Anyone who has ever invested in a financial product, such as a mutual fund, will be familiar with the disclaimer that, “Past performance is not indicative of future results,” casting the ultimate onus of responsibility for making an investment decision on the individual investor himself. The same can be said for horizon scanners, global futurists, experts and pundits alike who have the unenviable task of conceptualizing tomorrow’s future against a landscape of unknowns. Admittedly, those in this business have missed some of the biggies in recent history, i.e. the collapse of the Soviet Union, the emergence of the Arab Spring, and the cascading and mounting effects of the internet and associated technologies on information sharing and political change. In the energy world, the unconventional oil and gas revolutions are already reshaping global future energy supply and consumption patterns. This goes both for energy consumers and producers. Yet the impact of new hydrocarbons supplies will ultimately depend more so on how these resources are used rather than simply based on the fact that they can now be extracted on a cost-competitive basis.

The International Energy Agency (IEA) is indeed one of those organizations tasked with giving future shape to unfolding events. The IEA’s 2012 World Energy Outlook is based on defining discernible and statistically verifiable global supply and demand trends for global energy resources. In its recent report, on the issue of unconventional oil and gas, the IEA remarks that, “A surge in unconventional supplies, mainly from light tight oil in the United States, and oil sands in Canada, natural gas liquids, and a jump in deepwater production in Brazil, pushes non-OPEC production up after 2015 to a plateau above 53 mb/d, from under 49 mb/d in 2011.” The IEA goes on to add that, “The net increase in global oil production is driven entirely by unconventional oil, including a contribution from light tight oil that exceeds 4 mb/d for much of the 2020s, and by natural gas liquids. Of the $15 trillion in global upstream oil and gas investment that is required over the period to 2035, almost 30% is in North America.” The Paris-based agency, which advises industrialized nations on their energy policies, said the global energy map "is being redrawn by the resurgence in oil and gas production in the United States" and that the US would produce more oil than Saudi Arabia by 2020.

Not so fast

Jubilant observers in North America have emerged from the woodwork in the wake of this announcement decreeing a new era of future energy independence for the US without critically thinking through whether increased supply will necessarily lead to a sustained fall in energy prices particularly in the oil sector. Unconventional gas provides a buffer to augment projected future US demand in power generation (the electricity sector where most gas is used) and will further help to keep a lid on gas prices. The gas price-lid is derived from that fact that electricity can be generated from a host of other commodities as well such as coal, nuclear and hydropower all of which provide dependable base-load power generation. In short the power market benefit from price competition is derived from fuel choice and the technical ability of power generating units to fuel-switch between feedstocks if necessary. It is yet unclear and to what extent the US may evolve into a net gas exporter (in the form of LNG) but if it does this could work to the strategic and financial advantage of net gas import dependent states tied to gas deliveries from regional suppliers through piped gas as is the case in much of Europe. In fact because of this technology-led shale gas revolution, in recent years much of the LNG originally destined for the US has been diverted to the European market putting downward price pressures on Algerian and Russian gas deliveries. De-linking gas prices from oil in a competitive market atmosphere could also contribute to lowering gas prices where hub

(spot-market) LNG is available. Finally, such a de-link would allow European gas companies to argue for more flexibility in adjusting the price paid for gas in their long-term contracts with suppliers. The key point here is that fuel competition in power generation is the key to price setting through fuel choice.

Oil is a different animal. A common current which run through many contributions to the Journal of Energy Security is that oil, conventional or unconventional, is an international fungible commodity whose price is set on international markets. Regardless of whether a country is a net oil producer (allowing for exports) or consumer (dependent on oil imports) the price paid by the consumer is more or less a function of the oil market which is far from free. Oil price manipulation is a rote exercise of those who control the vast majority of conventional world oil reserves, the OPEC cartel, which can turn on or off the oil spigot in response to non-OPEC oil supply augmentation from either conventional or unconventional resources. In fact, at a recent joint meeting of the IEA Secretary General who spoke positively of the projected growth in US oil and gas output, Abdalla Salem el-Badri, Secretary General of the Organization of Petroleum Exporting Countries, said, "If this message keeps coming, there will be no investment" from the group's members and "consumers will lose." In short el-Badri threatens that OPEC would curtail upstream investment which would lead to downward (future) pressure on oil supplies and sustained upward price pressure on the commodity regardless of how much unconventional oil the US produces.

The fact is that el-Badri and others know that as long as oil monopolizes the transportation sector, where the vast majority of it is consumed, and as long as transportation fleets—regardless of their efficiency improvements—remain hamstrung by a lack of fuel choice at the pump oil prices will continue to rise unabated with consumers paying the ultimate price. So while the IEA's projections of future US and Canadian unconventional oil supply growth are welcome, they are neither a panacea for all energy-woes nor will they welcome in a new era of cheap oil unless the transportation sector is liberated from oil as a monopoly fuel for 'planes, trains, automobiles' and military equipment such as tanks.

Strategic foresight in the defense and security sector: resource focus

Another organization charged with looking at the impact energy and resources will have on our global future is NATO's North American branch Supreme Allied Command Transformation (SACT). SACT is presently leading a strategic foresight process examining inter alia what are the global security implications of future resource availability, access, and continued demand growth for all commodities including water availability and hydrocarbons. Military organizations have two primary concerns in the energy-resource domain. These are in improving military energy efficiency, with a particular emphasis on increasing military effectiveness, and in the cost of fuel. To be sure, national and collective security organizations will always have access to oil and oil derivatives as a fuel for military operations but at what cost? Some fuel experts bristle at the idea that the Alliance is a single fuel military just as el-Badri bristles at the notion that US is ramping up oil production. Regardless of how the message is couched, the fact remains that the Alliance is a single fuel military and this is a problem.

In this era of fiscal austerity, fuel use and costs are major military operational and training considerations. History (hindsight) is replete with instances of multinational training exercises being cancelled due, at least in part, to fuel costs. In addition, (for example) a major challenge

the US DoD is facing is how to reduce training related fuel-costs for US aviators and the services are making headway. Moreover, against the background of the US 'fiscal cliff' looming, the DoD has requested budget authorization for $14 billion in fuel purchases for fiscal year 2013. Foresight tells us there has to be a better way.

Hindsight tells us that in the oil patch, emphasis has been and will remain for the foreseeable future, focused on the volatile Middle East. Supply vulnerabilities either real or imagined are priced into the oil barrel. On top of real instabilities, whether they be in the Niger Delta, Iraq or elsewhere these also add to the cost of oil through price spikes when instabilities do occur. Foresight may help us in imagining what reduced vulnerabilities could emerge from lessening oil use across both civilian and military sectors. If we reduce the strategic importance of oil, do we not reduce the strategic importance of the Middle East where resources are concentrated? The strategic implications for the future, and for future capabilities, are almost mind-boggling.

There is a creeping reality, which goes back to the IEA's projection of future US unconventional oil and gas production, that disproportionate import dependence on Middle East oil could fracture and drive differences among and between Alliance members themselves. Already the US and Canada are less dependent on Middle East oil than are their European Allies. The US has already announced a strategic pivot in its strategic emphasis away from Europe and towards Asia. If Canadian oil sands, and US tight oil availability are perceived to buffer North American Alliance Members from oil supply vulnerabilities (but not future oil price shocks) who within the Alliance is going to do the heavy lifting in the future for protecting the Persian Gulf (as an example) from potential supply disruptions? What will this mean for future Alliance capabilities and are European Member States willing to foot-the-bill for these capabilities in order to protect their collective national energy security in the presence of a (theoretical) reduced US military presence in the region in the future?

Hindsight has and foresight will demonstrate that from a North Atlantic perspective present realities and future challenges are best addressed collectively. When it comes to energy resources, this is not about militarizing energy nor is it about injecting a new role for the NATO Alliance in the energy domain. This is about addressing future emerging security threats and challenges to the Alliance from cracks that can emerge from within the Alliance itself. This is about addressing future energy challenges collectively and effectively to preserve Alliance solidarity, improve resilience and maintain resolve. Hindsight tells us that NATO has succeeded in facing these challenges, come what may in the past, and foresight will prepare us for addressing them in the future. Therefore while, "past performance may not be indicative of future results," if experience holds true we indeed remain in a good position to shape our world or worlds to come but the heavy lifting remains before us. *Kevin Rosner is Editor-in-Chief of the Journal of Energy Security. He can be contacted at editor@iags.org*