

Fruit of the poisoned tree

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Our government hasn't adequately done its duty in researching the implications of shale gas. In election year, it is up to citizens to decide whether they want to continue eating the fruit of the poisoned tree.

A dilemma of extraordinary proportions confronts world leaders as they wrestle with *'the fraternal twins'* of peril and opportunity - typically the choice between economic growth and sustainable progress. This article intends to make a case for cautious investigation (*critical thought*) – a science-based analysis of the actual experiences that must ultimately inform policy – it is not a blanket statement that proponents of shale gas mining are wrong or that the converse applies.

Spanning cultures and continents, shale gas is typified by a commonality of benefit and risk. Energy, jobs, revenue, and the reduction of greenhouse gas emissions are four key areas that arrest the attention of any government. Stacked against the elephant in the room - the risk of environmental, and ultimately economic damage - these considerations project shale gas into a ranking as the most widely debated fossil fuel in more than two hundred years. Four primary areas define the broad environment in which we approach a discussion on shale gas: community, environment, development and sustainability. Interdependent and universal, each is of itself and in relation to its counterparts, undeniably central to the survival of humanity.

It follows logically that a review of shale gas mining commences with acknowledgement of the dynamics driving its development. Barely ten years ago shale gas was unknown in the realm of many governments and in the minds of a majority of people – speculation over *Peak Oil* and the end of the fossil fuel age was endemic, and oil and gas companies were turning to ever more expensive and [risky](#) sources of carbon – colloquially labelled [extreme energy](#).

Economics, climate change, science, politics and corporate goals

Author and expert on natural resource issues, Michael T. Klare puts it thus: “The pursuit of untapped oil and mineral reserves in remote and hazardous locations, is part of a larger, more significant phenomenon: a concerted drive by governments and resource firms to gain control over whatever remains of the world's resource base.”

If economics informs government opinion, the touchstone of the 'prosperity' argument is development, with the measure of GDP naturally pegged as the definitive gauge of the health and

wealth of a people. Economists predominantly calculate growth projections on what has been, and remarkably – even in the face of the global resource debate – still produce [reports](#) that refuse to even acknowledge the environmental and social costs of specific developments. Despite the advent of environmental economics based theory and supporting documents penned from within the economist community, modern economics in practice appear to have had little effect in modifying the GDP-based clarion call of ‘upward and onward.’ A [2009 report](#) from Boston University, states: “GDP is dangerously inadequate as a measure of quality of life,” yet within the context of shale gas in South Africa it is largely the anticipated contribution of shale gas mining to GDP that has elected officials already revising GNP, jobs and economic growth forecasts. [Vast numbers](#) (R80-R200 billion) and [substantial percentages](#) 3.3%-9.6% of GDP abound. Unsurprisingly, the [government](#) appears to accept, apparently at face value, the predictions of economists paid by oil and gas multinationals. Meagre attention seems to have been expended on the base model applied to develop such numbers, and [divergent opinions](#) generated by well-published economists are greeted with silence.

The notion that exponential global growth, fuelled by traditional energy sources, will meet the needs of humanity is ingrained and commonly accepted to the extent that it is claimed by some that the [world is not running out of resources](#).

A malady of pessimism, as undesirable as such may be, should not be countered with unrestrained optimism. *Gore writes “Our natural and healthy preference for optimism about the future is difficult to reconcile with the gnawing concerns expressed by many that all is not well, and that left to its own devices the future may be unfolding in ways that threaten some of the human values we most cherish.”*

Climate change

One of the key arguments promoted by environmentalists is anthropogenic climate change. Whether or not human activities cause or affect climate change is probably the most central issue in the debate, which itself, (climate change) is underwritten by hundreds of thousands of articles and studies. The climate change debate is relevant to shale mining inasmuch as it is claimed by big oil and gas that a change from coal to shale gas will deliver a great reduction in carbon emissions. Avoiding a discussion around the merits of shutting down a global coal industry and the naïve assumption that unburned and accessible coal will be left in the ground, and referencing again the claim of cleaner burning shale gas lowering overall emissions, consider this [report](#) by the *Guardian* quoting BP chief economist, Christof Ruehl: “*Shale gas – previously inaccessible because the exploitation of these resources requires technology only recently perfected (sic)– will account for a rising proportion of the growth in energy in the years to 2035, but its use will not cause a decline in greenhouse gases.*” Prefacing the report is the astonishing strapline: “*BP study predicts greenhouse emissions will rise by almost a third in 20 years - Energy firm's analysis finds switch to other fuels like shale gas will do little to cut carbon emissions.*”

Professor Emeritus of Earth Sciences at the University of Melbourne, [Ian Rutherford Plimer](#), credits the greatest carbon emissions as emanating from Australian brush fires and active volcanoes. Denouncing efforts to address anthropogenic causes of global warming – and in fact

the holistic concept, Plimer gives the idea that there is little that we can do except sit back and enjoy the ride. ExxonMobil CEO Rex Tillerson is ostensibly of the same mind about the outcome in his [statement](#), “*What good does it do to save the planet if humanity suffers?*” Tillerson is reported to have [said](#), “*We can’t pull up, we’re going in, brace for impact*” – an analogy of the language that would be used by the captain of an airliner in a terminal dive. Making Tillerson’s statement even more baffling are [reports](#) that ExxonMobil as an organisation has invested heavily in climate change denial. Asserting that nine out of ten ‘top’ climate change deniers are or alleged to be linked to ExxonMobil, the report reviews the efforts of big industry, including the [Koch Brothers](#) to cement climate change denial.

Pointing to 938 papers cited in an article by *Carbon Brief*, the text reveals that 186 of the articles were written by only ten men, and foremost among them was Dr Sherwood B Idso, who personally authored 67 of the articles. Idso is the president of the [Center for the Study of Carbon Dioxide and Global Change](#), an ExxonMobil funded think tank. The second most prolific was [Dr Patrick J Michaels](#), a senior fellow at the Cato Institute, who receives roughly 40% of his funding from the oil industry.

Whatever the ultimate conclusion of the climate change discussion, two facts are undeniable – one - climate change is a convenient issue for both sides of the shale gas debate to use to their advantage; and two – big industry can throw tens of millions of dollars at it as long as it suits them to do so.

Science

Granting the last two points, (economics and climate change) are grounded in science, it is necessary to examine the term ‘*science*’ holistically, and with specific reference to shale gas in South Africa. An assessment of the shale gas debate in South African media will establish that both sides make use of ‘*scientific*’ reports that suit their viewpoint. Plato, in *Republic* wrote, “*When the mind’s eye rests on objects illuminated by truth and reality, it understands and comprehends them, and functions intelligently; but when it turns to the twilight world of change and decay, it can only form opinions.*” The nexus with shale gas in South Africa is evident: the world’s scientific community cannot reach consensus on the claims raised by both sides of the shale gas argument. A [Green Paper](#) on the importance of “scientific evidence-based policy-making” published by Janez Potočnik; *Commissioner for Science and Research at the United Nations* describes a resilient method for approaching policy decisions, especially on large scale. Potočnik writes “... ‘*Bridging the gap*’ between science and policy is not a technical issue. It is a political, economic, social and cultural issue. It is about an encounter between politicians and scientists, often with the necessary help of citizens themselves.” The United States Environmental Protection Agency affords scientific policy appropriate gravity in its own [Scientific Integrity Policy](#) affirming, “*Science is the backbone of the EPA’s decision-making.*” The EPA also describes ‘*science*’ as an expansive term that references the full spectrum of scientific endeavors - basic science, applied science, engineering, technology, economics, social sciences, and statistics.

I don’t believe that South Africans can, at this juncture, be shown that the government policy on shale gas has been scientifically informed to the extent that a decision on a technology of the

scope and scale of shale gas ought to be. Writing on the claims of climate change *believers*, a [local journalist](#) pronounces “*This is simply bad science, conducted by scientists whose careers are on the line, paid for by investors with a stake in the outcome and politicians who want the moral cloak of playing saviour in a crisis. Clinging to received (sic) dogma, by repeating hoary arguments unilluminated by new facts demonstrates an abdication of critical thought that is not conducive to credible science.*” On the basis that this statement applies equally to climate change *deniers* and their allies in governments – I agree wholeheartedly.

Politics and corporate goals

Gore in his book *The Future* writes “*The idea of making truly meaningful collective decisions in democracy ... is naïve, even silly, according to those who have long since placed their faith in the future not in human hands, but in the invisible hand of the marketplace.*” He continues, “*By tolerating the routine use of wealth to distort, degrade, and corrupt the process of democracy, we are depriving ourselves of the opportunity to use the ‘last best hope’ to find a sustainable path for humanity through the most disruptive and chaotic changes civilization has ever confronted.*” Of the US Congress, he says, “*Its members are still ‘representatives’, but the vast majority of them now represent the people and corporations who donate money, not the people who vote in their congressional districts.*”

According to the SA government, shale gas extraction can be done safely and economically, will bring great riches and prosperity to South Africans, and concurrently solve our energy and carbon emission challenges. I don’t believe that our leaders have properly discharged their duty to the citizens of this country in arriving at their public decision on shale gas – and I submit that in election year it is time for you to think critically about whether to pick more fruit off the poisoned tree – or stop watering it. **DM**