

Fracking in Europe: Status & Prospects

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Oilfield Minerals Outlook: Proppant Prospects for
Europe, April 30, 2013



ROUNDTABLE

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Policy issues

- **Environment & licensing**
 - Land use
 - Water use
 - Protection of public health/safety
- **Investment uncertainty**
- **Taxation**
- **Geopolitics**



EU level-2012

- **DG EN: EU member states to organise public debates & information campaigns on shale gas**
- **EP Committee on Industry, Research & Energy [Ms Tzavela] 'Draft Report On...Shale Gas And Oil'...calls on the MS to put in place necessary administrative & monitoring resources for SG devt**
- **Commission's role is 'neither to open nor to close the door to SG operations in Europe'**
- **Joint Research Centre, EC in-house science service, supports large-scale field developments w/ several 100s of rigs operating in Europe for many decades, developing/building required infrastructure**



EU level-2013

- **March 27: Energy Commissioner G. Oettinger takes favourable position**
- **Apr 11: EU chief scientific advisor: 'evidence allows the go-ahead'**
- **Climate Commissioner Connie Hedegaard less favourable: 'extraction in Europe bears little comparison w/ US'**
- **April 17: Anne Glover, Chief Scientific Adviser to EU 'SG extraction should be permitted across Europe'**



National level-Negative

- **France 2011: 1st to outlaw the use of fracking**
Sept '12: President Hollande adopts publicly tough tone against. Nov '12: Industry Minister Arnaud Montebourg: 'NG fm shale possible w/o destroying environment'. Apr '13: Pierre-Marie Abadie, head of ministry energy division: 'geothermal fracking would continue to be allowed. The law has not banned it'
- **Bulgaria 2012: 2nd to ban exploratory drilling for SG using fracking.**
- **Czech Republic Nov '12: Govt proposes a temporary ban on shale gas exploration**
- **Ireland Apr '13: Minister: 'there is considerable genuine concern'. Govt puts 2-year hold on new fracking licences**



National level-Sceptical

Austria Nov '12: Erwin Pröll, Lower Austria governor, called to preclude the drilling for SG with fracturing

Belgium Feb '13: Federal Energy Secretary Melchior Wathelet: government would adopt a pragmatic position on SG

Lithuania Feb '13: President gave go-ahead to Chevron for SG exploration. Apr '13: Govt postponed discussion of decision on tender for SG exploration

Netherlands Feb '11: Energy Council, Govt's senior energy adviser, strongly in support of SG. April 2013: Support fading, increasing number of local councils taking stand, but national government can overturn their objections & press ahead w/ SG extraction.



National level-Developing...

Germany Dec '12: parliament votes to allow fracking under strict environmental controls, rejecting proposal from Green Party, Die Linke and SPD for temporary moratorium. Feb '13: Govt agreed on draft regulation allowing tapping of SG via fracking

Poland Oct '12 Finance Minister 'Poland to invest 50bn zlotys (\$16bn) in the exploration of SG by 2020'. Special taxation on oil and SG extraction. Feb '13: Shale-gas exploration consortium PGNiG, KGHM and power firms PGE, Tauron and Enea cooperating on SG exploration. Apr '13: Ministry of Environment: environmental organisations to only participate in administrative procedures on new investments if they have been active on the issue for >12 months before procedure begins



... National level-Developing...

Romania: Feb '13: govt approved new SG licences in Bihor. Mar '13: End of moratorium on SG exploration

Spain: Oct '12: Cantabria prohibits hydraulic fracturing...w/ 5 research permits granted. Jan '13: Spanish Energy Ministry grants exploration permits in various autonomous regions. Apr '13: Cantabria unanimously votes to ban hydraulic fracturing. However, at national level, PP voiced support for hydraulic fracturing if it complies w/ environmental rules.



... National level-Developing

UK Dec '12: Dept of Energy & Climate Change (DECC): exploratory hydraulic fracking for SG can now go ahead, subject to new controls to mitigate risks of seismic activity.

Mar 21, '13: Chancellor Osborne reiterates plans for tax breaks; aims to support community incentives mechanism

Apr 26, '13 House of Commons Energy and Climate Change Committee: 'exploration should be encouraged: ...if companies can demonstrate they can meet requirements...providing public concern over environmental impacts is recognised & taken into account...local communities should share in benefits of exploration



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Outside EU-Developing

Ukraine

Russia

Turkey

All advancing, albeit for different reasons

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Conclusions. Own views...

- **Europe lags behind in industrial competitiveness, partly due to the 'cost of being European'...and this becomes much more important in today's dire financial and social conditions in Europe**
- **Energy is a big factor: mining/metallurgy, steel, cement, glass, refractories, transport etc all very energy-intensive**
- **Users of energy as a raw material, eg. petrochemicals, will move to the US – look at the Saudis!**
- **European nuclear [safety] and renewables [cuts in subsidies] both experiencing serious setbacks**
- **EU ETS is suffering: market-wise due to recession; politically [EP vote] as US fracking might have been taken into account**



...Conclusions. Own views...

- **There are differences w/ the US: NYMBI, space, water, exploration/ exploitation rights. US landowners often happy to invite prospectors on their properties: as they own the mineral rights, can hope wildcat strike will make them rich**
- **Technology such as waterless fracking relevant**
- **Involving communities -- 'polluted gets paid'!**
- **In parallel with fracking, need to develop European frac sands +/- synthetic proppants: UK sands? Polish ceramic proppants 2014? Imports?...Issue to generate environmental controversy by itself**



...Conclusions. Own views

- **Russia's geopolitical influence can only be mitigated w/ cheap, domestic gas & oil in Europe**
- **Europe is now importing US coal!**
- **Is Europe also [implicitly] counting on imports of fracking-derived LNG/oil from the US?...**
- **...If so, that reminds of post-WW II, with the US taking all the risks while we Europeans enjoy our lifestyle...and end-up complaining about US imperialism!**

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by V.Nicoletopoulos, Natural Resources GP

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Thank you very much!
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