SOUTH Oil&Gas 2030

Governing economic and systemic risks in an era of hydrocarbons abundance

Governação de riscos económicos e sistémicos numa era de abundância de hidrocarbonetos

A specialized Workshop

Alfândega do Porto (Sala 6/ Room 6; Sala 1/ Room 1)

29 Outubro /29 October, 9h00-17h30

Com o apoio de/ With the support of:
the International Risk Governance Council – Portugal, IRGC-Portugal
Carnegie Mellon Portugal Program

Language: Part 1 (9h00-10h30) in Portuguese; Part 2 (11h00-17h30) in English

Workshop: Brief Description (in English)

The identification of vast hydrocarbons resources in the Brazilian pre-salt and the technological innovations that led to the rapid increase of unconventional hydrocarbons resources in the USA both are reshaping the energy geopolitics. The recent gas discoveries in Mozambique may help in this process.

The increase supply of hydrocarbons in the North Atlantic (USA, Canada and potentially Mexico) and in the South Atlantic (Brazil, West Africa and potentially Venezuela) diminishes the economic risks of the disruptions in the Middle East oil supply for the Atlantic nations. In addition, the expansion of the Panama Canal (as expected in 2015) in times of increased uncertainty in the energy markets and potential production of unconventional gas worldwide, may foster new systemic risks to emerge in the Atlantic, particularly in the South Atlantic. This will probably occur together with traffic and major commercial sea routes, which will be significantly enhanced with the emergence of new industries in several parts of the Atlantic coast, including East and West Africa and Northern Brazil.

These changes may impact the overall scenarios for energy security at a global level, which require to be addressed and discussed in detail. In addition, many port zones in Latin America (e.g., Rio de Janeiro and Santos in Southeastern Brazil; Bahia and Pecém in Northeastern Brazil) and Southern and Atlantic Europe (including Sines, Lisbon and Leixões in Portugal, Valencia in Southeastern Spain, Las Palmas in Canarias, Algeciras), as well as in northern Europe (e.g., Rotterdam, in the Netherlands), will compete for promoting entry/exit gates of merchandise, thus leaden to opportunities to develop, and adding new risks to those regions. This work should focus on those changes in terms of technological and systemic risks.

The effects of this new context are not fully understood and, certainly, poorly measured as yet. Recent data suggests that a process of reindustrialization is emerging in North America and that the industrialization process in the South Atlantic is gaining momentum. If so happens, trade among Atlantic nations is likely to take off with obvious impact on trade between Pacific and Atlantic nations.

In any circumstance, the hydrocarbons resources of the Portuguese speaking countries (in particular, (Brazil, Mozambique and Angola) will play a significant role in the reshaping of the geopolitics of energy. Our workshop intends to explore this role and to help deepening our understanding of emerging risks and opportunities. It aims to identify the current perception of academics, government officials and oil operators of Angola, Brazil, Portugal and Mozambique on this issue and to set a new research agenda, to be promoted by researchers at IN+/IST, IE/UFRJ, INESC Porto and IHC/FCSH-UNL, under the support of IRGC-Portugal and the Carnegie Mellon Portugal Program, among other potential sources.

An initial workshop will be organized in Porto, Portugal, on Tuesday, the 29th of October 2013, by the time of the XV Conference on Latin Ibero-American Management of Technology - ALTEC 2013, http://www.altec2013.org/. It will be used to set the agenda for new research, to bring together different experts and stakeholders and define a plan of work. It will be followed by a second workshop to be held in Rio de Janeiro by the end of February 2014.

Overall, the ultimate goal of the Porto workshop is to promote a consortium in the form of an *Observatory for Risk Governance, Industrialization and Technological change*, "Atlantic 2030", to be driven by sustainable offshore Oil&Gas related businesses and to learn with history.

Racional

A identificação dos vastos recursos de hidrocarbonetos no pré-sal brasileiro e as inovações tecnológicas que levaram ao rápido aumento de recursos não convencionais de hidrocarbonetos nos EUA estão a reformular a geopolítica de energia. As recentes descobertas de gás em Moçambique podem ajudar neste processo.

O aumento do abastecimento de hidrocarbonetos no Atlântico Norte (EUA, Canadá e potencialmente no México) e no Atlântico Sul (Brasil, África Ocidental e, potencialmente, Venezuela) diminuirá os riscos económicos de potenciais rupturas no fornecimento de petróleo do Médio Oriente para as regiões do Atlântico. Adicionalmente, a expansão do Canal do Panamá (como esperado em 2015) em tempos de maior incerteza nos mercados de energia e da produção potencial de gás não convencional em todo o mundo, pode fomentar novos riscos sistémicos a surgir no Atlântico, especialmente no Atlântico sul. Isso provavelmente ocorrerá em conjunto com o tráfego e as principais rotas marítimas comerciais, que será significativamente melhorada com o surgimento de novas indústrias em várias partes da costa atlântica, incluindo a África Oriental e Ocidental e o Norte do Brasil.

Essas mudanças podem causar impacto nos cenários gerais para a segurança energética a um nível global, que necessitam de ser abordados e discutidos em detalhe. Adicionalmente, muitas zonas portuárias da América Latina (por exemplo, Rio de Janeiro e Santos no Sudeste do Brasil, Bahia e Pecém, no Nordeste do Brasil) e do Sul da Europa (incluindo Sines, Lisboa e Leixões, em Portugal, Valencia no sudeste da Espanha, Las Palmas em Canarias, Algeciras), bem como no norte da Europa (por exemplo, Rotterdam, na Holanda), vão competir para a promoção de entrada / saída de mercadorias, facilitando novas oportunidades para o eventual desenvolvimento dessas regiões, mas acrescentando novos riscos. Este trabalho deverá incidir sobre estas mudanças em termos tecnológicos e sistémicos.

Os efeitos deste novo contexto não são totalmente compreendidos e, com certeza, mal medidos ainda. Dados recentes sugerem que um processo de reindustrialização está a emergir na América do Norte e que o processo de industrialização no Atlântico Sul está a ganhar força. Se assim acontece, o comércio entre as nações do Atlântico é provável que decole com óbvio impacto sobre o comércio entre o Pacífico e as Nações do Atlântico.

Em qualquer circunstância, os crescentes recursos de hidrocarbonetos dos países de língua portuguesa (Brasil, Moçambique e Angola, em particular) irá desempenhar um papel importante na reformulação da geopolítica da energia. O Workshop tem a intenção de explorar esse papel e ajudar a aprofundar o nosso entendimento dos riscos e oportunidades emergentes. Tem como objetivo identificar a percepção atual de académicos, reguladores e operadores de petróleo de Angola, Brasil, Portugal e Moçambique sobre esta questão e definir uma nova agenda de pesquisa, a ser promovido por pesquisadores do IN + / IST, IE / UFRJ, o INESC Porto e IHC / FCSH-UNL, em estraeita colaboração com empresa (Petrobras/CENPES; GALP Energia; Partex Oil&Gas) e com o apoio do IRGC-Portugal e do Programa Carnegie Mellon Portugal, entre outras fontes potenciais.

O primeiro workshop será organizado no Porto, Portugal, na terça-feira, 29 de outubro de 2013, por ocasião da XV Conferência sobre Gestão Ibero Latino-Americano de Tecnologia - ALTEC 2013, http://www.altec2013.org/. Será usado para definir a agenda para futuros trabalhos, reunir diferentes especialistas e partes interessadas e definir um plano de trabalho. Será seguido por um segundo Workshop a ser realizado no Rio de Janeiro até o final de Fevereiro de 2014.

No geral, o objetivo final do workshop do Porto é promover um consórcio, na forma de um eventual “Observatório de Governança de Riscos, Industrialização e Mudança Tecnológica, Atlântico 2030", a ser orientado pela emergência de novos recursos e negócios no Atlântico e de aprender com a história.

Os organizadores / moderators:

- Manuel Heitor, IST / IN +, Portugal
- Adilson Oliveira, IE / UFRJ, Brasil
- João Claro, INESC Porto, Programa Carnegie Mellon Portugal
- Fernanda Rollo, IHC / FSCH-UNL, Lisboa, Portugal

Condidados/ Potential guests (por ordem alfabética, a ser confirmado):

- Aleksandar Jovanovic, EU-VRi / Steinbeis Advanced Risk technologies Group, DE
- Amilcar Soares, IST
- António Caldeira Pires, Chief Technical Officer, SINTEF Brasil
- António Costa e Silva, Partex Oil & Gas, CEO
- António Sarmento, WavEC-Centro da Energia das Ondas, Portugal
- António Sousa Nunes, GALP Energia, Director de Inovação
- Carlos Camerini, ONIP, Brasil
- Carlos Correia da Fonseca
- Carlos Costa Pina, GALP Energia, Membro do Conselho
- Daniel Elias, Galp Energia
- Durval Carvalho de Barros, Cônsul-Geral Adjunto do Brasil
- Elias de Souza, ANP, Supervisor de I & D
- Fernando Roberto, Sonangol
- Fernanda Rollo, IHC-FSCH, UNL
- Fernando Bianchi de Aguiar, Galp Energia
- Fernando Barata Alves, Partex Oil& Gas
- Franz Josef Kaltner (LUSOTECHNIP)
- Guilherme Sales Melo, Diretor, Engenharias, Ciências Exatas, Humanas e Sociais, CNPq
- Jen Pierre Contzen, beligian Acdemy of Sciences, Von Karman Institute, Belgium
- João Figueira de Sousa, UNL, Portugal
- José Anselmo, Policy Officer Transport Infrastructure (TEN-T). Advisor to the European Coordinator MoS
- José Roque, Galp Energia
- Leonardo Mello, UFRJ, Parque Tecnológico
- Luís Guerreiro, Partex Oil& Gas
- Manuel Cruz, ISQ
- Manuel Ferreira De Oliveira, GALP Energia, CEO
- Mario Fernandes Biague (UNILAB, Brasil)
- Matthias FInger, EPFL
- Mauro Rosa, INESC Brasil
- Nelson Ocuane, ENH, Mozambique
- Renata Lebré La Rovere, UFRJ, Brasil
- Rodrigo Fernandes, IST-MARETEC
- Roland Muggli, Galp Energia
- Ruben Eiras, Galp Energia
- Rui Baptista, GALP Energia
- Teresa Ribeiro, PARTEX
- Vladimiro Miranda, INESC TEC, INESC BRASIL

Workshop Schedule *(preliminary)*

Part 1 (in Portuguese): 9h00-10h30, Room 1

Plenary Session
Co-Chairs:

Manuel Heitor (Chair, ALTEC 2013; Direitor IN+/IST, Portugal)
Adilson Oliveira (UFRJ, Brasil)
Carlos Camerini (ONIP, Brasil)
Durval Carvalho de Barros (Deputy Consul General Brazil)

Speakers:

- **Elias de Souza** (ANP, Brasil Oil and Gas National Regulatory Agency)
- **Manuel Ferreira de Oliveira** (Galp, Portugal)
- **António Costa e Silva** (Partex Oil & Gas, Portugal)
- **Fernando Roberto** (Sonangol; to be confirmed)
- **Nelson Ocuane** (National Hydrocarbon Institute, ENH, Mozambique;to be confirmed)

Part 2 Parallel sessions (in English): 11h00-17h30, Room 6

11h00-13h00, Room 6
Opening of the workshop
Co-Chairs and Introduction:

Manuel Heitor (IN+/ IST)
Adilson Oliveira, UFRJ, Brazil

Opening Remarks: (5-10min each; total 90min)

Guilherme Sales Melo, CNPq, Brazil
Carlos Camerini, ONIP, Brazil
Carlos Costa Pina, GALP
Fernando Alves, PARTEX
Júlia Dias (National Hydrocarbon Entreprise, ENH, Mozambique; to be confirmed)
Jean Pierre Contzen, Von Karman Institute, Belgium
Matthias Finger, Ecole Polytechnique Fédérale Lausanne (EPFL)
Aleksandar Jovanovic, EU-VRi / Steinbeis Advanced Risk technologies Group, DE
Antonio Caldeira Pires, SINTEF, Brazil
Franz Josef Kaltner, Technip, Portugal
Vladimir Miranda , INESC-Porto
Amilcar Soares, IST, Lisbon

Debate (30min)

Main topics to address:

- New innovation dynamics and the sustainable oil and gas industries in South Atlantic and Sub-Saharan Africa
- Oil and gas industries and related industrial chains: history, risks and opportunities
- The importance of researchers, oil platform operators and partners, *Oil Field Services* and oil regulating bodies for the enhancement of scientific and academic cooperation in the oil and gas industries and related industrial chains: South-Atlantic Portuguese-speaking countries
- Cooperation: ongoing activites and open opportunities
- Hydrocarbonate supply *Outlook 2030:* the role of Portuguese-speaking countries
    - Oil and gas production trajectories
    - Technological and systemic risks
    - Technological challenges, industrial and financial risks and challenges
- Learning through history: lessons from the North Sea
    - Technological and industrial trajectories
    - Cooperation: ongoing activities and open opportunities
- Opportunities for cooperation and risk governance: opportunities to build a web-based observatory for participatory risk governance and road mapping opportunities boosting industry

14h00-15h30, Room 6

Technological Challenges

Co-Chairs:

Elias de Souza, ANP

Carlos Camerini, ONIP, Brazil

Opening remarks: (5-10min each; total 60min)

António Sarmento, WavEC-Centro da Energia das Ondas, Portugal

Antonio Caldeira Pires, SINTEF, Brazil

Matthias Finger, Ecole Polytechnique Fédérale Lausanne (EPFL)

Aleksandar Jovanovic, EU-VRi / Steinbeis Advanced Risk technologies Group, DE

Franz Josef Kaltner (Technip, Portugal)

Antonio Sousa Nunes, GALP

Luis Guerreiro, PARTEX

António Pascoal (ISR-IST)

Leonardo Mello, UFRJ, Parque Tecnológico do Ilha da Fundão

Rui Baptista, GALP Energia

Rodrigo Fernandes, IST-MARETEC

Debate (30min)

Main topics to address:

- Perceptions about Brazil, Angola, Mozambique and the World
  - Equipment and critical services
  - Radical and incremental innovation
  - Assessment of national scientific and technological capabilities
  - Opportunities for cooperation
- Perceptions by the Brazilian oil and gas sector regulating body-ANP
- Perceptions about Africa
  - Local-content policy
  - Disparities related to local supply
  - Opportunities for cooperation

16h00-17h30, Room 6

Ports, port cities and the evolution of maritime traffic

Chair and Introduction:

Fernanda Rollo, IHC, Portugal

Opening remarks (10 to 15min each: total 60min)

Carlos Correia da Fonseca

João Figueira de Sousa, UNL, Portugal

José Anselmo, Policy Officer Transport Infrastructure (TEN-T). Advisor to the European Coordinator MoS

José Roque, GALP Energia

Rodrigo Fernandes, IST-MARETEC

Debate (30min)

Principal topics to discuss:

- Startegic positioning of Atlantic ports: historical perspective
- Emerging risks and opportunities in the Atlantic and new energy sources: impact of technological transformations on geopolitical relations and global economies
- Alternative sources of energy and challenges to ports; looking at maritime transport on a global scale
- Adaptation of maritime transport to new energy and environmental challenges: policies and actions in Europe, US, Brazil and Africa