

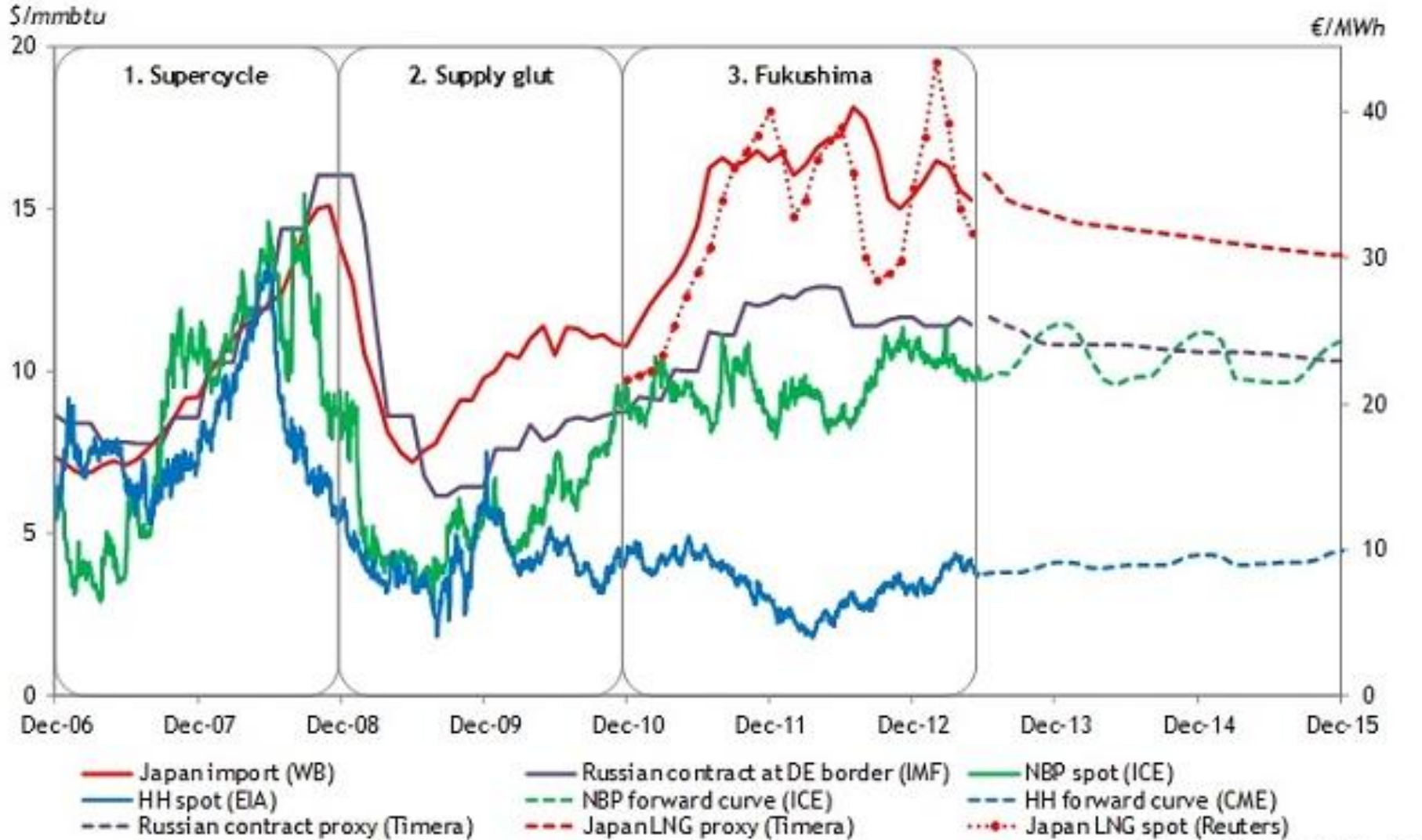
# GLOBAL UNCONVENTIONAL GAS SUMMIT

BEIJING 22 October, 2013

**Shale gas : a pathway for global economic growth and energy security**

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*President IGU*

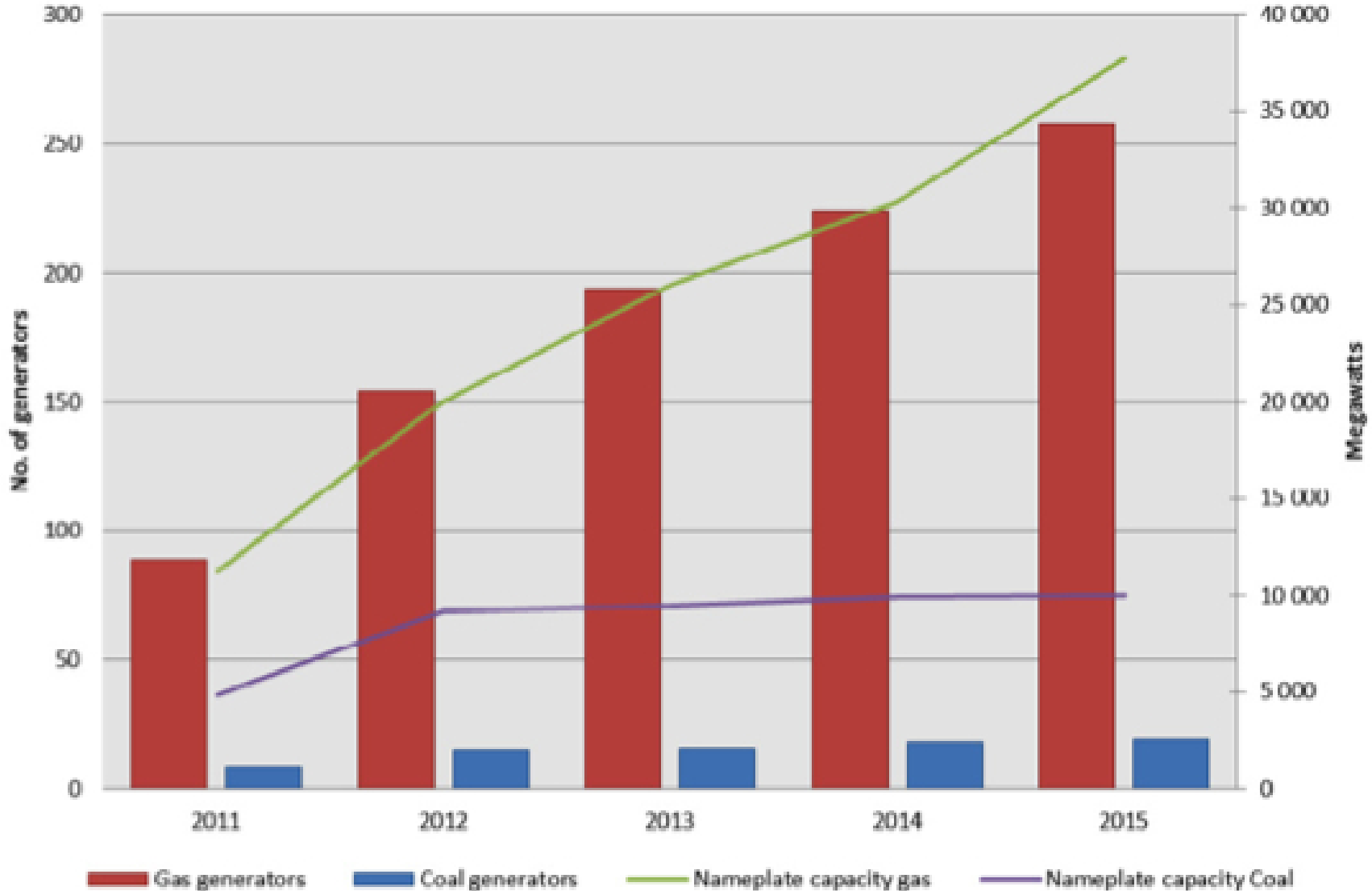
# Natural gas prices in Asia, Europe and the USA



Forward prices as at 20 Jun 13

# Planned additions of gas and coal power capacities in the USA

Source: Shale Gas Europe



# The shale gas impact on employment in the US

Source: IHS Global Insight

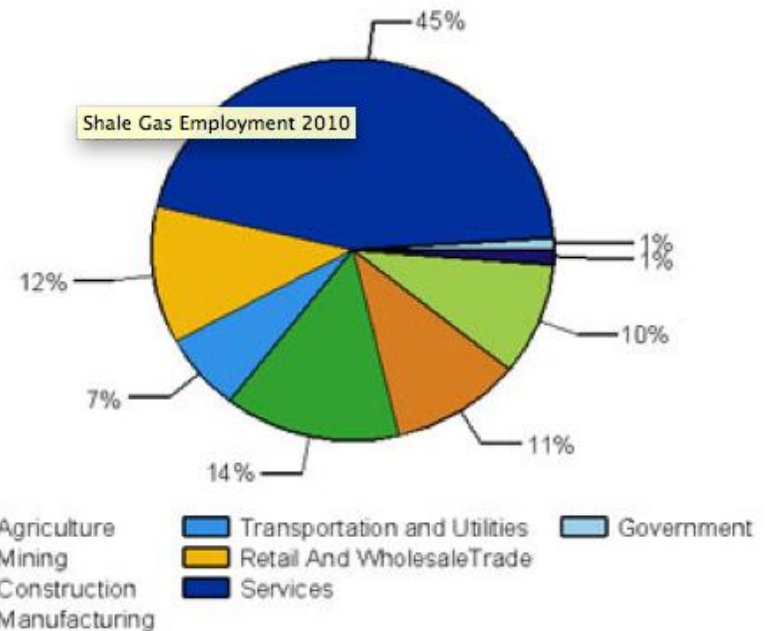
## Shale Gas Employment Contribution

(Number of workers)

	2010	2015	2035
Direct	148,143	197,999	360,335
Indirect	193,710	283,190	547,107
Induced	259,494	388,495	752,648
<b>Total</b>	<b>601,348</b>	<b>869,684</b>	<b>1,660,090</b>

Source: IHS Global Insight

601,348 Workers



# The macroeconomic and related benefits of shale gas for the US

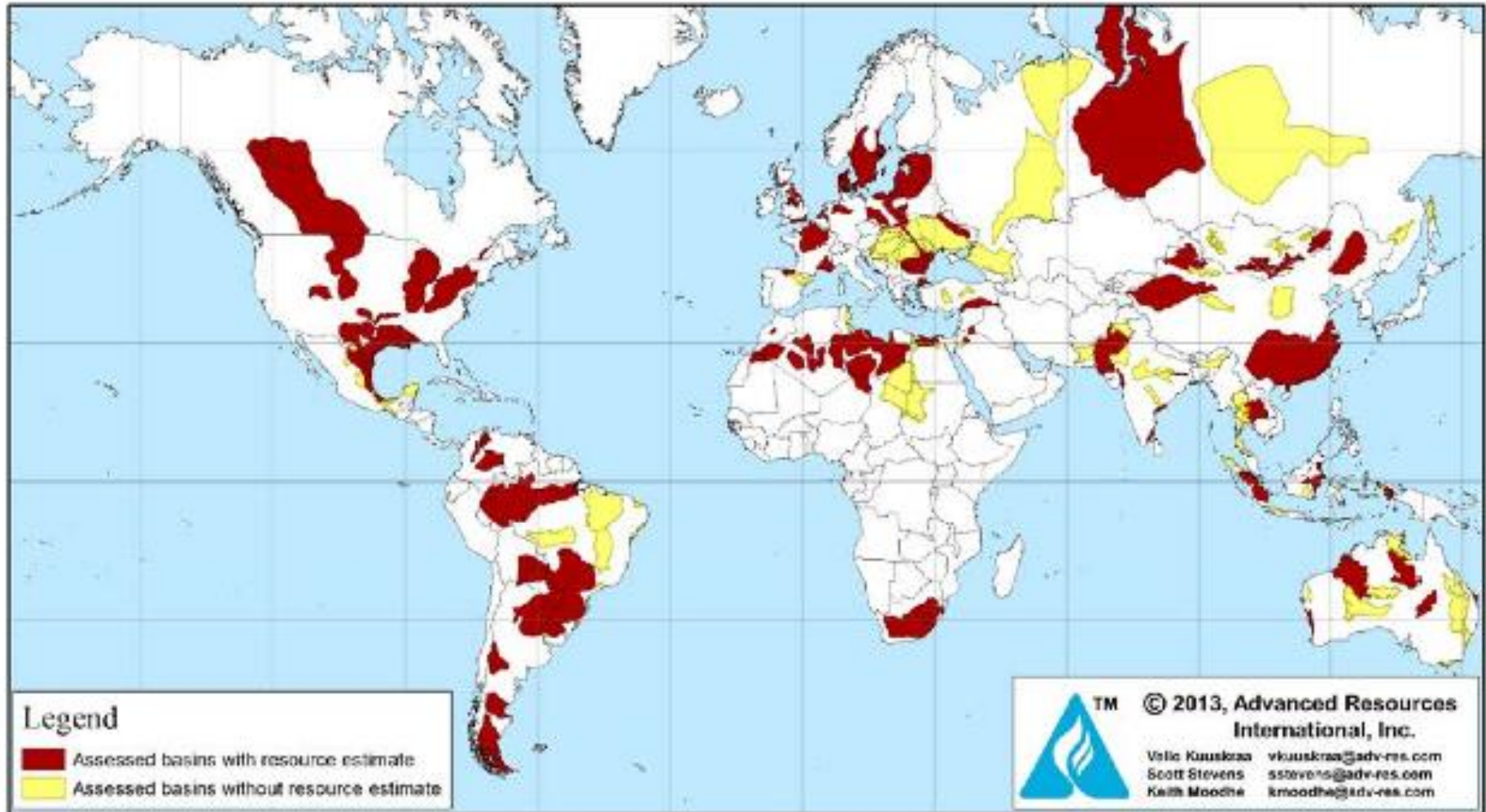
Source: IHS Global Insight



- *The shale gas contribution to US GDP was 77 Billion \$ in 2010, expected to increase to 118 B\$ in 2015 and 230 B\$ in 2035*
- *In 2010, shale gas contributed to 19 B\$ in government tax revenues. On a cumulative basis, it will generate nearly 1 Trillion \$ over the next 25 years*
- *The lower natural gas prices will result in a reduction of 10 % in electricity costs by 2015*
- *By 2017, lower energy prices will result in 2.9 % more industrial production and nearly 5% by 2035.*

# Assessed shale oil and shale gas basins in the world

Source: IEA, Advanced Resources International



# Top 10 countries with shale gas reserves

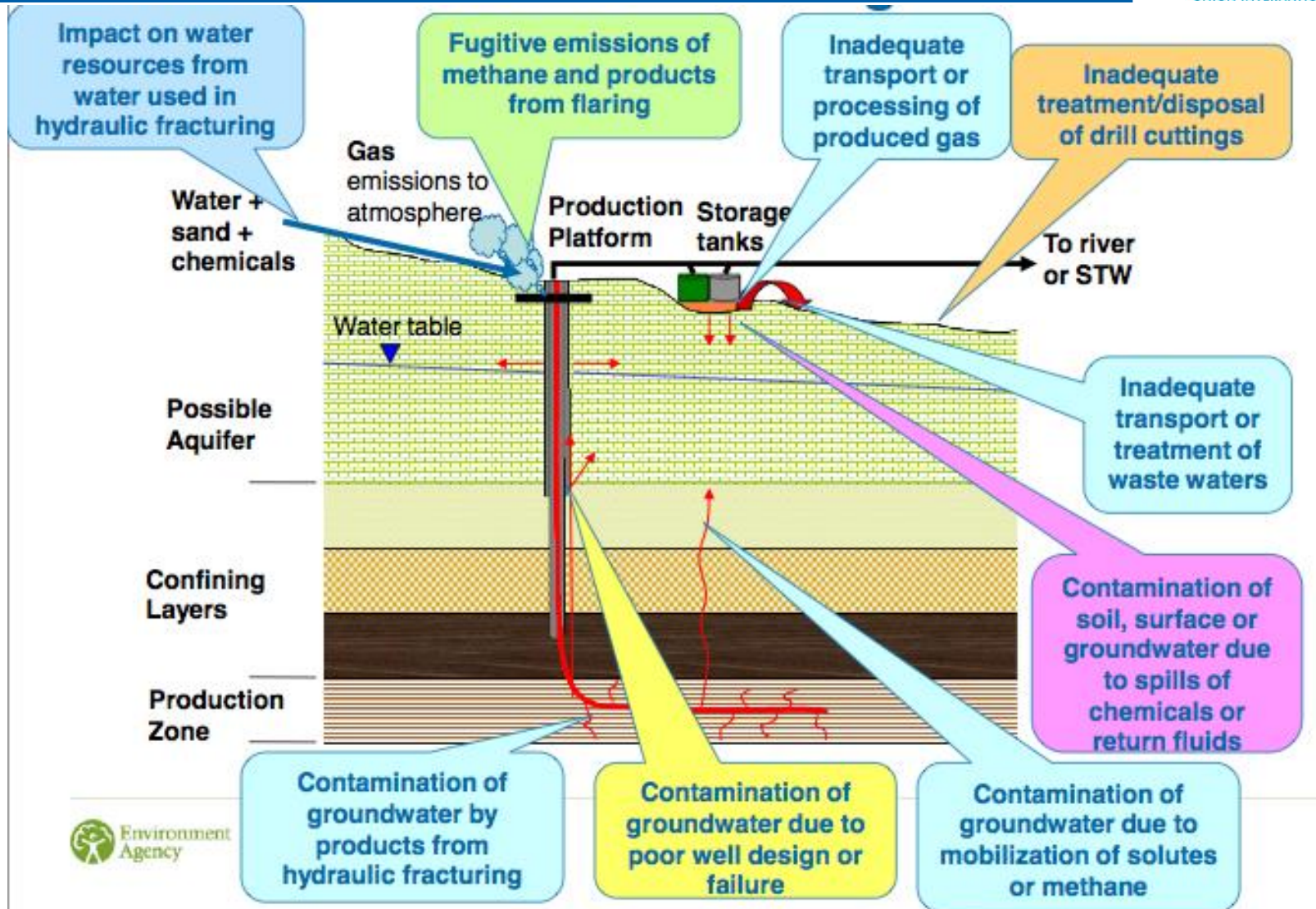
Source: EIA, ARI 2013

Rank	Country	Shale gas (trillion cubic feet)	
1	China	1,115	
2	Argentina	802	
3	Algeria	707	
4	U.S. <sup>1</sup>	665	(1,161)
5	Canada	573	
6	Mexico	545	
7	Australia	437	
8	South Africa	390	
9	Russia	285	
10	Brazil	245	
	World Total	7,299	(7,795)

<sup>1</sup> EIA estimates used for ranking order. ARI estimates in parentheses.

# Environmental risks of shale gas extraction

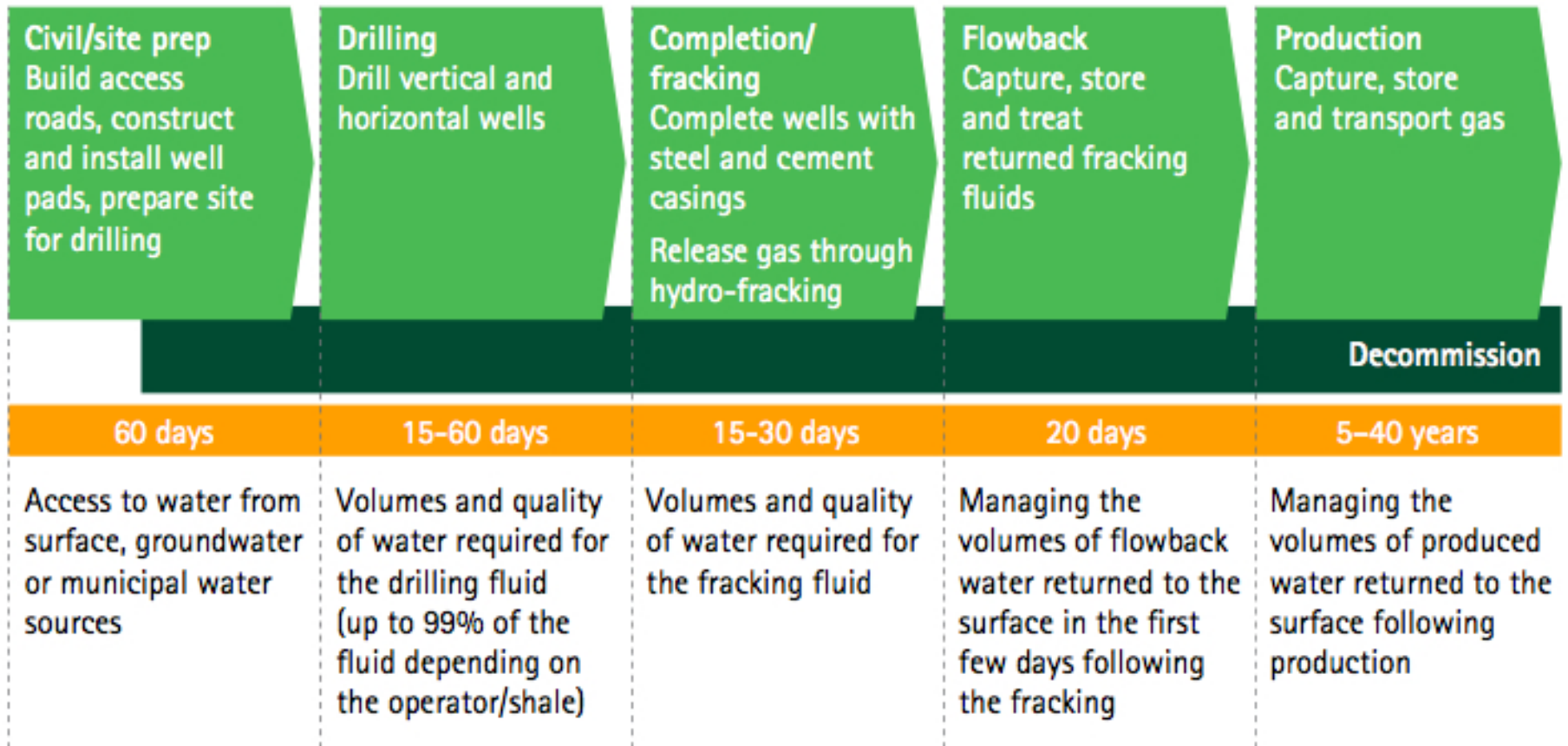
Source: UK Environment Agency





# Shale Gas in the US: regulated at every stage

Source: Accenture



# The specific factors driving the US shale gas success story

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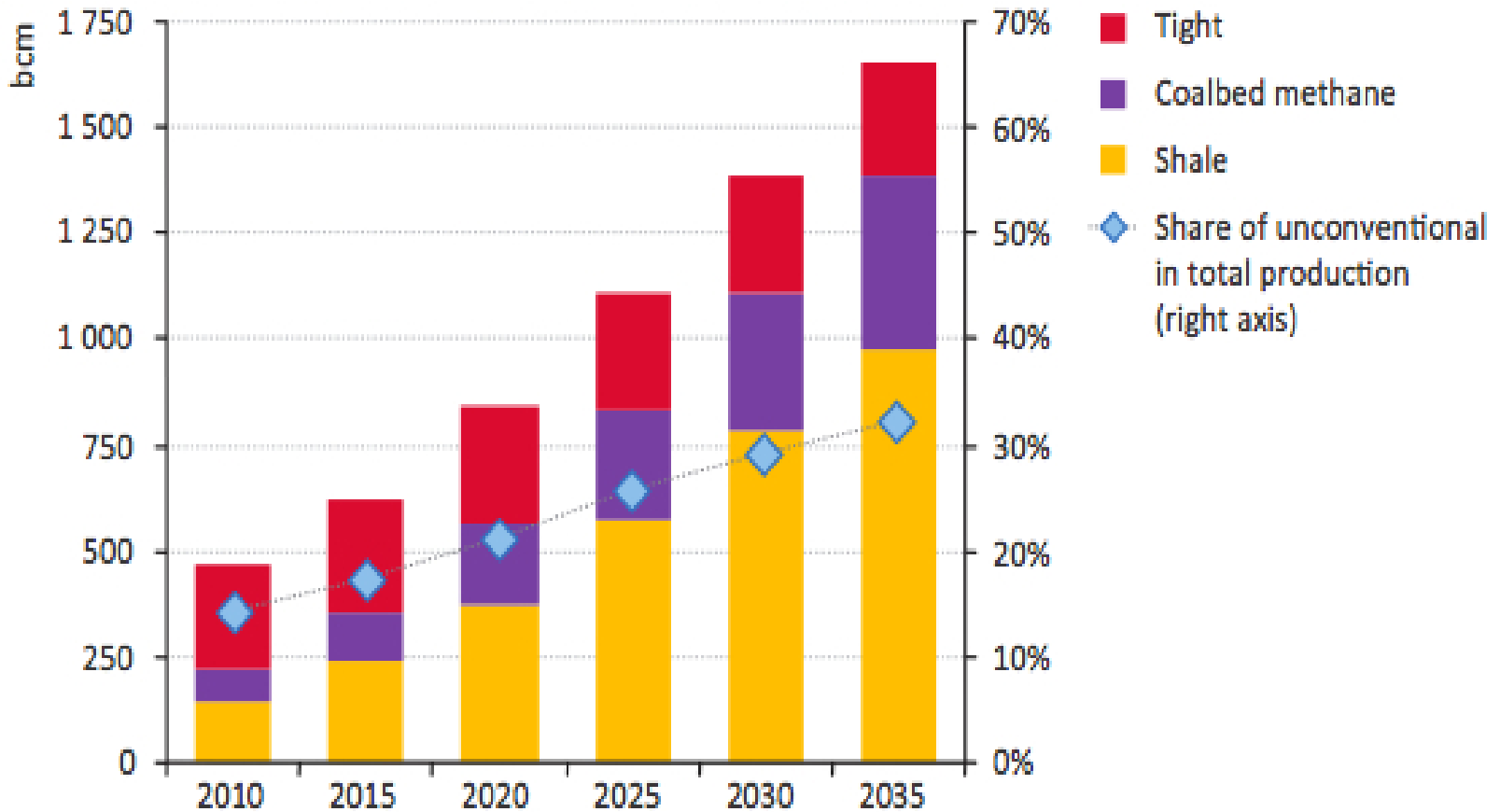
- *An in-depth geological knowledge*
- *A well developed and highly competitive service industry*
- *A sufficient availability of water for fracking*
- *The property of land owners of the mineral rights attached to their land*
- *A comprehensive regulatory regime of the extraction process and the adherence to best practices rules by operators*

# The prize for a high profile development scenario of unconventional gas resources

- ***Ensuring energy security through diversification of natural gas supply***
- ***Delivering competitive and affordable prices of gas in Europe, Asia and South America***
- ***Fostering the convergence of regional gas prices and a more liquid and effective world gas and LNG market***
- ***Achieving environmental and GHG emission targets with a higher share of natural gas in the global energy mix***
- ***Fostering the development of renewables coupled to natural gas power facilities as a back-up***

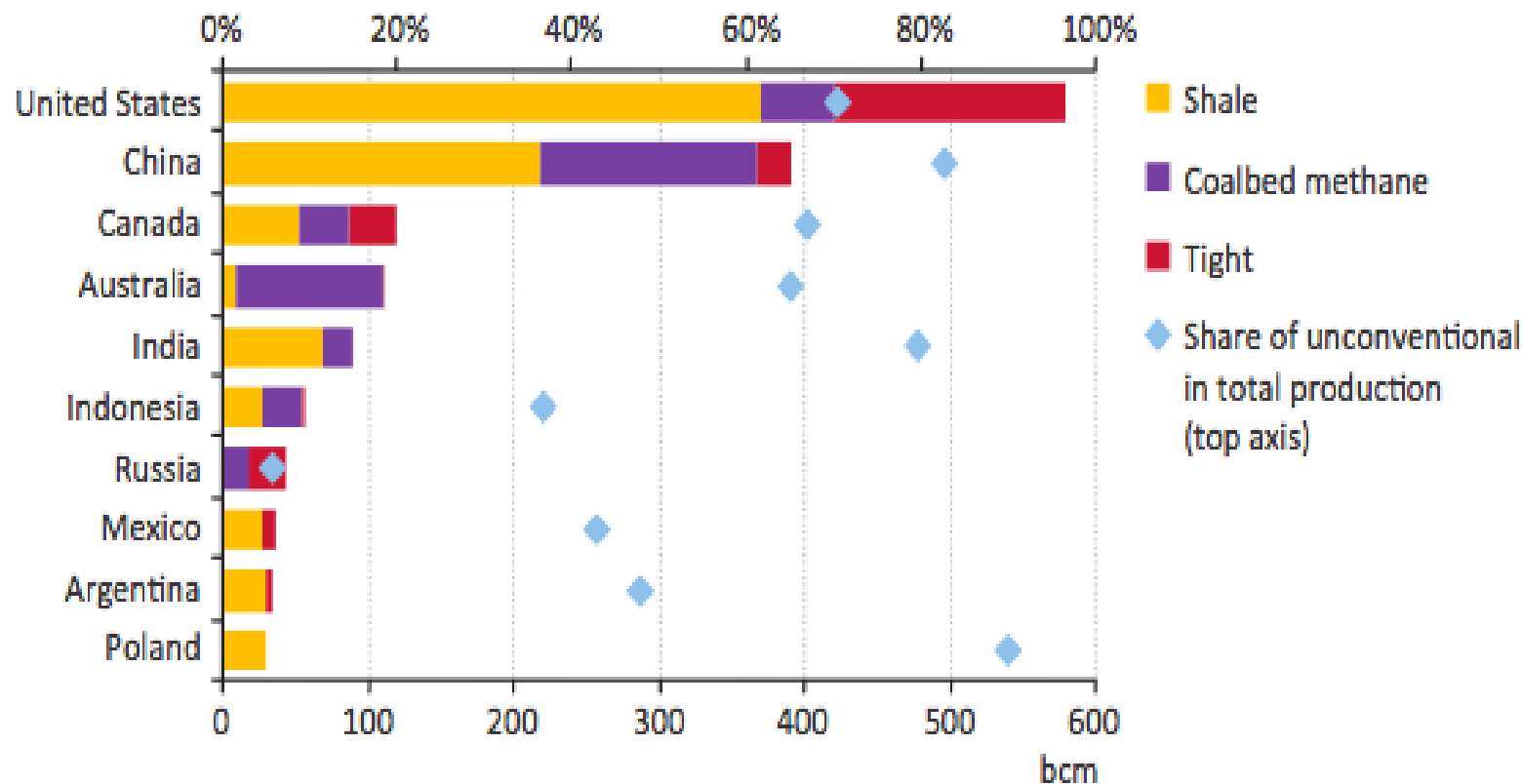
# Global unconventional gas production 2010-2040

Source: IEA



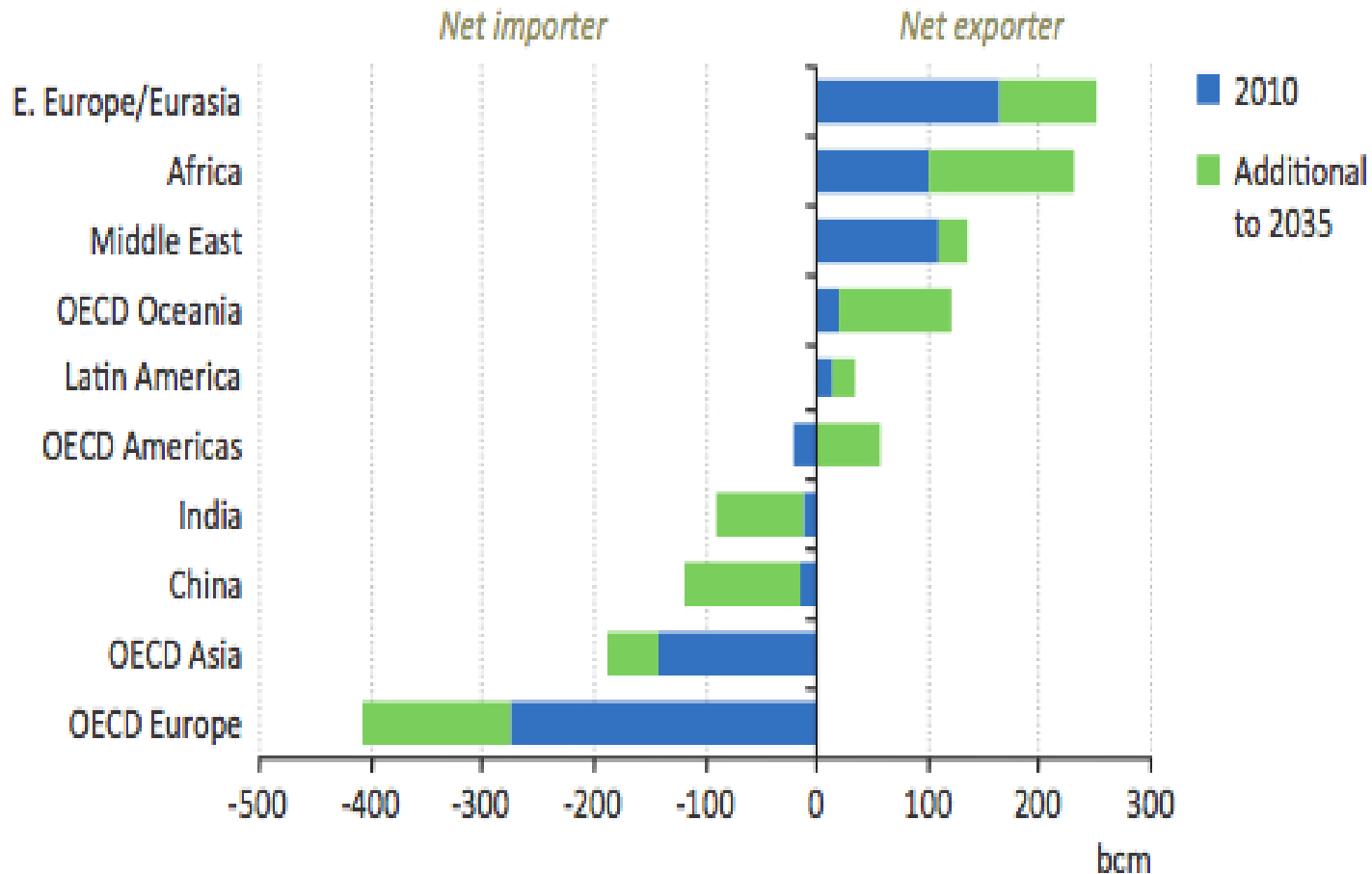
# Ten largest unconventional gas producers in 2035

Source: IEA



# Impact of shale gas on international gas trade to 2035

Source: IEA



# 2015 World Gas Conference



26<sup>th</sup>

WORLD GAS CONFERENCE  
PARIS FRANCE  
1 - 5 June 2015

