Political economy of the climate change negotiations

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Today

- Why all roads lead to Copenhagen?
- From what to how: questions from the real economy
- Turning challenges into opportunities
Decisions in the next 10-15 years will determine whether a climate-safe world is possible

• As global emissions must peak by 2015-20 to keep to the low probability of 2°C rise in global temperature, investment in new energy and non-energy infrastructure and technology must be consistent with a low carbon/efficient energy future in all countries.

• For developed countries, it implies sharp reductions, moving close to a zero-carbon economy by 2050, and with major developing countries following suit well before the end of the century. This implies average global emissions of around 2 tCO2 per person – less than half the present Chinese level, a fifth of the level in Europe, and a tenth of that in the US.

• Choices made in developing countries matter, especially in major developing economies. Immediate decisions about infrastructure needs and patterns of consumption will have a decisive impact on global efforts to stabilise GHG emissions, and the feasible rate of reduction to sustainable levels.
Making the deal happen

• National and regional initiatives are much needed, but the world cannot solve the climate problem without an effective multilateral approach. The reality is that they have to be built upon smaller coalitions of powerful actors.

• Many proposals have been made for a core of US leadership, bilateral or trilateral leadership by variants of the US–EU–China/Japan/Asia nexus, the G8, the G8+5, the G20, or the MEM – now know as the MEF.

• Even though these are relevant and necessary, but all such efforts have in the end been driven to recognise the ultimate aim of fostering a multilateral framework under the United Nations. This is for three main reasons - scope, competitiveness, and political legitimacy.
Why all roads lead to Copenhagen?

• **Scope**: Emissions are so widespread geographically that any subset of countries becomes increasingly unable to solve the problem unless others are involved. The dominance of US, EU and Chinese emissions today would be swamped by 2050 if they delivered steep reductions whilst others did not. And none of these are significant contributors to land-use emissions (such as deforestation), which involve a wholly different group of countries.

• **Competitiveness**: A partial solution that encompassed the big emitters would not solve the perceived risks of competitiveness loss in energy-intensive sectors vis-à-vis non participants, which could be as small as Singapore, for example.

• **Political legitimacy**: A deal between the big emitters only is unlikely to secure global legitimacy. In no legal or moral system can a solution be imposed by those inflicting the damage, without at some level engaging those that would most suffer the consequences of inadequate action.

Source: Lee and Grubb et al, 2009
Where are we politically?

- EU has made a decision to take unilateral climate action to become more competitive while demonstrating how to implement low carbon solutions and build trust. This includes 20% unilateral emission reduction target below 1990 by 2020, with commitment to move to 30% when other developed countries take on comparable targets and major emerging actions take significant actions.

- US: Lessons from the Kyoto agreement that was dead on arrival - The US is engaging in a bottom up exercise. So far, a signal to a return to 1990 level by 2020, and an ambitious 2050 target. But 25% to 40% reduction by 2020 on 1990 might be too ambitious for the US Congress. Currently favouring avoided deforestation as part of its international offsets.

- Australia: limited target so far but said it would be more ambitious with an international agreement. Recent announcement to postpone cap and trade system for one year.

- Japan – still feels aggrieved by its Kyoto commitment. Early champion of the sectoral approach but has been pushed back. But expected to follow US lead.
Climate negotiations define ‘what’ and ‘who’ to do ‘what’ ‘when’, but the ‘how’ question remains.

• Formal negotiations can only be one part of the climate process. How to build trust, confidence and monitoring mechanisms that can withstand and respond to stresses and conflicts of interests?

• The Major Economies Forum and other processes offer opportunities away from the haggling over specific text to understand each other’s positions, identify areas of common ground and build bridges and explore innovative solutions. Key issues include targets for industrialized countries, the role of developing nations in cutting emissions, financing and technology transfer.

• Beyond setting targets, how to create opportunities for real & concrete economic changes/ opportunities through investments and new markets? This will also mean moving the additional $44 trillion of energy investment forecast by 2050 from high- to low-carbon options.
How to kick-start a new industrial revolution?

• Rapid global diffusion of existing and near-to-market low carbon technologies: large scale renewables, CCS AND energy efficiency deployment

• New generations of solutions from breakthrough technologies from 2030 onwards (which will help ease increasingly difficult climate politics)

• Equitable international collaboration mechanisms on technological development and transfer: to lower the cost/risk of technology investment and to encourage national action in developing countries

• Equitable incentive systems to deal with forestry and adaptation

*Weak understanding of what is a robust system of incentives and institutions to drive the global low carbon transition*
Challenge: Historic global energy demand seems immune to events

![Graph showing energy demand over time with key events marked: Two Oil Shocks, Chernobyl, Two Gulf Wars, Kyoto Entry into Force. The graph is color-coded to represent different energy sources: Hydro, Nuclear, Coal, Gas, Oil.](image-url)
How to drive new technologies down the innovation chain?

This diagram is adapted from the Stern Review (2006) for Changing Climates (2007)
Can rich countries lead by example in energy R&D investment?

Source: Antony Froggatt, based on IEA data
Apart from the wind sector, patenting activities growth in other cleaner energy sectors are surprisingly sluggish.

**Year-by-Year Comparison: 4 Technologies**

- Wind
- CST
- Biomass
- Clean Coal

*Patent applications may be unpublished for 18+ months. Therefore the number of reported patents for the last 2 years may be under-represented.*
How to overcome barriers along the innovation chain?

R&D (Basic and Applied)
- Long term underinvestment
- Recouping R&D investments with commercial applications
- Multidisciplinary challenges

Demonstration
- Financial, technical and informational challenges to prove viability of innovation
- Availability of public funding
- Difficult for private sector to capture benefits
- Technological risks
- High capital costs
- Uncertainty in policy environment

Commercialisation
- Financing for incremental cost reduction
- Uncertainties in cost reduction and policy environment

Diffusion
- Weaknesses in investment, savings, and legal institutions
- Subsidies to conventional technologies and lack of competition
- Prices for competing technologies exclude externalities
- Weaknesses in retail supply financing and service
- Capacity of countries/markets to use the new innovation

Source: UNDP (2000); OECD (2006); Chatham House and E3G (2007-08)
How to capitalise on new markets opportunities and first mover advantages?

Growth rate for Renewable Energy is expected to be larger than any other supply sector.
And to create jobs ...

Employment in Renewables

Source: UNEP and ILO (2008)
How to use globalisation, trade, investment and/or the integrated global supply chain to drive technological deployment for the low carbon economy?

Source: Kelly Sims Gallagher (2006)
Clean energy investment is not exempt from the recent downward trend...

Global new investment in clean energy, 2004 – 2008

- Surged from low level by around 5x between 2004 and 2007
- Accounts for 10% of global energy infrastructure spend
- Has remained fairly robust through credit crunch so far...

Note: Adjusted for reinvestment. Geared re-investment assumes a 1 year lag between VC/PE/Public Markets funds raised and re-investment in projects. Grossed-up and buffered values are based on disclosed deals.

Source: New Energy Finance, IEA WEO 2008 (4/19.01)
How to pilot low carbon development/growth models in developing economies

Large scale regions committed to rapid low carbon transformation

Testing grounds for regulatory, economics, trade and investment policies promoting the necessary scale of economic transformation for a low-carbon future and a powerful demonstration of the viability of low carbon economy

An integrated approach linking different sectors to achieve sustainable dev

Driven by strong leadership

International cooperation on technology, investment and capacity building focuses in these areas to maximise impact
China is using its comparative advantage to capitalise on the low carbon opportunities

Source: Tomas Kaberger, Swedish Energy Agency, 2009
Rising major developing economies prowess in ethanol production

Turning challenges into opportunities:

Sharing the low carbon pie

- Demanding energy targets cannot be met by domestic action alone. Enhancing low carbon trade and investment could create virtuous cycles, stimulating further investment opportunities. But global trade politics remains negative.

- How to build trust, confidence and monitoring mechanisms that can withstand and respond to stresses and conflicts of interests?

- Increased finance to help drive low carbon transformation in emerging economies. Public support in developed countries for cooperation with major economies will depend on commitments to act e.g. pricing reforms; governance reforms; meeting efficiency targets. High standards of monitoring will be needed to ensure effective use and stop corruption.

- Adaptation a common interest for all major economies. At the moment adaptation opportunities are yet to be monetised or turned into opportunities.