

NEW TOOLS AND OLD MYTHS
Climate change action - a toolbox for transition

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Climate change is the single biggest threat facing the world and there is no precedent in history for comparison to our current dilemma. This is the first time that a "living system has altered the planet's climate"¹ and it is the first time that mankind has had to face a natural weapon of mass destruction aimed at the entire global eco-system.

Scientific research is revealing previously unrecognised step changes in climate associated with anthropogenic greenhouse gas emissions. While climate variation is part of the planet's history, carbon dioxide concentrations in the atmosphere have increased in the last century to 380 parts per millions (ppm). This is 100 ppm more than at any stage in the past 800,000 years.²

There is international consensus on the need to stabilise atmospheric carbon to avoid crossing a 2 degrees centigrade rise in average global temperature. To achieve this 60% cuts in emissions need to be made by 2050 and 80% cuts in emissions by the end of the century.

This is an extremely tough call given that energy demand is predicted to rise by 70% by 2030 under a business as usual scenario. It is an exceptionally tough call for developing countries where over 1.5 billion people are still without electricity and without the basic survival services of clean drinking water and sanitation that electricity can help to provide. But without action to combat climate change the situation in many of the least developed nations will worsen, not improve. Climate change must therefore be recognised as one of the most important development challenges.

The international community's priority must now be to focus on rapid transition to a clean energy future that will significantly reduce carbon dioxide concentrations in the atmosphere.

A long term perspective of at least 50 years is required. A strategic pathway based on backcasted milestones, to ensure that outcomes are delivered on time, is needed - and work on these really deep cuts needs to begin immediately. There is no currency to be gained from deferring action to the future.

Certainty of approach and transitional support are both necessary. Economies, sectors of industry, and jobs are of concern in developed countries. Developing countries focus on basic survival, alleviation of poverty and the need to diversify and grow their economies.

Industry and investors require the surety of a legal framework to ensure that the equity they put into transition will not be undermined by lower - and less costly - performance from competitors. Artificially deflated energy costs, which do not take into account collateral damage (externalities) should no longer be permitted to dictate competition policy. Indirect or perverse subsidies that encourage energy pollution should be re-allocated to support energy efficiency, emissions abatement and renewable energy.

¹ Mark Lynas, author, High Tide

² Professor Sir David King, Chief Scientist, UK

The biggest challenge is monetising tomorrow's value to galvanise action today. This is where the environment industry, the finance and insurance sector, science, and governments must jointly take a lead position.

Cataclysmic climate change is a painful scenario of what may happen if we don't get our investment and our 'fundamental capital' protection choices right. But in terms of markets, those who do not perform to the new high standards are likely to lose reputation, market share, and future opportunities - and may also be held accountable for damage to the global commons, to health, and to the prosperity of nations.

It is clear that the Kyoto Protocol has been a wake up call and has created an initial stepping stone - a very basic framework for action. The Protocol now comes into full international force following Russia's ratification. This means that the Kyoto mechanisms - Clean Development Mechanism, Joint Implementation, and Carbon Emissions Trading become market instruments supported by the full weight of international law.

But "beyond Kyoto" is now on everyone's minds. With the need to achieve the deep cuts outlined above, and the necessity of adapting to climate change that is already underway, the world needs to undergo a serious structural overhaul of economic and productivity systems.

Meaningful action in some sectors will be very difficult to achieve, and yet in other areas there are many opportunities for energy efficiency, emissions reductions, and fuel switching to renewable energy sources (or at the very least less polluting sources of energy). For example energy retrofits to the household and commercial sectors - with energy retailers, governments, and banks providing 'lease-financing' or mortgage extension financing. Or, another example, all levels of government committing to purchase/lease benchmark efficiency automobiles, this impact on the marketplace in turn lowering the unit cost for the consumer and providing a sustainable second hand market.

The Carbon Disclosure Fund (CDF) which has foreshadowed litigation relating to latent liability has US\$10 trillion of funds under management. The CDF seeks investment opportunities that do not carry a carbon exposure risk and this is starting a trend where risk, liability and long-term opportunity will be new investment signals.

The world needs a war council approach to tackling climate change. And, while it is logical to call for all countries to be involved, there are today's leaders and those of tomorrow. Current ability should be the criteria for some to act faster than others and show the way ahead that encourages others. It is also very important that all countries, sectors and organisations understand the economic cost that climate change could have on their economies. This is most important in relation to developing and least developed countries whose economies are largely based on one or two basic commodities - for example Ghana and cocoa production, or Kenya where coffee and tourism underpin the country, or Tanzania where 90% of energy is provided by hydro power that may disappear. The vulnerability to climate change for these countries is far more of a threat than terrorism, disease or poverty.³

A tool box for transition

It is clear that much more needs to be done to implement abatement and mitigation solutions and that countries need to prepare much more rapidly for adaptation to inevitable climate change. Environment Business Australia, the peak organisation for the Australian environment and sustainability industry, suggests an easy-to-access global toolbox. In

³ Representative of Tanzanian Government, intervention, opening plenary, CoP 10

essence the suggestion is that countries, states, cities, organisations, and companies can either put solutions into the toolbox or they can take them out and use them.

The toolbox should act like a clearing house and be able to provide answers to simple questions:

- What is needed?
- Where is it?
- How does a party access a solution and then implement it?

The toolbox would provide case studies showing the lessons learned (positive and negative).

The 'box' would include a portfolio of incentive and penalty tools such as:

- Investment (from micro-finance, to government and major institution investment in infrastructure projects)
- Technology fast-tracking - R&D, demonstration sites, commercialisation and dissemination (especially for emissions reduction, energy efficiency, renewable energy, and energy storage)
- Externality costing and a pricing restructure based on full cost recovery and a 'polluter pays' principle
- Market instruments such as emissions trading
- Regulations combined with education and voluntary programs
- Taxation changes
- Defence spend re-allocation
- Education programs for schools to universities; the gamut of government departments from national to local authority level; stock exchanges and company directors
- Product/systems/operational management certification programs and eco-labelling

There is nothing truly radical about any of the tools although some of them will undoubtedly challenge existing thinking about investment, trade, national and international security, resource valuation and management. Mostly though, the tools are simple and require little more than goodwill and common sense in order to be implemented.

A reward system for deposit and withdrawal of solutions would enhance the tool box's appeal and versatility. There should be the potential to link it with emissions trading. The toolbox should also be designed to work with the Clean Development Mechanism (CDM), Joint Implementation (JI) and not in competition. It should be emphasised therefore that the suggestions in this discussion paper are not put forward as an alternative to the Kyoto Protocol, they are put forward to help speed up necessary action.

The toolbox must be a simple system designed to encourage *immediate action that sets us on the correct trajectory to our long term targets*. The aim is to create outcomes - not to seek perfection of process. The objective is to use every means at our disposal to push and pull in order to make sure that CO₂e emissions plummet, and that CO₂ concentrations in the atmosphere stabilise early enough to avoid the 2 degree C temperature rise which scientists describe as "dangerous". Some tools will be geared towards long term action, others will facilitate shorter term goal-scoring.

Some tools will offer abatement, mitigation, or adaptation outcomes. But a suite of tools is also necessary to deal with emergencies caused by abrupt changes in climate such as chronic water shortages, groundwater contamination, disease spread, agricultural productivity fall off, fires, floods, sea level rises, cyclones, typhoons or hurricanes, and tsunamis that may require relocation on a massive migratory scale.

Some of the tools will be relevant only to developed countries, or to specific trade sectors or companies. Others tools, more applicable to developing countries, will need to be focussed on capacity building and response times.

Who should lead?

Fast-tracking major infrastructure decision making towards energy efficiency, renewable energy and zero emissions is a vital step - the lengthy amortisation periods mean that decisions made today and tomorrow will have impacts for the next 50 years and the carbon emitted to the atmosphere will be there for a further 80 years.

We need to get the planet on the right energy trajectory in the very near future and therefore call on all countries, states, organisations and companies to devote their time and resources to finding ways to implement solutions immediately. Time must not be wasted debating the difficulty of transition, competitive inequality, or the hope that the future will deliver a miracle cure. We must plan long term and we must seriously increase efforts in implementation and capacity building work right now.

There will need to be champions and above all there will need to be a willingness to keep all options open. Industry must lead with innovation, demonstration and commercialisation of next generation technologies and systems, but governments have the most important role - only they can provide the regulatory frameworks and necessary flexibility to overcome short term approaches and galvanise outcomes.

Providing intelligence on the specific types of challenges and the potential technological, infrastructure, systemic and operational solutions - and therefore the new opportunities for business - is part of the role of the environment and sustainability industry.

As stated later in this paper, the marketplace cannot operate efficiently without timely intelligence translated into meaningful signals. Awareness raising and thought leadership in the policy arena will help shape the marketplace for emerging innovation.

Capital markets have the critical role of identifying financial risk and liability and then changing investment, lending and insurance patterns.

In addition to needing all major emitters to be part of the solution, the key international institutions, especially the WTO, need to be involved. Environment, health, trade, defence, and finance can no longer operate as separate entities – all are integrated and solutions must be developed that address specific needs within this broad context.

Five big myths

There are many misconceptions that need to be terminated and the toolbox will help to address these issues. Five very big myths are:

1. New technologies will become available to solve the problem

As the marketplace is skewed towards short term reward and payment, market failures are inevitable. The market does not currently receive adequate information about the costs of externalities (collateral damage) or the value of maintaining eco-system services. New technologies are only guaranteed of competitive neutrality when intelligence, translated into signals, is received and understood by the marketplace. This is not currently the case. While some new technologies will work their way through the maze, many more will be discarded because of perceived initial high cost or because they do not 'fit' a current tender specification or standard.

For example, foreseeable groundwater contamination, river system degradation and reduced rainfall and increased glacier melting will likely lead to severe water shortages in many areas. In some cases adaptation by using less water, increased recycling and capture of stormwater or relocation of people may be the answer. However, with correct pricing signals, coastal cities in predicted hot spot areas would be investing in desalination plants fuelled by combination renewable energy sources in spite of the high initial capital investment costs.

2. *Adaptation is the only cost effective way forward*

But compounding the issue of market signals is the fact that the market does not understand the likely costs of 'adaptation' to climate change, seeing it only as an alternative to payment today for something that hasn't had its business case delineated. In reality the cost of even basic adaptation will be extraordinarily high.

The value of eco-system services (clean air, drinking water, pollination, stable climate and weather conditions, agricultural productivity, inter alia) has been put at the equivalent of global GDP by some economists. This is an important aspect but cannot be allowed to deflect attention away from the main issue - **we could not afford, nor would we have the technology, to replace ecological services if the natural system went into chaos and delivery of services ceased. This is the only cost that the planet or any individual country cannot afford.**

3. *Existing stocks of fossil fuels must be used*

"The stone age did not end because of a shortage of stones and the oil age will end long before the world runs out of oil." Sheikh Zaki Yamani, Saudi Oil Minister (1962-1986). A clean energy trajectory is far more important than using up existing coal stocks. Renewable energy is NOT more expensive than fossil fuels when negative externalities and future adaptation are accounted for.

Achieving a clean energy future will not happen overnight, but proper planning can make sure that we achieve this objective by 2050.

4. *Action on climate change will send companies off-shore to less stringent regimes*

Few reputable companies will seek a 'licence to pollute' from their shareholders, insurers and bankers, and abandon sunk assets in the process of relocating to a less stable economic and political regime in order to seek marginal reductions in energy costs for an indeterminate period.

Especially, in the Australian context in light of the James Hardie asbestos case, or in the USA the Enron situation.

5. *Action on climate change will cause additional poverty in developing countries*

A healthy environment is the cornerstone of any economy as well as being the basis for human health, quality of life, or even survival. The impacts and associated costs of climate change could cripple economies by drying up/contaminating water supplies and destroying agricultural productivity. Disease, fires, floods, more frequent and severe storms, rising sea levels are fundamental threats to any economy but especially to those which are most impoverished. Developing countries cannot afford climate change. Many of the steps outlined in the Millennium Development Goals (MDG) work synergistically with plans to combat climate change therefore funds are being made to work harder to help alleviate poverty and grow economies based on a clean energy trajectory.

Some commentators have argued that without fossil fuels to provide energy, millions of people will die in developing countries. Yet, in spite of centuries of coal use, abject poverty and misery have not been averted in many developing countries and the inefficient burning of

fossil fuels and biomass has caused chronic and widespread health problems (and in some cases significant desertification), leading in turn to lower productivity.

Baseload generation is often not the same issue for providing electricity to remote and rural areas where distributed generation could be far more cost effective and efficient. Intermittent supply can be 100% effective at providing clean drinking water and sanitation - two of the key MDGs. Advances in energy storage technology and the next wave of renewables will be able to supply constant electricity generation. In addition, local supply offers greater security.

The solution is not to divert attention away from needed action on climate change in developing countries, rather it is to decide how to provide requisite financing, technology, infrastructure, land and waterway management. Transitional assistance is vital.

The complexity of the Clean Development Mechanism (CDM) needs to be urgently overcome and projects with the most potential for benefit given absolute priority to ensure implementation.

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