

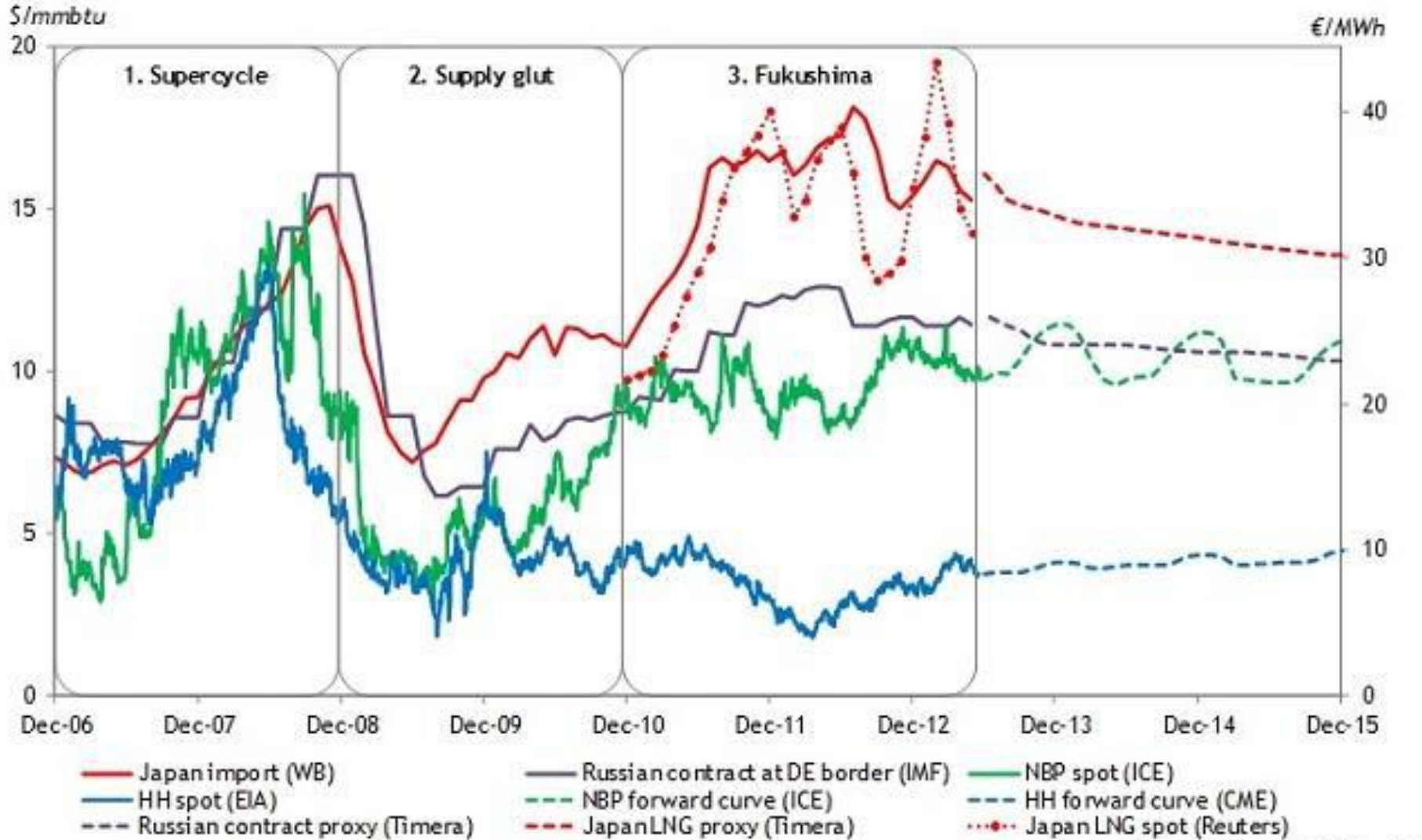
GLOBAL UNCONVENTIONAL GAS SUMMIT

BEIJING 22 October, 2013

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

Jérôme Ferrier
President IGU

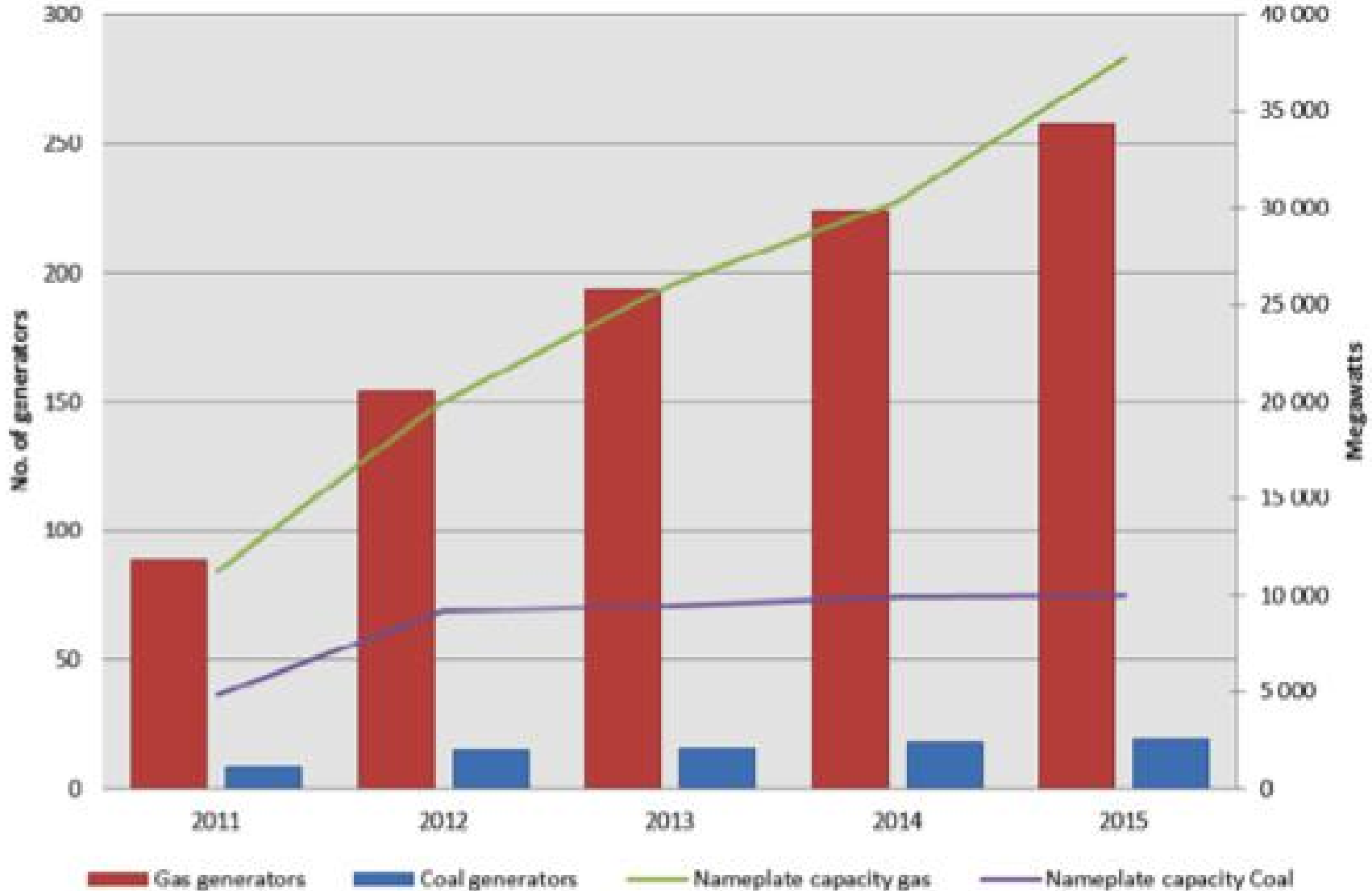
Natural gas prices in Asia, Europe and the USA



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

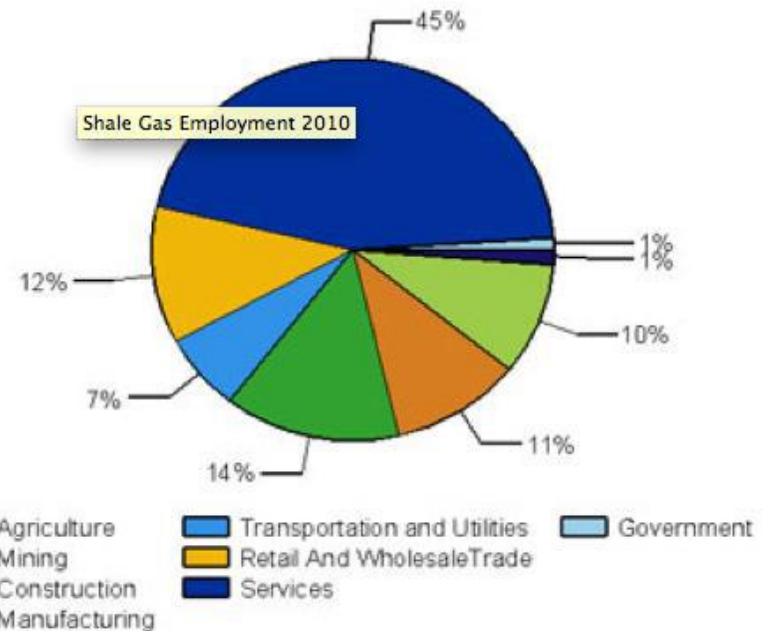
Shale Gas Employment Contribution

(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
Total	601,348	869,684	1,660,090

Source: IHS Global Insight

601,348 Workers



The macroeconomic and related benefits of shale gas for the US

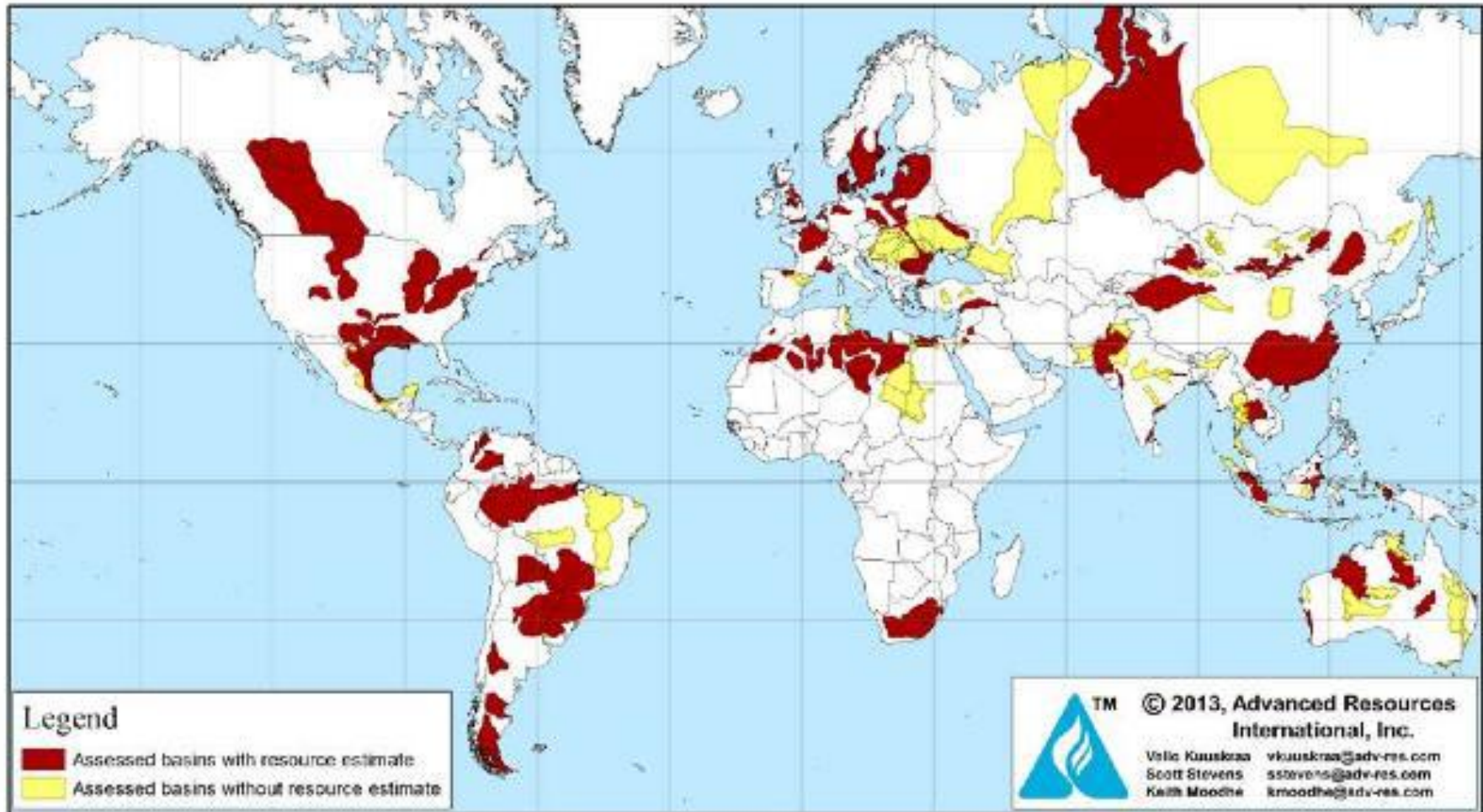
Source: IHS Global Insight



- *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

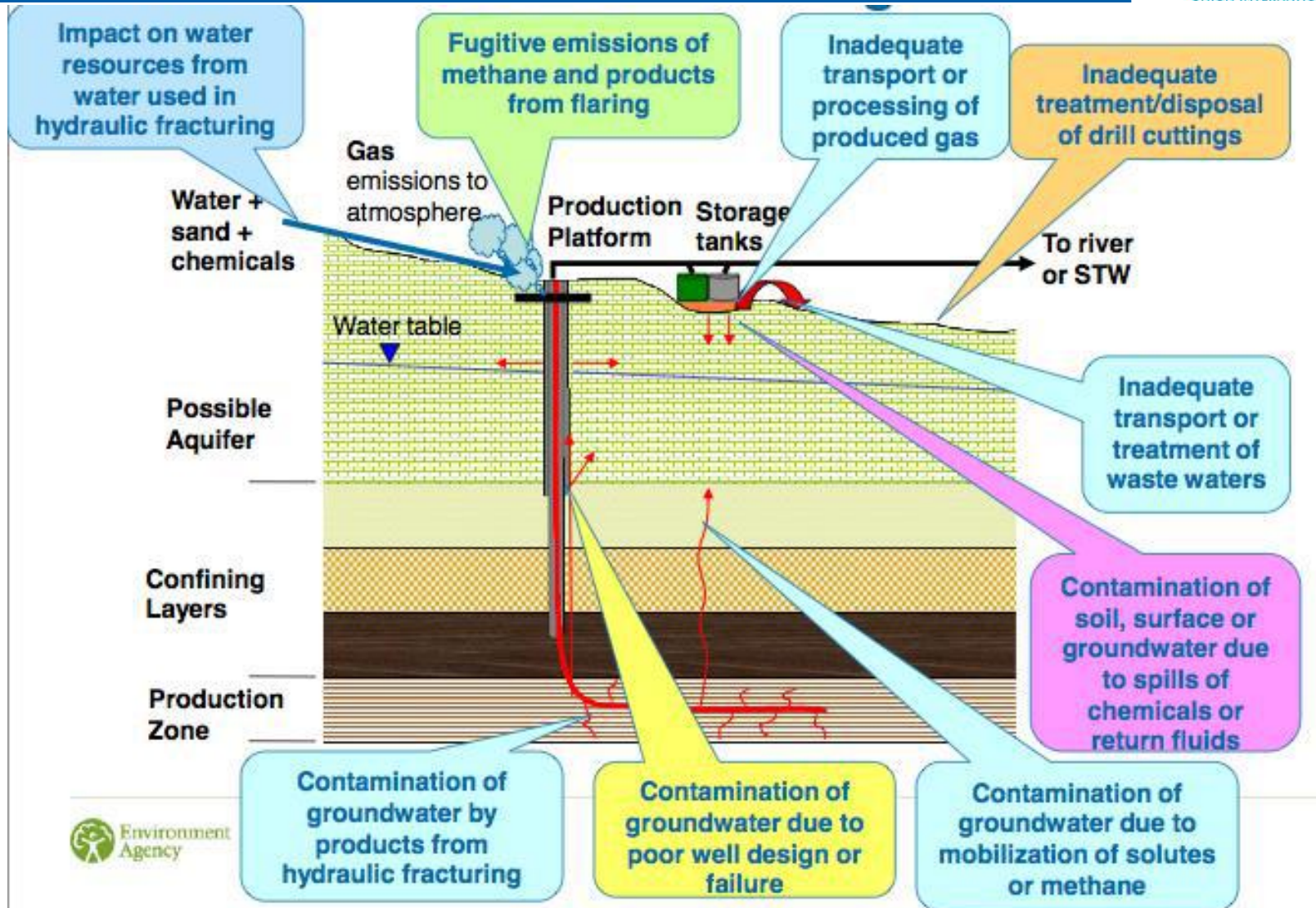
Source: EIA, ARI 2013

Rank	Country	Shale gas (trillion cubic feet)	
1	China	1,115	
2	Argentina	802	
3	Algeria	707	
4	U.S. ¹	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)

¹ EIA estimates used for ranking order. ARI estimates in parentheses.

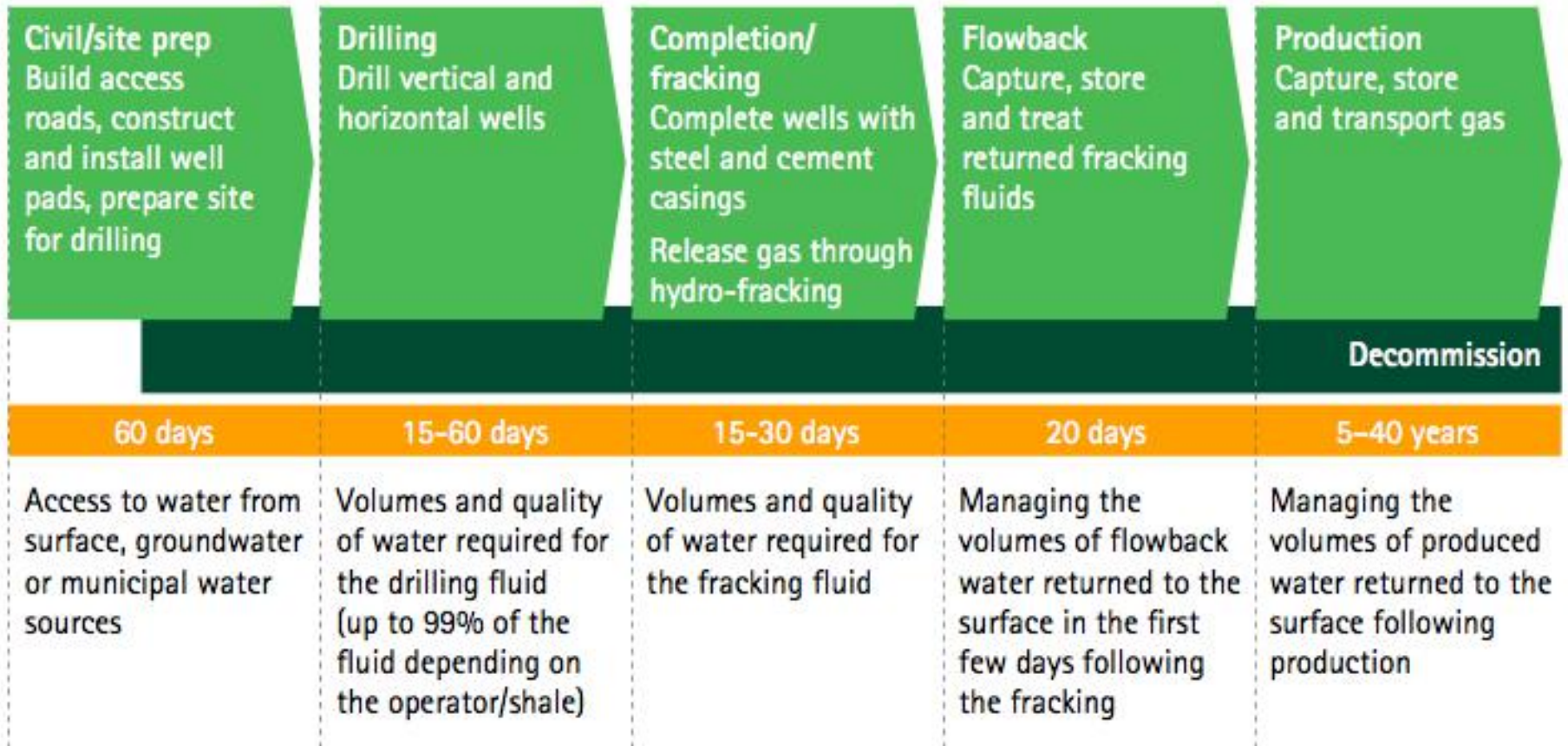
Environmental risks of shale gas extraction

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

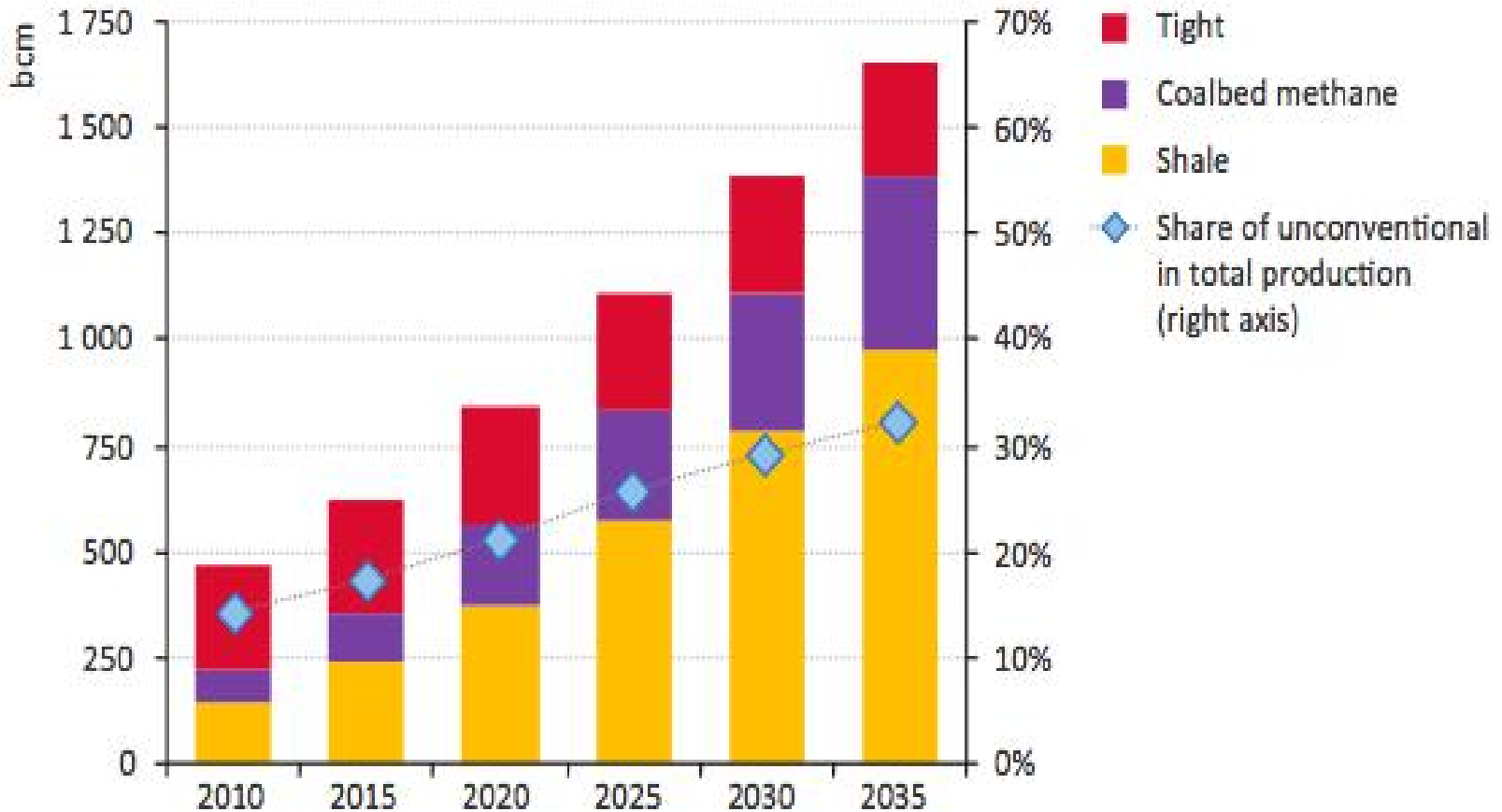
- *An in-depth geological knowledge*
- *A well developed and highly competitive service industry*
- *A sufficient availability of water for fracking*
- *The property of land owners of the mineral rights attached to their land*
- *A comprehensive regulatory regime of the extraction process and the adherence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

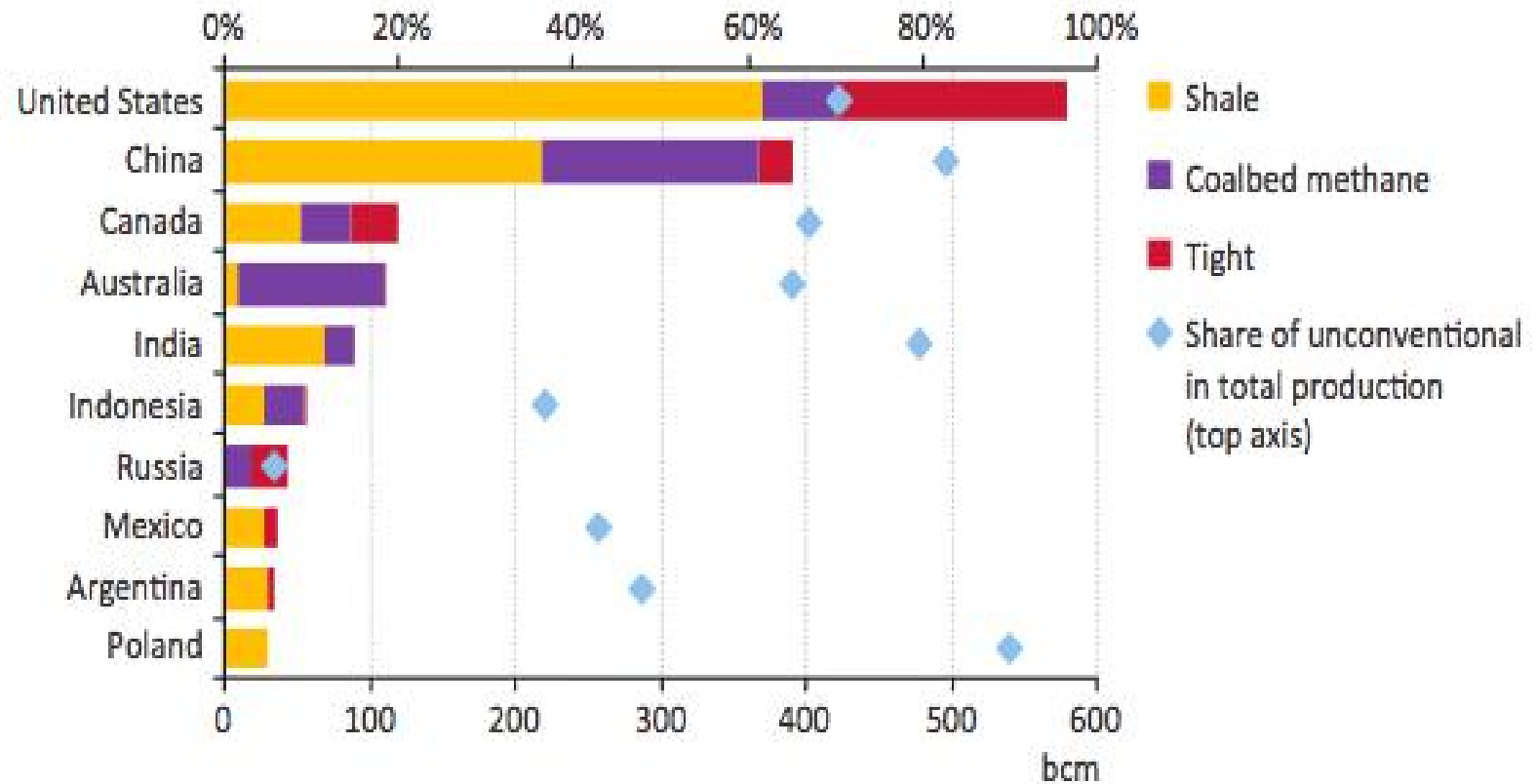
Global unconventional gas production 2010-2040

Source: IEA



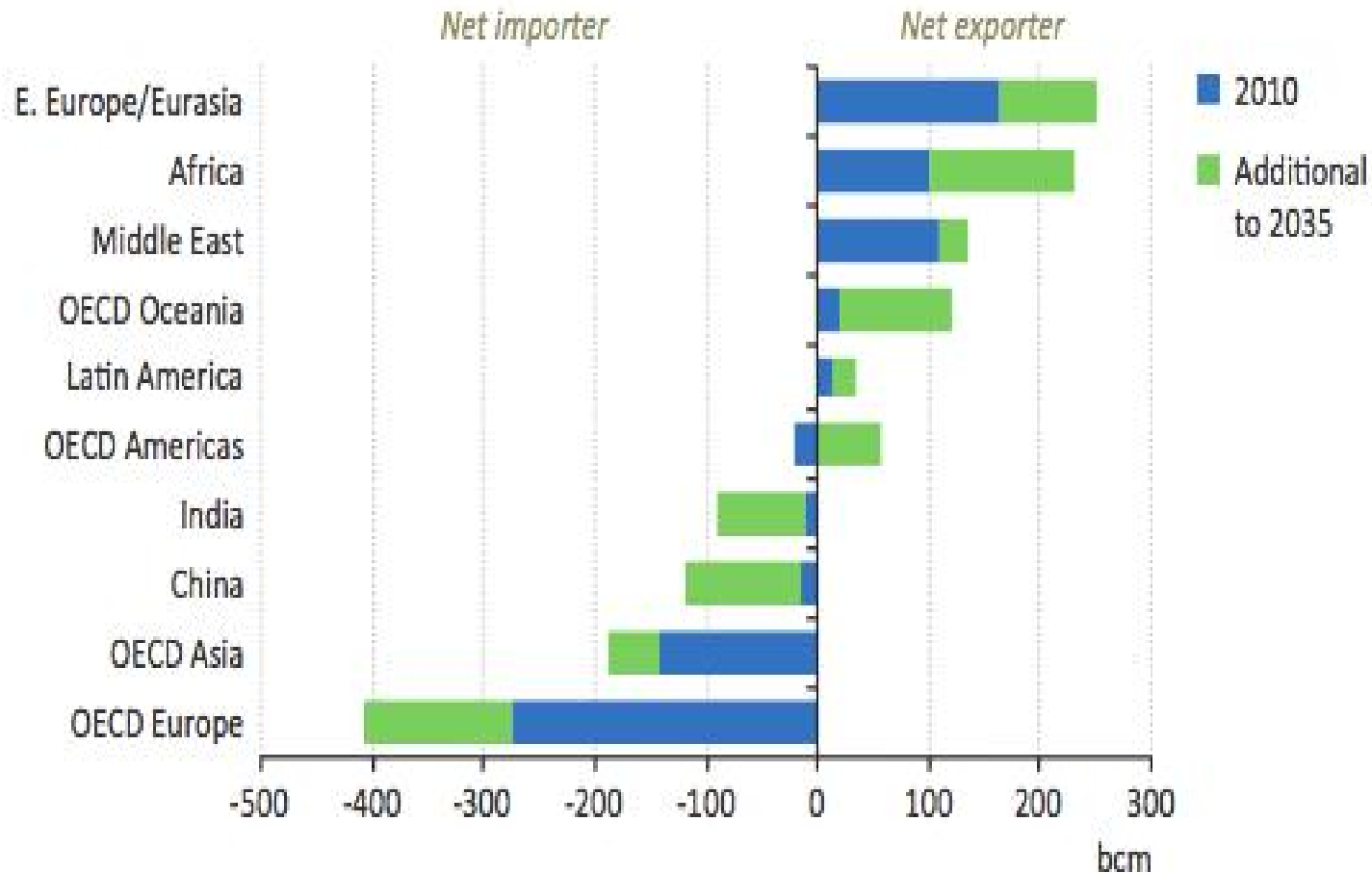
Ten largest unconventional gas producers in 2035

Source: IEA



Impact of shale gas on international gas trade to 2035

Source: IEA



2015 World Gas Conference



26th

WORLD GAS CONFERENCE
PARIS FRANCE
1 - 5 June 2015

