

Environmental Protection versus Economic Development in the Asia Pacific — the Impacts of Copenhagen

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The future of Earth's environment is being determined right now in the urban industrial revolution that is transforming rapidly much of rural Asia into the heartland of the 21st century global economy. "If you are the sort to worry at night about man-induced climate change", *The Economist* recently opined, "then book a stay at any of the new high-rise hotels going up on the edge of China's big cities — start looking for them around the third ring road". Reflecting on how the design and construction of Asia's cities will determine just how much global warming greenhouse gases end up in Earth's atmosphere, *The Economist* pertinently asked whether Asia could "change its habits before it is too late for all of us" (3 July 2010 p 29).

If humanity is to rise to what former Australian Prime Minister, Kevin Rudd, rightly termed "the greatest moral challenge of our generation", the biggest most significant moves will be taken in the Asia Pacific region where energy consumption over the past decade has jumped by 70%, largely drawn from fossil fuels, and where according to the Asian Development Bank close to a million people a week move from the countryside to cities. What hope is there for significant emissions abatement in a region which each day of the year transforms timber, concrete and asphalt into 20,000 new dwellings and 250 kilometres of new roads? (*The Economist*, 3 July 2010).

The message is clear. Effective climate policy in the Asia Pacific cannot be detached from managing runaway urbanisation, dematerializing and de-carbonizing double digit economic growth, capping unsustainable levels of population growth, remediating inestimable levels of environmental degradation, and reforming a cultural indifference to governance and market innovation that might diminish prospects for short term economic advantage. Otherwise we all continue on a warming trend which scientists say presents us with "serious, and perhaps even existential, risks" (Steffen, 2010).

Two months ago the US Energy Information Administration made the sobering prediction that without a significant modification of existing national climate strategies, global emissions could grow by 40% by 2035. Most of the increase is slated for the Asia Pacific region and it will happen simply because "increases in output per capita and relatively moderate population growth [will] overwhelm projected improvements in energy intensity and carbon intensity" (Kirkland, 2010).

The implications for the future are enormous. Climate change and the resource impacts it will deliver adds a geo-physical dimension to concerns about future regional and global security – something hinted at by President Barack Obama to a Nobel Peace Prize reception when he said climate change "will fuel more conflict for decades" and that our "common security hangs in the balance" (Obama, 2009) . If there is a security challenge

facing the Asia-Pacific, it is the insecurity that comes from the climate change impacts potentially of significantly diminished food and water and a need for massive amounts of additional energy that is neither fossil fueled nor cheap.

Business as usual for the region means almost certainly more frequently severe droughts and floods, crop failures, photochemical smog fouling the air, rainforest destruction for palm oil biofuels, and a creeping poverty in the services provided by a properly functioning natural environment. In re-conceptualising notions of future regional security, the pivotal relevance of human caused climate change must be front and centre. And yet, there seems only embryonic interest in the Asia Pacific to develop the political, governance, and market frameworks necessary to achieve the significant socio-economic innovation needed for major emissions abatement.

Asian environmental perspectives and capacities

A number of elementary factors mitigate against the Asia Pacific providing transformative leadership on global environmental issues. Public opinion is not a strong driver of action on climate change. A worldwide Gallup survey in 2007 found that in Asia disinterest in climate change was strongest with two in three adults, irrespective of educational background, thinking it was not an issue of serious concern (Pugliese and Ray, 2009). And beyond the almost universal ignorance of the climate change issue, there is also a widespread scepticism throughout the region about the on ground effectiveness of multilateral strategies. Poor national and local follow-up on the UN poverty and environmental agenda particularly has seen such initiatives discredited among the regional populace of the Asia Pacific (Nomura, Harashima and Kamal, 2004).

Further diminishing the prospects of rapid resolution of the environmental versus economic conflict in the Asia Pacific is a lack of governance and institutional capacity across region at the provincial and municipal levels of government. A survey of Asian environmental professionals from 15 countries pointed to “the gap between international discourse and local needs”, “considerable differences between actors and sub-regions”, institutional incapacity at the vital level of local government and NGOs, and perhaps most importantly “the ‘lack of a mutual trust relationship’ and ‘undemocratic government’ as being “recognised by Asian actors as major obstacles to promoting partnership” and sustainable outcomes (Nomura et al 2004).

Many of these factors have not changed. The Asian preference for engineering infrastructure and technology competitiveness strategies should not be confused with progressive governance on sustainability issues. Any number of vital indicators on human health, air and water quality, biodiversity protection, resource depletion and civil stability point to the environment and population as potentially debilitating of the regional vision of economic growth. And a critical missing ingredient is broad community understanding of the systems relationships and consequences of rapid unsustainable economic development and poor environmental impacts. There is a need for what the IEA in its 2009 report termed “proper policy frameworks” for the benefits of innovation to be realized.

These structural weaknesses in environmental governance draw very much from the “limited emergence of informational governance arrangements in environmental protection” in Asia Pacific countries (Mol 2009 p 116). While state of the environment

monitoring and reporting is slowly becoming a government competency across Asia, on most measures of environmental governance there is still great scope for improvement. This is particularly the case in systems verification, performance accreditation, labelling, corporate disclosure of compliance standards and public communication of environmental information by business and government. Without environmental information being freely available and understood it will be difficult to build the public consciousness and capacity that will both inform and deliver strategies for sustainable development. The upshot is that environmental governance in the Asia Pacific remains very much a 'top down' state instrument and this was closely reflected last December in the contributions of leading regional players at the Copenhagen Climate summit.

Copenhagen in the context of the Asia Pacific

For most western advanced economies, the politics of climate change and rising public interest in the issue had pre-ordained Copenhagen to be the venue for negotiating a comprehensive legally binding treaty to supersede Kyoto. For the developing countries of Asia, South America and Africa, however, it was more about avoiding the economic costs of post-industrial carbon abatement targets before having first industrialised themselves. Even though there is but one Earth to warm and one atmosphere to pollute, Chinese Premier Wen Jiabao spoke for most developing nations in his assertion that:

Developing countries only started industrialisation a few decades ago and many of their people still live in abject poverty today. It is totally unjustifiable to ask them to undertake emissions reduction targets beyond their due obligations and capabilities in disregard of historical responsibilities, per capita emissions and different levels of development. (Jiabao 2009)

There is an inherent plausibility underlining this argument because in the 150 years to 2000, the United States and the European Union accounted for 60% of fossil fuel emissions, while China contributed 7% and India 2% (Pew Centre, 2010). Chinese per capita emissions are still just one sixth of their American or Australian counterparts.

Culminating a process begun a decade earlier by the United States in its repudiation of the Kyoto Protocol, and in the absence of a developed world consensus on how best to proceed multilaterally, at Copenhagen an emergent China essentially dismissed the multilateral process and the notion of a negotiated and harmonized global strategy. Instead China reiterated its historical insistence on non-interference in sovereign matters. In the Chinese view, which is shared by many in the developing world, an orchestrated international response to the global warming challenge could only be delivered fairly by upholding the principle of "common but differentiated responsibilities" according to each country's stage of development. Premier Wen Jiabao chided his colleague leaders, especially those from the developed West, to "pay attention to the practicality" of achieving the targets (Jiabao, 2009).

There was a commitment from the developed nations to bolster the last three years of the Kyoto Protocol with US\$30 billion in assistance to poorer countries for emissions abatement and climate adaptation programs – but beyond that the lingering impacts of the global financial crisis ensured there was no rush to launch multilateral climate banks or programs.

While much was made by Western country media of frustrated expectations, Copenhagen did see progress made toward a political consensus about the need for concerted action and in building a broader international coalition that can deliver measures that make a difference on climate change. This group now includes the major emerging economies like China, India, Indonesia, Brazil, South Africa, Mexico and South Korea. It means that the emissions included in the global abatement process increased from about 25% under Kyoto to nearly 80% under the Copenhagen Accord.

China tabled its intention by 2020 to reduce the greenhouse gas intensity of its economy by 40-45 per cent over 2005 levels. This was an approach India echoed in a commitment to reduce in the same time its carbon intensity by 20-25 per cent. This is no small deal for the two biggest players in the emerging world and the two largest sources of new future emissions.

Particularly beneficial to the Asia Pacific region also was the extension at Copenhagen of an action plan for reducing emissions from deforestation and land degradation (REDD) to include forest conservation and carbon sequestration functions (Climatico, 2010). With impacts from land use change and forestry (LUCF) in many Asia Pacific countries accounting for more than half of their greenhouse gas emissions LUCF strategies are among the most cost effective greenhouse abatement mechanisms and will attract attention from developed countries through offset investments.

Economic development is the runaway priority

Presenting the International Energy Agency's Outlook in November 2008, IEA Executive Director Nobuo Tanaka made very clear the central role Asian economic development would play in energy intensification and expansion over the coming two or three decades. Tanaka told an Australian conference that on a 'business as usual' projection "non-OECD countries will account for 87% of global energy demand growth between 2006 and 2030. He added that China's energy demand would outpace all others. (Tanaka, 2008).

The Chinese Government understand the limitations of its current emphasis on unsustainable growth. In 2006 the Worldwatch Institute reported that "environmental degradation" was costing China nearly 9% of its annual gross domestic product" (Turner and Zhi, 2006 p153). In other words, as much as China grows economically, it is losing an equivalent value and capacity through diminished natural capital. There is evidence already of environmental degradation depleting resources, particularly croplands and freshwater, with flow on impacts to local economic resilience and in some cases giving rise to social unrest and cultural tension.

The Japanese Nomura Bank summarised China's dilemma as its need for "sustaining fast investment growth" by demanding large consumption of Chinese product domestically or in exports. But the same report also concluded that China is uniquely big enough to create its own endogenous markets and, if it chooses, through policy innovation stimulate low-carbon investment so that it makes "a major contribution to maintaining rapid GDP growth" and enables the achievement of "ambitious" emissions abatement targets (Llewellyn and Santovetti, 2010).

Clean technology for resource security and competitiveness

While anecdotal reports indicate China is building a new coal fired power station every week or so, its massive green infrastructure and technology plans, including unparalleled boosts to renewable energy, point to its quest for resource security as essentially framing its climate change action. Now importing more than half of its oil requirements, China like Japan is far from energy secure. And the insecurity extends to other critical commodities including freshwater (Wong, 2010 p 16). But few in the region are arguing for the environment to be put ahead of economic development. The smart strategy will be to align problem solving on the two fronts as China is now attempting.

China's emissions abatement strategy is based on 2005 benchmarks and besides energy efficiency, emphasises increased utilisation of renewables and nuclear to 15% of the total energy mix and expanded forest coverage by 50 million hectares - an area 5 times the size of Tasmania.

Some in the West see a geopolitical implication in China's rush to invest in renewable energy, a prospect they hope which will engage investment drivers for climate change action in their own countries. Just a few weeks before the Copenhagen Summit, American environmentalist Robert F Kennedy Jr wrote provocatively of "The New Arms Race", raising the spectre of a dominant China working to free itself of reliance on foreign resources, by taking the opportunity of energy security and commercialisation of enabling innovation much more seriously than the US.

Kennedy contrasted the relatively creative and strategic GFC stimulus spending disbursed by China with the short term 'quick hit' approach of many OECD economies: "China's economic stimulus package targeted 38% of spending on greentech, as compared to a miserly 12% of the U.S. stimulus program. By 2013, greentech will account for 15 percent of the Chinese GDP... by 2020, China's solar generation is projected to increase 20,000%" (Kennedy, 2009).

Set against the massive expansion of its energy sector, the Chinese renewable energy target of 15 per cent by 2020 by any comparable standard is both ambitious and transformative in its impact. Major solar players including BP Solar, GE and Evergreen have set up in China to take advantage of a market in rapid transformation. Over the past 12 months investment in renewable energy has taken off across the globe, but it has rocketed in the Asia-Pacific by 172% compared to 63% in Europe and 19% in the US (de Boer 2010).

Quite pragmatically China is investing massively in both fossil fuels and renewables and as some observers are noting this dual strategy is beginning to be reflected also in the corporate culture of the country: "One sign is a shift in criteria by which local officials are evaluated: promotion now depends not just on meeting production or investment goals, but energy and environmental goals as well" (Randolph, 2010). The corollary is a host of municipal initiatives in public transport, electric vehicles and hybrids, and new construction codes boosting energy efficiency.

Boosting carbon productivity through energy efficiency

Because environmental externalities have not been factored into the costs of production, most economic development has progressively intensified its consumption of energy by resorting to the cheapest fuels available, inevitably coal and abundant oil. A price on carbon and the end of cheap oil changes that scenario dramatically and just as developed economies transitioned into the energy efficiency curve in the 1980s and 1990s, fast industrialising countries like Japan, Korea and India are seeing the best dividends to be had initially by jumping on the eco-efficiency bandwagon.

At Copenhagen the IEA's Tanaka promoted the carbon productivity bonus to be achieved by energy efficient economies, telling delegates that "the bulk of the emissions reduction could be delivered by energy efficiency, accounting for over half of total abatement by 2030 in the IEA 450 Scenario". The energy agency estimated that an additional US\$8.3 trillion of investment in energy efficiency would deliver US\$8.6 trillion in savings up to 2030 (IEA 2009). Tanaka commended the energy efficiency initiatives of China, India, Brazil and South Africa. He could also have mentioned his own country, resource scarce Japan, which has long understood the advantages of clean manufacturing and energy efficiency.

When Prime Minister Yukio Hatoyama pledged in 2009 to a 25 per cent cut in greenhouse gas emissions from 1990 levels by 2020, he delivered on climate policy but also resounded on a core Japanese aim of achieving resource security in part through efficiency. Japan's climate governance is indelibly linked to its national energy strategy which involves improving energy efficiency by 30%, significantly reducing dependence on imported oil and increasing nuclear in the national energy mix (Hughes 2009). And at back of mind for the Japanese is the enormous commercial and trade opportunity beckoning in China as that country launches on its own low carbon strategy and environmental clean-up.

The challenge for China will be to achieve its efficiency targets. Over the past decade energy efficiency has grown significantly but off a very low base. The future holds higher benchmarks, and there is no certainty China will rise to task - if for no other reason than the scale of its growth in energy consumption keeps expanding. It is not for a want of investment in innovation that has caused China to struggle to meet its 2010 target of a 20 per cent reduction in energy intensity. The rate of growth and change has simply over-run efficiency dividends and, if the IEA is to be believed, until 2007 the carbon intensity of China's energy system was still increasing (Jotzo, 2010). This was possibly because China's energy efficiency drive was driven politically without much of a detailed implementation plan in place, including the governance and measurement and reporting mechanisms to manage such a major transformation.

Green shoots across the region

While China remains the critical constituent in the governance of climate issues, across the Asia Pacific there are encouraging "green shoots" posting the beginnings of a transition away from fossil fuel dependence and carbon intensive economy. If the Indian Government's commitments are implemented, for example, that country's clean energy pathway will be characterised by an investment of 2% of GDP in "green growth" over the next five years, new building standards and mandatory fuel efficiency

standards, and significant investment in wind and nuclear energy. Already the fourth wind energy nation, India is seriously investing in solar and wants 2000 MW installed annually by 2017. India is also looking to introduce market focussed solutions and plans to create a domestic market for environmental credits later this year (Pew Centre, 2008).

South Korea is not waiting for international agreements on climate change to move vigorously on energy efficiency and energy diversification with an annual 2% of GDP investment in cleantech. This level of investment makes possible its 2009 commitment to achieve a mandatory 4% emissions cut on 2005 levels which by 2020 adds up to reducing its total greenhouse gas emissions by 30%. A mandated emissions trading scheme covering the majority of South Korea's carbon pollution is likely to start from 2012 with 600 of the nation's biggest emitters (ecobusiness.com 4 May 2010).

The ASEAN nations have a range of programs already in place contributing to greenhouse gas mitigation and climate change adaptation – all of them aligned with the robust economic goals set by each member state. Such plans extend from the Philippines building on a strong renewables base in which geothermal and hydro already account for more than a third of the country's power, to the Thais securing 20% of their energy from renewables by 2025. Energy starved but geothermal and biomass rich Indonesia has a 2025 goal of 17% of its national primary energy mix coming from non-fossil fuels along with an overall emissions reduction target of 26% by 2020.

Neighbouring oil and gas dependent Malaysia seems least ambitious in the energy diversification field with plans to double hydropower to 17% of generation by 2020 while taking tentative steps into solar. It boasts a range of tax incentives for energy efficiency and conservation technologies (see Llewellyn and Santovetti, 2010 and UNFCCC web site for National Reports).

Not all things renewable deliver net environmental benefits. Much controversy has attended Malaysia's promotion of biofuels derived from palm oil plantations established at the cost of vast tracts of destroyed rainforest and biodiversity loss. Negative consumer reaction in western countries to the environmental implications of palm oil products raises the possibility of discriminatory market intervention through eco-labelling or even regulatory impost. As an issue it is litmus to a much bigger question of whether environmental goals and performance should be embedded in World Trade Organisation protocols.

Does trade exposure mean vulnerability on environment?

Asia's current exposure to the contingent risk of eventual trade limitations on carbon results from UNFCCC rules that accrue embedded carbon emissions of an internationally traded good or service to the producing country. The parties to the UNFCCC have assiduously avoided linking trade and climate change because of the complexities, not least of which include the difficulties of measuring and verifying embedded carbon and managing a consumption-based international emissions trading system. By parking the fairness concept, parties to UNFCCC have decided there are simpler more expedient paths to take.

But the difficulty of implementing a consumption- based emissions abatement system does not deny that consumers in developed countries have effectively 'leaked' or outsourced their carbon footprint to developing countries. Net exports were the source of 24% of China's GHG emissions in 2004; carbon pollution which amounted to as much as Japan emitted and twice that of the UK and which was generated for the benefit of consumers in Australia, America and Europe (Wang and Watson, 2009 p 88).

The Asian economic miracle has been built on international trade and an export to GDP ratio more than twice that of western countries. One third of China's GDP and one fifth of India's derives from exports. The trade exposure of the 'tiger economies' of the ASEAN and of dynamic South Korea is even more acute at between 50% and 100% of GDP (Llewellyn and Santovetti p14). For commodities exporters like Australia which provide the raw feedstock for much of the region's energy and manufacturing, their economies enjoy the same contingent risk potentially arising from a linkage of climate change strategy with trade rules constraining the trade of carbon intense products.

If trade were to be linked with carbon in any practical sense, there would need to be much more sophisticated and transparent accounting and governance frameworks, necessitating higher levels of trust and disclosure between countries – in short a governance regime internationally that does not yet exist and is unlikely to happen with serious rapid environmental feedback from the climate system.

Putting a price on carbon a smart way for the region to go

Current thinking across the region sees a carbon price discouraging Asian competitiveness, but given the triumph of national approaches at Copenhagen, the simplest way to avoid the possibility of future entanglement in trade and environment embargoes is for industrialising Asian economies to factor in at production the price of carbon. With OECD countries going the same way, this will equalise a potentially divergently developing global marketplace and forestall interventions from America and Europe. Huw Slater (2010) from the Crawford School at ANU suggests that some in the Chinese Government are looking at carbon pricing being introduced progressively in China, perhaps "as low as 20 Yuan per tonne" to begin the market process of phasing out coal and accelerating renewable energy and to ensure the success of the next Five Year Plan.

The potentially transformative role of that plan is already understood by expert agencies like the IEA which has calculated that "if all the measures under consideration in China's 12th five-year plan are enacted, the country would contribute more than a quarter of the emissions reductions needed by 2020 to put the world on course to keep greenhouse gases below 450ppm" (Financial Times, 10 November 2009).

Conclusion

Looking back to Copenhagen what is really significant about its outcomes was that so much was contributed by key Asian countries when there are so few domestic political drivers for their governments to offer anything. The challenge for the region in fact is to move beyond the high level infrastructure strategies and business investment drivers and install the governance systems on the ground to educate, regulate and hold accountable municipalities, industries and businesses. For this to happen there needs

to be a more open discussion of what's at stake so that communities across the region can be empowered and involved in resolving the many outstanding issues of unsustainable development.

Given the magnitude of cultural change involved in that proposition it seems likely that an emerging 'cleantech revolution' will co-exist with continuing environmental-economic trade-offs in the Asia-Pacific over the coming decade. As well as mitigating the causes of climate change, increasing energy and resource security, and progressively building the manufactured technology, human capital and governance systems for sustainable development will stand as the focus of this agenda for the better part of the next generation. New businesses and markets will appear in decarbonising the economy, better educated consumers will demand greener products, and the distorting impacts of perverse subsidies rewarding inefficiency will be progressively lessened. That is the great transition of the future. It remains the unrealised proposition of the original report of the 1987 UN Commission on Environment and Development, "Our Common Future".

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