were organized:
PS1 - Smart gas: a reality for the Gas Industry?
PS2 - Biomethane technology for a greener Europe
PS3 - Opportunities for the Gas Industry in CCS?
PS4 - Asset management, a new approach
PS5 - New green gas technologies for domestic & commercial use

A round table discussion was organised to discuss the role of natural gas in the renewable energy future.

The posters focused on production of biogas and hydrogen and the integration of these gases in the natural gas system

A group of 10 selected Companies have been showcasing their commitment to a greener Europe with natural gas.

Two technical tours were organized during the Conference: at Avedorevaerket CHP plant, close to Copenhagen and to Sjölunda sewage and biogas plant, near Malmö (Sweden).

The programme, presentations, papers and posters can be consulted at www.marcogaz.org.

EU-Russia Energy Dialogue

In the framework of the EU-Russia Energy Dialogue, more than 100 participants attended the Conference held in Brussels on 24th June 2011 to examine innovative uses of natural gas.

The Conference focused on the way that new technologies with gas can contribute to the creation of a low carbon economy. Technologies presented included compressed natural gas (CNG) passenger cars, liquefied natural gas (LNG) trucks and ships that also use biomethane and high efficiency home heating systems, some of which also produce electricity, as well as biogas and hydrogen.

The Conference was supported by the European Union of Natural Gas Industry (Eurogas), the Russian Gas Society (RGS), the European Natural & bio Gas Vehicle Association (NGVA Europe), the Technical Association of the European Natural Gas Industry (MARCOGAZ) and the European Gas Research Group (GERG).

On behalf of MARCOGAZ, M. Florette (GDF SUEZ) developed the roadmap for the introduction of the new gas technologies in the residential sector in the next years.

IGRC 2011 Seoul

The International Gas Union (IGU), will held its renowned Gas Research Conference, IGRC 2011, at the COEX Convention Centre in Seoul, the capital of the Republic of Korea, from 19th to 21st October 2011 with the theme “Innovation is the key to a sustainable future”.

D. Hec will present a communication on the 01st Gas Industry Life Cycle Analyses produced by MARCOGAZ and EUROGAS.
Developments in 2010-2011

General

During the past year, SCGU and its related Working Groups were especially active with the implementation of Directives Eco-design (2009/32/EC) and Labelling (2010/30/EC); the goal of SCGU being that existing (condensing boilers) and future high performance gas appliances (micro CHP and Gas Heat Pumps) were given the high labels they deserve.

To achieve this goal, position papers were produced, links were activated with other Industry Associations and a specific MARCOGAZ/GERG Eco-design Expert Group was set up in order to be more reactive.

SCGU also participated in many meetings and events to promote the development of modern and efficient gas appliances. New actions will be carried out in the next future.

In the same period, SCGU with the help of MARCOGAZ Secretariat kept on establishing all necessary links with the Commission’s Units responsible for the relevant directives and bringing in its expertise (GAD revision, gas quality...).

MARCOGAZ also continued to follow and to influence the standardisation process carried out by CEN or ISO, especially when based on MARCOGAZ guidance documents such as its Guidelines for Industrial Gas Installations.

1. Eco-design (2009/32/EC) and Labelling (2010/30/EC implementation)

Recent developments confirm that it is crucial to continue sticking to the appliances which will “survive” in the domestic and commercial areas after the endorsement of the Directive setting high efficiency limit values and emissions thresholds, particularly gas heat pumps and micro CHP. The co-operation with other concerned Industry Federations is therefore needed to express common interests. A combination with workshops giving access to broad information of partners and Authorities would be no doubt an added value.

The last draft implementing regulations for boilers showed significant differences with former proposals from the Commission, especially with the abandon of the system approach for the determination of comparative energy efficiencies for a more traditional situation where the products themselves should be labelled by manufacturers, installers advising the customers on their heating/hot water systems. It is now planned to adopt mandatory regulations for boilers before the end of 2011.

The draft Mandate to CEN which should covers all energy using products considered by the Directive Eco-design, should also be adopted in the second half 2011. The calculation procedures should be drawn from the specific EN standards.

A matter of concern remains with the NOx limits proposed, for which some values are not adapted to technologies such as micro CHP using Stirling engines or engine driven gas heat pumps.


The existing revision process carried out by the European Commission (DG Entreprise) consists mainly of 2 issues:

- to align the existing Directive to take into account the requirements of the “New Legislative Framework” consisting in harmonising its structure, basic definitions and conformity assessment procedures;
- to revise the existing document to include some safety components of customers installations (valves, shut off devices, connectors...) in its scope.

In order to justify the revision process, an ex-post study of the existing GAD was carried out by a Consultant...
Developments in 2010-2011

(RPA) which listed most of the proposals expressed in the past by MARCOGAZ. The emphasis was put on a harmonisation of the gas quality, the access to the national rules of installation and the CO emissions.

A positive outcome for MARCOGAZ, as far as definitely confirmed, was the inclusion of its proposals regarding the definitions of the end user installation and a European form for a harmonised declaration of the distributed gases by the Member States to ensure a common understanding.

Controversial issues remain the obligation of flame supervision device for cooking appliances, the certification of flue ducts and the accreditation of in-house laboratories.

3. Gas Quality/Biogas

MARCOGAZ has been very active in the elaboration of the Mandate M/400 on harmonisation of gas quality, which execution is now under the responsibility of CEN/BT WG 197 which is chaired by the MARCOGAZ WG Chairman. This group is currently finalizing its recommendations, based on the GASQUAL project. The outcome of the project will be a key aspect of the harmonisation gas quality process in Europe.

The biomethane Mandate to CEN (M/475) in the meantime has finally been allocated to the newly created CEN/TC 408 (Chair NEN/Secretariat AFNOR), which is outside of the Sector Forum Gas, a move that will require great attention and active participation of the Gas Industry. At least the preparatory work made in CEN/TC 234 WG 9 on the basis of the MARCOGAZ Recommendation on injection of non-conventional in gas grids should be taken over.

4. Gas Installations

The main activity was concerning the position paper “European Scheme for the Qualification of Gas Installers” that has reached the stage of the final draft. This valuable document is expected to play a pivotal role when discussing safety of all installations in buildings at EU level. The first step will be to inform on the technical characteristics of the gas supply to fill a knowledge gap that has been noticed during the first talks. Moreover it supports the application of the Directive on Services by ensuring the same high level of education and skills across the EU Countries.

MARCOGAZ is also collecting statistics regarding incidents/accidents linked with gas installations in buildings (EGAS C). The year 2009 exposed again the issue of CO poisoning, which is obviously not due to the absence of installation rules but to poor appliances service in some areas.

Also indicated in the last report 2009 is the relatively big share, 22%, of fatalities accounted by intentional interferences (manipulation or suicides).

5. Liaisons with GERG/PCU

The initiated co-operation has been reinforced on the occasion of the last common meeting (07th April 2011, Prague) at which a list of actions has been agreed on.

One of them is related to the complex and specific provisions of the Eco-design Directive demanding an in-depth analysis by experts prepared to devote a part of their time. The future of gas utilisation (heating, hot water production, air conditioning) is simply at stake and the environmental advantages of natural gas (and biomethane) as a very efficient energy should be highlighted.

As a second action, new technologies like micro CHP, which are under the scope of the Gas Appliances and Eco-design Directives, are trump-cards, provided a technically convincing argumentation is developed from the gas viewpoint. SCGU and PCU intend to organize events such a Workshop on Gas Heat Pumps expected at 2011 end to exchange and promote such important technologies.

6. Outlook

The future of natural gas is set to be shaped by the European policy on environment and energy efficiency, an immense field overarching and blurring the boundaries between utilisation, distribution and transmission. This aspect is equally mirrored in the standardisation work, for example within the recently created CEN Sector Forum Energy Management.

Therefore the MARCOGAZ Standing Committees would have increasingly to reflect over an appropriate tool to co-ordinate such activities.
### Developments in 2010-2011

#### General

During the last year, SCGI was especially active with new activities starting such as smart gas grids or odorisation in addition to core issues such as pipelines safety or distribution aspects.

**1. Critical Infrastructure Protection (CIP)**

Through its participation in the GIE Security Study Group, MARCOGAZ attended in 2010/2011 different seminars/workshops such as:

- The Gas Industry workshop for Gas Industry in Paris on 12th July 2010;
- The Workshop on vulnerabilities in European energy transmission systems-assessment and challenges on 5th October 2010 and organized by the European Commission-Joint Research Centre.

MARCOGAZ participated in the European Commission’s DG Energy Thematic Network on Critical Infrastructure Protection (TNCEIP), addressed to energy operators with the main object of discussing on security aspects in the context of EU policy in this area. On the first meetings contributions on “Threat Assessment” including co-statements from Members of the network (best practice, case studies, and cooperation opportunities) has been discussed.

**2. Third Energy Package**

In 2010, the newly created European Network of Transmission System Operators for Gas (ENTSOG) has been first involved in the preparation of the Ten Year Network Development Plan for Transmission Systems and the start of the development of Network Codes. MARCOGAZ has offered to bring its expertise to ENTSOG when needed on technical issues such as emergency planning or network interoperability. Discussion will take place with ENTSOG to discuss the interference between the ENTSOG activities, the CEN/TC234 activities and possible MARCOGAZ input.

**3. Distribution**

Revision of the existing list of Distribution Key Performance Indicators took place in order to make sure that the definition is precise enough, relevant and can be supplied by most of MARCOGAZ Members. The results of the 2008 and 2009 figures, according to the new definitions, were discussed.

Another important issue dealt by the WG during 2010-2011 has been the concept of Gas Balance (or Unaccounted for Gas - UFG). The MARCOGAZ Executive Board asked WG Distribution to prepare a report on what will be “a common understanding of the subject”. It is expected for 2011 to make an “information and explanation” report, which will focus on the technical issues of gas balance.

Other issues dealt during 2010-2011 have been the supervision of construction process, risk calculations in distribution and new mandatory Distribution Integrity Management in the US (DIMP).

**4. Gas Metering**

This group has been very active in 2010-2011. Smart meters and smart grid are becoming now hot topics at EU level. DG Energy and DG Entreprise are managing these issues.

**MARCOGAZ ad hoc group on Gas Smart Grids**

Following the huge interest and activity regarding smart electricity grids and because of the significant differences between electricity and gas, it was decided to work on a position paper on smart gas grids which will express the position of the European Gas Industry on this issue.

In 2010 a table on Smart Gas Grids possible functions has been developed and completed.

**EU Commission Expert Group 4 - Functionalities of Gas Smart Grid**

In 2010 the European Commission requested to set up a specific Task Force on smart gas grids, besides the 3 existing groups dealing with smart electricity grids. The goal of this Task Force Smart Grids is to advice the Commission on policy and regulatory directions at European level and to coordinate the first steps towards the implementation of Smart Grids under the provision of the Third Package Directives. The report of the group, chaired by MARCOGAZ, released beginning of June, was officially accepted by the Commission on 15th June 2011.

MARCOGAZ has been asked to organize a European stakeholder group to continue to exchange on smart gas grids developments and projects.

**Smart Metering Co-ordination Group (SM-CG)**

The SM-CG, created by CEN, CENELEC and ETSI to deal with Mandate M/441, composed by the main EU stakeholders including the Commission and ACER/CEER, is chaired by D. Hec. A major achievement was the finalization in June 2011 of the Technical Report “Functional Reference Architecture for Communications in Smart Metering Systems” which will be sent to vote in summer 2011.

The following actions are also in progress:

- Finalisation of M/441 standardisation work programme.
- Work on use cases.
- Follow up of standards prepared by relevant TCs.
5. Transmission Pipelines

Asset Management Workshop Loughborough

WG Transmission Pipelines organised in Loughborough (U.K.) on 17th February 2011, with the support of National Grid and GL. A workshop which gave an excellent feedback of the Company’s experiences of adopting and operating to the PAS 55 specification which is a Publicly Available Specification, developed initially in the UK by the Institute of Asset Management (IAM) in collaboration with the British Standards Institute (BSI).

The goal of the meeting was to help MARCOGAZ Members to better understand the requirements of PAS 55, explaining the aim of the PAS 55 adoption highlighting the pros and cons and clarifying concepts like quality assessment safety management systems and asset management.

Emergency Planning:

The WG is updating the Emergency Planning Definitions document including comments on what TSOs would be expected to have in place to manage incidents according to EN 1594.

Pipeline maintenance:

A proposed survey related to pipeline maintenance has been launched in 2010. It collects information related to surveillance, inspection and organisation.

Pipeline zoning questionnaire:

In 2010 and 2011 a questionnaire about pipeline zoning in the different EU Countries has been completed and analyzed. No further action foreseen.

Seveso Directive Revision:

A position paper was prepared by the MARCOGAZ Secretariat prompted by the results of the study done by Consultants hired by the Commission DG Climate Action with the aim of evaluating the effectiveness of the Directive Implementation and possible ways of improvement.

6. PE Pipes Systems

A significant part of the activity of this WG consists, to be influential in the revision process of EN 1555 series, where PE pipes and fittings manufacturers are very present. The main point discussed last year was PE Gas Systems Standardisation.

An actual point is the aging of polyethylene. At the start of PE pipes 40 years ago the Industry guaranteed a lifetime of 50 years. There are now questions raised to prove the quality of the older PE pipes. MARCOGAZ intends to cooperate on this issue with GERG.

Smart Metering Systems “Standardisation challenges”

The introduction of intelligent metering system (also called smart metering systems) is promoted by the European Union through different legislations (Directive 2006/32/EC on energy services, Directive 2009/73/EC on internal gas market). After proper economical assessment, a wide rollout of communicating electricity and gas meters with additional functionalities should be carried out before 2020 in Europe.

The main drivers for such initiative are greater energy efficiency awareness by consumers and the potential for energy savings. Smart metering also constitutes the basis for the potential development of smart electricity and potentially smart gas grids.

Standardisation Mandate M/441

The European Commission issued the Mandate M/441 for the standardisation of smart metering functionalities and communication for usage in Europe for electricity, gas, heat and water applications in 2009. The mandate requires EU standardisation activity to ensure interoperability of technologies and applications within a harmonised European market.

To respond to Mandate M/441, the European Standards Organizations, CEN, CENELEC and ETSI established together with the relevant stakeholders the Smart Meters Coordination Group (SM-CG) in 2009. The group has a broad representation and is composed of representatives of CEN, CENELEC and ETSI Technical Committees, CEN and CENELEC Members and CEN liaisons and CENELEC Cooperating Partners.

D. HEC, Secretary General of MARCOGAZ was proposed to chair SM-CG. The standardisation work overseen by the Smart Meters Coordination Group focuses on meeting the needs of the residential (household) and small and medium enterprise (SME) sectors.
Developments in 2010-2011

Functional reference architecture

Smart metering systems comprise all functions, entities and interfaces from the utility smart metering applications to smart metering end devices and/or home automation devices used in a smart metering context.

The figure below gives a simplified overview of functional entities and interfaces in a smart metering communications network; the boxes correspond to functions that in physical terms can be implemented in a number of different ways.

Additional Functionalities

For the purposes of identifying where new standards might be required, it was felt appropriate to determine functionalities at a high level.

Six broad areas of additional functionality were defined:

- **Functionality 1**: Remote reading of metrological register(s) and provision to designated market organizations - *Index reading*.
- **Functionality 2**: Two-way communication between the metering system and designated market organization(s) - *Information exchange*.
- **Functionality 3**: To support advanced tariffing and payment systems - *Prepayment/Multiple rate tariffs*.
- **Functionality 4**: To allow remote disablement and enablement of supply and flow/power limitation - *Disconnection/reconnection, load limitation*.
- **Functionality 5**: To provide secure communication enabling the smart meter to export metrological data for display and potential analysis to the end consumer or a third party designated by the end consumer – *Exporting consumption information*.
- **Functionality 6**: To provide information via web portal/gateway to an in-home/building display or auxiliary equipment.

The functionalities are services, which can be provided via a smart metering system, without excluding the possibility of certain services being provided by means other than via this system.

The list of functionalities should not be seen as a minimum list of smart metering functionalities to be implemented in Europe, since not all functionalities will necessarily feature in all applications or in all Member States and functions outside this list may also be defined. Upstream and downstream communications required. These facilitate the work of technical committees.
Smart metering in the context of smart grids

The work undertaken in response to M/441 considers the high-level smart metering functionalities which are additional to the traditional metrological requirements applying to electricity and other meters. The major focus of the mandated work under M/441 is the provision of improved information and services to consumers and enabling consumers to better manage their consumption.

General

The main activities of the group is to follow the European Regulatory activities in the field of environment for the Gas Industry and take action where required. In order to prepare the transition to a low carbon economy, the European Commission is currently preparing the Energy Roadmap 2050 which can induce significant consequences for the Gas Industry in the future.

1. Health & Safety

The WG continues its collection of safety Key Performance Indicators that are used in the different Companies. These performance indicators can also be used to benchmark each other. The focus was in 2010 especially directed to the pro-active indicators in relation to safety culture and safety awareness.

Safety data collection is a continuous process, indicating evolutions. A summary report was made over the years 2005 – 2009.

Further interest is developed in safety leadership. The reason is that safety leadership is a crucial subject for further improvement of the safety performance.

A report of labour accidents in the Netherlands including a Dutch database of 9,000 reported severe accidents was analysed in order to learn from the accident causes. These accidents were summarised in 64 accident scenarios which are very useful to analyse the data in order to find the probable accents of future labour safety policy.

The European initiatives on health and labour safety and OSHA activities were followed-up as to find out whether action/lobbying on European or National levels by Eurogas/MARCOGAZ or their Members is needed.

The WG has taken notice of the fact that the European Commission and the Occupational Safety Organisation (OSHA) intend to examine in 2011 the possibility of the integration of some chemical agents actually in annex II of the list of chemical agents causing possibly occupational diseases and to be monitored, to annex I, containing the list of chemical agents causing occupational diseases. Methane is today still in annex II.

Other on-going issues are: annual data collection, contractor safety, process safety, presentation and discussion of “interesting” labour accidents.

2. Life Cycle Analysis (LCA)

The main goal of the WG LCA is to realize the LCA of the European Natural Gas Chain from production to utilisation with the collaboration of all the Members of MARCOGAZ and Eurogas.

The main objective for the year 2010 was the realization of the peer review of the LCA, as required by standards ISO 14040 and 14044 in order to be allowed to communicate on the results of LCA and to create the possibility that the results are introduced in official LCA data bases, such as the International and European Life Cycle Data System, and used in studies, policy building product eco-design requirements and comparisons.

The main point that had to be clarified with the peer reviewer was the purpose of the study: the LCA study does not claim to be a full LCA, but an analysis of only three major environmental impacts: non renewable energy demand, GHG emissions and acidification.

The first critical review report of the peer reviewer was presented in October 2010, the main difficult points were identified and guidelines were defined for answering the peer review and completing/adapting the LCA study to the remarks received.

This peer review should be completed soon, and different communications actions should be decided in 2011. A paper will be presented during the International Gas Research Conference in October 2011.
The LCA was focused on two main uses of natural gas: heat production and electricity generation. In 2008 it was decided to extend the LCA to natural gas vehicles (NGV). The study began in 2009 and will be completed in 2011. A complementary peer review on NGV will also be realized in 2011 in order to communicate on the results.

3. Methane Emissions

The Working Group Methane Emissions will restart its activities soon, with the goal to narrow the methane emission factors ranges indicated in the existing methodology previously prepared by MARCOGAZ and their aggregated average emissions figures which are representative for the European Gas Industry.

After the analysis of the data it is also intended to split some factors into a set of component factors where appropriate. The EPA methodology could be a useful resource.

4. Air Emissions

The new WG Air Emissions covers the following different issues regarding the Emission Trading Scheme (CO₂ and NOx possibly), benchmarking (CO₂ and possibly NOx), Industrial Emission Directive (IED), Best Available Technologies (BAT’s) and Best Available Reference Technique Documents (BREF’s).

4.1. Benchmarking CO₂

The proposed benchmarking for granting CO₂ emissions rights in the 3rd phase of the ETS, which was the object of a consultation of the Member States, was examined. The WG studied also the reports made for DTI UK regarding the phase II benchmarking, and in particular the benchmarks proposed for LNG-terminals, terminals, storage and transport.

4.2. CO₂ Emission Trading System (ETS)

It was decided to create a “Task Force” gathering CO₂ ETS specialists, in order to be able to react very fast if needed, as was the case for the IED.

4.3. Benchmarking NOx

The WG followed up the different meetings of the European Commission with specific sectors on the feasibility of an ETS for the NOx emissions (even if those emissions are already the object of the new Industrial Emissions Directive). It was obvious that DG Climate Action was pushing a NOx ETS on the basis of studies made by ENTEC. However, a general hostility of Member States and Industry against this position was observed. MARCOGAZ considers NOx considered to be a local problem; therefore excluding it from is a right solution.

Answers received for a questionnaire on compressors and NOx were analysed. They pictured the characteristics of the compressors (engines and turbines): capacity, emissions, working hours, and the spreading of this and other data. This information will make it possible to work to a fine tuned benchmarking and to realistic BAT’s and BREF’s in the Sevilla process.

4.4. Industrial Emissions Directive (IED)

The WG monitored the complex legislative process of the IED and a position paper was established for approval to the Executive Board. The European Commission, during a meeting, underlining the importance of this Directive for the TSO’s, operating a huge number of compressors of 50 MW and more. The Members were continuously briefed on the evolution of the Directive and of the need to address their proposals to their delegates in the European Parliament or in the Council.

The IED, replacing the LCP Directive and the IPPC Directive leads to regular revision of the BREF’s and of the existing permits based on the old BREF’s. For this reason it will become even more important than in the past to monitor the writing of the BAT’s/BREF’s.

4.5. Best Available Reference Technique documents (BREF’s)

The 2010 scheduled start of the revision of the LCP BAT’s has not yet started. MARCOGAZ has obtained from JRC Sevilla to nominate a delegate, J. Vorgang in the Sevilla Experts Working Group. J. Vorgang will also be part of the Eurelectric Working Group preparing the Eurelectric positions in the BAT/BREF process.

The JG will try to obtain a special regime for the existing compressors, in order to avoid that all permits will become void after the publishing of the LCP-BREF conclusions by the EC.

4.6. Roadmap for a Low Carbon Economy in 2050

MARCOGAZ likes to highlight the opportunity in the energy sector for earlier and quicker reductions in the emission of greenhouse gases (GHGs) than is highlighted in the draft European Commission DG climate Roadmap for moving to a competitive low carbon economy in 2050. The Roadmap 2050 states that EU emissions were estimated to be 16% below 1990 levels in 2009. It does not analyse why or how this reduction were achieved, and so misses the opportunity to learn lessons for the future from what has already been done in the recent past. Many factors have contributed to progress so far. Prominent among them has been the wide adoption in many EU Countries of high-efficiency gas-fired equipment, in many energy sectors, and especially in the generation of electricity. In addition to contributing to lower carbon emissions, natural gas is a flexible and affordable fuel. In this context, MARCOGAZ welcomes the simultaneously launched Energy Efficiency Plan 2011, which offers a number of pragmatic business and market-oriented approaches to achieving higher levels of energy savings.
Collaboration with other Associations

COGEN Europe and MARCOGAZ work together on the development of micro-CHP (combined, heat and power).

MARCOGAZ, an Associated Member of EASEE-gas (European Association for the Streamlining of Energy Exchange), participates in the process of elaboration of Common Business Practices (CBPs).

ENTSOG and MARCOGAZ communicate with each other on technical issues under the 3rd Energy package.

FARECOGAZ, the new Association formed from the merger of FACOGAZ and FAREGAZ are cooperating in the field of gas metering and regulating systems. FARECOGAZ, is represented in the MARCOGAZ Working Group Gas Metering.

GERG and MARCOGAZ have significantly increased their cooperation in the last year in different fields. MARCOGAZ and GERG organises common Chairman’s meetings which aim is to improve the exchange of information between the organisations and to identify specific areas for cooperation. Common meetings between GERG PC Utilisation and MARCOGAZ SCGU are now regularly set up (last on 07th April 2011). GERG is invited to co-organise EGATEC and EFG with MARCOGAZ.

The identification of common areas of cooperation is considered an important progress for both Organizations in terms of sharing knowledge with each other.

GIE participate in the MARCOGAZ Working Group Transmission Pipelines and the Joint group Environment, Health and Safety. MARCOGAZ participate in the GIE Working Group Critical Infrastructure Protection.

MARCOGAZ is affiliated to IGU (International Gas Union), and follows the activities of WOC 3 (Transmission), WOC 4 (Distribution) and WOC 5 (Utilisation).

MARCOGAZ and NGVA Europe are jointly working together on the Life Cycle Analysis of Gas Vehicles.
Since 2006 MARCOGAZ is co-operating with the United Nations Economic Commission for Europe (UNECE) in the field of sustainable energy and safety regulation.

UNECE promotes the use of standards as a way to ensure conformity with the rules imposed by the legislation. This attitude fits very well with the MARCOGAZ policy which had been always in favour of high quality Industry standards development and use.

MARCOGAZ also co-operates with other major Gas Industry or Consumers Organizations such as:

- **AEGPL** - European LPG Association
- **AFECOR** - European Control Manufacturer's Association
- **ANEC** - European Association for the Co-ordination of Consumer Representation in Standardisation
- **CEFIC** - European Chemical Industry Council
- **CONCAWE** - Oil Industry European Association for Environment, Health and Safety in Refining and Distribution
- **EHI** - Association of the European Heating Industry
- **EURELECTRIC** - Union of the Electricity Industry
- **GCI-UICP** - European Mechanical Contractors’ Association
- **IPLOCA** - International Pipe Line and Offshore Contractors Association
- **OGP** - Oil and Gas Producers Association
- **PE100+** - Industry Organisation of Polyethylene (PE) Manufacturers
- **TEPPFA** - The European Plastics Pipe and Fitting Association

MARCOGAZ also consults and co-operates with other Industry and business Organisations involved in the issues at hand.
Work in relation with the European Committee for Standardisation (CEN) and the International Standardisation Organisation (ISO)

MARCOGAZ strongly supports the official standardisation activities carried out by Gas Industry experts through CEN, CENELEC and ISO Committees in the many fields regarding natural gas and biomethane infrastructure systems and utilisation. It also participates in various projects and groups as external liaison organisation.

Due to its representative role in the Gas Industry, MARCOGAZ is also involved in discussions and preparation of Commission mandates to CEN related to gas issues. Furthermore, general positions of the European Gas Industry relative to CEN, CENELEC or ISO activities are co-ordinated and expressed by MARCOGAZ which is also involved in discussions and preparation of Commission mandates to CEN related to gas issues.

In the last year, MARCOGAZ was especially active with the following:

- CEN/TC 234 in charge of functional standardisation for the gas infrastructure chain is of specific importance for MARCOGAZ which attended and gave presentations in the 2 last General Assembly meetings held on 09th June 2010 in Vienna and on 18th May 2011 in Barcelona. MARCOGAZ supports the implementation of technical aspects resulting from the 3rd EU Directive for the common gas market within CEN/TC 234 standards and will participate in the early start of the phase 2 of related Mandate M/400 on gas quality (CEN/TC 234 WG 11);
- CEN/BT WG137 Gas quality in charge of phase 1 (testing programme) of Mandate M/400 Gas quality;
- CEN/TC 408 Biomethane for use in transport and for injection in natural gas pipelines (M/475);
- CEN Sector Forum Gas Infrastructure;
- CEN Sector Forum Gas Utilisation;
- CEN SFGI/SFGU Safety of gas installations preparing a Technical Report based on the MARCOGAZ Recommendations on safety of gas installations;
- CEN SFGI/SFGU Industrial Gas Installation transforming the MARCOGAZ Guidelines on Industrial Installation into a CEN document;
- Smart Meters Coordination Group responsible for mandate M/411 Smart metering systems (chair MARCOGAZ);
- CEN/CENELEC/ETSI Joint Working Group on smart grids.


MARCOGAZ assists Madrid Forum for gas technical issues

The European Gas Regulatory Forum (Madrid Forum) was set up to discuss issues regarding the creation of a true internal gas market. The participants are National Regulatory Authorities, Member States, the European Commission, Transmission System Operators, gas suppliers and traders, consumers, network users, and other stakeholders.

MARCOGAZ is a full Member of this important group, bringing its expertise when required on specific technical issues such as gas quality harmonization.

MARCOGAZ participated in the 18th session (27th & 28th September 2010) and 19th sessions (21st & 22nd March 2011).
The different membership categories in MARCOGAZ are the following:

- **Charter Members**: Open to National Gas Associations or to a representative Gas Company. Only one Charter Member can represent one Country. Each Charter Member is represented at Executive Board level.

- **Corporate Members**: Open to Companies having an interest in the Natural Gas business. Corporate Members can apply for Standing Committee Chairmanship and therefore for possible Executive Board seats.

- **Associate Members**: For European & International Associations which have an interest in the Natural Gas business. Associate Members can send representatives in Standing Committees and Working Groups.

All the Members have access to the technical and statistical work of MARCOGAZ.

**Main advantages of becoming a MARCOGAZ Member**

The most important benefits to become a MARCOGAZ Member are:

- to be informed in real time about regulatory developments at EU level;
- to express views and position at European level;
- to have a direct link with the EU Authorities (EU Commission, Parliament, Regulatory Bodies, European Gas Regulatory Forum (Madrid Forum), ACER (Cooperation of Energy Regulators), CEER (Council of European Energy Regulators);
- to have access to a very wide network of technical knowledge and expertise;
- to be in contact with other Industry Associations (EASEE-gas, EUROGAS, NGVA Europe, COGEN Europe, EHI, GIE, GERP, OGP, ENTSOG, FARECOGAZ...);
- to have a direct access to European / International standardization activities (CEN, CENELEC, ISO ...);
- to have access to many International Organizations such as United Nations UNECE, and IGU.

**Should you wish to become a Member of MARCOGAZ?**
Just mail your interest to daniel.hec@marcogaz.org
<table>
<thead>
<tr>
<th>No.</th>
<th>Company</th>
<th>Address</th>
<th>Phone</th>
<th>Fax</th>
<th>Website</th>
</tr>
</thead>
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FRANCE | T. +33 1 80 21 08 00  
F. +33 1 46 37 19 55 |  | www.afgaz.fr |
| 02  | ARGB / KVGB | 4, Avenue Palmerston  
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F. +32 2 380 87 04 |  | www.gaznaturel.be |
| 03  | Attiki Gas Supply Company S.A. | 2, Orfeos & Pensefonis Str.  
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| 05  | Comitato Italiano Gas | 1, Piazza Boldrini  
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F. +390 252 03 76 21 |  | www.cig.it |
| 06  | Czech Gas Association | 803/82 , Novodvorska  
142 00 Prague 4  
CZECH REPUBLIC | T. +420 222 51 88 11  
F. +420 222 51 88 11 |  | www.crga.cz |
| 07  | Danish Gas Technology Centre | 5B, Dr. Neergaards Vej  
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| 09  | S.C. DISTRIGAZ SUD S.A. | 4-6, Marasesti Boulevard  
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| 10  | DVGW | 1-3, Josef Wirmerstrasse  
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| 11  | Eurogas | 172, Avenue de Cortenbergh box 6  
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| 12  | FGSZ Ltd. | 5, Tanácsház Str.  
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F. +36 84 50 55 92 |  | www.fgsz.hu |
| 13  | Gasum Oy | 1, Miestentie  
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F. +358 20 447 86 29 |  | www.gasum.fi |
| 14  | GAZBIR | Bilkent Plaza A3  
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F. +90 312 266 66 37 |  | www.gazbir.org |
<table>
<thead>
<tr>
<th>No.</th>
<th>Company Name</th>
<th>Address</th>
<th>Phone Numbers</th>
<th>Websites</th>
</tr>
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</table>
| 15  | GEOPLIN PLINOVODI d.o.o.            | 11, Cesta Ljubljanske brigade, p.p. 3720, 1001 Ljubljana, SLOVENIA | T. +386 1 582 06 28  
F. +386 1 582 06 57  
www.geoplin-plinovodisi.si | |
| 16  | National Grid Gas                  | NGT House, Gallows Hill, Warwick CV34 6DA, UNITED KINGDOM | T. +44 1926 65 57 90  
F. +44 1926 65 65 53  
www.nationalgrid.com | |
| 17  | N.V. Nederlandse Gasunie           | Conoursalaan 17 - P.O. Box 19, 9700 KC Groningen, THE NETHERLANDS | T. +31 50 21 91 11  
F. +31 50 21 19 99  
www.gasunie.nl | |
| 18  | OGP GAZ SYSTEM S.A.                | Branch Office in Rembelszczyzna, 3, ul Jana Kazimierza, 05-126 Rembelszczyzna Niepore, POLAND | T. +48 22 767 08 01  
F. + 48 22 767 09 52  
www.gaz-system.pl | |
| 19  | ÖVGW                                | Schubertring 14, Postfach 26, 1015 Vienna, AUSTRIA | T. +43 1 513 15 88 13  
F. +43 1 513 15 88 25  
www.ovgw.at | |
| 20  | REN Gasodutos                      | 116, Estrada Nacional, Vila de Rei, 2674-505 Bucelas, PORTUGAL | T. +351 2 10 01 35 00  
F. +351 2 10 01 33 10  
www.rengasodutos.pt | |
| 21  | Scotia Gas Networks Ltd.           | St. Lawrence House, Station Approach, Horley RH6 9H3, UNITED KINGDOM | T. +44 845 070 14 32  
F. +44 12 93 81 80 20  
www.sgn.co.uk | |
| 22  | SEDIGAS                            | 33, Plaza Lesseps – Entlo 3/A, 08023 Barcelona, SPAIN | T. +34 93 417 28 04  
F. +34 93 418 62 19  
www.sedigas.es | |
| 23  | Slovak Gas & Oil Association       | 48, Mlynske Nivy, 821 08 Bratislava 24, SLOVAKIA | T. +421 2 53 41 18 53  
F. +421 2 53 41 18 53  
www.sgoa.sk | |
| 24  | Statoil ASA                        | 50, Forusbeen, 4035 Stavanger, NORWAY | T. +47 51 99 00 00  
F. +47 51 99 00 50  
www.statoil.com | |
| 25  | SVGW                                | Grünlistrasse 44, Postfach 658, 8027 Zurich, SWITZERLAND | T. +41 1 288 33 33  
F. +41 1 202 16 33  
www.svgw.ch | |
| 26  | Synergrid                          | 4, Avenue Palmerston, 1000 Brussels, BELGIUM | T. +32 2 237 11 11  
F. +32 2 230 44 80  
www.synergrid.be | |
| 27  | ZEBRA Gasnetwerk B.V.              | Amperestraat 1, 4622 RE Bergen op Zoom, THE NETHERLANDS | T. +31 164 21 09 51  
F. +31 164 21 09 54  
www.zebra-gasnetwerk.nl | |
## Technical statistics for European gas sector in year 2009

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Number of customers connected to gas grid</td>
<td>120,682,000</td>
</tr>
<tr>
<td>Gas sales [TWh/y]</td>
<td>5,378</td>
</tr>
<tr>
<td>Transmission grid length [km]</td>
<td>234,660</td>
</tr>
<tr>
<td>Distribution grid length [km]</td>
<td>1,649,400 (a)</td>
</tr>
<tr>
<td>Number of compressor stations</td>
<td>167</td>
</tr>
<tr>
<td>Number of LNG terminals’ entry point into transmission system</td>
<td>19</td>
</tr>
<tr>
<td>LNG storage installed capacity [m$^3$ LNG]</td>
<td>4,991,500</td>
</tr>
<tr>
<td>Total underground storage capacity [Gm$^3$]</td>
<td>78</td>
</tr>
<tr>
<td>Number of Natural Gas Vehicles</td>
<td>867,700 (b)</td>
</tr>
<tr>
<td>Average ratio of natural gas / primary energy consumption</td>
<td>23%</td>
</tr>
</tbody>
</table>

### Table 1: Technical statistics of Member Countries in year 2009

<table>
<thead>
<tr>
<th>Country</th>
<th>Gas Customers Number</th>
<th>Gas Sales [TWh/y]</th>
<th>Transmission grid length [km]</th>
<th>Distribution grid length [km]</th>
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<tbody>
<tr>
<td>Austria</td>
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<td>500</td>
<td>37,200</td>
<td>193,700</td>
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<td>18,000,000</td>
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<td>61,500</td>
<td>367,800</td>
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<td>Greece</td>
<td>193,000</td>
<td>15</td>
<td>1,820</td>
<td>6,100</td>
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<tr>
<td>Hungary</td>
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<td>33,010</td>
<td>229,500 (c)</td>
</tr>
<tr>
<td>Ireland</td>
<td>629,000</td>
<td>58</td>
<td>2,280 (c)</td>
<td>10,500 (c)</td>
</tr>
<tr>
<td>Norway</td>
<td>na</td>
<td>3</td>
<td>na</td>
<td>100</td>
</tr>
<tr>
<td>Poland</td>
<td>6,602,000</td>
<td>151</td>
<td>9,710</td>
<td>108,200</td>
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<td>1,270</td>
<td>14,500</td>
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<td>8,560</td>
<td>26,900</td>
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<tr>
<td>Slovenia</td>
<td>200</td>
<td>11</td>
<td>1,020</td>
<td>3,000 (c)</td>
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<td>124,100</td>
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<td>Turkey</td>
<td>7,833,000</td>
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<td>U.K.</td>
<td>22,700,000</td>
<td>1,008</td>
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<td>132,100</td>
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<td>Romania</td>
<td>2,941,000</td>
<td>140</td>
<td>13,110</td>
<td>33,800 (c)</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>120,682,000</strong></td>
<td><strong>5,378</strong></td>
<td><strong>234,660</strong></td>
<td><strong>1,649,400</strong></td>
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</table>
Table 3: LNG terminals’ entry point into transmission system in total 19 as of 2010

<table>
<thead>
<tr>
<th>Country</th>
<th>LNG terminals’ entry point into transmission system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>1 (Zeebrugge)</td>
</tr>
<tr>
<td>France</td>
<td>3 (Montoir de Bretagne, Fos Tonkin, Fos Cavaou)</td>
</tr>
<tr>
<td>Greece</td>
<td>1 (Revithoussa)</td>
</tr>
<tr>
<td>Italy</td>
<td>2 (Panigaglia, Porto Levante)</td>
</tr>
<tr>
<td>Portugal</td>
<td>1 (Sines)</td>
</tr>
<tr>
<td>Spain</td>
<td>6 (Mugardos, Bilbao, Barcelona, Sagunto, Cartagena, Huelva)</td>
</tr>
<tr>
<td>U.K.</td>
<td>2 (Isle of Grain, Teesport)</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>1 (Rotterdam)</td>
</tr>
<tr>
<td>Turkey</td>
<td>2 (Aliaga, Marmara Ereglisi)</td>
</tr>
</tbody>
</table>

(a) Based on the Eurogas statistics report 2010.  
(b) Based on the data calculation from NGVA Europe of December 2010.  
(c) Data from year 2008.  

na: not available

Figure 1: Pipeline material and its length of distribution grid in MARCOGAZ Member Countries

Figure 2: Underground storage working capacity

Total underground storage working capacity is 78,3 Gm3.