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Governing energy: Asia's future and the G20

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Asia's future peace and prosperity depend on whether it can solve its energy challenges. The region's striking economic growth in recent decades has been – literally – fueled by massive and reckless development of fossil fuel-based energy systems, in ways that are clearly unsustainable. The costs, in environmental devastation, damage to health, and geopolitical instability, are high and growing, and increasingly unnecessary as new technologies reach a transformative tipping point. But new technologies alone will not change the current grim realities. Such change requires overcoming enormous vested interests, deeply entrenched practices, and above all habits of thought and assumptions. And here, oddly enough, Asia may find help at the G20 – if the G20 can be imaginative enough.

Costs of the current energy system

For many decades, both economic prosperity and national security have depended on access to fossil fuels. Energy security – defined in terms of reliable and affordable access to such fuels – has trumped concerns over the vast environmental, geopolitical, and social costs of the fossil-based energy system. But now, the costs to Asia of its current extreme reliance on fossil fuel sources are increasingly apparent. The geopolitical tensions in maritime Asia, demonstrated anew in recent days in armed confrontations at sea between China and Vietnam, and China and the Philippines, are in significant part based on competition for the fossil fuel resources believed to lie under the seabed in contested territories, a competition seen as inevitable due to the widespread assumption that fossil fuel consumption must continue to soar to keep Asia's economies aloft.

The horrific pollution plaguing China and increasingly India comes largely from fossil fuel combustion. The inherent and strong connections between water security, food security, and energy systems, which are just starting to gain attention, ensure that all of the region's key resource challenges depend ultimately on solving the energy dilemma. Conventional power plants require large quantities of withdrawals from rivers and streams, aquifers and lakes, and such water may not be available to support planned energy expansions in water-stressed Asia. And energy – or rather, lack of energy – is a key issue in tackling Asia's remaining massive poverty and growing inequality. Poverty can be defined in significant part by lack of access to basic energy services: lighting, heating and cooling, cooking, transport. The global statistics are disturbing: 1.3 billion people lack any access to electricity (and it is no coincidence that this figure is roughly the same as the global cohort of the utterly destitute in income terms); 2.8 billion must rely on traditional biomass fuels for cooking and heating; ¾ of the world's population accounts for only 10 percent of global energy consumption. On current trends, these figures will barely improve by 2030.

Unpredictability

Despite the proliferation of confident projections about Asia's future energy picture, it is almost impossible to know what Asia's future energy sources or systems will be more than a few years

out. Prediction is always hard, especially about the more distant future – and especially about energy. Energy guru Daniel Yergin has pointed out that as recently as 2010 the conventional wisdom on energy hailed the "nuclear renaissance" that would sweep the world as new nuclear technologies and growing climate pressures came to bear. Then came Fukushima. Just five years ago, the United States was becoming the world's largest importer of liquefied natural gas and was said to face a dire future of growing energy imports and huge pressures to ramp up reliance on coal, despite its horrific climate consequences. Thanks to the fracking revolution for gas and oil, those same prognosticators now see the United States heading toward energy independence, the collapse of domestic coal consumption, and a vastly improved geopolitical situation.

The uncertainties are compounded by the increasingly compelling case for major action on climate change, which has moved out of the "problem for the future" category with recent studies demonstrating strong current impacts. As those impacts grow, governments and businesses alike will find it ever harder to pretend that a fossil-dominated future can happen. Widespread scientific and global political consensus asserts that an increase of just 2 degrees centigrade over average pre-industrial temperatures poses unacceptable risks of catastrophe. As Bill McKibben has pointed out, limiting our rising planetary fever to that level requires humanity to limit its additional carbon emissions to no more than another 565 gigatons – which would mean leaving most of the 2750 gigatons of carbon in proven fossil fuel reserves in the ground, a compelling argument that is increasingly shaping investment and policy discourse. That constitutes a lot of "stranded assets," owned by powerful vested interests that will fight hard against policies that would stop them from exploiting those assets to the full.

At the same time, a variety of renewable energy and energy storage technologies are approaching or have reached market viability. It is entirely plausible to envision a scenario in which a combination of such technologies will become sufficiently competitive that the G20 a decade or so from now will be debating the emerging problem of massive stranded assets in fossils.

The need for better energy governance

But even the achievement of a technological tipping point in the next few years would not obviate the need for better national and global energy governance. Widespread acceptance in principle of the need to shift to low-carbon energy sources has not led to significant decarbonization in practice. Obviously, changing industrial civilization based on fossil fuels is not a quick and easy process. But many of the barriers to change reflect inertia and the incoherence of national and global energy policy structures and processes rather than inherent physical realities or lack of promising technological alternatives.

At the national level, energy is poorly governed throughout the region, with multiple agencies more concerned with individual fuel sources – as in India's five energy ministries – rather than a comprehensive and sustainable energy system. Domestic regulatory capacity on energy is weak and poorly informed about the linkages between energy and other issues. The siloes and lack of broad perspective make it virtually impossible for even well-intentioned energy governors to overcome the existing very strong vested interests in business as usual. And many are not necessarily focused on the public good – fossil fuels and related large-scale infrastructure have proven to be susceptible to substantial rent-seeking.

The International Architecture

The global energy governance architecture has limited capacity to help. It consists of an erratic array of actors: national and sometimes regional or local governments and their interactions; multinational firms, both private and state-owned; inter-governmental institutions such as the International Energy Agency, OPEC, the IAEA, the Energy Charter Treaty, and the IEF; the various summit processes (notably the G8 and G20); regional organizations like the ASEAN regional energy framework or UN ESCAP's focus on regional infrastructure; multilateral development banks; export credit agencies; a growing array of partnerships and initiatives like the UN's Sustainable Energy for All collaboration; and advocacy organizations interested in various energy and environment issues. All weigh in on various aspects of cross-border energy policy in a remarkable cacophony of cross-purposes.

What is missing is a serious effort to integrate political economy into energy policy. Investment policy, trade policy, and intellectual property regimes, for example, do not systematically consider how rules in those arenas affect energy policy choices. And this is where the G20 could come in.

Almost since it was reborn in 2008 as a leaders'–level summit process, the G20 has paid attention to energy. It made passing mention of energy security in the communique of the 2008 Washington summit. The 2009 Pittsburgh summit featured an important agreement on phasing out subsidies for fossil fuels. The Korea 2010 meeting emphasized commitment to green growth, reiterated in Mexico in 2012, with some commitments on phasing out fossil subsidies and investing in clean energy. And in 2013, the St Petersburg summit saw the creation of the Energy Sustainability Working Group (ESWG).

But to date, the G20 has separated its focus on energy (generally defined in fossil fuel terms) from its core work on the international economy. The ESWG during the 2014 Australian G20 presidency has focused on energy efficiency, global energy architecture, market transparency and investment, and gas markets, while continuing the work on inefficient fossil fuel subsidies launched in the 2009 Pittsburgh summit. It has an enormous opportunity – as soon as the upcoming ESWG meeting in late May 2014 – to bridge energy expertise with the broader financial agenda.

A key obstacle to making the transition to a sustainable energy future is that financing overwhelmingly still flows to fossil fuels rather than to alternative systems of energy services, thanks not only to short-term financial considerations but also to an array of regulations, subsidies, and entrenched relationships. The G20 could be an effective forum for creating an overarching vision of international energy governance that focuses on service delivery rather than fossil sources, bringing together energy expertise, finance, and leaders. The trillion dollars or so of investment needed to ensure sufficient global energy supply will not come about, and certainly will not support a transition to sustainable energy for all, just in response to short-term market signals. The norms and standards for energy investment are strongly influenced by governments via official export credit agencies and sovereign wealth funds. One part of the G20's role is clearly to facilitate the functioning of financial markets, but it can also shape norms and standards about how that money is used.

And the G20 is also well positioned to make good use of a strongly emerging trend in global governance: the growing efficacy of cross-sector collaborations that bring business and civil society to the governance table. Global governance has long since become the province of multiple "governors" – actors from the private sector and non-governmental organizations (NGOs) with capacity to shape and implement rules. And increasingly those governors are working together. Such collaborations range from specific public-private partnerships focused on big infrastructure projects to coalitions of businesses and NGOs working together to transform business practices in the public interest.

The G20 leaders' summit already has parallel B20 (business community) and C20 (civil society) processes in place to provide a framework for such partnerships. Revamping the global energy system clearly requires massive involvement of all sectors, and there are major parts of the business community with a strong interest in supporting the development of more rational energy systems. For example, the International Civil Aviation Organization is facilitating work by an expert group on mechanisms to enable carbon-neutral growth in the aviation industry starting in 2020, a process that includes business and NGOs.

Even the traditional energy industry may recognize its interest in using G20 processes to lobby for such key policy instruments as a reasonable and sustainable price on carbon. Many large oil firms already build an implicit carbon price into their plans, and would welcome regulatory certainty on what that price will actually be.

One very surprising such collaboration provides an example of the impact such unlikely bedfellows can have in addressing problems that purely intergovernmental processes have failed to manage. It recently unfolded in Indonesia, where environmental campaigners like Greenpeace and WWF had created intense pressure on the palm oil pulp and paper industries to halt massive deforestation. Deforestation and other land use changes constitute some 20 percent of the contribution to climate change, with Indonesia one of the chief culprits. The widespread practice of clearing forest by burning it also regularly creates a choking haze that can cloak Singapore and other nearby nations in a Beijing-like shroud not of their own making. Many years of inter-governmental dialogue failed to have much impact on the problem, but the environmental campaigners did – with a twist.

After a highly effective campaign that persuaded most large companies not to purchase palm oil from Indonesia or products from Indonesia-based Asia Pulp and Paper, Greenpeace and other environmental NGOs entered into new partnerships with the palm oil suppliers and APP, working together to halt the country's rapid deforestation and evaluating together how best to stop the burning of high carbon stock areas. Because this new collaborative approach took hold only in 2011 and producers are still being brought on board, it is too soon to know whether the process is a fully adequate response to the scale of the problem. But certainly progress has been made, which is more than can be said for the regional inter-governmental efforts.

In short, energy currently constitutes one of Asia's biggest challenges, and exacerbates most of the rest. From geopolitics to environment to inequality, existing energy systems and policies are both essential to the functioning of Asia's economies and are storing up massive problems for the future. The inadequacies of incoherent energy governance are looming ever larger over

Asia's future. To fix energy requires juggling multiple factors: geopolitical stability, the security of energy infrastructure, massive environmental externalities, investment policies, trade rules, and water and agriculture policy, among others. But with leadership and imagination, the energy picture can change drastically. The G20, for all its shortcomings, is better placed than most to think broadly, and especially to connect the complexities of energy with those of finance, investment, and trade. The leaders' process, in collaboration with business and civil society groups, may be the best hope for consolidating market-based economic rationality for energy markets with rules that effectively internalize the sector's negative externalities and promote massive investment in the energy transition that is so badly needed.