International Gas Union Working Committee 4 Distribution

Fourth Meeting
4th – 7th March 2014
Madrid, Spain

IGU WOC 4 – Agenda of the 4th meeting

	Tuesday	Wednesday	Thursday	Friday
Morning		**09.00 – 12.10** Committee Meeting	**08:30 – 10:20** Plenary **10.20 – 12.30** Study Groups	**09.00 – 13.30** Visit to bus depot
Afternoon	16:00 – 18:00 Meeting management team	**13.30 – 17.00** Study Groups	**13.30 – 17.00** Study groups & Plenary Meeting	
Evening	**20.00 - 22.00** Welcome buffet	**19.00 - 23.00** Royal Theatre and Dinner	**20.00 - 23.00** Dinner	

IGU WOC 4 – Committee Meeting (Wednesday)

09:00 – 09:15 Welcome and Opening: *Dietmar Spohn* (WOC 4 Chair), *José Maria Almacellas*

09:15 – 09:30 Introduction of all members – Adoption of agenda

09:30 – 09:55 Presentation of the Gas Sector in Spain – Carlos Villalonga, Sedigas

09:55 – 10:20 Presentation on Innovation in Gas Distribution – Carlos Serrano, GasNatural Fenosa

10:20 – 10:45 Presentation on Gas supply in Spain - Jesus Hernandez, GasNatural Fenosa

10:45 – 11:00 Coffee break

11:00 – 11:25 Follow-up Time Schedule of WOC4 for the 2012 – 2015 Triennium: *Uwe Klaas* (WOC 4 Secretary)

11:25 – 11:40 State of work SG 4.1: Regulation of Third Party Access to Gas Distribution Networks – A Standard Approach: *José Carlos Broisler Oliver* (Leader SG 4.1)

11:40 – 11:55 State of work SG 4.2: Diversification of Gas Quality and Nonconventional Sources in a Carbon-free future: *Peter Flosbach* (Leader SG 4.2)

11:55 – 12:10 State of work SG 4.3: Smart Grids in Gas Distribution: *Pascal Vercamer* (Leader SG 4.3)

12.10 – 13.30 Lunch

13:30 – 17.00 Meeting of study groups

IGU WOC 4 – Plenary Meeting (Thursday)

08:30 – 09:00 Deliverables from IGU WOC 4 for "Natural Gas Facts & Figures" *(Emmanuelle Wicquart)*

09:00 – 09:30 Preparation of WGC Conference – News from IGU (*George Liens*)

09:30 – 10:20 Review Call for Contributions, Introduction selection procedure *(Secretary & Study leaders)*

10:20 – 12.30 Meeting of study groups

12.30 – 13.30 Lunch

13:30 – 15:00 Meeting of study groups

15:00 – 15:15 Coffee break

15:15 – 15:30 Plenary: Progress committee report 2015 (Dietmar Spohn/ Uwe Klaas)

15:30 – 15:45 Presentation of results SG 4.1 *José Carlos Broisler Oliver*

15:45 – 16:00 Presentation of results SG 4.2 *Peter Flosbach*

16:00 – 16:15 Presentation of results SG 4.3 *Pascal Vercamer*

16:15 – 16:25 Preparation of the next meeting; *Uwe Klaas / Christian Schicketmüller*

16:25 – 16:30 Any other business: Presentations from members for IGU WOC 4 meetings

16:30 – 16:35 End of Meeting; *Dietmar Spohn (WOC 4 Chair)*

IGU WOC 4 – Introduction of members

The management team:

Chairman: Dietmar Spohn
Managing Director, Stadtwerke Bochum, Germany
E-Mail: dietmar.spohn@stadtwerke-bochum.de

Vice Chairman: José Maria Almacellas
Gas Distribution Technical Director,
Gas Natural Fenosa, Spain
E-Mail: jmalmacellas@gasnatural.com

Secretary: Uwe Klaas
Senior Technical Manager,
DVGW Deutscher Verein des Gas- und Wasserfaches, Germany
E-Mail: klaas@dvgw.de

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IGU WOC 4 – Introduction of members

The study group leaders:

SG 4.1: José Carlos Broisler Oliver
COMGAS, Brazil
E-Mail: joliver@comgas.com.br

SG 4.2: Peter Flosbach
Westnetz, Germany
E-Mail: peter.flosbach@westnetz.de

SG 4.3: Pascal Vercamer
GDF SUEZ, France
E-Mail: pascal.vercamer@gdfsuez.com

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IGU WOC 4 – Introduction of members

There are some members new here.

Please all introduce yourself briefly.

The Spanish Gas Association – Sedigas

Presentation by Carlos Villalonga

http://www.sedigas.es/

Presentation Gas Natural Fenosa
by Carlos Serrano

http://www.gasnaturalfenosa.com

Presentation Gas Natural Fenosa
by Jesus Hernandez

http://www.gasnaturalfenosa.com

Coffee break

IGU WOC 4 – Reminder of Work Programme

Gas distribution companies in many countries are subject to a changing economical environment. After the unbundling of the large gas companies into transport service operators and gas sales companies, the distribution companies are targeted now by the regulation authorities. In addition to that, third party access is becoming an growing issue, with the number of suppliers increasing, and not only with natural gas to enter. Biomethane and hydrogen are ecological sound entries, but to manage a stable gas quality also for sensible clients does not become easier. One solution could be smart grids and their possibilities in dispatching and quick response. Which in turn needs operating staff just as smart, and up-to-date with the fast development of electronic aides.

WOC 4 Study Groups in the 2012 – 2015 Triennium

1. Regulation on Third Party Access to Gas Distribution Networks – A Standard Approach
2. Diversification of Gas Quality and Non-conventional Sources in a Carbon-free Future
3. Smart Grids in Gas Distribution

Membership participation

	Members	From countries
On 30/09/2013	1006	58

Top 5	Members	6 to 10	Members
Russia	118	Algeria	38
France	112	Spain	36
Iran	48	Brazil	34
The NL	42	Poland	32
South Korea	38	Germany	29

	Nr of nominees
WOC 1	73
WOC 2	75
WOC 3	102
WOC 4	90
WOC 5	75
PGC A	68
PGC B	96
PGC C	57
PGC D	122
PGC E	57
PGC F	43
TF 1	48
TF 2	39
TF 3	34
Others	27

You can continue to nominate people and to reinforce the expertise of our groups :
mgarcia@wgc2015.org

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IGU WOC 4 – Provisional Meeting Schedule

Meeting	Proposed date	Meeting topics	Corresponding meeting of IGU-CC
1	9 – 12 Oct. 2012 Cologne / Germany	- Analyse study group topics - Define areas of study - Questionnaire framework - Intermediate deliverables framework	15 Oct. 2012 Ottawa, Canada
2	19 – 22 Mar. 2013 Sao Paulo / Brazil	- Final questionnaire, if any ➔ Release date: April 2013 - Work on intermediate deliverables (e.g. keywords, articles IGU newsletter)	9 – 11 Apr. 2013 Seville, Spain
3	8 – 11 Oct. 2013 Paris/France	- Analyse input for study group reports - First draft intermediate deliverables	23 Oct. 2013 Beijing, China
4	4 – 7 Mar. 2014 Madrid / Spain	- First draft WOC 4 report - Final draft intermediate deliverables	2 Apr. 2014 Sydney, Australia
5	30 Sept. – 03 Oct. 2014 Vienna/Austria	- Final draft WOC 4 report - Final intermediate deliverables - WGC preparation: Papers selection	15 Oct. 2014 Berlin, Germany
6	2 – 6 Mar. 2015 Location tba	- Presentation final WOC 4 report - WGC preparation	24 – 26 Mar. 2015 Cairo, Egypt

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Key milestones : last dates

Year	Date	Milestone/Venue	Event
2014	1st February	Call for papers	Issuing call for papers
	25 March	Sydney, Australia	CC meeting
	July	Call for papers	reminder
	1st September	Call for papers	Abstract submission
	14 October	Berlin, Germany	CC meeting
	1st November	Call for papers	Final selection by Committees
	15 November	Call for papers	Author notification
2015	1st February	Call for papers	Full paper + reports submission
	24 March	Cairo, Egypt	CC meeting
	1-5 June	Paris	26th World Gas Conference

WGC 2015 Preliminary Programm

Committee Session : "SG x.y Title" (in relation with the SG in charge and the ToR of the Group)

Objectives : In 5 to 10 lines
Content : In 5 to 10 lines

Recommended size of the room : 1000 / 500 / 350 /250 /150
Nota : the presentations would be selected from the "call for abstracts"

Expert Forum : "Title" (transversal topic different from the special panels and committee's sessions)

Overview : In 10 to 15 lines

Recommended size of the room : 1000 / 500 / 350 /250 /150

Special Panel : "Title"

Overview : In 15 to 25 lines, linking with the 4 Pillars

Recommended size of the room : 1000 / 500 / 350

Room allocation scheme WGC 2015 (presumptive)

WGC 2015 Room's allocation – draft 2013-01

Rooms :

- Palais des Sports around : Plenary (1000 to 4000 pax)
- 1 room of around 500 pax : Amphi
- 1 room of around 475 pax
- 2 rooms of around 350 pax
- 2 rooms of around 240 pax
- 1 room of 150 pax

Committee session scheme WGC 2015 (presumptive)

Group	Sessions (CS & EF)	Group	Sessions (CS & EF)
WOC 1	5	PGC A	4
WOC 2	3	PGC B	4
WOC 3	4	PGC C	4
WOC 4	5	PGC D	5
WOC 5	5	PGC E	4
TF 1	3	PGC F	2
TF 2	2	Sub Total	23
TF3	1		
Sub Total	28	Total	51

Schedule of Committee's Sessions and Expert's Forum

Room		Day1: Tuesday	Day2: Wednesday		Day3: Thursday		Day4: Friday
Name	Capacity	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning
Plenary	Plenary 1000	PGC B.1	PGC F.2 Converg	PGC B.3	PGC C.1		
Tour Eiffel	Amph. 500	WOC 3.3 + E.3	WOC 1.2	PGC E.2	PGC B.2	PGC D.3	
Notre Dame	475	WOC 4.2	WOC 3.2	WOC 4.3	WOC 4.1	WOC 3.1	WOC 2.3
Invalide	350 A	PGC A.1	PGC D.2	WOC 5.3	WOC 5.2	WOC 1.1	WOC 5.1
Concorde	350 B	TF 3.2	TF 2.1	PGC A.2	PGC A.3	WOC 2.2	WOC 1.4
Louvre	240 A	PGC F.1 InterR&D	WOC 5.5 (TT2)	PGC D.1	WOC 1.5	PGC A.4	PGC D.4
Opéra	240 B	PGC C.2	WOC 2.1	WOC 1.3	TF2.2	PGC E.4	TF 3.3
Sacré Cœur	150	WOC 5.4 (TT1)	CC TWP	CC TWP	PGC E.1	TF 1.1	WOC 3.3

Schedule of Special Panels

List of Special Panels

Day	Title	Group	Day	Title	Group
1 pm	Sustainable Dvpt	PGC A	3 pm	Gas devpt in emerging countries	PGC C & TF3
1 pm	Prospective 2050	PGC B	3 pm	R&D	PGC F
1 pm	NGV	WOC 5	3 pm	Unconventional gas	WOC1 &PGC A
1 pm	Gas flaring reduction	WOC1	3 pm	Human Capital Strategy	TF1
2 pm	Sustainable Energy Syst.	WOC4(+PGC F)	4 am	Women's place	TF1
2 pm	Gas Advocacy	TF2	4 am	Best practices awards	CC
2 pm	Geopolitics	TF3	4 am	Gas communication	PGC E
2 pm	LNG a key factor	PGC D	4 pm	TWP 2015-2018	Incoming CC

Schedule of Special Panels

Room		1st day : Tuesday	2nd day : Wednesday	3rd day : Thursday	4th day : Friday
Name	Capacity	Afternoon	Afternoon	Afternoon	Morning
Plenary	1000	WOC 1	WOC 4 + PGC F	WOC1 &PGC A	TF 1
Tour Eiffel	Amphi 500	WOC5	PGC D	PGC C & TF3	PGC E
Notre Dame	475	PGC B	TF 2	TF 1	CC Awards
Invalide	350 A	PGC A	TF 3	PGC F	

IGU WOC 4 – Reminder of Work Programme

Gas distribution companies in many countries are subject to a changing economical environment. After the unbundling of the large gas companies into transport service operators and gas sales companies, the distribution companies are targeted now by the regulation authorities. In addition to that, third party access is becoming an growing issue, with the number of suppliers increasing, and not only with natural gas to enter. Biomethane and hydrogen are ecological sound entries, but to manage a stable gas quality also for sensible clients does not become easier. One solution could be smart grids and their possibilities in dispatching and quick response. Which in turn needs operating staff just as smart, and up-to-date with the fast development of electronic aides.

WOC 4 Study Groups in the 2012 – 2015 Triennium

1. Regulation on Third Party Access to Gas Distribution Networks – A Standard Approach
2. Diversification of Gas Quality and Non-conventional Sources in a Carbon-free Future
3. Smart Grids in Gas Distribution

WOC 4 Study Group 1: Regulation on Third Party Access to Gas Distribution Networks – A Standard Approach

- Examination of the development of regulation over the last decade in different countries
  - Access of gases other than natural gas
  - Development of marketing/charging areas
  - Change of energy balancing and transfer options for costs
  - Unbundling of distribution companies
  - Training and qualification of personnel
  - …
- Preparation of an “IGU Network Code”

SG 4.1 work progress

SG 4.1: Regulation of Third Party Access to Gas Distribution Networks – A Standard Approach

- **Leader: Jose Carlos Broisler Oliver, COMGÁS, Brazil**
- **Vice Leader: Gabriel de Souza, Galp Energia, Portugal**
- **Study Group Members:**
  - José Carlos B Oliver, COMGÁS, Brasil
  - Gabriel de Souza, Galp Energia, Portugal
  - Walter Piazza, GasBrasiliano, Brasil
  - Rosemary Mcall, GL Group, UK
  - Peter Demec, SPP Distribucia, Slovakia
  - Seong-Kyeong Hong, Kogas, South Korea
  - Makoto Hiranuma, Osakagas, Japan
  - Benoit Chaintreuil, GrDF, France
  - Wijuck Krisnakri, PTT, Thailand
  - Anna Zhur, Gazprom, Russia
  - Anna Dyuzheva, Gazprom, Russia
  - Igor Tverskoy, Gazprom Promgaz, Russia
  - Nick Biederman, Gas Operations Alliance, US
  - Manfred Pachernegg, Gasnetz Steiermark, Austria
  - Thiranan Kraitongsook, PTT, Thailand

SG 4.1 work progress

- **Final Objectives & What We Need to Do:**
  - Present different experiences around the world regarding TPA legislations and regulation, stage of implementation and evolution,
    - Benefits
    - Problems
  - Identify trends of TPA around the world
  - Prepare a “World Map” of TPA
  - Prepare “IGU guidelines” of TPA – to be referenced – instead a “IGU Network Code”
  - *Contribution to the IGU magazine, by the second semester 2014*

SG 4.1 work progress

- **Key Inputs until now:**
  - TPA is clearly associated with:
    - Privatization and liberalization
    - Vertical Integration x Unbundling
    - Open access
    - Intent to increase competition, secure supply and cost & price reduction
    - Requires a very rigorous & comprehensive regulatory framework
    - It takes time to be implemented
    - Not always the intended objectives are achieved
    - Huge variation amongst regions and countries
    - Different stages of implementation
  - Examples for all above items
  - Future of TPA
    - Inevitable?

SG 4.1 work progress

- **Proposal for the SG Paper Structure:**
  - **Introduction:** terminology, definition, subject of the study, purpose of the report, overview about TPA models,
  - **"TPA World Map"** according to the following regions & countries (basically considering the relevance of each one in terms of volumes of gas consumption, strategic position and market maturity):
    - European Union (UE): France, Germany, UK, Italy, Netherland and others
    - Russia
    - North America: mainly US
    - South America
    - East Asia: Japan and South Korea
    - Asia Pacific: Australia, Indonesia, Malaysia, Thailand
    - South Asia: India, Pakistan
    - North Africa: Algeria, Morocco, Tunisia, Egypt
    - Middle East: Saudi Arabia, Oman, Qatar, Emirates
    - Iran, Turkey
  - **TPA on Distribution** (for each of the above regions included in the TPA World Map)
    - Model adopted – regulation and legislation
    - Objectives – explicit and implicit
    - What was done
    - Implementation timescale
    - Maturity level
    - Future tendencies
    - What was successful and unsuccessful x critical evaluation (quantitative and qualitative)
    - Political regime x networks infra structure x regulatory framework
  - **Description about the different models**
  - **Conclusions**
  - **"IGU guidelines" of TPA**

SG 4.1 work progress

- **Progress of the SG 4.1 Paper (item 5 of the WOC 4 Committee Report):**
  - **5.1 Introduction** (1-2 pages): drafted, needs to be discussed within the SG during the 4th meeting
  - **5.2 Background and Purpose** (1-2 pages): drafted, needs some improvements (inspirations!), to be discussed within the SG the 4th meeting
  - **5.3 - 5.n Report Text** (30-40 pages):
    - lots of material already written, about 100 pages,
    - the "basic" can be considered done,
    - it needs refinement and some alignments between parts of the text to make it a complete body, that makes sense.
    - It will be necessary more time (2 months – a good guess!).
    - Planed discussions and alignments during the 4th meeting
  - **5.m Conclusion** (1-2 pages): drafted, needs improvements, planed discussions during the 4th meeting, it will be necessary some additional time to be concluded (1 month is a good guess!)
  - **5.o Literature** (2-4 pages): done

WOC 4 Study Group 2: Diversification of Gas Quality and Non-conventional Sources in a Carbon-free future

- Increasing diversification of gas quality
  - Different sources of supply due to short term contracts
  - Change between pipeline-based and LNG-based supply
  - Development of local gas fields (e.g. shale gas)
- Increasing injection of gases from non-conventional sources in a carbon-free future
  - Biomethane
  - Hydrogen
  - SNG
- Examination of options to secure a stable gas quality

WOC 4 Study Group 2 (SG 4.2)
The Team

Chairman:
Peter Flosbach, Westnetz GmbH (RWE), Germany

Vice Chairman:
Rory Somers, Bord Gais Networks, Ireland

Study Group Members:
- Jose Maria Almacellas Gonzalez, Gas Natural Fenosa, SDG, S.A., Spain
- Danijela Busetincan, Gradska plinara Zagreb d.o.o., Croatia
- Franc Cimerman, Plinovodi d.o.o, Slovenia
- Maciej Chaczykowski, Warsaw University of Technology, Poland
- Remy Cordier, GDF SUEZ / CRIGEN, France
- Flemming Jensen, DONG Energy, Denmark
- Tohru Takahashi, TOKYO Gas CO., LTD., Japan
- Uwe Klaas, DVGW, Germany
- Vladimir Klimenko, JSC Gazprom promgaz, Russian Federation
- Christian Schicketmüller, OÖ. Ferngas Netz GmbH, Austria
- Dragan Vucur, JP Srbijagas, Serbia
- Paul D. Wehnert, Heath Consultants, USA - Texas (shale gas expertise)

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Four-step approach for SG 4.2´s work

Analysis
Challenges of gas quality diversification

- Risk of decreasing public and governmental acceptance of natural gas as it is a fossil fuel
- "Greening" promotes new image of natural gas
- Chance to contribute to Kyoto target
- Chance to develop additional gas demand

New solutions
Introduction of renewables and new technologies

New gases
- Biogas (only in combination with combined heat and power – CHP)
- Biomethane to grid
- Hydrogen
- Synthetic natural gas (SNG)
- Shale gas

New technologies
- Smart appliances
- Smart grids
- Gas quality tracking technologies

Scenarios
Assessment and evaluation for the introduction

- Scenario impact assessment for the introduction of renewable gases

Action plan
For implementation

- Introduction of new gases and advanced application technologies
- Realisation of R&D projects such as "Power to Gas"
- Develop a marketing concept for promotion (gas advocacy campaign)

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Study Group 4.2 Work progress

Progress details:

- Analysis of the initial status of the diversification of Gas Quality in selected countries
  (Europe, Russia, US and other markets would be appreciated)
- Opportunities to exploit the gas composition ranges more efficiently incl. recommended measures (hardware, software & system intelligence)
- Development of supra-regional standards to promote the implementation of new & innovative technologies
- Analyses of the individual renewable gases and evaluation of the impact on DNO* infrastructures and consumer applications
- Determination of acceptable concentrations of renewable gases for the injection in distribution grids
- Development of a roadmap for the preferred evolutionary steps towards a carbon-free future from the DNO* perspective
- Development of marketing concept to illustrate the added value by DNOs into a Carbon-free future

* DNO – Distribution Network Operator

IGU WOC 4; AGENDA Study Group 4.2

Diversification of Gas Quality and Non-conventional Sources in a Carbon-free future

Wednesday 5th of March 2014

Day 1 Meeting of SG 4.2

13:30 – 13:45	Welcome & Introduction of new SG 4.2 members	All participants
13:45 – 15:00	Update on current developments in respective markets	All participants
	Coffee BREAK	
15:30 – 16:30	Gas quality tracking in a gas distribution network	Maciej Chaczykowski/ All participants
16:30 – 17:00	PROPOSAL FOR CALL FOR PAPERS WOC 4, SG 2 Evolution into a Carbon-free gas future: Managing the Diversification of Gas Quality	Peter Flosbach/ All participants

IGU WOC 4; AGENDA Study Group 4.2

Diversification of Gas Quality and Nonconventional Sources in a Carbon-free future

Thursday 6th of March 2014

Day 2 **Meeting of SG 4.2**

10:20 – 11:30	Scenario impact assessment for the introduction of renewable gases (SG 4.2 approach) Coffee BREAK	All participants
11:30 – 12:30	R&D projects for integrating gas and electricity distributions grids (grid storage)	Peter Flosbach All participants
12:30	Lunch	
13:30 – 15:00	Presentation of results SG 4.2	All participants

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WOC 4 Study Group 3 (SG 4.3)

Smart Grids in Gas Distribution

State of work 4.3

Pascal Vercamer

March 2013, Madrid

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WOC 4 Study Group 3: Smart Grids in Gas Distribution

- Increasing application of smart grids in gas transport systems
- Examination of smart meters in the previous triennium
- Open questions to discuss:
  - Are smart grids feasible for a distribution grid at a reasonable cost?
  - How likely is a coherent development with the electric power grid?
  - Are the clients ready for smart grids?
  - Is the personnel appropriately trained?

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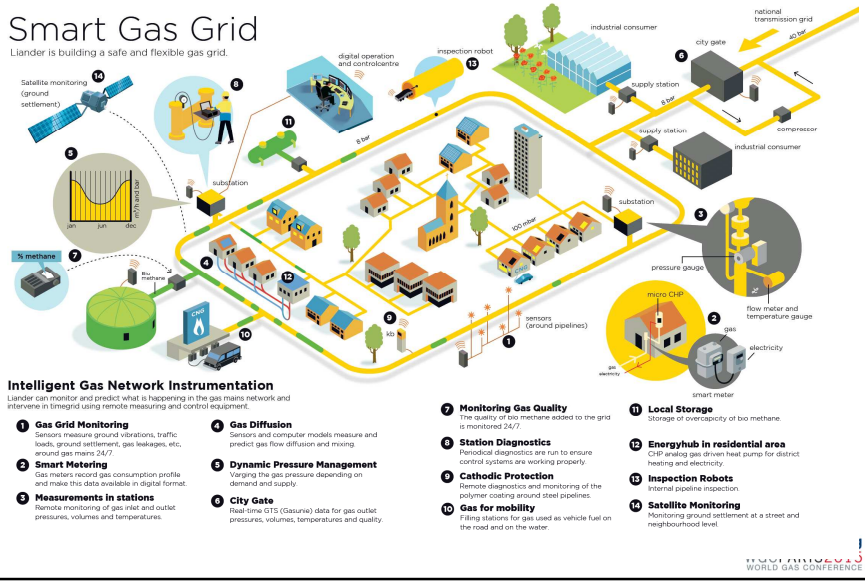
Definition of a Smart Grids



WOC 4 Study Group 3 (SG 4.3)
The Team

- ***Leader :*** *Pascal VERCAMER (Fra)*
- ***Vice chair****: Steven VALLENDER (UK)*
- ***Members:*** *Akiharu ASADA (Jap); Libor CAGALA (CZE); Mohammed HAKKOUM (Alg); Roch DROZDOWSKI (Fra); Birgitte HERSKIND (DK); Ben LAMBREGTS (NL); Kees PULLES (NL);; Ryoichi TORIUMI (Jap); Peter VERBEEK (NL); Kim VRANCKEN (Bel) …*

Our working group….

Study Group 4.3 Work progress

Progress detail at 5th of march 2014:

- Definition of high level functionalities of the Smart Gas Grids
- First set of assessment criteria / scoring matrix for functionnalities
- Exchanges about national or continental approaches about smart gas grid
- Collection of examples from different countries
- Structure of SG4.3 report
- Article for IGU Magazine (june 2014?)
- Titles for SG4.3 committee and expert forum sessions
- Call for papers about SG4.3 topics

Objectives of SG4.3 report

- Help DNO managers to build a road map for the network of the future
- Give arguments to face and convince public authorities about the design of future gas networks
- Show that gas can be as smart as electricity and can be in sinergy with the other energies
- Smart is not the target- the target is to identify the best ways for the network of the future using new technologies
- Highlight some cases where smart gas grids are useful and efficient

Apply Sao Paulo's motto: *Non ducor, duco*
(I am not behind a leader, I am the leader)