



Study Group 1.1

Technological Advances in the Exploration & Production of Natural Gas

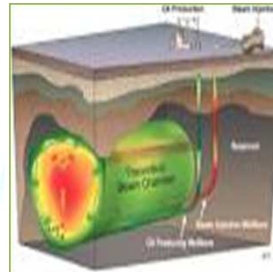


***6th WOC-1 Meeting
Yamburg, Russia
3-5 February 2015***

WOC 1 : The bigger picture

WOC 1 : EXPLORATION AND PRODUCTION OF NATURAL GAS

WOC 1 focused on the assessment of conventional and unconventional resources, on key technologies for the exploration and production of natural gas and on new policies and fiscal regulations for upstream business



SG 1.1

Technological Advances in E&P of Natural Gas

SG 1.2

Natural Gas Available Everywhere: Assessment of Global Gas Resources and Reserves



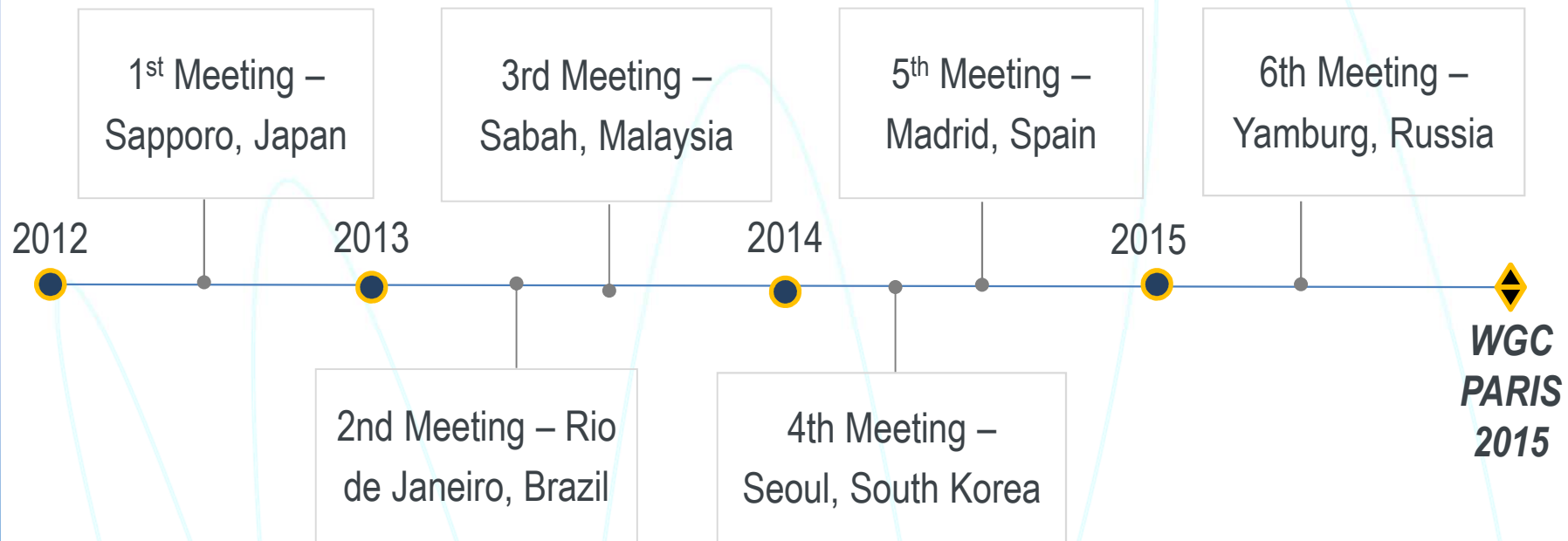
SG 1.3

Fiscal Regimes for the Production of Conventional and Unconventional Gas

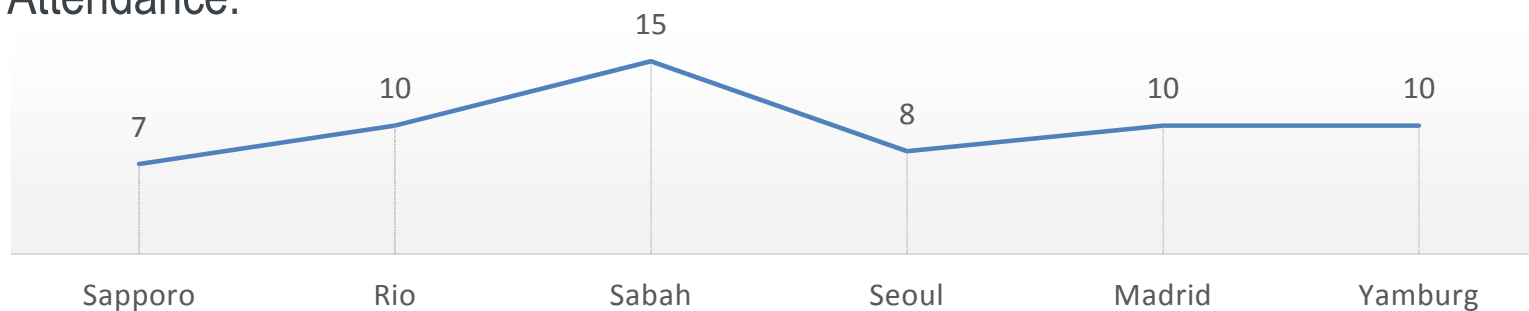


SG 1.1 : En route to WGC Paris 2015

Meetings:



Attendance:



SG 1.1 : Milestones

Details	2012		2013				2014				2015	
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
WOC-1 Meetings	▲ Sep'12		▲ Feb'13		▲		▲		▲ Sept'14		▲	▲
WOC-1 Study Report	<p>1. Appointment of SG Leaders & Identify members</p> <p>2. Develop study TOR</p> <p>3. Identify technologies that will be studied</p> <p>4. Select final list of technologies for final report</p> <p>5. Identify transversalities with other SG and WOC/PGC</p> <p>6. Conduct literature research</p> <p>7. Write first draft of report for WOC-1 discussion</p> <p>8. Compilation, consolidation and review of report (with SG1.2 and SG1.3)</p> <p>9. Submission of WOC-1 report to CC</p> <p>10. Review and edit based on CC comments</p> <p>11. Final submission</p>											
Preparation for presentation of papers at WGC2015	<p>1. Select the themes for call for papers</p> <p>2. Call for papers</p> <p>3. Submission of abstracts by authors</p> <p>4. Review and selection of the ^{Open} abstracts</p> <p>5. Submission of full paper by authors</p>											
						Sep'13		Feb'14			Feb'15	WGC

SG 1.1 : Reflection of the three years effort



Meeting #1 :
Sapporo, Japan

- Introduction to new committee members
- Appointment of leaders and registration of members
- Sharing of WOC 1 Triennial Work Program
- Proposed approach and topics
- Agreed milestones and deliverables



Meeting #2 : Rio de
Janeiro, Brazil

- Recapped of proposed approach, topics and expectation setting
- Preliminary plan for SG 1.1 and agreed milestone
- Presentation by Halliburton, Gazprom and ETAP
- Developed list of technologies for SG 1.1 report



Meeting #3 : Sabah,
Malaysia

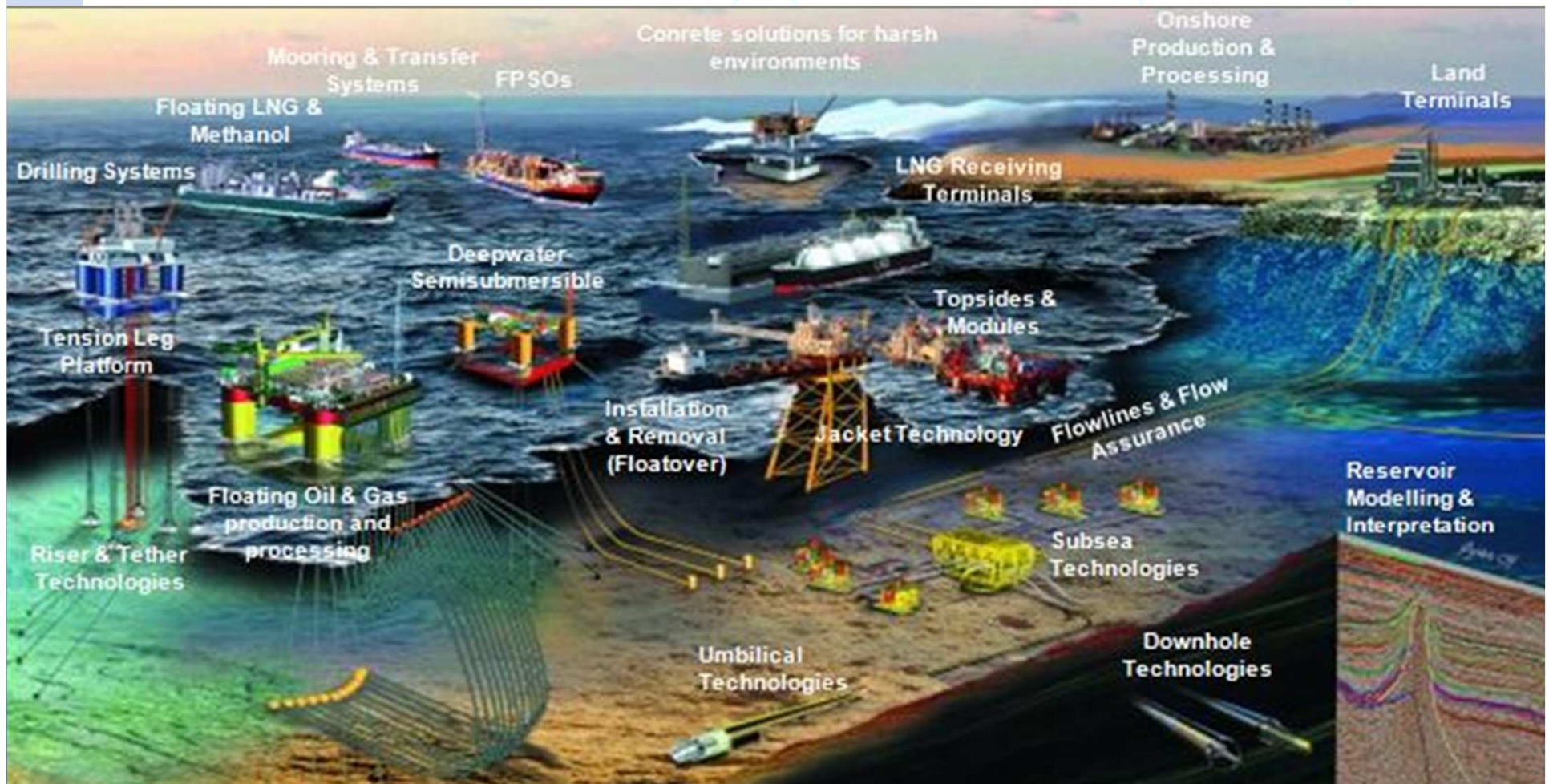
- Enhanced SG report coverage – confirmed concept and content
- Presentation by Gazprom, ETAP, CNPC, PETRONAS, Schlumberger
- Agreed segregation of duties to finalize SG Report

SG 1.1 : Scope & Deliverable

Proposed Framework:

Build on list of gas technologies in Exploration, Development & Production LF

Elaborating on recent advances of technologies in the value chain



SG 1.1 : Reflection of the three years effort



Meeting #4 : Seoul,
Korea

- Progress of SG report – new report contributions
- Finalized of SG Report
- Enhanced the content of SG Report– consideration of new technologies
- Established scope for thematic session and expert panel forum
- Call for Papers



Meeting #5 :
Madrid, Spain

- Progress of SG report – pending contributions
- Agreed deadline for SG report finalization
- Review of Abstract: >160 contributions received for WOC 1.1
- Consolidation of Ratings
- Created 2 new thematic sessions (WOC 1.4) due to high number of paper contributions for WOC 1.1

Meeting #6 : Novy
Urengoy, Russia

- Sharing of final SG report
- Reflection of three years efforts
- Confirmation of chairman, moderator and leader for Thematic Session, Interactive Session and Expert Session
- Next triennium – snapshot of TWP 2015-2018

SG 1.1 : Final SG Report summary

Chapter 1 : Role of Technology in E&P of Natural Gas

- Natural Gas Demand Outlook
- Recent Trends in E&P of Natural Gas
- Technology Response to Global Gas Outlook

Chapter 2 : Gas Reservoir Characterization

- Introduction and Definition
- Advances in Reservoir Characterization

Chapter 3: Unconventional Hydrocarbon

- Shale Gas
- Methane Hydrate

Chapter 4: Gas to Liquid

- Overview
- Mini GTL

Chapter 5: Zero Flaring Zero Venting

- Global GHG Scenario
- Global Carbon Pricing
- Recycling of Associated Gas

Chapter 6 & Chapter 7: Case Studies

- Western Siberia Gas Production
- Shale Gas Production Technology in North Mortney Canada

Thank You

