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CLIMATE SECURITY, ENERGY SECURITY AND THE POLITICS OF SLOW MOVING THREATS

— Peter Tertzakian

Economy, energy and environment have always been three legs of a stool in society. Pushing hard on any one affects the other two, potentially compromising the security of nations.

For every nation a sustainable balance between this trifecta broadly yields the notion of 'security' – a personal sense of well-being in society. Having a good paying job; being able to turn on appliances reliably and inexpensively; living without fear of compromised air, water, food, shelter and safety are all fundamental to everyone in the modern world.

Over the centuries, history diarizes many examples of state instability resulting from imbalances. Energy resource scarcity, excessive pollution and economic malaise lead nations to destroy wealth, fight within themselves and, in the worst case, war with others.

The last time the world went through a major episode of energy induced instability was the 1970s and 80s. Oil price shocks triggered in the Middle East were intertwined with environmental disasters – smog, acid rain, leaded gasoline and three-mile island (TMI) to name a few – followed by years of economic hobbling. Regional conflicts and the Cold War were uncomfortably layered on top of, if not embedded in, some of these problems.

Warning signs of slow moving threats were obvious in hindsight. Aggressive oil demand through the 1960s, combined with supply concentration in the Middle East, triggered the first price shock in 1973. Lax attention to the environment allowed decades of oil and coal pollution to accumulate to damaging levels. And lesser safety regulations in the early days of transitioning to nuclear power were contributing factors to the meltdown at TMI. Negative effects of these events have lasted decades.

The character of today's instability stems from the long-term damaging effects of climate change, a consequent push to "decarbonize" our energy systems and a backdrop of stagnating economic growth. Much analysis has been written on each of these issues; less on the interrelated consequences.

A push to renewable energy, and downstream appliances like electric vehicles, is exciting. Few will deny that sun, wind and geothermal power are superior to burning stuff that's dug out of the ground. But there is a hard reality: nothing comes for free in the world of energy. For one thing, the demons of aggressive resource extraction are never far from any supply system that delivers us light, heat, electricity and the mechanical work we desire.

Take for example, "Lithium is the new oil," a new catch phrase that's being thrown around, suggesting that dirty, politically-charged oil will be replaced with a utopian substitute of clean lithium-ion batteries. Batteries are a marvel of technology, but lithium and cobalt are key ingredients. The Saudi Arabia of lithium deposits is in the Andes of South America; China is dominant in pricing and midstream processing. Reserves are plentiful (much as oil, gas and coal), but a rapid scale up in extraction and processing is not without environmental or geopolitical problems.

Of greater concern is cobalt, where 60 percent of the world's production comes from the unstable, corrupt Democratic Republic of Congo. Amnesty International is already highlighting that child labour and environmental degradation are forefront issues in mining the elements needed for our phones and drones. To this point the supply of these vital battery components has been enough to satisfy 1.8 billion cell phones per year. But one electric vehicle battery is 15,000

times the capacity size of a phone. What are the upstream economic, geopolitical, environmental and ethical implications of automakers ramping up to millions of electric car batteries over the next two decades?

Events leading up to the 1970s gave us a clear lesson in what happens when we ignore the destabilizing effects of fast, regionally concentrated ramp-up in the demand for energy-related resources. Technology is always alluring, but society must address the slow moving, upstream security consequences of pulling too hard on new, opaque supply chains that are accompanied with unavoidable resource-based curses.

Diminishing the consumption of “foreign oil” has long been a western imperative, but the destabilizing effects of doing so too quickly can pose a threat to many economies – and even the military stability of sensitive regions like the Middle East. Yes, we need to move away from fossil fuels, but with thought. New innovations are happening across all energy systems – from more efficient solar panels to multi-stage hydraulic fracturing in North American oil fields. From all corners there is an unprecedented flow of energy supply. And it’s all happening at a time when the world’s economies (and energy demand growth) are slowing down. The positive news is cheap, affordable energy. For suppliers, the negative news is overcapacity, price wars, squeezed margins and restricted access to capital. Today, it’s an all-out battle for share in a \$3-trillion-plus upstream market for primary energy.

There are winners and losers in every market share battle, and losers at a national level are starting to show signs of instability. Petro-states like Venezuela, Nigeria, Angola and even Saudi Arabia are running massive fiscal deficits with low oil prices. Globally, hundreds of thousands of people directly employed by fossil fuel companies, and millions indirectly, are vulnerable to unemployment.

It’s easy to show theoretical charts about how quickly the world’s energy mix can migrate to new systems. But what will happen to employment, debt and equity markets and regional economic activity if trillions of dollars of upstream and downstream infrastructure in fossil fuels are phased out too quickly? What happens to the personal equity value of over one billion oil-powered cars, mostly financed by debt? What are the geopolitical and military consequences of strategic oil-producing regions going nationally bankrupt? It’s not too early to think about the strategic ramifications of these and many other questions.

Instability from energy transitions is nothing new. Going from wood to coal, coal to oil or oil to nuclear power had economic and environmental consequences. Shifting from old system to new is never without security consequences. We can learn from the past. And maybe, for a change, avoid falling off the stool proactively, rather than picking ourselves up reactively.

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