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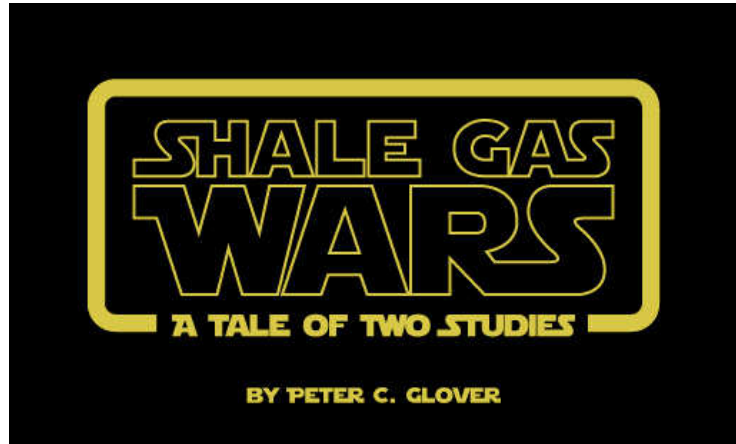
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 By Peter C. Glover
 Posted on May. 10, 2011



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"A lie gets halfway around the world before truth has a chance to get is pants on". It seems Winston Churchill's dictum could be applied to some "comprehensive" studies into the global shale gas phenomenon too.

Since April, the findings of a shale gas study by Robert Howarth's team at Cornell University, [widely debunked](#) for its "assumptions and inaccuracies" and, even though its authors admit it is based on "lousy" data, have been covered by eagerly awaiting media. The BBC's "[Shale gas 'worse than coal' for climate](#)" is a classic example. The same cannot be said for [The Shale Gas Shock](#) report written by Dr Matt Ridley on behalf of the London-based Global Warming Policy Foundation (GWPF) which attracted a mere handful of journalists to its publication on May 4. While Howarth and co's scientific ineptitude, as we shall see, makes fear-mongering headlines, the GWPF finding – at the opposite pole – finds shale gas to be "ubiquitous, cheap and environmentally benign".

The Shale Gas Shock

For Ridley's GWPF study, shale gas is not only proving to be "a revolution in the world energy industry", but it promises to transform "world trade, geopolitics and climate policy". Setting out an erudite history of shale gas and how it offers the world several more centuries of natural gas, point 22 of the report gets to the crux of the matter. "The key question about shale gas is not therefore whether it exists in huge quantities" (it demonstrably does), it is "whether it can be exploited on a large scale at a reasonable price".

Ridley continues by scotching Berman's opinion that only around 10 percent of each shale gas field will prove recoverable, and that the current excitement merely amounts to another "speculative bubble". Berman concludes that US shale gas, for instance, may thus only last for seven years and not the 100 years+ widely projected. Ridley points out that Berman's audience "is investors, not consumers" and while he concedes Berman may have a point that some investors in shale gas firms may get their fingers burnt, this will largely be because "their very success drives gas prices down" and/or because "volumes of gas are high". In other words, the highs and lows of shale gas production would mirror that of any other extraction industry.

While we can expect "a shale gas boom in China", with Russia being an "impediment" to development and not welcoming competition from shale gas, Ridley identifies Europe as particularly susceptible to exploitation opposition from "entrenched and powerful interests in the environmental pressure groups". In the end however, "it will be a matter of whether over-borrowed European governments, businesses and people will be able to resist such a hefty source of new revenue and a clean energy source requiring no subsidy".

Ridley deals well with the issues of "environmental impacts" as industry becomes "more transparent" about the chemicals in its fracking fluid thus allaying public suspicion; not least as the public is made aware that most are common to domestic usage. He further observes how it is "not in the company's interest to allow" leakage of either gas or hydraulic fracking fluids. The study deals too with the "flaming faucets" image peddled by the anti-shale gas flick [Gasland](#) and used widely to induce public fear. Ridley points out that "natural gas in well water is a phenomenon known for many decades before shale gas drilling began" with scientists elsewhere exposing the phenomenon by "igniting methane that escapes through holes made in the ice on Arctic lakes". Ridley

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makes the case too that treatment of waste water in the shale gas process is “no different from the treatment of waste water in any other industrial process”.

At point 55, he explains that “all technologies have environmental risks”, asserting that “Press coverage that talks about ‘toxic’, ‘carcinogenic’ and ‘radioactive’ chemicals is meaningless.” “Vitamin A is toxic”, says Ridley and “a single cup of coffee contains more carcinogens than the average American ingests from pesticide residuals in a whole year. Bananas are radioactive.” And pertinently: “The question that needs to be posed is always: how toxic, how carcinogenic, how radioactive?”

Concerns over the environmental impact and footprint of shale extraction sites are also greatly exaggerated according to *The Shale Gas Shock*. Ridley even visited and includes a photograph of a site in the Marcellus Shale region of Western Pennsylvania where a *New York Times* report had claimed exploitation had had a “major impact” on the landscape and habitat. The GWPF report however found that shale gas extraction had “far more limited impact than other forms of energy”.

But Ridley rolls out the really big guns when he turns to how shale gas can impact global prices and best energy alternative competitors when it comes to the vital issue of the like-for-like cost of electricity generation. As regards the former, he includes the Institute of Energy Research’s table of relative costs per electricity generation source as they are projected to be in dollars per MW hour by 2016 (see *table 1*).

Solar thermal	312
Offshore Wind	243
Solar photovoltaic	211
Coal with CCS	136
Nuclear	114
Biomass	112
Wind	97
Coal	95
Gas with CCS	89
Hydro	86
Gas, combined cycle	63

Source: U.S. Energy Information Administration, *Annual Energy Outlook 2011*
http://www.eia.doe.gov/oiaf/aeo/electricity_generation.html

(Table 1) Levelized Cost of New Generation Resources

Source: U.S. Energy Information Administration, *Annual Energy Outlook 2011*

http://www.eia.doe.gov/oiaf/aeo/electricity_generation.html

The 60 percent heat-to-electricity conversion ratio – which through thermal efficiency capture (co-generation) can rise to 80 percent – literally blows away competing alternatives, especially renewables. Against wind as a generation source, Ridley maintains “gas from up to 12 wells” (the output from a single shale gas drilling derrick with a footprint of 6 acres) equals “the output of about 47 giant 2.5MW wind turbines” (each having a total “footprint of 4 acres”). More than that, while gas output can be achieved within just 30 days, Ridley claims, it would take the turbines 25 years to match it.


Finally, Ridley turns to the issue of greenhouse gas emissions currently doing the media headline rounds as a result of Howarth’s Cornell study. Ridley convincingly picks apart Howarth’s grasp of the science concerning emissions, which is demonstrated to be remiss in its key assertion over methane leakage from shale gas wells. Ridley notes how Howarth’s figures inflate even the alarmist figures used in IPCC predictions and quotes Geoffrey Styles’ critique of the Cornell Study: “Practically every paragraph includes an assumption, simplification or choice by the authors that tends to increase the calculated environmental impact of natural gas. Whether that’s the result of bias or merely judgment calls, it undermines confidence in the final conclusions at the same time it amplifies them.”

Though Ridley does not mention it, we can justifiably add another key criticism. As Energy-in-Depth’s helpful *Five Things to Know about the Cornell Study* points out, Professor Howarth was forced to withdraw an earlier abstract of his forthcoming study – after attracting [international headlines](#) – when it was pointed out that Howarth’s paper contained “basic errors”. In fearing for methane emissions from shale gas extraction, it turns out that the professor did not even know that methane emissions also occur during the production of coal. As EID pithily remark: “Pretty big mistake in a paper that’s supposed to be comparing emissions from coal to those from natural gas, isn’t it?”

In the forward to GWPF’s *The Shale Gas Shock*, Astrophysicist Professor Freeman Dyson “emphatically” agrees with the author’s conclusions. But Dyson goes further providing a paradigm understanding of how the shale gas phenomenon warrants impacting the consciousness of us all. “While the price of oil goes up and up, the price of gas goes down,” says Dyson; a fact that has had a global impact via the U.S. shale gas revolution. Without specifically referring to the Cornell Study, Dyson concludes, “The environmental costs of shale gas are much smaller than the environmental costs of coal.” While “it is not a perfect solution to our economic and environmental problems” shale gas, ultimately, is “here when it is needed, and it makes an enormous difference to the human condition.”

Reading these two studies side-by-side, it is only too clear in which articulate, fact-based, good derivative reason resides. Above all, Matt Ridley’s GWPF study suggests the shale gas phenomenon as *the* paradigm-shifting *positive* energy story of the century so far. Not that we should expect an MSM with a preference for fact-bereft sensationalism *a la* the Cornell Study to run with it.


For a pdf download of GWPF’s *The Shale Gas Shock* [go here](#).

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