Quelques éléments de géopolitique gazière mondiale

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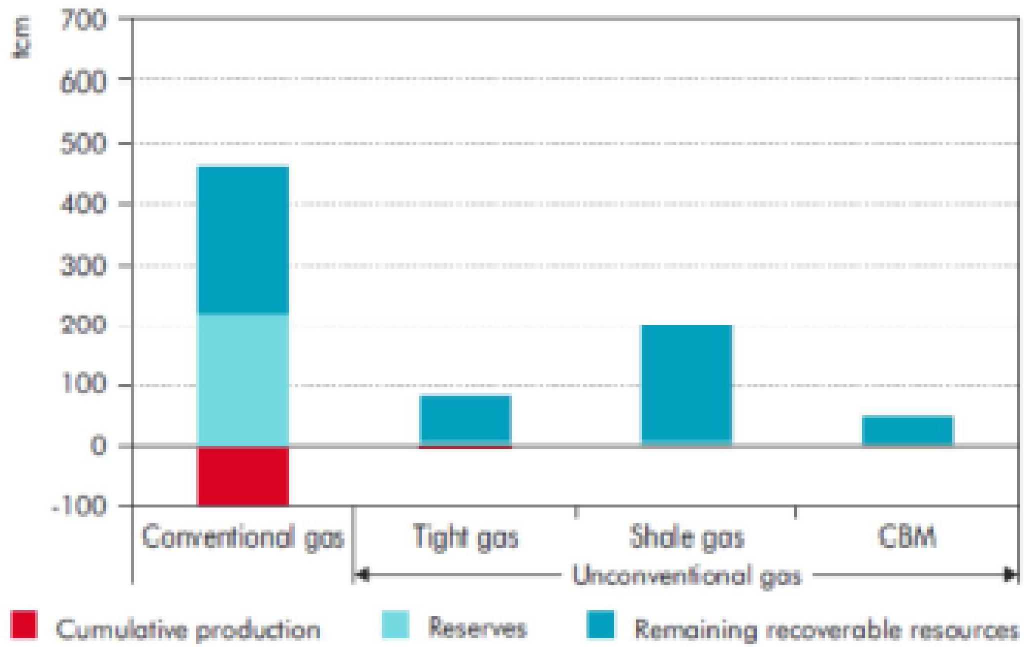
DGA Storengy
Président du Comité de Coordination de l'IGU

Sommaire

- *Rappels de géopolitique gazière*
- *Qu'est ce que l'IGU*
- *Le triennium Français*
- *Le congrès mondial de 2015 à Paris*
- *Conclusion*

Ressources globales hors hydrates

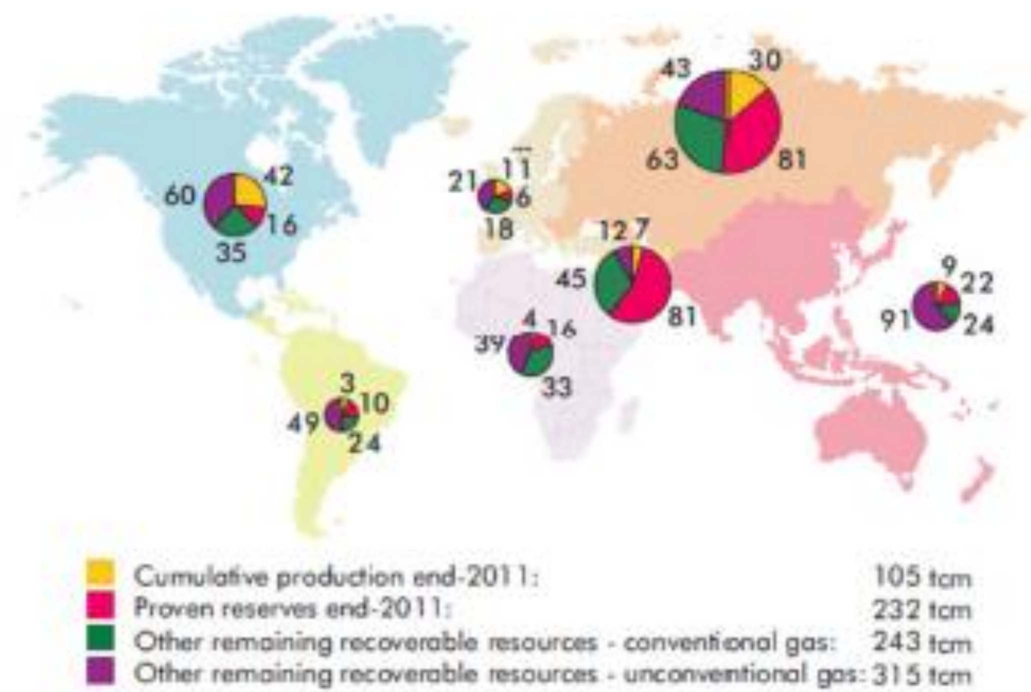
- The current mean assessments of conventional gas endowment quantify the ultimate recoverable resource at 475 TCM.
- The cumulative production is slightly above 100 TCM; consequently, the remaining recoverable resources are estimated at 400 TCM, which represents more than 100 times the current annual production.



Source: IEA, 2013

Répartition des gaz conventionnels

Regional distribution of conventional gas



- Even though N. America has a large volume of remaining conventional resources, proven reserves base is smaller than that of the CIS and M. East.

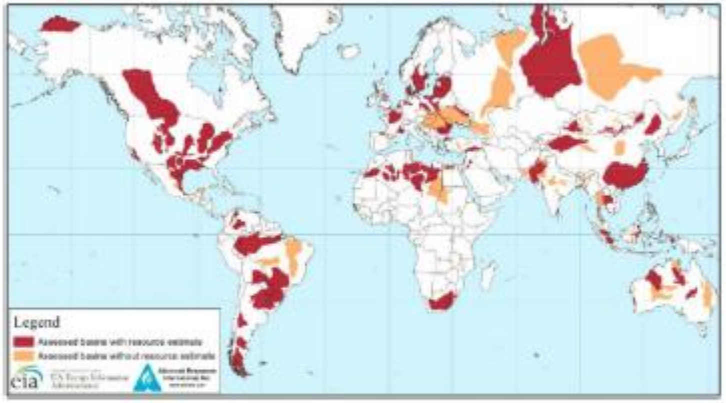
Source: IEA, 2013

Répartition des gaz non conventionnels

Region	Total gas, tcm		Unconventional by type, tcm		
	Conventional	Unconventional	Tight gas	Shale gas	CBM
Eastern Europe and Eurasia	160	43	10	12	20
Middle East	132	12	8	4	0
Asia Pacific	44	93	20	57	16
OECD Americas	81	82	16	57	10
Latin America (non-OECD)	27	48	15	34	0
Africa	41	38	8	30	0.1
OECD Europe	35	22	4	17	2
World	**519**	**337**	**78**	**210**	**48**

- Global total sources of unconventional resources in place are estimated at around 340 TCM, of which shales has the largest potential with 210 TCM.
- The global distribution of unconventional gas differs markedly from that of conventional gas.

Source: IEA, 2013



Hydrates de méthane

- Methane (or gas) hydrates are thought to be the most abundant sources of hydrocarbon gas on earth. They are solids composed of natural gas molecules surrounded by a cage of water molecules, i.e. methane molecules held within a clathrate or lattice structure.

- One cubic meter of hydrates contains about 164 cm of methane gas at standard conditions, with an energy content that is comparable to that of bitumen and oil-sands.

- Methane hydrates can be found in permafrost Arctic regions at 200 m to 1,000 m depth or on the seabed between 500 m and 1,500 m water depth.

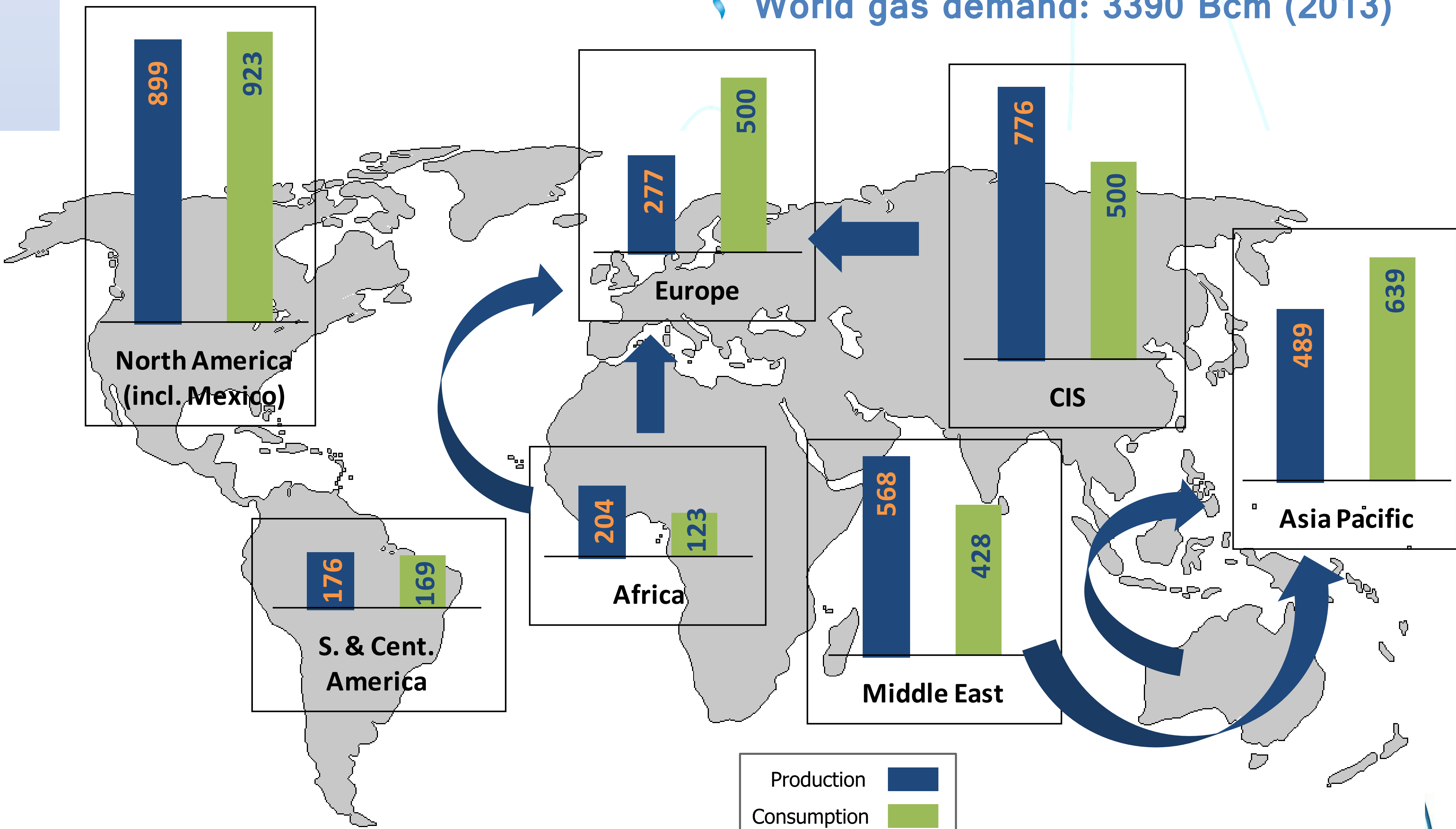
- The amount of natural gas in hydrate accumulations may be in the range of 1,000 – 5,000 TCM, but there is great uncertainty and some estimates are much higher.
    - It has been estimated that ocean hydrates may contain up to 120 000 TCM of methane gas in place, more than two orders of magnitude greater than worldwide conventional natural gas reserves.

- A recent US Geological Survey assessment estimated that there are 2.4 TCM of technically recoverable natural gas from hydrate deposits on the Alaskan North Slope.

Source: IEA, 2013

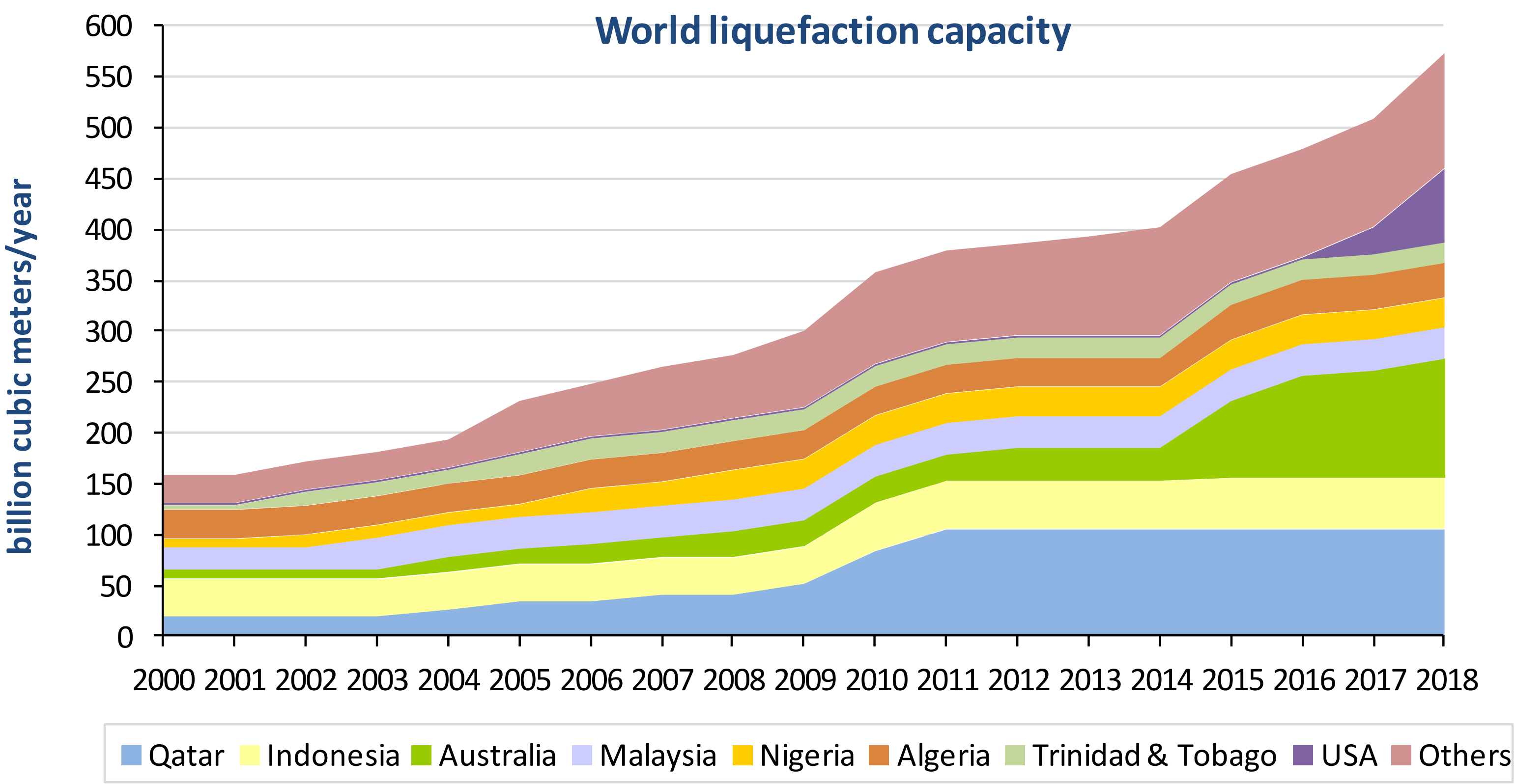
Supply/demand balance by region and main gas movements

World gas demand: 3390 Bcm (2013)



Source : BP Statistical Review & GDF SUEZ Trading

GNL



World liquefaction capacity
billion cubic meters/year
600
550
500
450
400
350
300
250
200
150
100
50
0
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018
Qatar
Indonesia
Australia
Malaysia
Nigeria
Algeria
Trinidad & Tobago
USA
Others

Les 3 marchés mondiaux

USA

SUPPLY : domestic production, pipeline imports (Canada)

Reference price : hub-based (Henry hub)

Western Europe

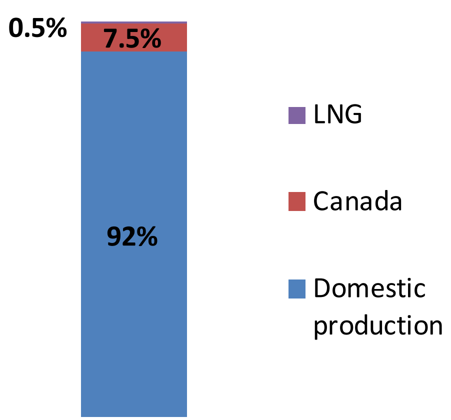
SUPPLY : domestic production, pipeline imports (Russia, Norway, Algeria), LNG (Qatar, Algeria, Nigeria)

Reference price : mixed (hub-based, long-term hub-indexed and long-term oil-indexed)

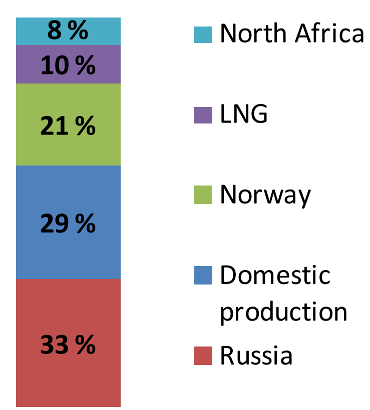
Northeast Asia

SUPPLY : LNG (Qatar, Australia, Malaysia, etc..), domestic production, pipeline imports (Turkmenistan)

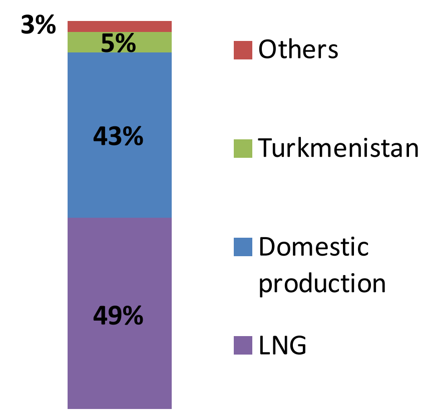
Reference price: regulated & long-term oil-indexed



US supply



OECD Europe supply

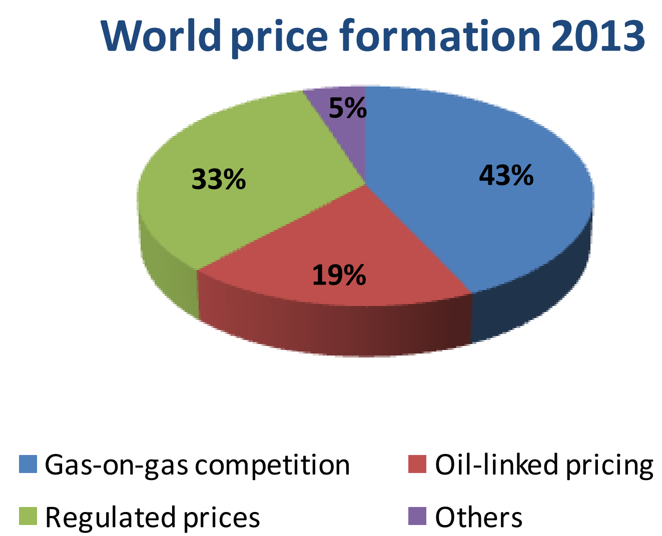


Northeast Asia supply

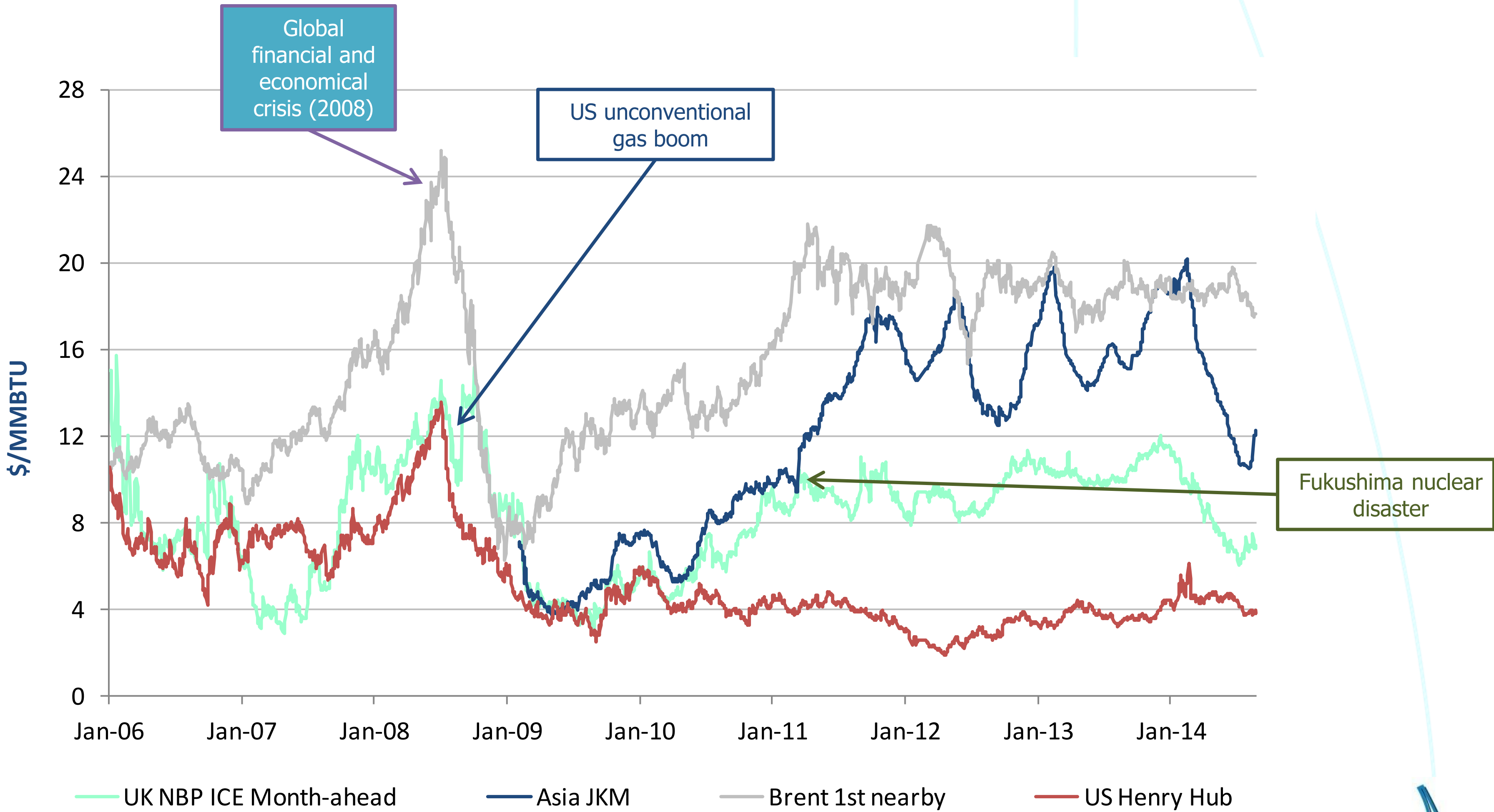
Mécanismes de prix

- Three common pricing mechanisms:

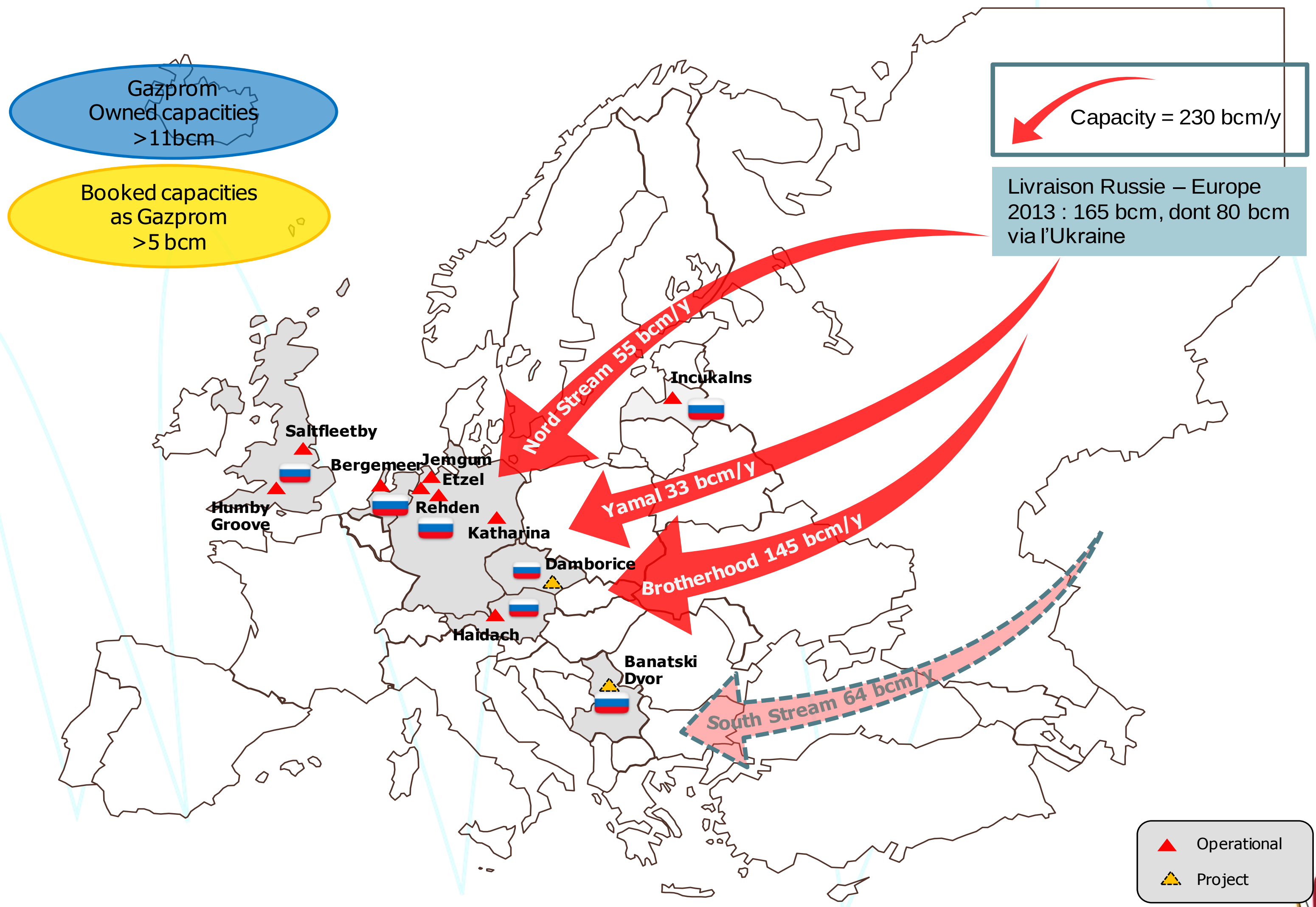
- **Oil-linked pricing:** generally related to long-term contracts with prices linked by formula to either crude oil or oil products prices
- **Regulated prices:** set by governments; can reflect production or other costs or provide subsidies for natural gas consumers
- **Competitive market pricing:** establishment of a trading point or a hub where competition among suppliers and consumers of natural gas determines the price



Evolution des prix sur les 3 marchés



Exportations russes vers l’Europe



Autres cas : la Caspienne et l'Arctique

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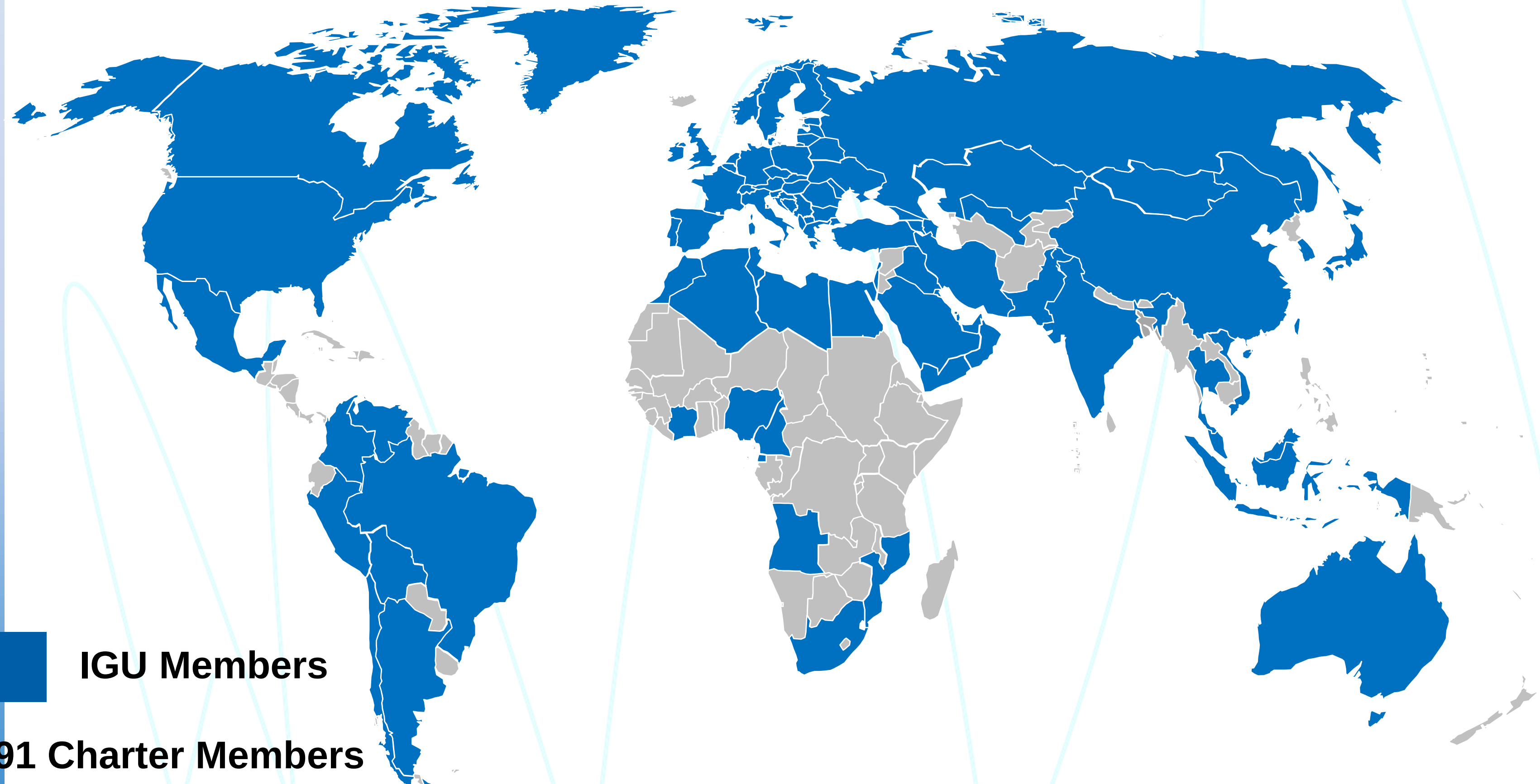
IGU Global Membership (>97% of the market)



IGU Members

91 Charter Members
51 Associate Members
13 Affiliated Organisms

IGU Structure (triennal life cycle)

Hosted by

Main goals

Vision:

IGU shall be the most influential, effective and independent non-profit organisation serving as the spokesperson for the gas industry worldwide.

Mission – main points:

- Advocate for natural gas as an integral part of a sustainable global energy system
- Promote the political, technical and economic progress of the global gas industry
- Support and facilitate the global transfer of technology and know-how
- Maximise the value of its services to members and other stakeholders

IGU Regional Coordinators

- Europe – **Mr Gertjan Lankhorst**, CEO of Gasterra, the Netherlands
- Asia and Asia Pacific – **Mr Kang Soo Choo**, President & CEO of Korean Gas Corporation
- North and South America – **Mr Luis Domenech**, President of ABEGAS, Brazil
- Middle East and Africa – **Mr Khaled AbuBakr**, Managing Director of TAQA Arabia, Egypt
- Russia- Black Sea- Caspian area – **Mr Marcel Kramer**, CEO of South Stream/ Former President, Royal Dutch Gas Association （KVGN）





- Wise persons :

- **Dr Coby van der Linde**, Director, Institute Clingendael,
- **Dr Daniel Yergin**, Chairman, IHS CERA
- **Dr Kandeh K. Yumkella**, Director-General, UNIDO
- **Mr Nobuo Tanaka**, Former Executive Director of the IEA

Main confererences (2 or 3 years cycle)

Call for Sustainable Energy Policies and Improved Cooperation
– Enhancing the Role of Natural Gas

LNG 17 ★ GNL 17
HOUSTON 2013
16 – 19 April

LNG 17
GNL 17

LNG 18
PERTH AUSTRALIA 2016

International Gas Union Research Conference
IGRC COPENHAGEN 2014

26th WGC in Paris, 1 to 5 June 2015

Wide range of information available

Selected Publications:

- Global Vision for Gas: The Pathway towards a Sustainable Energy Future, 2012
- Shale Gas, The Facts about the Environmental Concerns, 2012
- World LNG Report 2011
- Natural Gas Unlocking the Low-Carbon Future, 2010
- The Role of Natural Gas in a Sustainable Energy Market (with Eurogas), 2010
- Guidebook to Gas Interchangeability & Gas Quality (with BP), 2011

www.igu.org/igu-publications

Various slide packages & reports:

- Natural Gas: Facts & Figures
- Slide package on gas advocacy
- Gas & Climate Change Mitigation Report
- Report on environmental issues surrounding shale gas production
- Summarising overview on environmental concerns regarding shale gas

www.igu.org/gas-advocacy

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The IGU Presidency and NOC

Jerôme Ferrier
President

Coordination Committee

Georges Liens
Chairman

Yves Tournié
Secretary

Micaela Garcia
TWP Assistant

National Organising Committee

Daniel Paccoud
Chairman

Emmanuelle Wicquart
Advisor

Annie Louys
Secretary

EXHIBITION **CONFERENCE** **SERVICES**

Strategic guidelines: main headlines

INTERNATIONAL GAS UNION
UNION INTERNATIONALE DU GAZ

" Growing together towards a friendly planet "

- Advocating for the development of **natural gas** as a foundation fuel **for Sustainable Development**

- Promoting an accurate **combination with renewables & electricity**

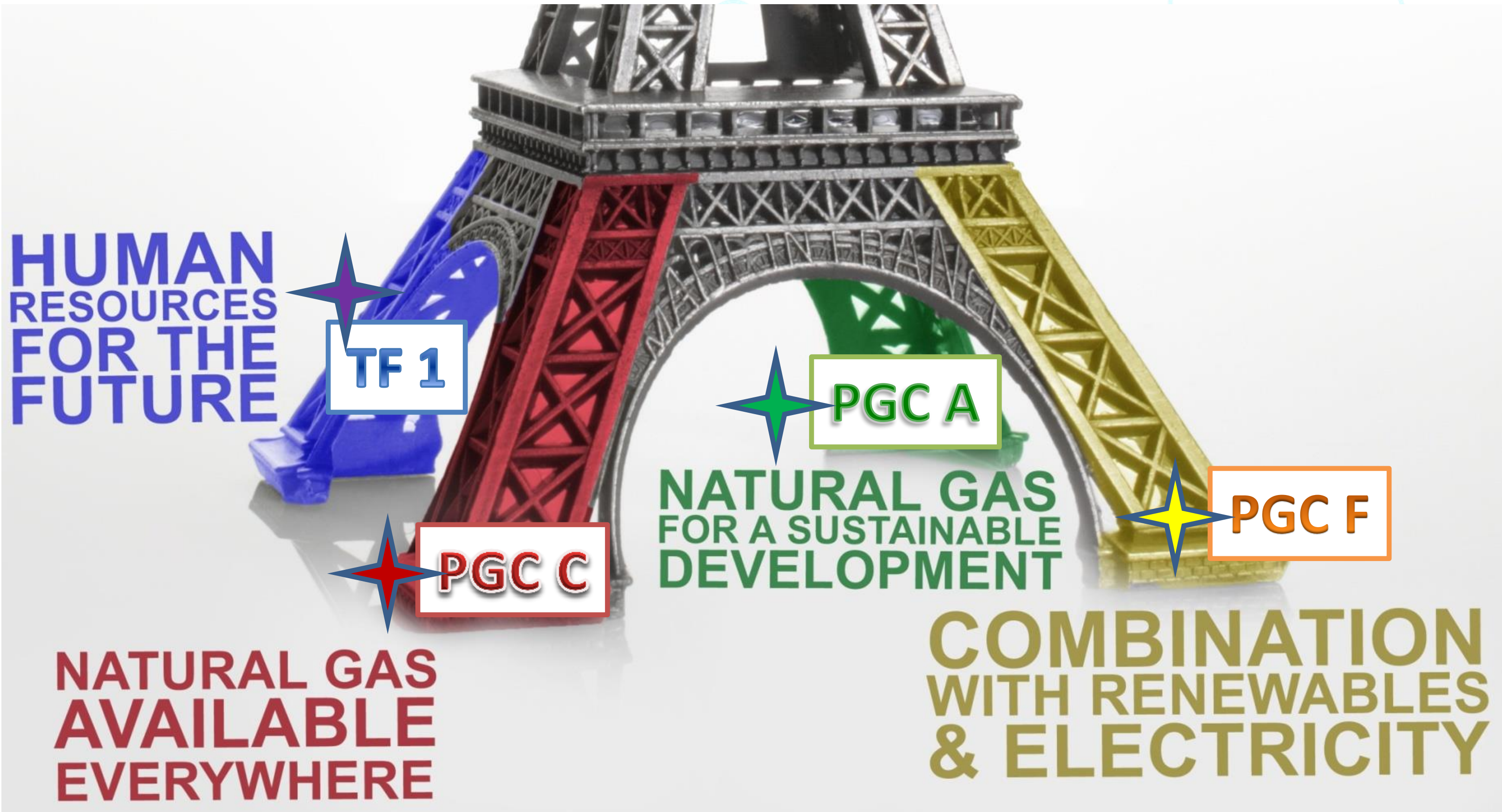
- Improving the availability of **natural gas** in new areas **& in developing countries**

- Attracting and retaining **Human Resources for the Future**

WGCPARIS2015
WORLD GAS CONFERENCE

Strategic vision 2012 – 2015
The 4 pillars

"Growing together towards a friendly planet"



You can download the last version of the TWP :

http://www.wgc2015.org/le-triennium/le-triennium-francais/

Committee Structure 2012-2015

COORDINATION COMMITTEE CHAIRMAN

SECRETARY

VICE CHAIRMAN

WOC 1
E&P

WOC 2
Storage

WOC 3
Transmission

WOC 4
Distribution

WOC 5
Gas use

GAS CHAIN

PGC A
Sustainability

PGC B
Strategy

PGC C
Gas Markets

PGC D
LNG

PGC E
Marketing & Com

PGC F
R D & I

TF1
Human Capital

TF2
Gas Advocacy

TF3
Geopolitics

IGU Committee and TF Chairs

CHAIRS

Vice CHAIRS from

WOC 1	BRAZIL	DENIS DINELLI
WOC 2	SLOVAKIA	LADISLAV GORYL
WOC 3	ARGENTINA	BENJAMIN GUZMAN
WOC 4	GERMANY	DIETMAR SPOHN
WOC 5	RUSSIA	EUGENE PRONIN
PGC A	JAPAN	SATHOSHI YOSHIDA
PGC B	ALGERIA	FETHI ARABI
PGC C	KOREA	GI CHUL JUNG
PGC D	THE NETHERLANDS	DIRK VAN SLOOTEN
PGC E	SPAIN	ALFREDO INGELMO
PGC F	USA	JACK LEWNARD
TF 1	HUMAN CAPITAL	AGNES GRIMONT
TF 2	GAS ADVOCACY	MICHELE PIZZOLATO
TF 3	GEOPOLITICS	GEERT GREVING

2 meetings per year
41 sub-groups : one final report and one conference session by sub-group
an extranet platform for information and exchanges

TF 3 : Geopolitics

- A cooperation with CIEP and IFRI : discussion papers
- Experts meeting in Paris in February 2013 and mid 2014, participation to the report on Energy Poverty with PGC B & C
- Cooperation with IPI (seminar) and IRENA
- VIP roundtables :
  - in Washington in June 2013 (shale gas and LNG exports)
  - in Beijing on 21st of October 2013
  - in Amsterdam in November 2013 : Arctic Region
  - In Berlin : Geopolitics and Natural Gas

Quelques succès du triennium

- A triennium of records and of work and friendship for the CC :

  - More than **1000 members (+100)** with a important attendance despite the global economic situation and a large non European participation (more than 400 participants each semester)
  - **1501 abstracts received (+100%)**
  - Several **multiple meetings** and **a triple** one **in Seoul** (WOC 1, PGC A & PGC C)
  - Several Group's workshop, and 5 CC workshops, one at each CC meeting (4 pillars and Gas Advocacy & Global Voice of Gas)

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WGC PARIS 2015 : Global map

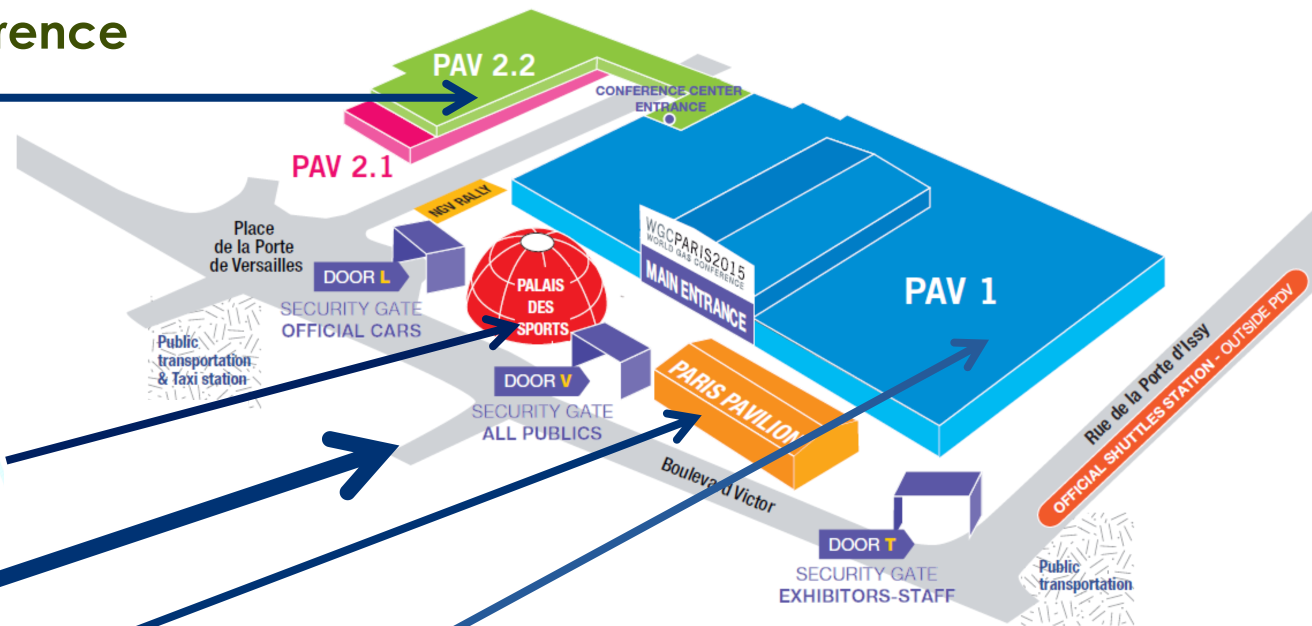
WGC 2015 Conference
&
Youth Event

Theater Hall 4000
for
Plenary Sessions

Main entrance

Luncheons

Exhibition
20 000 sqm



PAV 1
- BADGING
- INFORMATION / CONCIERGERIE
- EXHIBITION
- NATURAL GAS FOR TRANSPORTATION VILLAGE
- LPG VILLAGE
- INTERACTIVE SHOWCASES
- PAYING RESTORATION
- FIRST AID

PAV 2.2
- CONFERENCE SESSIONS
- SPEAKERS ROOM
- YOUTH EVENT

PAV 2.1
- FAREWELL PARTY

PALAIS DES SPORTS
- OPENING & CLOSING CEREMONIES
- KEYNOTE SPEECHES

PARIS PAVILION
- LUNCHEONS
- MEDIA CENTER
- VIP LOUNGE

PARIS EXPO PORTE DE VERSAILLES
1, Place de la Porte de Versailles - 75015 Paris - France

WGCPARIS2015
WORLD GAS CONFERENCE

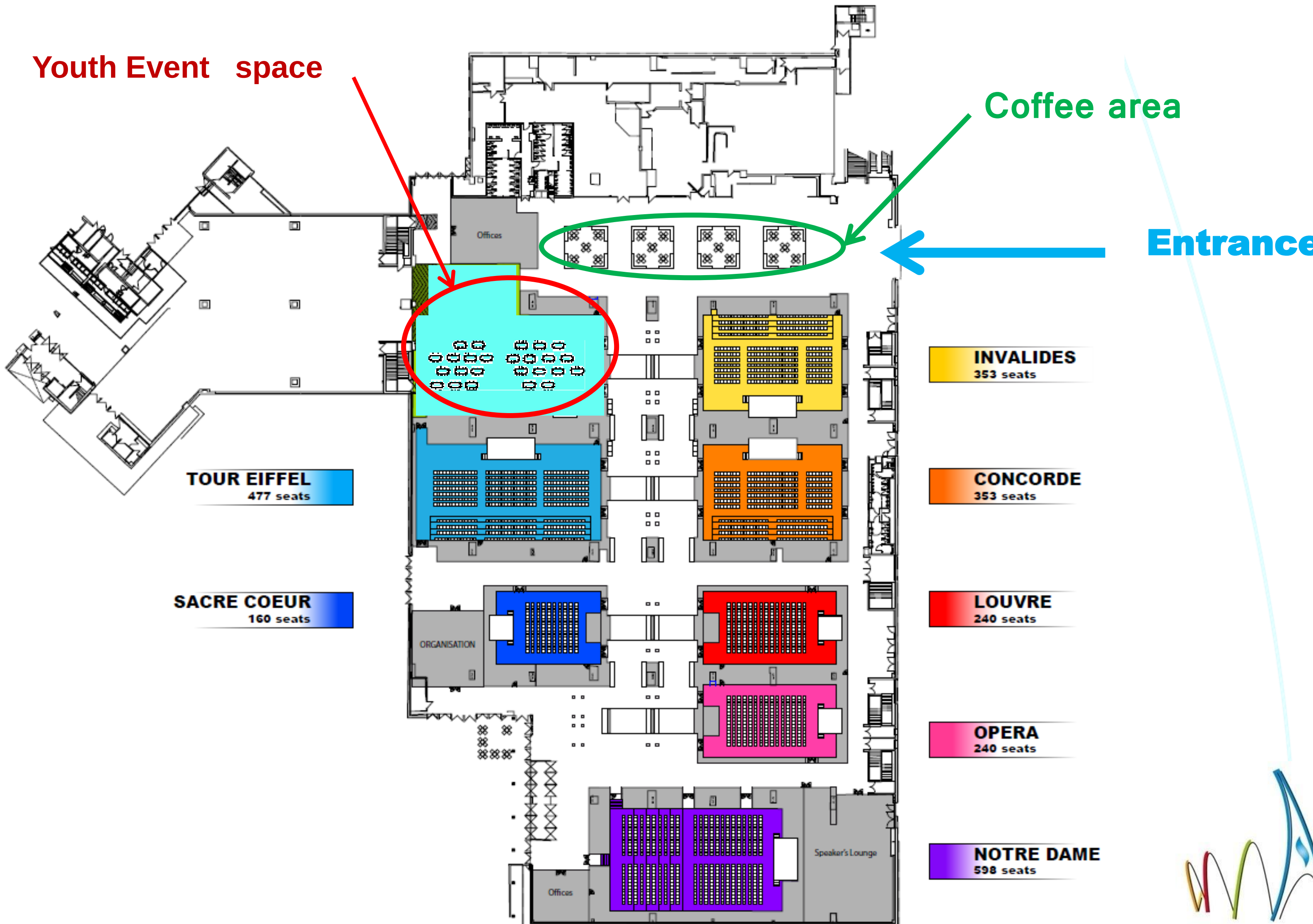
WGC PARIS 2015, 26th World Gas Conference – Preliminary programme

- **Opening by Mr. François Hollande, President of France**
- 21 top leaders keynote speakers, 4 world class luncheon speakers

Global Program WGC 2015 : 2nd to 5th June							
Day 1 : Natural Gas a core pillar for a sustainable future of the planet		Day 2 : Gas together with renewable and electricity a perfect combination		Day 3 : Natural Gas a growing factor for new economies		Day 4 : Human Capital for the future of Gas Industry	
8:30 to 10:00	Opening Ceremony	8:30 to 10:00	7 Thematic sessions	8:30 to 10:00	7 Thematic sessions	8:30 to 10:00	7 Thematic sessions
10:15 to 11:35	Keynote speeches	10:30 to 12:00	Keynote speeches	10:30 to 12:00	Keynote speeches	10:30 to 12:00	3 Strategic Panels : Women's place Gas communication IGU awards
11:45 to 12:15	Exhibition's opening					10:30 to 13:45	ISC
12:15 to 13:45	Luncheon speech	12:15 to 13:45	Luncheon speech	12:15 to 13:45	Luncheon speech	12:15 to 13:45	Luncheon speech
14:00 to 15:00	Keynote speeches	14:00 to 15:00	Keynote speeches	14:00 to 15:00	Keynote speeches	14:00 to 15:30	TWP presentation
15:15 to 16:45	4 Strategic Panels : Political leaders Prospective 2050 Gas flaring reduction LCA a tool for decisions	15:15 to 16:45	4 Strategic Panels : Gas Advocacy LNG a key factor NGV Smart grids	15:15 to 16:45	4 Strategic Panels : Gas devpt in emerging countries R&D & Innovation Unconventional gas Human Capital	15:45 to 16:45	Closing Youth Program
17:00 to 18:30	7 Thematic sessions	17:00 to 18:30	7 Thematic sessions	17:00 to 18:30	7 Thematic sessions	17:15 to 18:30	Closing Ceremony
From 13:00 : interactive show cases		10:30 to 16:30 TWP interactive sessions and interactive show cases		10:30 to 16:30: interactive show cases (ISC)		18:45	Farewell party

- 14 Strategic Panels and 42 Thematic Sessions, 42 Interactive Showcase sessions

WGC PARIS 2015 :
Conference Room Allocation



What is the Youth Event ?

A dedicated event for youth during the WGC2015

Target

200 talented students and young professionals

A unique youth experience about the gas industry
Fully integrated within the WGC2015
High visibility

Be a player in the future of the gas industry
Show the challenges and opportunities of the gas industry
HR Pillar of the WGC

Youth Event Programme

2 Topics

Attract young talents, specially women : a key for the gas industry

Energy for all : the role of gas in sustainable development

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Conclusions

- Contrairement aux autres énergies, le monde gazier est “fortement interconnecté”
  - La part du commerce mondial est d’environ 1/3 de la production (au contraire de l’électricité qui est « locale »)
  - La plus grande partie (2/3) est exporté par pipes (au contraire du pétrole exporté par tankers => développement du GNL
- D’où une forte interdépendance et de forts enjeux géopolitiques et des « effets rebonds » :
  - L’exploitation des shale gas aux USA a complètement changé la donne pour les USA mais aussi pour l’Asie
  - Les tensions ukrainiennes et la crise en Europe renforcent les visées de la Russie vers la Chine
  - …

gliens@wgc2015.org

IGU Web site: http://www.igu.org

WGC 2015 : http://www.wgc2015.org

Merci pour votre attention !