Environmental Finance

INTERNATIONAL CARBON MARKETS

Looking to Durban to deliver

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Keeping the show on the road

The climate talks have come a long way since the heady pre-Copenhagen days of 2009 – and mostly in the wrong direction. It's a measure of just how far the process had over-reached itself that, as negotiators pack their bags for Durban, the talk now is of a legally-binding post-2012 agreement to be signed in 2015. There is now no hope of a seamless transition from the Kyoto Protocol's first commitment period, which ends next year, to whatever comes next.

Profound divisions over what does come next will weigh heavily on the Durban talks. But it is worth remembering that substantial progress is being made on the vital infrastructure upon which the next agreement will hang.

Whether it's on monitoring and verification, technology transfer, climate finance, forestry protection or new market mechanisms, the Durban talks can help build the framework for the international climate change regime.

But one challenge for negotiators – and they face many – is recalibrating their expectations. Whatever is built at the international level will look less like the unified, overarching regime agreed at Kyoto in 1997, and more like the bottom-up, pledge-and-review model that emerged in Copenhagen. And whether that can support the level of ambition needed to tackle climate change adequately is anybody's guess.

Mark Nicholls, *editor*

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Introduction

Kyoto looms large over Durban

This year's round of UN climate talks is set to make progress on finance, deforestation and carbon markets – but only if negotiators can work around the question of the Kyoto Protocol. Christopher Cundy reports

There is a wry observation in climate circles that the recent UN conferences in sunny seaside resorts (Bali, Cancún) have been more successful than those in colder cities (Poznań, Copenhagen).

But whether this year's meeting in Durban – where a warm Indian Ocean laps the shore – can continue that pattern largely depends on how hung-up the talks get on the future of the Kyoto Protocol.

The protocol initially set greenhouse gas (GHG) emissions caps on industrialised countries over a five-year period, from 2008 to 2012. Countries are supposed to agree targets for a second commitment period, but have reached an impasse.

Some major industrialised countries (Japan, Canada and Russia) say they are not prepared to sign up to new targets under Kyoto, noting that the agreement caps less than a third of the world's GHG emissions and its division of countries into 'developed' and 'developing' is based upon their circumstances back in 1992.

But developing countries are pushing for a second period, seeing it as test of industrialised countries' willingness to deliver on their promise to take the lead on cutting emissions.

The issue came close to throwing the 2010 Cancún talks off course, and the intensity of discussions can only increase with just one year until the commitment period ends.

"Stalemate in the negotiations on a second commitment period or clarity on what will happen to the Kyoto Protocol after 2012 is a barrier to progress in negotiations of all other elements of the climate regime," wrote Steven Gray, a vice-president at Climate Change Capital, a London-based asset management firm, in *Environmental Finance*'s sister title *Carbon Finance* earlier this year.

In Cancún, negotiators successfully papered over the rift, and the talks are being steered towards a resolution that would involve a transitional agreement and a roadmap to a new global agreement. But many options remain possible.

"An overarching global agreement, soft enough to overcome the concerns of certain countries, but underpinned by strong principles, might have the potential to reconcile the differing views of states, if it incorporated a component with unambiguous emission reduction commitments for Annex I [industrialised] countries," says Joy Hyvarinen, London-based executive director of the Foundation for International Environmental Law and Development.

"Such an agreement could incorporate varying degrees of legal commitment, including the pledges in the Copenhagen Accord ... It might not be a perfect solution, but there is unlikely to be a perfect solution in the short term."

"Compared to three or four years ago, there's an amazing amount happening globally on climate change policy and low-carbon investment"

Chris Dodwell, AEA Technology

Following the disappointment of Copenhagen in 2009, which ended with its non-binding eponymous accord, the clock on any follow-up to Kyoto was reset and observers warned not to expect a new global agreement for at least five years. In September this year, the Norwegian and Australian governments presented a schedule to reach a legally binding agreement in 2015.

"I certainly think that a legally-binding agreement is achievable, but that is not what governments are moving toward in Durban," said UN climate chief Christiana Figueres in an interview with *Environmental Finance* (see page 28).

Durban is "one of those moments where policy-makers are busy working on national implementation," says Chris Dodwell, knowledge leader in international energy and climate change at UK-based consultancy AEA Technology and a former chief UK climate negotiator.

"While we need to think creatively about how to fill the gap between existing pledges and a 2°C [limit on global temperature rise], it's not the right time to kick those officials and say 'you must do more'," he adds.

Part of the reason why the Kyoto question is so critical is the need for a 'balanced package', or equal progress in all aspects of the talks. "If the only thing the world can agree on at Durban is that developed countries have to agree more money and other issues are not discussed, this will not fly," said the EU's climate commissioner, Connie Hedegaard, at an Oxfam meeting in Brussels last month.

Few people understand climate negotiations as well as Yvo de Boer, the UN's former climate chief, now an adviser to accounting and consultancy firm KPMG. He expects Durban "to be a very, very difficult meeting" because of the tension over Kyoto.

A good outcome from Durban, de Boer says, would be an acceptance that times have changed. "I do think we need a political statement that the world has changed and we need to move to a comprehensive treaty that embraces all nations. If we could, as a result of Durban, get a mandate to start working towards that, it would be a very good outcome."

For all the discussion around the big picture of an international agreement, there is at least as much effort going into developing the building blocks of a future agreement, such as measurement, reporting and verification (MRV) of emission reductions, climate finance, technology transfer and a regime for reducing emissions from deforestation and forest degradation (REDD). Assuming Kyoto does not kill the conversation elsewhere, observers seem generally optimistic that progress can be made in these areas.

"I'm not expecting a lot from Durban, but that's a healthy place to be," says Anne-Marie Warris, environmental adviser at Lloyd's Register Quality Assurance in London. "I'm hoping we will be surprised in the end."

If progress in the first half of 2011 was anything to go by,

Progress in Panama – but can Durban deliver?

Durban will achieve very little. The post-Cancún meeting in Bangkok was plagued by arguments over the agenda that spilled into the conference in Bonn, two months later. Observers said South Africa was slow to pick up the baton of leadership from Mexico and questioned whether the country was willing to invest the political capital to ensure success in Durban.

But momentum resumed at the October meeting in Panama, with Figueres describing an "extraordinary and surprising" atmosphere that bucked the usual trend of governments digging in their heels ahead of the Conference of the Parties (COP) meeting.

"We still have a lot of things to be resolved – but if you look at where we were last year after Tianjin [the meeting ahead of last year's COP in Cancún] and where we are now, it's much better. There's a more positive feeling," said Andrei Marcu, head of regulatory affairs at Geneva-based trading company Mercuria.

Given that no emission reduction targets are expected to be agreed, the issue of climate finance has become of central importance to the talks, particularly progress on the Green Climate Fund (GCF). This fund is intended to be the conduit for $100 billion a year, by 2020, for financing climate adaptation and mitigation activities in developing countries.

A transitional committee was appointed to decide how the fund will function and, at a meeting in Cape Town last month, it produced a draft design document to send to Durban. But not all countries agreed on the plans and the COP may attempt to reopen negotiations.

One main point of contention is that developing countries want as few barriers as possible placed between them and the money. However, cash-strapped developed economies, which will provide the finance, want to ensure the money is spent wisely – and against the wishes of some developing countries, they want to involve the private sector.

On top of these arguments is the question of where the money will come from. Industrialised countries appear to have stumped up most of the $30 billion in 'fast-start' climate finance for 2010–12 but ideas for raising money beyond that are still at the conceptual stage.

"I haven't seen anything on where they will get the money from," says LRQA's Warris. "We are not dealing with the big picture stuff. Where is the developed world going to find the money?"

Several institutions have put together proposals for reaching the $100 billion/year and these include such things as a tax on financial transactions (a 'Tobin tax') and a levy on fuels used in aviation and shipping.

Carbon markets, as exemplified by the Clean Development Mechanism (CDM), are also postulated as a source of billions of dollars of climate finance – and on this topic the pressure is firmly on Durban to deliver.

The CDM was established under the Kyoto Protocol as one of the 'flexible mechanisms' through which industrialised countries can lower the cost of reducing emissions by buying offsets from mitigation projects in developing countries. It has mobilised close to $150 billion in finance for climate change mitigation projects, according to researchers at the UNEP Risø Centre in Denmark. But if Kyoto does not continue, the future of its flexible mechanisms, including the CDM, is unclear.

Most expect the CDM to survive. Nonetheless, demand for CDM carbon credits in the next decade – and hence the flow of carbon finance – is only likely to come from companies in Europe's emissions trading scheme. In the run-up to the end of the first commitment period, these uncertainties are causing investment and personnel to drain away from the CDM.

"The CDM – which has really been the heart of international carbon markets – has become a bit of a political football, with parties arguing that there should be no future of the CDM without legally binding targets under a second commitment period," says Tim Baines, London-based senior adviser on climate change at law firm Norton Rose.

Meanwhile, as in climate finance, the lack of clarity on the big picture is not halting progress on the details of future mechanisms. New, scaled-up carbon markets for mitigating GHG emissions are the order of the day; the CDM is positioning itself to address entire sectors, not specific projects as it does presently. Developing countries are being encouraged to establish nationally appropriate mitigation actions/activities (NAMAs) which could in future have their emissions reductions 'credited' like the CDM does now (see pages 32–33).

Steven Gray, Climate Change Capital: stalemate over Kyoto "a barrier to progress in negotiations of all other elements of the climate regime"

The situation is similar for REDD, an area where good progress was made in Cancún but which has yet to tackle some critical questions (see feature, pages 35-7).

The Durban talks come at a tough time for Western economies and there is no doubt that environmental issues have slipped down the agenda. In these circumstances, many will hope that the UN Framework Convention on Climate Change (UNFCCC) can continue to give the right signals, even if a new agreement remains elusive.

"For my money, the key things the UNFCCC process needs to provide are oversight through transparent reporting, the framework through which funding at scale can flow to developing countries; and pressure to raise collective ambition – as it did in the run up to Copenhagen," AEA Technology's Dodwell says.

"Compared to three or four years ago, there's an amazing amount happening globally on climate change policy and low-carbon investment, in particular in emerging economies in Asia, Latin America and Africa," he notes – although he is not afraid to admit that global action is "still not happening at the pace and scale needed to get emissions to peak as quickly as we need". **EF**

Additional reporting by Katie Kouchakji and Philippa Jones.


We’re No.2
at the moment
but that doesn’t
mean we’re
second best.

Interview

Taking the next step

UN climate chief Christiana Figueres talks to Katie Kouchakji about her expectations for Durban, the future of the carbon market and how achievable a legally-binding deal really is

"What is very clear is that markets in the future will play a very similar role to what the CDM has played under the Kyoto Protocol"

Since the Copenhagen talks in 2009 ended with a barely-salvaged political statement rather the post-2012 climate change agreement many had hoped for, expectations for the UN negotiating process have been low. Last year's Conference of the Parties (COP) in Cancún restored some credibility to the process, producing a series of agreements on issues such as finance and mitigation. This renewed spirit of cooperation, also evident at the Panama session in October, has reinvigorated a process that, immediately after Copenhagen, many observers had dismissed as no longer fit for purpose.

"I don't think things have changed in the last 12 months," says Christiana Figueres, executive secretary of the UN Framework Convention on Climate Change (UNFCCC). "I believe [governments] got to Cancún with a very clear determination to get things done. I believe the Cancún agreement was a very decisive agreement. I think governments are just being consistent in the sense that they realise that they have a challenge here, that speed and scale are something that they need to address, and that they continue to be very committed to working with each other toward finding a solution."

"The only roadblock to any agreement ... is a lack of flexibility," she continues. "And that is not what we saw in Cancún. We saw flexibility on the part of governments, and that is what we expect to see in Durban." While countries or groups of countries come to the talks with their own positions, "at the point in time in which they must agree on something that covers all countries, then they need to be flexible," she adds.

The COP in Durban "can be a very firm next step in the evolution of the climate regime", she says. Governments will have the chance to develop a lot of the work undertaken in the past 11 months, building on the Cancún Agreements, she says, and establishing the institutional frameworks to execute aspects of what was agreed in Mexico.

These include the rules for the Green Climate Fund, which is charged with managing the proposed $100 billion/year by 2020 of climate finance, as well as mechanisms to promote low-carbon technology transfer, help countries adopt to the effects of climate change, and standardise the monitoring, reporting and verification of emissions reductions, Figueres says.

But Durban also needs to address the thorny question of emissions targets, she says, including what governments want to do about the second commitment period of the Kyoto Protocol and how to incorporate pledges that countries have made under the auspices of the UNFCCC.

From there, Figueres says, governments could start to move towards a post-2012 climate agreement, which she believes is still attainable – but she declines to be drawn on a timeline, merely stating it is for the COP to decide. "I certainly think that a legally-binding agreement is achievable, but that is not what governments are moving toward in Durban. I believe what they are looking at in Durban is a second commitment period, how to give more flesh on the bones with respect to their pledges, and then how they would start a process toward a comprehensive agreement that they would work on over the next years," she says.

The international climate change regime can also tap growing private sector experience, she says. "Business plays a really key role. I think of the relationship between business and governments as the relationship between the steering wheel and the motor. The governments certainly need to continue to be the steering wheel, to point the direction in which policy is moving ... But the private sector is the motor because it's the private sector that actually makes it happen. It's the private sector that has the access to the technologies, that should invest in new technologies that are not yet on the market, it is the private sector that has the capacity to mobilise the private capital that can really make a difference."

One way that the private sector has engaged is through the Clean Development Mechanism (CDM), which has seen billions of dollars invested in emissions-reducing projects in the developing world, in exchange for carbon credits that have been used by rich-world governments and companies to offset their emissions. While the system was overwhelmed in its early years, which led to huge delays in project registration and credit issuance, the process has become more efficient. "It's now being more recognised that the CDM is on a path of continuous improvement," Figueres says.

"But it will have to continue. It has to continue because the levels of mitigation that have been attained under the CDM are certainly much lower than the levels of mitigation that need to be attained in the future," she adds. "The scope, the scale needs to increase, and there are many governments that have put forward concrete proposals as to how that could be done."

While Figueres says she see a continuing role for the CDM as a mechanism that works on a project-by-project basis, "I also see an important role for a broader-scope market mechanism which countries could choose to either incorporate into the CDM, and make it an enhanced-scope CDM, or ... a market mechanism that operates in parallel to the CDM, but looks at broader mitigation opportunities that take emissions reductions to a higher level."

"What is very clear is that the markets in the future will play a very similar role to what the CDM has played under the Kyoto Protocol, which is to help those industrialised countries that take increased and deeper emission reduction commitments, to help them lower the cost while at the same time providing for sustainable development growth opportunities in developing countries." **EF**


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A more direct role for business

An international climate agreement and global emissions targets must be complemented by action at the national level and an enhanced role for business, says Björn Stigson

The next stage in the race to curb global warming takes place in Durban, South Africa, from 28 November to 9 December. While many of the political challenges remain familiar, this year's major events cannot be overlooked by those involved in the negotiations as they bring the supply, security and acceptability of energy sources to the forefront of the debate.

The massive earthquake and tsunami that hit Japan in March have created an ongoing crisis – changing the lives of citizens both in the disaster areas and across the country. The events at Fukushima continue to have an impact on Japan's nuclear industry and have forced a rethink in that country and beyond of energy policy, technology options, fuel supply and demand, and capabilities for and costs of alternative energy infrastructures.

It is clear a number of the leading economies do not have 'real' energy plans for the medium to long term in place. They also have different agendas. Emerging economies are focused on reducing poverty and improving living standards, not least to maintain social and political stability. This will require economic growth and more use of energy. For their part, developed countries are looking for ways to decouple economic growth from energy consumption.

Investments depend on strong national and international frameworks that support business with the necessary incentives and stability

This situation will inevitably lead to a push for more energy efficiency. However, market forces alone are not strong enough to drive substantial transformations within a reasonable timeframe. Such transformations require supportive government regulations and incentives.

A recent report from the Intergovernmental Panel on Climate Change (IPCC) presented a scenario where 77% of global energy is produced from renewable energy sources by 2050. This outlook excludes nuclear – still an important part of many countries' planned low-carbon energy mix. Such an ambitious path isn't unattainable but would require countries to commit to significant new infrastructure investments and major policy shifts away from traditional sources of power, particularly fossil fuels. It would also mean early retirement of existing power generation capacity.

It is too early to predict the extent to which the Japanese crisis will impact upon other countries' decisions on their energy mix, but it is an important aspect for climate change negotiators heading to Durban to consider. Any rethink on the role of nuclear energy in combatting global climate change will have serious consequences for emissions goals.

Further, events in Japan have complicated a situation already mired in political complexity and pessimistic forecasts. Obviously, the challenges and dilemmas facing negotiators in Durban are numerous. But this does not mean there is not room for opportunity and optimism.

Christiana Figueres, executive secretary of the UN Framework Convention on Climate Change (UNFCCC), has called for a commitment on global emissions. This is needed, but the actions and steps that will drive a transformation in the way individual countries produce goods and services and how societies consume them will be driven by national action plans.

Investments depend on strong national and international frameworks that support business with the necessary incentives and stability. And these national actions should be driven by the recognition that being the leader in such a low-carbon transformation offers competitive advantage. There is a 'green race' on for countries – and for business.

There continues to be strong support for sustainable development, an area where the business sector has been a leader. As we look for ways to develop and increase economic growth in a carbon-constrained world, it is business that will lead the way in developing and deploying the low-carbon technologies and services that are needed, for instance, in the buildings sector. Energy use in buildings could be cut by more than 50% by 2050 through the application of more efficient products and the more efficient construction and management of buildings. It must thus be an essential element of national plans for meeting emissions targets.

Without doubt, low-carbon investment is not expanding at the necessary rate. Over the next 40 years, the global population will increase 30%, with the vast majority of the growth taking place in the cities of what is now the developing world. This will require a rapid increase in clean energy investment on a global scale.

Therefore, a key topic on the agenda for decision-makers in Durban will be the establishment of the three new institutions – the Green Climate Fund, the Technology Mechanism and the Adaptation Committee – designed to assist the move towards a low-carbon future. The Green Climate Fund could have a significant impact if it is properly designed and builds on existing climate funds. It could support the new investments needed to curb climate change and leverage public funding to attract private investment in clean energy projects that are bankable and profitable.

So, while it is important to agree on a global framework for greenhouse gas emissions – and the mechanisms around financing, technology transfer and measurable and verifiable reporting that can support this – we cannot lose focus on the value of realistic and concrete actions that can transform economies and help them grow in a more sustainable manner.

Business is a necessary part of this process, but it must be given, and must take, a more direct role in making this happen nationally, through global industry sector actions and in helping to define the international climate framework. The threat of global warming is simply too big for governments to spend more unproductive time arguing political positions and ignoring the imperative for accelerated actions. **EF**

Björn Stigson is the president of the World Business Council for Sustainable Development, based in Geneva. www.wbcsd.org

An evolving carbon market

The global carbon markets face unprecedented uncertainty – but continues to offer opportunity. Bjorn Haugland explains how a leading market participant is adapting in response

Environmental Finance: **How is DNV advising clients to deal with post-2012 uncertainties in the carbon market?**
Bjorn Haugland: Given our third-party role as a Designated Operational Entity (DOE), we do not advise clients, but we understand their need to have projects concluded/registered by the end of next year. That said, however, climate change will not disappear at the end of 2012, and we see that the world needs instruments that will help reduce greenhouse gas (GHG) emissions. The past 10 years have shown that the Clean Development Mechanism (CDM) works, despite all the negativism. We believe that the trading of verified and certified carbon emission reductions will continue after 2012, and be an important tool to help the world migrate towards a low-carbon economy.

EF: **How is DNV managing its business flow, given the post-2012 uncertainties internationally?**
BH: In the short term over the next year, we are keeping a close eye on our current project activities with the aim of using our global production capabilities effectively to meet the deadlines.

A couple of years ago, we had the highest market share of CDM validation, but we have focused more recently on verification of projects, where we have seen good growth in our market share over the past year. We will certainly look for more verification projects. Also, we see an increasing interest in projects in least-developed countries, so we are building up our resources to handle them.

EF: **Are you expecting Durban to deliver any outcomes that are material for the carbon market and your business?**
BH: We always hope for the best. Following the disappointing outcome in Copenhagen, the Cancún summit came as a pleasant surprise even though not all issues were resolved. As for Durban, we hope that some of the pledges from Cancún can be further confirmed. What is most detrimental to any business is uncertainty. If we can leave Durban next month with more knowledge about the way forward in the years to come, the better it will be for everyone trying to run a carbon market-related business. The sooner some clarity is provided, the sooner private capital can be mobilised towards climate change mitigation and adaptation. We have no time to lose in that respect.

EF: **From which sectors are you seeing particular demand for your services?**
BH: We are currently experiencing strong demand across all sectors for validation services. The start-up of new validation projects has been higher than expected in 2011, including for Programmes of Activities. Some new sectors, for example forestry, seem to be gaining momentum and we are pleased to have built capacity to meet this demand. We also see that momentum is building within new schemes/mechanisms.

EF: **What are your expansion plans?**
BH: Within our climate change services, the access to qualified staff has been the most important limitation to our business growth for several years. That said, we are very happy to have established a dedicated global climate change organisation within DNV and we will continue to expand its reach and services. Within our verification and validation services, we have already expanded our staff by 25% during the past year and our recruitment activity is still high. We are also building competence and capacity to better serve our clients within the broader monitoring, reporting and verification (MRV) picture as new schemes/mechanisms evolve.

EF: **What other markets and/or sectors are key for your business going forward?**
BH: From a DOE perspective, we are limited to third-party services, and the future of the voluntary Gold Standard and Verified Carbon Standard is important. We might see a fragmented carbon market as we go along and, to the degree local trading schemes are established, we will consider our role in all of them where there's a possibility of running an effective operation.

Bjorn K Haugland
Chief Operating Officer, DNV Sustainability and Innovation

In terms of our broader service offering, DNV is working in various renewable energy fields including wind, wave and tidal technology, photovoltaic and solar thermal energy, and other renewable resources, as well as on the integration of these sources into transmission and distribution systems.

We have also established new standards and independent accreditation for energy-efficient technologies. Energy efficiency is clearly the low-hanging fruit when it comes to green technologies. We have also launched the world's most comprehensive guidelines for the safe and sustainable geological storage of carbon dioxide, and we expect climate adaptation to be an important service field for us going forward. Our researchers are currently analysing the issue and developing methods and finding new services that DNV can offer.

We are confident that independent companies such as DNV will play an important role in the world's response to mitigate and adapt to the climate change challenge ahead of us. Together with our clients, we are committed to make an impact for a safe and sustainable future.

http://www.dnv.com/

DNV is strengthening its presence in Africa. The continued growth in business in sub-Saharan Africa has led the risk management specialist to employ Grant Little as business development director in Durban to assist in developing this exploding market. Having his expertise available close at hand will help facilitate this, according to DNV chief operating officer Bjorn K Haugland. DNV has long been associated with the CDM in Africa, having validated almost half of all registered projects in South Africa. It also has offices in Ghana, Nigeria and Angola.

A new dimension for mitigation

Quietly and almost behind the scenes, substantial progress has been made piloting 'nationally appropriate mitigation actions' – and some promise a fundamental transformation of the sectors they address. Timon Wehnert and Hanna Wang-Helmreich explain

Since the 2009 Copenhagen talks, the UN Framework Convention on Climate Change (UNFCCC) negotiations have made little progress in forging the greenhouse gas (GHG) mitigation commitments necessary to reach the target of keeping the average global temperature rise to 2°C above pre-industrial levels. Expectations that the Durban talks this year will achieve a major turnaround are low. The fate of the Kyoto Protocol is uncertain and nobody knows when, or even whether, there will be any other global agreement in its place.

However, despite this dreary picture, step by step, progress has been made in the past two years. One of the biggest successes of Copenhagen was the pledge of $100 billion/year by 2020 from developed countries to assist developing countries in mitigating and adapting to climate change. We are still far from seeing $100 billion on the table, but many industrialised countries have been increasing their shorter-term 'fast-start finance' commitments.

At Cancún last December and subsequent meetings in Bonn and Panama, progress has been made in shaping the frameworks for financial and technology support. This process brings life to the 2007 Bali Action Plan, where it was decided that developing countries would also have to embark upon GHG mitigation – by implementing 'Nationally Appropriate Mitigation Actions' (NAMAs), for which they should receive support from developed countries.

Table 1. A broader spread: countries and sectors of analysed NAMA proposals

Country	Number of proposals	Sector
Indonesia	1	Integrated multi-sectoral approach including forestry and peatland, agriculture, energy, industry, transport and waste
Laos	1	Transport
Mexico	1	Buildings
Peru	5	Transport, energy, industry, forestry, waste
Serbia	1	Integrated multi-sectoral approach including energy efficiency in residential buildings, public and commercial services, industry, transport and energy
South Africa	4	Energy (two), transport, buildings
Thailand	1	Waste
Tunisia	2	Energy, waste
Total	**16**	

But what is a NAMA? The short – and unsatisfactory – answer is, any action that reduces GHG emissions. Similarly, the financial mechanisms to support NAMAs are also not yet framed, and modalities and procedures are only slowly taking shape. However, a number of developing countries and consultants are already developing concrete policies and actions as 'pilot NAMAs' with the aim of gaining financial, technological and capacity-building support from industrialised countries.

A study by the Wuppertal Institute has analysed the status of 16 such pilot NAMAs being developed in Indonesia, Laos, Mexico, Peru, Serbia, South Africa, Thailand and Tunisia.[1] Comparing these NAMAs to the current status of the Clean Development Mechanism (CDM) shows that we are genuinely breaking new ground: pilot NAMAs are being developed in countries that account for only 2% of all certified emission reductions (CERs) issued to CDM projects so far. Indeed, some of the countries they are located in have so far been almost completely neglected by the carbon market.

Unlike the CDM, which so far has been largely confined to individual projects, most of the NAMAs analysed cover whole sectors

Furthermore, the imbalance in the CDM's sectoral distribution, whereby renewable energy and industrial gas projects account for the majority of the projects and issued CERs, respectively, is not replicated in the NAMA pipeline. Of the NAMAs analysed, three are in the transport and two in the building sector. The other NAMAs cover energy (four), the waste sector (three), industry (one) and forestry (one). The Indonesian and Serbian NAMAs include a broad range of sectors (see Table 1).

Most striking, however, is that the NAMAs really are intended to drive a fundamental transformation of the sectors or subsectors they address. Unlike the CDM, which so far has been largely confined to individual projects, most of the NAMAs analysed cover whole sectors, or involve the implementation of new technologies at the national level. This results in large-scale emission reductions. For example, the cumulative absolute emission reduction potential until 2020 of the Indonesian NAMA alone is nearly equivalent to twice the total number of CERs issued worldwide so far (see Figure 1). Also, the four South African NAMAs add up to the equivalent of the reduction of 365 million tonnes (Mt) of carbon dioxide (CO_2e) by 2020. This is half the amount of all CERs issued under the CDM and nearly 200 times the CERs issued in South Africa so far (1.9 million CERs). This means that NAMAs do indeed have the potential to address

1 Wang-Helmreich, Hanna, Wolfgang Sterk, Timon Wehnert and Christof Arens (2011), *Current Developments in Pilot Nationally Appropriate Mitigation Actions of Developing Countries (NAMAs)*. JIKO Policy Paper 01/2011. Wuppertal Institute for Climate, Environment and Energy. www.jiko-bmu.de/1044.

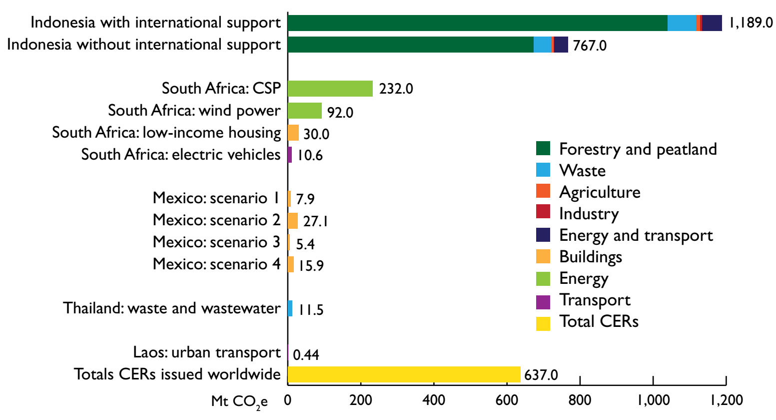
CO_2 mitigation at a scale much more adequate to the size of the climate challenge.

From the glimpses we see today, NAMAs could have enormous potential in the future – bringing with them tremendous financing needs. One option discussed is that public funding should cover the incremental costs of GHG emission reductions. But, depending on the policy scheme employed, this could trigger substantial private investment, as would be the case with feed-in tariffs for renewables.

Also discussed are truly private sector approaches for NAMA funding which could become a 'large-scale CDM', leveraging much higher sums for carbon reductions, looking at the sizes of the few NAMAs under construction today. With such 'credited NAMAs' it would be possible to generate tradeable emission credits once a developing country exceeds its set emissions reduction target.[2] However, the practicality of such an approach is not clear yet, and depends heavily on the outcome of the international deliberations, both on the future of the CDM and on other market-based mechanisms of which credited NAMAs would be part.

It is still too early to predict how exactly the new policy instrument of NAMAs will develop in the future. Most of the proposals are still at a very early stage, the level of detail of the information available varies considerably and reliable quantitative data exist only for some of them. But important donor countries such as Germany or Japan have given clear signs that they are willing to support pilot NAMAs to gain on-the-ground knowledge and develop the instrument from the bottom up.

Figure 1. Estimated cumulative emission reductions from NAMAs until 2020 and total cumulative CERs issued worldwide to June 2011



From the perspective of the UNFCCC negotiations, we are expecting some more clarity in Durban on important technical issues: on the discussed registry for NAMAs and guidelines or templates for proposals. They may be small bureaucratic steps, but, if they are taken, they will send a clear message: go for NAMAs! **EF**

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2 For further reading on new market mechanisms see: Sterk, Wolfgang (2010), *New Mechanisms for the Carbon Market? – Sectoral Crediting, Sectoral Trading, and Crediting Nationally Appropriate Mitigation Actions* (JIKO Policy Paper 4/2010). Wuppertal Institute for Climate, Environment and Energy. www.jiko-bmu.de/960.

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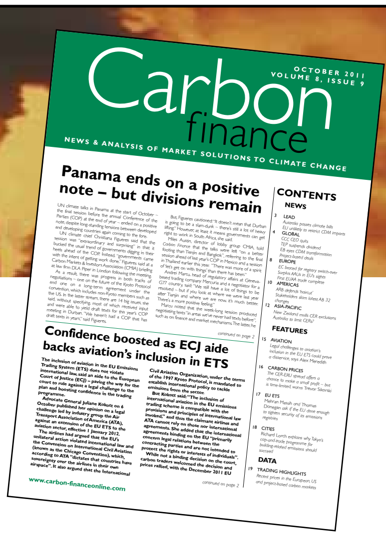
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INFORMATION SERVICE

REDD market begins to bud

Calling for progress on REDD+

After progress in Cancún, private sector funding for REDD+ is beginning to flow – but considerable uncertainties remain, say Ilona Millar and Martijn Wilder

One of the highlights of last year's climate talks in Cancún was the agreement among negotiators to establish a mechanism to reduce emissions from deforestation and degradation (REDD). The mechanism is to encourage developing countries to undertake climate change mitigation in the forest sector through activities related to reducing emissions from deforestation, reducing emissions from forest degradation, conservation of carbon stocks and the sustainable management of forests (the latter two representing the 'plus' in REDD+).

Developing countries that intend to participate in the mechanism were requested to develop national strategies, reference emission levels at the national and/or forest level, robust and transparent national forest monitoring systems and systems to provide information on safeguards to ensure REDD+ activities do not result in negative, unintended social, economic or environmental impacts.

Although the question of how REDD+ activities are to be funded, and in particular the role of private sector finance and markets, remained unresolved, a decision was taken that activities should be implemented in phases. Those phases broadly comprise the development of national strategies, the implementation of those strategies (including "results-based demonstration activities", ie activities that lead to measurable results in terms of emission reductions), which in turn evolve into results-based actions that are fully measured, reported and verified.

For the early phases, negotiators agreed that public funding is critical, with calls for a REDD+ window in the Green Climate Fund, the vehicle under development by the UN to manage the billions of dollars of climate finance that are to flow from the rich world to developing countries over the coming years.

In the 12 months since the Cancún Conference of the Parties (COP) to the UN climate convention, negotiators have engaged in a number of work streams to facilitate the implementation of the REDD+ mechanism. Discussions within the Subsidiary Body for Scientific and Technological Activities (SBSTA) have focused on identifying methodological issues to estimate emissions and removals of greenhouse gases from the atmosphere related to land use, land use change and forestry (LULUCF), and assessing their potential contribution to climate change mitigation. They have also considered how to develop modalities and guidance for the development of forest reference levels, monitoring systems and the collation of information about safeguards.

During the SBSTA meeting in Bonn in June, progress was made on identifying principles for the system of safeguards, including transparency, accuracy, adaptability to national circumstances, predictability, consistency and comparability.

However, regarding emissions reference levels, there remain a number of areas that require further clarification, in particular with respect to definitional matters and managing consistency between approaches taken at the national and sub-national level. Parties were requested to submit views on methodological guidance for activities relating to REDD+ by October 2011. These submissions will inform the consideration of these matters at the climate talks in Durban. Workshops are also being held to discuss safeguards and reference levels and the reports of these workshops will also feed in to negotiations.

A number of developing countries continue to stress the need for finance to come from public sources, rather than the private sector

Meanwhile, the Ad-hoc Working Group on Long-term Cooperative Action (AWG-LCA), which is managing a parallel track of negotiations alongside the Kyoto Protocol talks, has also continued its work on REDD+ at the working group sessions in Bonn and in Panama in October. The focus of the AWG-LCA discussions has been on identifying financing options, in particular for the full implementation of the third phase of REDD+ development (ie, where REDD+ activities are able to demonstrate verified emission reductions).

The question of finance remains controversial. A number of developing countries continue to stress the need for finance to come from public sources, rather than the private sector. While there is some consensus on the role of public finance during the readiness phases, parties remain at odds over the range of alternative financing options for the results-based phase. A number of options for alternative sources of finance were canvassed at the Bonn meetings, including a possible REDD+ mechanism in the Green Climate Fund, market mechanisms and levies on international aviation and marine transportation. These were again discussed in Panama.

Although some developing countries, notably Bolivia,

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remain stridently opposed to markets, other countries that have traditionally been cautious about their role, such as Brazil, appear to be reviewing their positions. In Panama, both Brazil and the Philippines acknowledged that a wide variety of sources of funding should be available, but the bulk of that funding should be derived from public coffers. There is strong support for private sector investment and a market-based REDD+ mechanism from the Coalition of Rainforest Nations, which brings together some 44 forested tropical countries, and among developed countries. In part this is being addressed through the broader AWG-LCA agenda item on new market mechanisms, which was also extensively considered during the Panama discussions and which could apply to the LULUCF sector.

REDD+ remains one of the COP agenda items that has significant political will behind its progress and success. The discussions related to methodological issues are progressing well, with parties approaching the negotiations in a cooperative manner, which may lead to a decision on safeguards being taken in Durban. However, talks on reference levels continue to be linked to broader political objectives of parties, which may prevent progress, at least during the early stages of the Durban meeting.

The outcome from the Panama session of the AWG-LCA was a clear commitment to have a decision on REDD+ financing adopted in Durban. The draft negotiating text includes a wide variety of financing sources, including a placeholder for markets, and also provides greater clarity on a potential connection between "results-based actions" which are capable of being fully measured, reported and verified, and market-based and market-linked financing. While the negotiations over the role of markets in REDD+ are expected to remain tense, many are hopeful that there will be a clear recognition of the need for private investment to underwrite a REDD+ mechanism.

Despite the depressed global financial market during 2011, there has still been a steady level of public finance for and private sector investment in REDD+.

For example, Norway's $1 billion commitment to REDD+ in Indonesia will see a moratorium placed on all new concessions for conversion of peat and natural forest in the country.

The REDD+ Partnership – which brings together more than 50 governments that have pledged funds of approximately $4 billion to scale up REDD actions and finance – has been working steadily on its programme to address 'REDD+ readiness'. This programme includes creating a database of REDD+ financing, actions, and results; analysis of financing gaps and overlaps; considering institutional arrangements required for REDD+; discussing the effectiveness of multilateral REDD+ initiatives; and sharing best practices. Most recently, the partnership has undertaken important work on assessing the environmental, social and economic factors that contribute to deforestation.

The World Bank's Forest Carbon Partnership Facility (FCPF) is assisting 37 developing countries prepare 'Readiness Mechanism Readiness Preparation Proposals' (R-PPs) through its Readiness Fund. These proposals provide a framework for a country to set a clear roadmap, budget, and schedule to achieve REDD readiness, including assessments of land use, forest policy and governance, proposals to establish reference levels, strategies to reduce emissions in the land use and forest sectors, and the development of monitoring approaches. Twenty-six countries have already prepared their R-PPs, of which 19 are undergoing formal assessment, and three have received grants to implement these proposals.

Meanwhile, the FCPF Carbon Fund has also been operationalised, and currently has $210 million committed or pledged by 10 public and private contributors. Country participants that meet the FCPF's criteria will qualify for access to the carbon fund, which will provide incentives to countries to adopt the necessary policies and systems and undertake the investments required via the purchase of voluntary emission reductions from REDD+ projects.

In addition, a small number of investment banks and private equity funds have been involved in capital raisings for REDD+ or LULUCF funds during the year (see box). There have also been some notable investments in REDD+ projects in the voluntary market, most of which are investments in projects or project developers in return for carbon credits, as opposed to the direct purchase of credits *per se*. These include insurance giant Allianz acquiring a 10% equity share in Wildlife Works Carbon (WWC), a developer of REDD projects in a number of developing countries, including a flagship project in Kenya's Kasigau corridor. BNP Paribas has also invested in this project, entering into an agreement with WWC to buy up to 1.25 million voluntary carbon credits from the project.

However, substantive private sector investment in REDD+ is unlikely in the absence of any compliance market demand for REDD+ credits[1]. In addition, prior to mainstream investment coming into the market, there are also a range of fundamental issues that have to be resolved in forest host countries around indigenous rights, benefits sharing and land tenure.

Substantial amounts of capacity building and aid funds have been poured into improving monitoring, verification and reporting, but areas such as rights to land and carbon have largely been overlooked. The requirement for legal robustness and certainty around REDD+ and REDD+ credits is one of the most critical, and to date largely untouched, aspects of enabling REDD+ activities. This is surprising, and regrettable, given that legal governance and the domestic legal frameworks implementing REDD+ will be fundamental to ensuring the successful implementation of REDD+ on the ground. These include establishing clear and transparent procedures for ascertaining land and carbon tenure (and creating a specific REDD+ carbon right), in addition to the broader policies and governance frameworks through which this occurs. **EF**

Tapping the private sector – recent REDD investments

● **Gazprom investment in the Rimba Raya REDD project** – Gazprom funding in 2010 allowed the project to be validated against the first ever REDD methodology under the Verified Carbon Standard – although that project has been thrown into doubt after the Indonesian government awarded half the protected area to a palm oil company.

● **Wildlife Works** – Nedbank, Allianz and BNP Paribas have been involved in deals with Wildlife Works which will facilitate development of its flagship project in Kenya's Kasigau corridor.

● **Macquarie BioCarbon Fund** – $25 million has been raised from investors, including the International Finance Corporation, the private sector arm of the World Bank, to invest in REDD projects in a number of developing countries.

● **OPIC investment in Terra Bella Fund** – US development finance institution the Overseas Private Investment Corporation has invested $40 million in this private equity fund, which will invest in projects that generate voluntary, pre-compliance and ultimately compliance carbon credits through the protection and enhancement of forests while simultaneously generating valuable social and environment co-benefits.

● **EIB investment in Althelia Climate Fund** – The European Investment Bank is considering a cornerstone investment of €20 million in this fund, with the objective of acquiring, through forward purchases, forest carbon assets generated from REDD and land-use projects, mainly located in Africa and Latin America.

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1 California's carbon market established under AB 32 is likely to accept REDD+ carbon credits, but the modalities are yet to be worked out, and the volumes are likely to be relatively small

How not to waste the post-Kyoto transition

The model of international discourse that gave birth to the Kyoto Protocol is broken, argues Marc Stuart – meaning that the UNFCCC has to reorient its mission

Anybody who believes the world is on a path – let alone close – to implementing a successor treaty framed like the Kyoto Protocol is divorced from reality. While this statement will certainly bring out declamations from scientific, environmental, diplomatic and even industry participants in the Durban climate talks, the failure at Copenhagen in 2009 has undoubtedly closed the possibility of future agreements based on Kyoto-style mechanisms. But Kyoto's multilateral entanglements point out a new direction for climate change mitigation; this way forward will not rely on super-sovereign agreements, north-south wealth transfers and European rolling market experimentations, but rather on a stark admission that climate change mitigation is already working around us, hidden in plain sight.

As they say in poker, you play the cards you're dealt. In this second decade of the 21st century, the cards on the table are rising emerging market giants, deepening US, EU and Japanese challenges, ongoing trade, currency, commodity and finance instability and a continued association of fossil fuel combustion with aggressive early-stage economic advancement. Overlaying today's overall geopolitical-economic transition, the emissions trajectories of past, present and future are too profoundly diverse to expect any major subset of nations to collectively agree on one another's "emissions number" going forward. Simply put, those cards don't match a super-sovereign approach to managing the climate.

The Kyoto national cap approach relied principally on a punitive framework. Countries that benefited historically from developing and using fossil fuels were 'guilty'. The 'penalty' was to lead and subsidise the first stage in the transition to the clean-energy economy. This approach was descended from a strand of 1970s political-economy thinking, revolving loosely around colonial reparation payments, southern commodity cartels (modelled on OPEC) and designated official development aid (ODA) targets. Few – if any – of these ideologically-driven distribution solutions succeeded.

Kyoto therefore remains an anomaly in codifying a global economic levelling mandate, low-key as it may have been. Kyoto certainly did not ratify direct 'atmospheric overuse' compensation payments from North to South, a notable demand of today's left-wing Bolivarian coalition. However, the notion that industrial nations would voluntarily embed higher costs in their production base was clearly deemed a positive from the perspective of developing country competitiveness. The results are striking, though attributing those results purely to Kyoto would be an overstatement. While industrial country emissions since 1997 have largely stabilised, emissions from the large emerging economies have skyrocketed, as they develop new global middle classes by leveraging cost-of-production advantages.

The Kyoto approach created demand for emission performance, by allocating slices of atmospheric CO_2 absorption to the 'Annex B' industrialised-world countries. By forcing these economies to refit themselves into ever diminishing emission slices, the theory was it would spur innovation and drive the conversion to low-carbon technology. At the time, however, this selected subset of 'driver' countries was already deeply in the midst of relative economic diminishment.

The mandate of the UNFCCC should be to find low-carbon market segments that are working, and help them grow, replicate and adapt into as many markets as possible

Even beyond the decline of the industrial nations, several major loopholes further diminished the effectiveness of the Kyoto treaty. Additional emission rights – in excess to emission levels at the time of the protocol's signing – were allocated to a handful of 'declined' emitter countries of the former Soviet bloc. The treaty negotiations did not tackle two of the largest emission challenges – tropical deforestation and high-carbon industrialisation in population-dense developing countries. And the Clean Development Mechanism included industrial gases, which allowed huge amounts of emission reductions to be extracted from a very small pool of assets, with substantial economic rents accruing to the participants. Those payments diverted billions of dollars of early-stage transfer payments from clean energy[1] sectors and slowed the growth of low-carbon businesses needed for the long term.

While overall carbon emissions, per capita and per unit of GDP, remain the advantage of the emerging markets, climate science has shown that the atmosphere cannot absorb emissions from China or India at current US, Australian or Qatari per-capita levels. Any policy must lower the projected peak carbon emissions for both key emerging markets and the industrialised world.

A coherent global 'demand-side' solution for emissions performance is unattainable, at least for the immediate future. Countries have comparatively scarce diplomatic resources available to address climate challenge – so focusing on tasks that cannot be achieved (such as Kyoto II) is simply a fool's errand. It is time to recognise that arguing minutiae around the punitive approach is both a policy dead end and a waste of scarce commodities – time and people.

Therefore, we need to refocus our policy approaches on enhancing the supply-side of emission performance – supplying the goods and services of the global economy, but with significantly lower GHG emissions attached. The good news is that we haven't been sitting around wasting our time while the climate 'crab pot' comes to the boil. We have made technological progress, increased execution capability and developed financial tools that are helping us move towards a lower carbon future. Today, we already have a number of successes with serious compound growth rates that collectively aggregate into a substantial industry segment. For example:

- Global wind power generation is up 3,000% since Kyoto. Wind production has doubled in the past three years.
- Spain uses renewable energy to supply more than half of its grid power, even if it is only for short periods of time.
- Solar power is declining in price and increasing in scale. With annual photovoltaic installations surpassing 10,000MW, double-digit MW installations are now common, and pro-

1 China taxed HFC transactions significantly with the proceeds designated to support clean energy development. There are few accounts detailing how these funds were actually utilised, however.

jects in the hundreds of MW are now under construction.

■ With advancing technology and innovative business and financing models, high-efficiency cookstoves will be commonplace in traditional low-income households over the next decade.

■ LED lighting will reduce in cost by 90% by 2015 with substantial increases in the scale of production.

■ With new natural gas supplies and an emergent global gas supply network, a low-carbon bridge fuel option is available.

Many other industry segments, such as the imminent electrification of transport, modified biocrops for energy use, urban efficiency planning, fertiliser alternatives and building energy efficiency, have further significant success stories that can be built upon. These low-carbon, dynamic growth industries are competing aggressively with one another for technology innovation and market share. These businesses – and many more like them – will be substantial net job creators and profitable investment areas to develop the low-carbon global economy.

Is time running out for the UNFCCC process?

The importance of fostering the low-carbon clean economy has taken hold in substantial segments of Europe, China, Japan, California and India, among other places. Their commitment is driven as much by ensuring energy security and pursuing technology export opportunities as environmental protection. The price volatility and physical risk profile of global energy supply chains show that overreliance on imports puts almost any economy at risk. Just as our current energy supply chains have created enormous business support ecosystems, the clean economy will as well. And, since most clean energy businesses have stronger connections to the local economy, those emerging business ecosystems will be embedded locally (rather than in the Arctic, deep Atlantic, Middle East and other far-off places where our endless fossil supply chains lead us). Most governments should consider this not just a positive externality, but a key rationale and driver.

So, how do we maintain, expand and accelerate current clean economy growth without a global carbon price? Recognising the diversity of interests – even within the clean economy energy security context – is a good first step. As energy supply, demand, policy, subsidy patterns and other business ecosystem dynamics remain firmly local, low-carbon drivers and policy tools must be configured in highly varied ways. Conditions needed to advance efficiency, next-generation biofuels, sustainable agriculture, and existing and new forms of renewable energy will vary widely across different jurisdictions. Countries will pursue different aspects of low-carbon development because of concerns over local air quality, job creation, energy security, technology mastery or export opportunities. Those differences are OK, and indeed should be celebrated. The phrase "think global but act local" again has particular resonance.

Climate advocates and institutions need to consolidate their advances on the ground and set up conditions to expand and replicate those successes. We must redouble our efforts to understand what types of incentive structures have succeeded – and failed – to ensure sustainable low-carbon business growth. Feed-in tariffs, best available technology requirements, sustainable building codes, renewable portfolio standards, energy efficiency certificates, trade support and supply chain auditing can all be effective in some cases – and useless in others. The key outcome to measure is how well the policies foster high growth in low-carbon business segments – whether they are local or global. While Kyoto measures success and shortcomings in tonnes of carbon dioxide equivalent abated and emitted, a better way to look at things is to track the market share that low-carbon alternatives can capture in various economic subsegments.

The juxtaposition of excessive emissions vs human development will ultimately end with the arrival of radically cheap, voluminous and consistent clean energy sources – or the collapse of the stable climatic system that has enabled civilisation to occur. The underlying tools for radical technology change certainly must be invested in aggressively. But since we do not know how many years or decades it will take to find low-carbon solutions, we need to wring as much mitigation as possible from current and emerging technologies that can be successfully paired with a global economic system whose fundamental precept is continual growth.

The UNFCCC should therefore immediately reorient away from Kyoto's punitive path and integrate its mission far more closely with other key parts of the climate ecosystem – ClimateWorks, the C40, IRENA, the Clinton Global Initiative, the World Economic Forum, the World, the World Business Council for Sustainable Development and countless others. The UNFCCC should become the leading global evangelist for a low-carbon future. Its mandate should be simple – find low-carbon market segments that are working and develop the tool chest to assess them, help them grow, replicate and adapt into as many markets as possible. Analysis and promotion about climate success – and failure – needs to move at social media speeds, something the UNFCCC has rarely been accused of.

Cross-pollinating the genetic codes of successful low-carbon businesses segments and policy frameworks could theoretically catalyse a decentralised mitigation trajectory far superior to the Kyoto model that has seen global emissions grow nearly 30% on its watch. In the future, global diplomats will again need to discuss global emission caps in a positive and realistic manner. Those negotiations will be far more fruitful when a sufficient number of countries have robust and diverse clean economy segments so that they can horse-trade their relative capabilities.

Today, we invest in policy development and we hope that this investment will be repaid many times over by low-carbon business investment that fulfil the needs – and extract the opportunities – from these policies. The bottom line is that policy changes will not result in serious carbon abatement without profitable business opportunities resulting from them. Whether it is clean megawatts, 'negawatts', sustainable fertiliser, transport rationalisation, intelligent city design or any other myriad individual reorientations of the global economy to its sustainable successor, all of these segments need policies to help reduce the investment risk (perceived and real) and businesses willing to aggressively exploit the resulting risk arbitrage. If we re-orient our policy institutions to promote this outcome – starting with the UNFCCC – we will be on the path towards a truly sustainable climate policy outcome. **EF**

Marc Stuart is one of the founders of Allotrope Partners, which focuses on early-stage investment in low-carbon execution platforms and technologies. He was a co-founder of EcoSecurities, one of the largest developers of CDM projects, and is a 19-year veteran of the carbon markets. E-mail: mds@allotropevc.com

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