



Compressed natural gas-powered vehicle – the future for shale gas¹?

The image above comes from Encana's stand at the SPE ATCE in New Orleans. A curious start for this report perhaps, but it reflects one possible development scenario for the future of unconventional – at least for shale gas. Production from US tight gas has risen so much that it has caused a glut and collapse in prices – although these have subsequently bounced back. To some, compressed natural gas-powered cars represent a dream of a more 'sustainable' market for natural gas. Moreover gas also reduces the carbon footprint (according to Wikipedia, CNG has the 'highest energy/carbon ratio of any fossil fuel.' The dash for unconventional gas involves spectacularly large hydraulic fracturing jobs backed up by increasingly sophisticated modeling and surveillance.

At the [plenary session](#), the majors slugged it out with the NOC²s in a polite attempt at defining each others' roles. A while back, the NOCs were content to throttle back on IOC's activity in their own countries – now they are sallying forth to encroach on IOC's international activity. According to Weatherford's Keith Worley, the NOCs are the 'new rule makers,' and 'resource nationalism' is actually a good fit with the oilfield services model. The IOCs are now pushing the technological frontiers—along with the service sector innovations such as drilling with casing, solid expandables and managed pressure drilling.

Optimization technology is omnipresent – with presentations on front end engineering, experimental design and real-time, model-based optimization (as demonstrated by BP in its [Trinidad Field Optimizer](#) and by [Oxy/IntelligentAgent](#)). Some of these techniques are, like seismic processing, techniques which have been waiting on sufficient compute power to be applied to real-world data. An interesting facet of optimization was presented by Gijs van Essen (Delft UT) who showed that psychology plays a role in optimization. Truly optimal strategies that may involve shutting in wells or choking back production early in a field's life may be unacceptable to production engineers – leading to alternative strategies. A similar observation was made by Stanford's Roland Horne who noted that 'an optimization objective may be different for NOCs and independents who might want to produce as much as possible.'

Quite why the SPE hosted both 'Digital Energy' and 'IT Section' sessions was not clear – neither to us nor apparently to some of the speakers. One questioner suggested that the 'digital' stuff would be better located in the body of the SPE general sessions – as is, to a large degree, already the case.

Highlights

[Plenary session – role of NOCs, IOCs, Service Sector](#)

[BP Trinidad Field Optimizer](#)

[Saudi Aramco AFK digital oilfield revamp](#)

[Long term/short term optimization \(UT Delft\)](#)

[Real time gas lift with intelligent agents](#)

[Modernizing SEC Reserves reporting](#)

[Satish Pai on Unconventional Gas](#)

[Chevron Technology Ventures](#)

[CMG's CMOST Design of Experiment-based optimizer](#)

¹ But an interesting blog on the demise of Honda's Fuelmaker CNG unit here -

<http://green.autoblog.com/2009/04/06/fuelmaker-goes-bankrupt-honda-to-blame/>. But

<http://www.advancefuelsystems.com/> still supplies systems from, inter alia, French manufacturer Cirrus SA.

² National Oil Companies.

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