



# **Study Group 1.3 Gas Rent and Mineral Property Rights**

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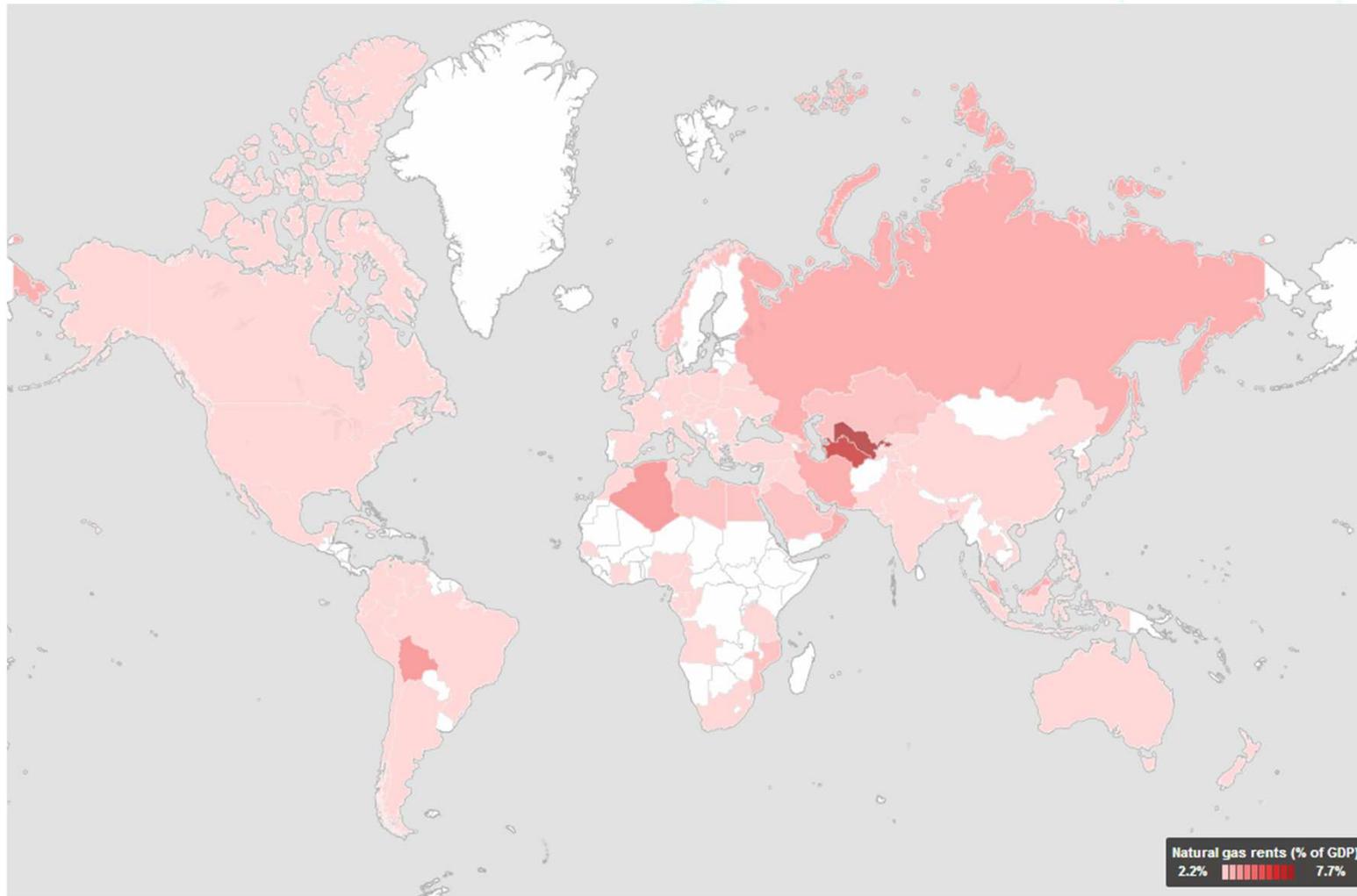
# Triennial report

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- Natural gas rent
- Fiscal instruments
  - ✓ Signature bonuses, area retention, exploratory programme, domestic content, royalties, excises, inland revenue instruments (depreciation lift, ring fencing of deductions, compensation of fiscal losses, abandonment costs, research and development incentives, gold plating)
- Contractual models
  - ✓ Concessions, production sharing, services, buy-back
- Case studies
  - ✓ Mozambique, Tanzania, Russia, Angola, India, China, Norway, UK, USA
- A fiscal system for unconventional gas

# Natural gas rent

Definition: The difference between the value of natural gas production at world prices and total cost of production (The Changing Wealth of Nations, World Bank, 2011)



# Natural gas rent

## Largest gas rents in the world (%GDP)

Country name	2008	2009	2010	2011
Trinidad and Tobago	47.6	28.9	25.5	24.5
Turkmenistan	n.a.	23.0	22.3	22.6
Uzbekistan	73.6	22.8	16.6	15.1
Qatar	24.2	14.6	14.0	14.2
Brunei Darussalam	31.8	18.0	14.3	12.5

### Conclusions from WB study:

- Natural resources account for more than 20% of the wealth of developing nations;
- This share is reduced by intangible wealths such as human and institutional capital as countries climb up the development ladder;
- Before new strategies and policies can be formulated to promote development, it is necessary to improve the indicators that are commonly used to gauge progress (GDP is limited as an indicator of progress).

# Fiscal instruments

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## ❖ Regressive instruments

- The rate increases when production decreases;
- Payments are anticipated relatively to the production;
- Government rent is anticipated;
- Risk is concentrated in the investor

## ❖ Progressive instruments

- Rate decreases as production decreases;
- Payments are adjourned relatively to the production;
- Government rent is postponed;
- Investor risk is mitigated

# Fiscal instruments

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## Signature bonuses

- Payments made upfront for the right to develop an exploratory block
- Regressive instrument because the rate increases when production decreases

## Area retention

- Timely fee for the occupation or retention of an area in which gas or oil is exploited
- Regressive instrument because payment is settled upfront

# Fiscal instruments

## Exploratory programme

- Bidding processes often require an exploratory programme to be detailed

E.g. 11th Brazil Round, 2013 (1 UT = US\$ 500,000):

Location	Offered Basins/Sectors	Block Area (size) <sup>2</sup>	Exploratory Well	Seismic		Seismic Reprocessing		Potential Methods		Gama-spectrometry	Electromagnetic	Geochemistry	Minimum Stratigraphic Objective	UT amount for calculation of the Financial Guarantee of the First Period (R\$/UT)
		(km <sup>2</sup> )	(UT/well)	2D (UT/km)	3D (UT/km <sup>2</sup> )	2D (UT/km)	3D (UT/km <sup>2</sup> )	GRAV (UT/km)	MAG (UT/km)	(UT/km)	(UT/receptor)	(UT/Sample)		
Deep Water	Barreirinhas – SBAR-AP1 and SBAR-AP2	760	1	0.085	0.349	0.006	0.018	-	-	-	0.326	0.160	Fm. Travosas (Cenomanian)	107
	Ceará – SCE-AP3	760	1	0.085	0.349	0.006	0.018	-	-	-	0.326	0.160	Fm. Paracuru (Albian)	107
Shallow Water	Barreirinhas – SBAR-AR2	180	1	0.155	0.633	0.011	0.033	-	-	-	0.592	0.291	Fm. Bom Gosto (Neoalbian)	59
	Foz do Amazonas – SFZA-AR1	190	1	0.155	0.633	0.011	0.033	-	-	-	0.592	0.291	Fm. Caciporé (Neocomian)	59
Shore Areas	Espirito Santo – SES-T6	30	1	9.849	28.436	0.284	0.707	0.128	0.128	0.128	5.760	0.238	Mb. Mucuri – Fm. Mariricu (Aptian)	3,8
	Potiguar – SPOT-T3 and SPOT-T5	30	1	9.849	28.436	0.284	0.707	0.128	0.128	0.128	5.760	0.238	Fm. Pendência (Neocomian)	3,8

# Fiscal instruments

## Domestic content

*score*

$$\begin{aligned}
 &= 40 \frac{\text{signature bonus offered}}{\text{highest signature bonus offered}} \\
 &+ 5 \frac{\text{local content offered for the exploratory phase}}{\text{highest local content offered the exploratory phase}} \\
 &+ 15 \frac{\text{local content offered for the development phase}}{\text{highest local content offered for the development phase}} \\
 &+ 40 \frac{\text{exploratory programme offered}}{\text{highest exploratory programme offered}}
 \end{aligned}$$

Block location	Exploratory phase		Development phase	
	Minimum (%)	Maximum (%)	Minimum (%)	Maximum (%)
Water > 400 m	37	55	55	65
Water > 100 m	37	55	55	65
Water ≤ 100 m	51	60	63	70
Onshore	70	80	77	85

# Natural gas rent



## Education city, Qatar

- 15 km<sup>2</sup> of educational, research, science and community facilities.
- Carnegie Mellon, Northwestern, Texas A&M, etc

## Purpose of the study

Investigate the mechanisms and instruments that can assist governments in the production of rent from the exploration and production of natural gas, aiming at the development of models that can promote a win-win situation for governments and upstream investors.



# Case study results

- Government take was the lowest among all case studies performed:

Country	Government take
Angola	86%
Norway	75%
UK	62%
USA	52%

- In spite of that, a significant effort to further reduce taxes is still under discussion (to stimulate production and reduce imports)
- Benefits target the independent producers in lieu of the production of unconventional

# Impact of benefits

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- ❖ Drilling activity could decrease by 30% if current tax treatment of IDCs, percentage depletion and passive loss exception were ended (Inhofe *et al.*, 2013).
- ❖ Reduction of 3.8 million bpd in 10 years if tax treatment of IDCs was ended (WoodMackenzie *apud* Inhofe *et al.*, 2013)

# Conclusions

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- Development of unconventional gas is mostly the consequence of a strong political will to reduce foreign energy dependency
- Fiscal instruments were key to independent producers, which were ultimately responsible for the revolution of unconventional gas

# Best practices

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- ✦ Reduce the relative importance of signature bonuses and area retention fees in the bidding processes;
- ✦ Increase the relative importance of exploratory programmes, domestic content and other instruments that can harness economic and social development;
- ✦ Promote a good assessment of the actual capability of local suppliers for equipment and services beforehand, and consider realistic mechanisms to account for the individual items that compose the requirements of domestic content, allowing companies to demonstrate higher than expected costs;
- ✦ Replace flat royalty rates and other instruments based on production or income revenue by progressive mechanisms based on profits, or consider the use of progressive royalty rates;
- ✦ Allow the depreciation of assets before production starts, and consider the use of generous uplift allowances that will not cause gold plating, especially for unconventional gas and production in frontier locations;
- ✦ For marginal fields, consider a reduction of royalty rates and other mechanisms that will allow efficient operators to maintain production, employment and tax collection;
- ✦ Whenever possible, consider ring fencing as a means to create equal opportunities and protect the government share;
- ✦ For the production of unconventional gas, consider the concession of fiscal incentives to compensate for the higher costs.

# Thank you!