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How Can Copenhagen Support Nationally Appropriate Mitigation Actions in Pioneering Developing Countries?

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How Can Copenhagen Support Nationally Appropriate Mitigation Actions in Pioneering Developing Countries?

E3G Brief, October 2009¹

Executive Summary

If global average temperature rise is to be limited to below 2 degrees Celsius, global emissions must peak within the next 5-10 years. Since most future emissions will come from developing countries, a critical question for Copenhagen will be the type of international framework and financial support that will catalyze additional mitigation actions by these countries.

The analysis in this paper suggests that discussions about the financial architecture at Copenhagen should not be overly focused on how to achieve “one-off” emissions reductions from a handful of larger developing countries. The framework should focus instead on the broader, but more fundamental, lessons that can be learnt by countries that are committed to shifting their economic pathways in ways that combine climate change and developmental goals.

The paper shows that much can be learnt from the mitigation efforts undertaken by a growing number of pioneering developing countries to become carbon neutral or low carbon economies. The efforts of these countries to shift to a climate compatible development pathway can inspire others to follow suit, as well as shorten the international learning curve about the types of financial, technological and institutional frameworks best suited to support developing country mitigation actions.

At the Copenhagen Climate Conference this December, governments must agree on a framework that encourages developing countries to carry out Nationally Appropriate Mitigation Actions (NAMAs) “in the context of sustainable development, supported and enabled by technology, financing and capacity-

¹ The authors would like to thank Farhana Yamin for her useful feedback.

building, in a measurable, reportable and verifiable manner”.² Key considerations for Copenhagen that flow from the analysis include:

- > *The selection criteria used to disburse funds for NAMAs will play a critical role in defining climate finance distribution patterns. It is essential to incentivise NAMAs that have high transformative potential to decarbonise a nation’s development pathway.*
- > *The governance model underpinning the NAMAs regime should be guided by multilaterally-agreed principles and mechanisms, but should also allow a high degree of decentralisation to respond adequately to region-specific needs and challenges.*
- > *An agreement should be made by governments on specific, “fast-start” mechanisms at Copenhagen in December 2009 to ensure financial, technological and capacity building support for NAMAs is provided for the pre-2012 period.*
- > *Pioneering developing nations could build a coalition in order to increase global awareness of their decarbonisation efforts and the importance of agreeing on an adequate climate finance package at Copenhagen.*

² UNFCCC (2007) Bali Action Plan. Decision 1/CP.13.

Introduction

In December 2009 governments will convene in Copenhagen to reach agreement on a comprehensive post-2012 climate deal, building on the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol. One of the key issues under negotiation is the design of a framework to help developing countries carry out Nationally Appropriate Mitigation Actions (**NAMAs**) “in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner”.³ A global climate deal will need to establish workable financial and governance mechanisms to support NAMAs.

Although agreement has yet to be reached on the scope and nature of NAMAs and the supporting institutional architecture, many developing countries are already coming forward with innovative proposals. Examples include South Africa’s Long Term Mitigation Scenario, Mexico’s Climate Change Action Plan to voluntarily reduce emissions by 50% by 2050, and South Korea’s long-term Green Growth Strategy. In addition, a number of smaller, pioneering developing countries are also reframing mitigation activities as a strategic priority, both domestically and internationally. Recent examples include plans by Costa Rica, The Maldives and Tuvalu to become carbon neutral within the next decade.

This paper describes the efforts of these pioneering developing countries to implement NAMAs and offers strategic considerations for Copenhagen. Despite the relatively small size of their emission reductions, NAMAs from these countries can play a **transformative role** in transitioning their economies towards low-carbon growth.

Moreover, if well implemented, NAMAs could help these nations to decarbonise their future and increase their authority to call for a highly ambitious international climate regime. But decarbonisation efforts by developing nations, particularly in smaller countries, remain relatively unknown to political leaders and public opinion formers in the developed world. It is essential to raise awareness of existing activities in these pioneering countries and to encourage further progress through a strong framework of international support.

³ UNFCCC (2007) Bali Action Plan. Decision 1/CP.13.

This paper begins by outlining the emerging vision for NAMAs by a group of pioneering developing countries. It then goes on to suggest potential measures of support for the implementation of NAMAs and concludes by offering some key considerations for Copenhagen. The annexes provide further information on country and regional efforts to reduce emissions.

1. The Emerging Vision in Pioneering Countries

1.1 What are Nationally Appropriate Mitigation Actions?

NAMAs may exist in the form of regulations, policy frameworks, emissions trading schemes, carbon taxes, and sector specific measures in areas such as energy, forestry or agriculture. There is no official definition of NAMAs nor any agreed framework for channelling international support – these issues are under discussion in the negotiations leading up to Copenhagen.

Informally the following NAMAs categories have been used:⁴

1. Lower-cost, **non-credit generating NAMAs** that allow countries to capture cost-effective mitigation opportunities. Two sub-types are distinguished: unilateral actions that do not require external support and conditional actions that require international financial support.
2. Higher-cost reduction options, **credit generating NAMAs** that lead to cost reduction projects to be sold as offsets in the carbon market. This second type is more likely to leverage private sector capital.

1.2 Examples by pioneering developing countries

Developing countries are already adopting mitigation reduction strategies on a voluntary basis. The list of examples discussed here is not exhaustive. Instead the goal is to outline the elements of an emerging vision where NAMAs are part of a broader effort to decarbonise the economic pathway over time.

- > **Guyana** has become a strong advocate of the benefits of designing a national low-carbon development strategy. They have defined this framework as part of a cooperation model developed with the Norwegian government (see Box

⁴ Initially proposed by South Korea at the June 2009 Bonn UNFCCC meeting; see Republic of Korea (2009).

- 1). Unprecedented in Latin America and the Caribbean, this effort could catalyse change in neighbouring countries. The leaders of the Caribbean Community (CARICOM), for instance, have already endorsed Guyana's model publicly and seek to build upon their example in the context of their newly created Task Force for Climate Change and Development.⁵
- > **Costa Rica** has pledged to become a carbon neutral nation by 2021. For the first time, climate change has become a pillar of national development and competitiveness strategies.⁶ Mitigation objectives have been set for all major sectors. The strategy includes a focus on developing metrics, encouraging capacity building and technology transfer, seeking financing, and activities to promote education, culture and public awareness.
 - > **The Maldives**⁷ and **Tuvalu** have also pledged to become carbon neutral in the next 10 years (see Box 2).
 - > **South Africa** has pioneered a plan defining mitigation priorities based on broadly supported, long-term oriented mitigation scenarios. These scenarios lay the basis for defining internal mitigation policy as well as the external negotiating positions in the climate talks. Informed by the conclusions reached by a team of key decision-makers and experts, the South African government agreed to act on a trajectory that will allow emissions in South Africa to peak by 2020-25 at the latest, then plateau for about 10 years, and decline afterwards.⁸
 - > In 2008, **Mexico** adopted a voluntary target seeking to reduce its emissions by 50% by 2050 in three stages. In 2009, the government set an action plan for 2009-2012 including 40 mitigation objectives and 95 targets with quantitative and qualitative metrics. The significance of this action plan lies in the comprehensiveness, the involvement of the President himself in pushing

⁵ The statement also supports "the approach to harmonizing climate change mitigation and economic development as proposed by Guyana in its Low Carbon Development Strategy." CARICOM (2009) The Liliendaal Declaration On Climate Change and Development of July 2009

⁶ For a summary, see Government of Costa Rica (2009) Climate Change Strategy and the Carbon Neutrality Challenge.

⁷ The Maldives has also announced plans to put in place an environmental levy of around \$3 per day for each tourist that visits the country. Donoghue (2009) Climate change threatened Maldives proposing green tourist tax

⁸ Winkler (2008) Long-Term Mitigation Scenarios Project Report.

the climate strategy forward, as well as the recognition of decarbonisation as a major economic opportunity for Mexico.⁹

Box 1. Toward Low Carbon Development: The Guyana model

Guyana has paved the way for defining a low-carbon strategy in a small developing economy. A *Low Carbon Development Strategy* bill has been sent to the Senate early this year and a steering committee is hosting consultations to garner full support of various stakeholders, for the national strategy to be implemented ahead of the Copenhagen meeting. The strategy defines Guyana's pristine rainforests of about 15 million hectares to be a "first class asset". In February 2009, Guyana and Norway signed a *Memorandum of Understanding (MoU)* that encourages a broad, transparent, inclusive, multi-stakeholder national strategy developed in Guyana.

Core objectives of such frameworks include: efforts to avoid deforestation and forest degradation as well as the creation of low-carbon employment and investment opportunities in Guyana. The bilateral framework also includes institutional aspects such as the strengthening of open, transparent forest governance, and the establishment of an international monitoring, reporting, and verification (MRV) system for Guyana's forests. The MoU plans to create a mechanism run by a reputable international organisation through which "performance-based compensation" can be channelled to implement Guyana's low-carbon development strategy. Norway has also funded a study to assess the state of forest law enforcement and governance in Guyana to be ready by September 2009.

On the international stage, Guyana has begun to play a pioneering role calling for a "serious lobbying effort" to:

- > ensure that deforestation is included in the Copenhagen agreement;
- > press for emissions cuts on the part of the developed world; and
- > obtain sufficient funds to address deforestation, including adaptation, mitigation and technology transfer.

Guyana has reiterated its intention to receive payments, and not "compensation", for protecting ecosystem services. They have also advocated a greater partnership with the private sector in the developed world to tap into the potential of avoided deforestation

⁹ Government of Mexico (2009) Programa Especial de Cambio Climático 2008-2012.

projects to reduce emissions. An Indigenous Development Fund is planned with some payments for forest lands to flow directly to communities. While ensuring that mining and forestry will continue to operate in Guyana, the government will ask these sectors to comply with low carbon development practices.

Sources: Government of Guyana (2009a); (2009b); (2009c)

Box 2. Toward Carbon Neutrality: The Maldives and Tuvalu

Recognizing that the archipelago is one of the most vulnerable countries to climate change, President Mohamed Nasheed – the country's first democratically elected president – envisions The Maldives taking a leading role in tackling the problem. In March 2009, he pledged to move The Maldives toward *carbon neutrality within a decade* and called upon others to follow on The Maldives plea. British climate change experts worked with The Maldives government to define a package of measures that seeks to eliminate domestic fossil fuel use over the next decade, including:

- > Renewable electricity generation (for homes, business, and vehicles) and transmission infrastructure consisting of 155 large wind turbines, half a square kilometre of photovoltaic solar panels, and one biomass plant to burn coconut husks;
- > Battery banks would provide back-up storage for when neither wind nor solar energy is available; and
- > Electric cars and boats will replace current versions that use petrol and diesel engines.

The measures would cost \$110 million a year for 10 years and would pay for themselves as savings from reduced oil imports for electricity generation, transport and other uses (i.e. the payback period would be 11 years at a price of \$100 per barrel). This plan is ambitious mainly because it seeks to decarbonise the entire economy within its 10-year timeframe. The plan is not without risks - energy supply shortages might occur - but if designed properly, The Maldives plan aims to show other countries, especially those slower to act on climate change, that decarbonisation is possible and can be done at a reasonable cost.

Sources: SREP (2009a); The Independent (2009); UNEP (2009b); The Guardian (2009a); The Guardian (2009b)

- > In 2008, **South Korea** launched a green recovery stimulus package that allocates nearly 80% of the budget to low-carbon measures — the highest low-carbon percentage of any recovery package in the world.¹⁰ The Korean green recovery package is embedded in a longer-term “Green Growth Strategy” to be carried out over 10 years. A large part of the NAMAs focus on transportation, including the increasing of a fuel efficient car fleet, improvements in mass transit, and clean fuels.¹¹
- > **Indonesia** has recently pledged to reduce emissions by up to 60% (representing nearly 2.3 Gt CO₂e) by 2030 through domestic policy and international support. It has identified 150 emission reduction measures across the major emitting sectors, 80% of them in forestry, peat land and agriculture. The Government put in place the Indonesian Council for Climate Change to manage this process. It is estimated that the mitigation efforts will cost up to €23 billion. The mitigation actions seek not only to reduce emissions but also to secure a sustainable economy guided by the fairness principle embedded in the UNFCCC.¹²
- > African leaders have also made commitments to carry out mitigation efforts under a voluntary model that will require support from the international community. **Ethiopia** is among the proactive African countries seeking to increase the supply of renewable energy (see Box 3).

¹⁰ South Korea’s total stimulus package was worth \$76.1 billion. Bernard et al. (2009) The Greenest Bail Out?

¹¹ UNEP (2008) A Global Green Deal

¹² Chinaview (2009) Indonesia able to reduce carbon emission by 60% until 2030: official 27.

¹² World Bank (2009a) Consulting on Climate Change in South Asia: sectoral context and strategies. In natural disasters female mortality vastly outnumbers that of males. Indigenous people, with their dependence on forests and natural resources are also sensitive to climate variations, while the rural poor whose livelihoods are based on agriculture are another group that will be directly impacted by climate change.

Box 3. African climate strategies: Ethiopia

Despite its low carbon emissions, Ethiopia has pledged to achieve carbon neutrality in the coming years (the period has not yet been specified). Their mitigation actions include investments in renewable energy and energy efficiency projects.

The Ethiopian Electric Power Corporation, for example, is distributing 5.4 million compact fluorescent lamps country-wide to help electricity consumers to save money on their electricity bills and cut carbon emissions. Vergnet signed a €210 million supply contract in October 2008 with the Ethiopian Electric Power Corporation for the supply and installation of 120 1MW wind turbines. Although Hydropower has vast potential in Ethiopia (estimated at 30,000 MW) so far only 3% of this potential capacity has been implemented.

The government has also set up a number of renewable energy projects including the Ashegoda wind power project—the country's first wind farm with an installed capacity of 120 MW. With support from Germany's Solar Energy Foundation, 2,000 solar systems have been installed in the rural villages, making it the biggest solar power project in East Africa bringing power to 5,500 residents where only 1% of the rural population have access to electricity.

The country has also planted around 1.4 billion trees as part of the UNEP Billion Tree Campaign - more than any other participating nation – which aims to have planted 7 billion trees internationally by the end of this year.

Sources: UNEP (2009a); UNEP (2009c); Jimma Times (2009)

- > **Some infrastructure projects, such as rural electrification, have a high potential to integrate climate and development objectives into a coherent framework; empowering poor communities through access to clean energy but also preventing the locking-in of high-carbon electrification infrastructure. **Bhutan** for example has developed a creative financing approach to increase access to (clean) energy relying on micro-credit (seeBox 4).**

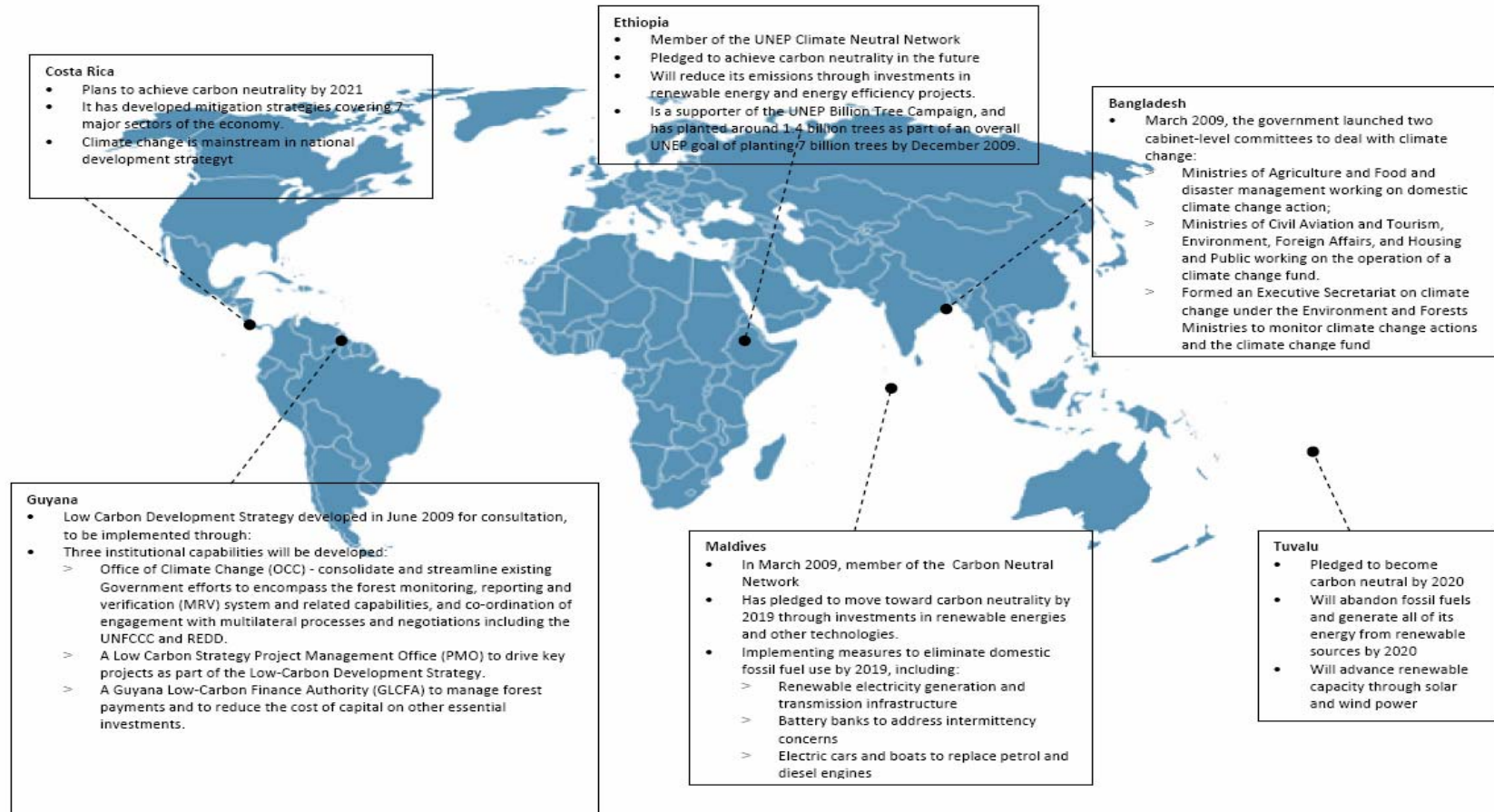
Box 4. Bhutan: Innovative-community based strategies

Bhutan has pioneered an approach combining international financial support, micro-credit and local funding mechanisms in community based-projects. Women living in remote villages are trained to install and maintain solar photovoltaic panels in their villages allowing solar energy to replace kerosene and wood resin. The Asian Development Bank (ADB) provided the initial capital outlay: a \$1 million grant for a 3-month long Rural Electricians Training Program carried out by India's Barefoot College (an NGO); and for the technology – the solar systems – to help launch the project. Once initiated, the communities managed and kept the projects through a system of repayments in affordable instalments in which they contribute to a fund (\$1-2 monthly per person) for the spare parts and to pay for repairs by local engineers. The women engineers installed 500 households in 46 communities and with modifications model, to ensure it is financially sustainable, and could be replicated to include more than 4,000 households that are off-grid.

Source: Asian Development Bank (2009) Powering the Poor Projects to increase access to clean energy for all.

Figure 1 below offers a summary of some of these pioneering mitigation efforts in the developing world. There are, of course, many other examples that could be included.

Figure 1: A new geography of mitigation activity by the developing world



2. Design imperatives of the international NAMAs regime

In the coming months, negotiators will need to agree on the principles and mechanisms that will support NAMAs undertaken by developing countries. Key decision points in the negotiations will include:

- > Agreement on the scope and the nature of actions that the NAMAs regime will encompass as well as criteria for prioritising NAMAs;
- > Design of a climate finance package that provides a workable structure to fund NAMAs — and the specific amount and funding sources underlying the package;
- > Decision on interim measures to support proactive nations between 2010 and 2012;
- > Establishment of the specific mechanisms guiding the measurement, reporting & verification (MRV) system that governments have already agreed to put in place to track progress;¹³ and
- > Definition of a NAMAs governance structure.

A critical question for Copenhagen is what kind of financial architecture and supporting mechanisms will catalyze decarbonisation in the developing world? Among key design imperatives of the NAMAs regime are: (1) wider deployment of climate finance; (2) securing support for transformative NAMAs; (3) predictable and stable financial flows; (4) multilaterally-driven, decentralised governance; (5) ensuring support for early preparation; and (6) new mechanisms to build trust.

2.1 Wider deployment of climate finance

An effective NAMAs regime should ensure that climate finance reaches a wider range of countries than the carbon market covers. Today, over 93% of global certified emission reductions (CERs) occurring under the Clean Development

¹³ For a detailed discussion see Fransen (2009) Enhancing Today's MRV Framework to Meet Tomorrow's Needs: The Role of National Communications and Inventories.

Mechanism (CDM) happen in only five countries – China, India, Brazil, South Korea, and Mexico – with a high concentration taking place in China and India (45% and 22% respectively).¹⁴ As a result, most countries receive little or no climate financing.

Negotiators have acknowledged this problem and several proposals have been tabled suggesting specific reforms of the CDM model and carbon markets. Governments should incorporate lessons from the CDM model into the construction of a NAMAs finance package to avoid further concentration of climate finance in a reduced number of large emitters in the developing world.

If the size of the abatement opportunity is to become the main criteria for allocation of NAMAs support then Brazil, China, India, Mexico, South Africa, and South Korea will remain the chief recipients – due to their fast growing economies. Under a business-as-usual scenario these six countries are expected to generate 40% of global energy-related GHG emissions by 2030 which means a similar share of the global mitigation potential.¹⁵ As Figure 2 shows, using “scale of abatement potential” as criteria for selecting fundable NAMAs will only reinforce the current pattern of climate finance observed in the CDM market – with a focus on China and most likely India.

2.2 Enabling economy-wide transformations

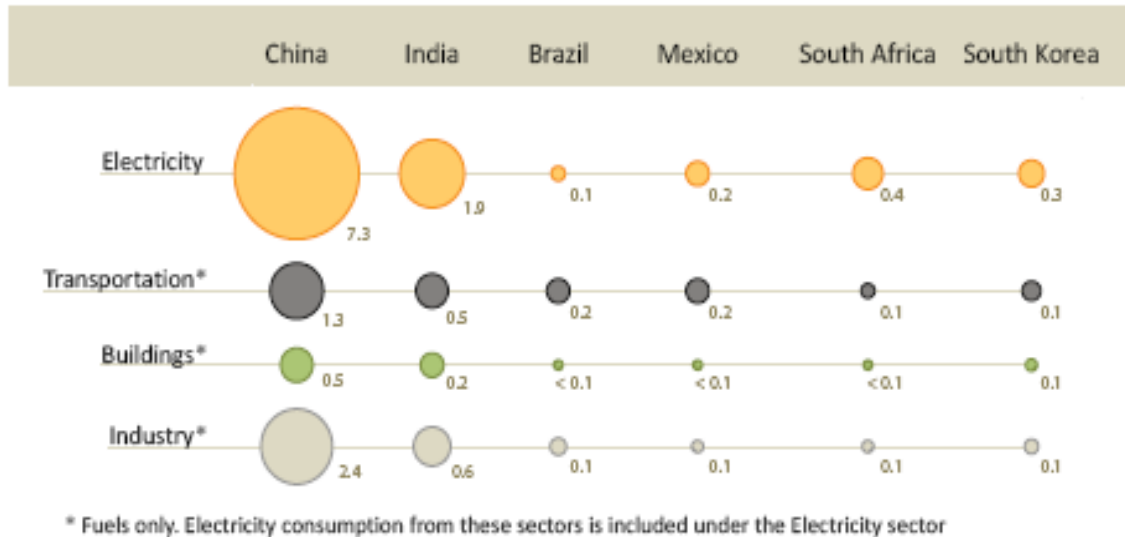
A key goal of the climate regime is to accelerate the decoupling of growth from GHG emissions at the pace required to meet climate stabilisation objectives. To achieve this goal – and expand the reach of climate finance flows – the NAMAs regime should necessitate disbursement criteria that reward pioneering efforts to transform a nation’s development pathway in the long run. The new regime will be more robust if it avoids rewarding one-off, scattered reduction projects – large or otherwise – that are inconsequential for the rest of the economy. By rewarding transformative efforts and promoting policy coherence, the NAMAs regime could create a “race to the top” among countries and help speed the diffusion of best practice.

¹⁴ Data from <http://cdm.unfccc.int/Statistics/Issuance/CERsIssuedByHostPartyPieChart.html> as of September 15, 2009.

¹⁵ Erickson et al. (2009) Greenhouse Gas Mitigation in Developing Countries Promising Options in China, Mexico, India, Brazil, South Africa, and South Korea.

Figure 2: Projected 2030 Baseline GHG Emissions by Sector and Country

(Gt CO₂e; Energy-related sectors only; projected emissions proportional to area of circle)



Source: Erickson et al. (2009) Greenhouse Gas Mitigation in Developing Countries Promising Options in China, Mexico, India, Brazil, South Africa, and South Korea.

2.3 Predictable and stable NAMAs finance

The structure and size of the climate finance package for Copenhagen remains undecided. The table below summarises key issues in the negotiations and several proposals for creating a mechanism that secures predictable and stable financial support for mitigation efforts in the developing world.

<p>NAMAs finance[*]</p>	<ul style="list-style-type: none"> > A tracking-mechanism might be needed to keep record of all available resources, existing and new, and to avoid duplication > It remains to be decided whether the new mechanism might deal with new funds only (or include existing funds as well) > A separate financing mechanism might be needed to fund the setting up of domestic MRV systems 	<p>The form and scope of the financing mechanism remains undecided – a number of models have been suggested, including:</p> <ul style="list-style-type: none"> > A multilateral (single) mechanism where donor countries would keep funds and keep record of all resources > A multi-channel fund combining existing mitigation monies and mechanisms as well as new funds > A structure of financing tools including grants, loans, partnerships, special purpose financial entities > A structure for new funds only that would capture additional contributions by Annex-I countries created in compliance with a post-2012 agreement which would identify priority mitigation activities and/or countries
<p>Financing Principles</p>	<ul style="list-style-type: none"> > Countries might be required to agree on core of <i>principles</i> to guide climate finance. 	<p>A fund proposed by the UK under an International Partnership on Public Finance for Climate Change suggests the following guiding principles:</p> <ul style="list-style-type: none"> > Equity of contribution and allocation

^{*} The focus here is on mitigation finance. The financing of adaptation, REDD, and Technology Research & Development finance is beyond the scope of this paper.

		<ul style="list-style-type: none"> > Additionality of climate finance to Official Development Assistance (ODA) > Predictability > Shared governance to encourage country-led approaches driven by nationally-determined plans
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As this brief shows, pioneering developing countries are ready to implement ambitious mitigation activities but the lack of institutional and financial support is putting their efforts at risk. It is therefore important to agree on an interim system pre-2012 that supports efforts by pioneering nations, for example, the creation of low carbon development strategies, taking place between 2010 and 2012.

Negotiators will also be required to agree on the sources of funding to support NAMAs. Financing sources come from four broad sources: 1) carbon markets; 2) auctions in developed countries; 3) international levies on specific sectors; and 4) effort-sharing funds.

Funding sources	<p>It also remains to be decided whether the funds will come from Annex I countries exclusively or whether some non Annex I countries will also have to contribute.</p>	<p>Governments have proposed several sources of financing for NAMAs:</p> <p>Carbon markets</p> <ul style="list-style-type: none"> > Revenues from selling any carbon credits accruing from emission reductions associated to NAMAs in developing countries <p>Auctions</p> <ul style="list-style-type: none"> > Revenues from the auctioning of Assigned Amount Units (AAUs) or from the auctioning of emission allowances within trading schemes in Annex-I
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		<p>countries</p> <p>Global levy on specific emissions</p> <ul style="list-style-type: none"> > Revenues from levies on: international air travel & freight shipping; international shipping; fossil fuel emissions <p>Effort sharing</p> <ul style="list-style-type: none"> > A global “green fund” would include contributions by all countries (excluding least developed countries) based upon a formula using a mix of indicators (e.g. GHG emissions, population and GDP) > A fund would be created based on contributions by Annex I countries using a percentage of GDP to anchor financial commitments
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2.4 Multilaterally guided, decentralised governance

The governance of the post-2012 climate regime should evolve beyond outmoded “donor-recipient” formulas that tend to tilt the balance toward donor-driven priorities. Instead, a reverse, bottom-up model is recommended: a system that is guided by multilaterally-agreed principles and goals but led by country-driven priorities.¹⁶

Often, countries face region-specific dilemmas and will benefit from working more closely with their neighbours to promote joint-learning and synergies. Therefore, a decentralised governance system adapted to regional needs is likely to be best suited to supporting developing country mitigation efforts.

¹⁶ For an in-depth discussion and the proposal for a COP-mandated, flexible matchmaking mechanism see Reed et al. (2009) The Institutional Architecture for Financing a Global Climate Deal: An Options Paper.

A multilaterally-driven yet decentralised structure would enable small and mid-sized countries to increase the scale of their mitigation projects. Often the small size of individual projects is a deterrent of private capital deployment, especially by investors that favour infrastructure projects taking place in large economies of scale. Decentralised governance that relies on regional mechanisms for financial and technical support is often more effective than a centralised model that supports governments on a country-by-country basis.¹⁷

The Asia Pacific region is a case in point. With small islands situated in the tropics and surrounded by a vast ocean, this region has arguably the highest renewable energy potential per capita.¹⁸ But individually, these countries cannot secure financing or technological support. The Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project was put in place to tackle this problem.¹⁹ The project has faced a number of implementation hurdles (core barriers are summarised in Annex 5) that highlight the need for a focused, tailored-approach that responds quickly to the specific needs of particular regions. A decentralised NAMAs regime should enable joint work with specialised regional bodies, such as development banks²⁰ and regional environmental secretariats to avoid duplication and promote a concerted regional effort to transition to a low carbon development path.²¹

2.5 Ensuring support for (early) preparation

A NAMAs regime that follows a country-led approach will need to first support country efforts to define their priority NAMAs before they submit proposals requesting international support. Internationally agreed criteria could be used to

¹⁷ Department for Environment, Food and Rural Affairs (DEFRA) (2008) The Role of Sector No-Lose Targets in Scaling up Finance for Climate Change Mitigation Activities in Developing Countries.

¹⁸ SPREP (2009c) Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project (PIGGAREP): UNEP Global Environment Facility Project Brief.

¹⁹ SREP (2009d) Renewable Energy in the Pacific Region. As a result the program was reviewed and today only a maximum of five renewable energy project activities can be included in the work plan. An enhanced regional renewable energy strategy is now in place with a project cost of around \$26 million with almost \$20 million being financed by the governments and over \$5 million coming from the Global Environmental Facility

²⁰ The recently created Sustainable Energy and Climate Change Unit (SECCI) at the Inter-American Development Bank aims to scale up and accelerate the development of renewable energies and energy efficient projects as well as support climate resilient infrastructure and climate markets. The bank will provide a combination of loans and grants. See <http://www.iadb.org/secci>

²¹ See for example the proposal by Reed et al. (2009) The Institutional Architecture for Financing a Global Climate Deal: an options paper.

help guide domestic screening processes. For example, a country could prioritise its NAMAs based on the following suggested criteria:²²

- > *Cost-effectiveness: Comparing the domestic cost of reducing a tonne of CO₂ against a multilaterally-set limit;*
- > *Abatement potential: Quantification of the project's mitigation potential to identify the best opportunities to achieve the largest emission reductions;*
- > *Transformation potential: Assessing the role of the project in decarbonising the national economy; priority would be given to core and/or expanding sectors;*
- > *Resource efficiency: Leveraging domestic resources, both institutional and financial, to ensure the project meets a minimum co-financing threshold guided by multilaterally-suggested standards;*
- > *Co-benefits: Identification of benefits beyond mitigation that would accrue from the activities, for example, developmental gains (e.g. access to energy) as a result of a mitigation activity (e.g. large solar energy project); and*
- > *Aggregation potential: Assessment of how much of the project can be scaled up (in future stages) horizontally (at the region level) or vertically (at the sectoral level).*

Supportive mechanisms at the international level will help finance not only the implementation of the NAMAs but also the institutional effort to carry out the preparatory work to assess mitigation opportunities as well as resource requirements, benefits, and trade-offs.

One key lesson that accrues from the experience by pioneering developing countries discussed in Section 1 is the need to build a domestic framework that commands broad-based support. Achieving consensus is more likely if a multi-stakeholder engagement process is in place. Because these preparatory efforts take time (Mexico took about 4 years to finalise its climate action plan) and are resource-intensive, countries need to be able to secure the necessary support through international financial mechanisms. Because many countries are already

²² Levina et al. (2009) Financing Mechanisms of a Post-2012 Agreement on Climate Change: Some Thoughts on Governance and Funds Distribution.

getting started, it is critical that at least some of these mechanisms are available between now and 2012. The sooner countries start the better.

2.6 Building trust

Low levels of trust among governments continue to undermine the ambition and pace of the climate negotiations. If the international community is to achieve climate stabilisation goals, an unprecedented level of cooperation will be required. An effective MRV system can help build trust by putting in place mechanisms that promote transparent and accountable behaviour in both Annex I and non-Annex I countries. In addition, countries should explore other innovative confidence building mechanisms to create effective partnerships for low carbon development.

Norway is putting in place cooperative agreements with developing countries that are ready to reduce emissions if the right financing is in place. The Norwegian models deploy climate financing over time under a “trust but verify” rationale: mutual accountability mechanisms are put in place as part of the bilateral framework allowing Norway’s fulfilment of its financing commitment as well as the recipient country’s fulfilment of its mitigation pledges. Norway has signed bilateral agreements with Brazil and Guyana with a strong focus on tackling deforestation.

- > *Supporting Brazil’s mitigation efforts:* \$1 billion was committed to help Brazil tackle deforestation. The first instalment has already been transferred; subsequent instalments will be subject to Brazil delivering on its bilateral commitments.
- > *Supporting Guyana’s design and implementation of a low-carbon development strategy* (more information is provided in Box 5).

Box 5: Cooperation for Low Carbon Development: The Guyana - Norway model

In February 2009, Guyana and Norway signed a Memorandum of Understanding (MoU) that encourages a broad, transparent, inclusive, multi-stakeholder model to develop Guyana's first low-carbon development strategy. Core objectives of such frameworks include: efforts to avoid deforestation and forest degradation as well as the creation of low-carbon employment and investment opportunities in Guyana.

The bilateral framework also includes institutional aspects such as the strengthening of open, transparent forest governance, and the establishment of an international monitoring, reporting, and verification system for Guyana's forests. The MoU plans to create a mechanism run by a reputable international organisation through which "performance-based compensation" can be channelled to implement Guyana's low-carbon development strategy. Norway has also funded a study to assess the state of forest law enforcement and governance in Guyana to be ready by September.

Sources: Government of Guyana (2009a) (2009b) Guyana (2009c)

3. Summary considerations for Copenhagen

The selection criteria used to prioritise international financing for NAMAs should favour economy-wide actions with transformative potential. Based on the experience of CDM, there is likely to be a strong focus on achieving large-scale, one-off reductions from the largest emitters in the developing world. A focus of this kind risks excluding smaller, pioneering countries from their fair share of international financing. The selection criteria should be designed to ensure strong incentives for NAMAs with transformative potential to decarbonise a nation's development pathway. This will both reward pioneering countries and encourage innovation, thereby catalysing the global transition to low carbon economies.

Decentralised governance can improve the effectiveness of the NAMAs regime. The governance model underpinning the NAMAs regime will need to be guided by multilaterally-agreed principles and mechanisms, but

provide a high degree of decentralisation that responds adequately to region-specific requirements and challenges. Indeed, negotiators from these countries could advocate such a model. Smaller developing countries will increasingly move toward regional decarbonisation strategies that enable joint learning and economies of scale.

Immediate efforts to mitigate emissions and build capacity call for interim measures of support before 2012. The sooner countries take action to mitigate emissions, the lower the risk of locking in carbon-intensive infrastructure. While Copenhagen is primarily about defining the post-2012 climate regime there is a strong case for scaling up financing and technical support for early action projects before 2012.²³ The carbon market is not an option for many of these projects because they lack the scale that CDM project developers seek and often require different forms of financing. Pioneering governments should seek guaranteed funds for their early mitigation actions and clarify quickly their countries' short-term financing requirements.

Discrediting the perception of a “climate irresponsible developing world”: Pioneering developing nations could build a coalition in order to increase international awareness of their decarbonisation efforts and the critical need to agree an adequate climate finance package at Copenhagen. Many of the mitigation efforts by pioneering developing countries remain unknown among political leaders and public opinion in industrialised nations. In the coming months, climate advocates in Europe and the USA could work together to increase the visibility of these efforts and debunk a common yet outdated perception of a developing world that refuses to take up climate responsibilities. Many developing countries aim to become “climate champions” but to translate their decarbonisation plans into practice the international community must deliver a workable and fair financial package that ensures that the decarbonisation of development pathways occurs in a timeframe that is consistent with global peaking scenarios.

²³ See Levina et al. (2009) Financing Mechanisms of a Post-2012 Agreement on Climate Change: Some Thoughts on Governance and Funds Distribution.

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Annex 1: Mitigation efforts in Asia-Pacific

High vulnerability of the Pacific islands to the effects of climate change has encouraged their governments to lead by example even if their economies are the least responsible for inducing climate change – their emissions represent 0.03% of global emissions.²⁴ While adaptation to climate change is a chief priority, the Pacific Island Leaders Forum has joined the Intergovernmental Panel on Climate Change (IPCC) and the global community in a call for tangible ambitious measures to mitigate climate change. The Pacific is asking industrialised countries to reduce emissions by 40-45% by 2020, and for *developing countries* to also significantly reduce their emissions in line with their capacities and mitigation potential. Accordingly, the region seeks to reduce emissions through a combination of regional, national and bilateral efforts.²⁵ For example, five Pacific Island States have set renewable energy targets for the next few years:

Table 1: Example of Pacific Island Countries' renewable energy targets

Country	Target [∞]	Year
Fiji	90%*	2011
Tonga	50%**	2011
Vanuatu	33%**	2013
Samoa	20%*	2030
Nauru	50%*	2015

Source: SPREP as of July 2009 * of its total energy requirements, ** of electricity
∞ % total energy or electricity

Climate change was the central topic of an annual regional forum in 2008 leading governments to reaffirm the need to develop and implement Pacific-tailored approaches to mitigate and adapt to climate change. The Pacific Island Forum

²⁴ Secretariat of the Pacific Regional Environment Programme (SPREP) (2009b) Fact Sheet: climate change mitigation

²⁵ Ibid

issued a separate declaration on climate change²⁶ calling upon governments to, *inter alia*, provide financial support and policy focus to *both* mitigation and adaptation efforts, rationalise donor funds, improve coordination by governments and regional specialised agencies, and enhance their participation in the construction of the post 2012 regime.

The regional environmental agency (The Secretariat of the Pacific Regional Environment Programme, SPREP) is expected to help coordinate national strategies. SPREP has declared 2009 to be the *Pacific Year of Climate Change*. A program of mitigation and adaptation activities has been put in place calling for partnerships with Pacific governments, communities, and nongovernmental organisations. The overarching theme is “Our Century’s Challenge, our Pacific response”. The Solomon Islands was the first country to launch its national program.²⁷

²⁶ Secretariat of the Pacific Regional Environment Programme (SPREP) (2009b) Fact Sheet: climate change mitigation

²⁷ SPREP (2009a) Climate Change: Our Century’s Challenge, our Pacific response.

Annex 2: Mitigation efforts in the Caribbean

The support for mitigation actions has gained traction in the Caribbean. In early 2009 the Secretariat of the Caribbean community suggested that these and other coastal states “need to advocate for programmes that stress mitigation and technological transfer with special emphasis on *low carbon development strategies* when they begin negotiations with the Conference of the Parties of the United Nations Framework Convention on Climate Change at the end of the year” (emphasis added).²⁸ In July 2009, the Heads of State from CARICOM called upon the international community to “offer financial support to enhancing capacities of Small Island Developing States to respond to climate change and to enable technologies to undertake mitigation actions and to adapt to the adverse impacts of climate change”. They also voiced support for “the approach to harmonizing climate change mitigation and economic development as proposed by Guyana in its Low Carbon Development Strategy” and created the Task Force for Climate Change and Development.²⁹

In 2004 the region began implementing the Caribbean Renewable Energy Development Programme (CREDP) to lay the foundations for a renewable energy industry.³⁰ The programme has moved forward but needs further support to help remove institutional barriers to project implementation. In their July 2009 political declaration, CARICOM leaders reaffirmed their determination to overcome obstacles to boost the development of renewable energy and energy efficiency in their countries. The recently created Sustainable Energy and Climate Change Unit (SECCI) at the Inter-American Development Bank could mobilise financing and technical support to the Caribbean.³¹ SECCI aims to scale up and accelerate the development of renewable energies and energy efficient projects as well as support climate resilient infrastructure and climate markets.

²⁸ CARICOM (2009a) Technology Transfer and Mitigation Key To Caribbean Position On Climate Change

²⁹ CARICOM (2009b) The Liliendaal Declaration On Climate Change and Development of July 2009

³⁰ The project involves 13 nations from CARICOM. See http://www.caricom.org/jsp/projects/credp/about_credp.jsp?menu=projects. For an assessment of the programme as of 2008 see http://www.caricom.org/jsp/projects/credp/scorecard_april_08.pdf

³¹ See <http://www.iadb.org/secci>

Annex 3: Mitigation efforts in Africa

Food security and poverty alleviation are the primary areas of concern for Africa, and climate change priorities focus mainly on adaptation and reducing emissions from deforestation and degradation. At the 2009 African Ministerial Conference on the Environment, governments outlined priorities for climate change and development and set out their plans for a framework to ensure coordination and coherence in the implementation of climate change initiatives through the Nairobi Declaration on the African Process for Combating Climate Change.³²

In the area of mitigation, African leaders have agreed to focus on three types of activities: 1) energy; 2) deforestation and land-use related projects; and 3) the carbon market.

- > Energy sector –scaling up investments to provide access to affordable clean energy for rural communities; boosting clean energy and energy efficiency; developing biofuels; and creating regional centres for technology development and diffusion.
- > Deforestation and land use: development of market-based mechanisms to reward or provide incentives for forest conservation or the avoidance of deforestation and sustainable forest management practices.
- > Carbon market – reforming the rules of market mechanisms such as the Clean Development Mechanism (CDM) to increase accessibility for African countries, fully implementing the Nairobi Framework, and building capacity in Africa to gain access to the available financial instruments (e.g. Global Environmental Facility, World Bank, African Development Bank and bilateral mechanisms).

Renewable energy development is becoming a priority for Africa.³³ African leaders have made statements declaring the potential of clean and renewable

³² African Ministerial Conference on the Environment (2009) Nairobi Declaration on the African Process for Combating Climate Change.

³³ African Ministerial Conference on the Environment (AMCEN) (2009) Nairobi Declaration on the African Process for Combating Climate Change; Africa-EU Ministerial Troika (2007) The Africa-EU Strategic Partnership: a joint Africa-EU Strategy. The Guardian (2009a) Kenya to build Africa's biggest windfarm; World Future Council (2007) Fact Sheet: Renewable Energy: sustainable development in Africa.

energies for mitigation and to achieve the Millennium Development Goals by calling for changes in the energy sector. Key facts relevant to African priorities include:

- > Only 4% of electricity generated worldwide is produced in Africa;
- > Sub-Saharan Africa has the world's lowest electrification rate at 25.9%;
- > Rural electrification rates in Sub-Saharan Africa are only 8%;
- > 70% of household income in Africa is spent on energy (diesel, kerosene, charcoal); and
- > 80% of Africans rely on biomass for energy (wood or charcoal fuel).

In 2008, Africa's installed wind power capacity was 593 MW. Several projects are in the pipeline to scale up this capacity: Egypt has declared plans to have 7,200MW of wind electricity by 2020, meeting 12% of the country's energy requirements; Ethiopia has commissioned a £190m, 120MW farm in Tigray region, representing 15% of the current electricity capacity, and intends to build several more; and Tanzania has announced plans to generate at least 100MW of power from two projects in the central Singida region, more than 10% of the country's current supply.

Annex 4: Summary of Regional Mitigation Efforts: Africa, The Caribbean, and Asia Pacific

FOCUS	AFRICA	THE CARIBBEAN	ASIA-PACIFIC
REGIONAL POLITICAL DECLARATIONS (Low-Carbon Growth Vision)	<p>In May 2009, the Third African Ministerial Conference on Financing for Development addressed climate change – considered “a milestone” in the regional climate change debate in the region.</p> <ul style="list-style-type: none"> > “Create an enabling environment to support the transition to a green economy and pursuing low carbon growth, as well as facilitating the private sector to play a role in the transfer and adoption of clean technologies” > They pledged the development of alternative energy sources (especially biofuels). 	<p>In July 2009, CARICOM produced THE LILIENDAAL DECLARATION ON CLIMATE CHANGE AND DEVELOPMENT</p> <ul style="list-style-type: none"> > CARICOM has called for support from the international community not only to support the region to adapt to climate change but also to support mitigation activities with the goal of “promoting low carbon development”. > They have recognised the need to scale up the development of renewable energy 	<p>The Pacific Island Leaders Forum turned climate change into the central theme of their 2008 Summit and a priority theme in 2009. They endorsed the NIUE DECLARATION ON CLIMATE CHANGE (2008) and the 2009 PACIFIC LEADERS’ CALL TO ACTION ON CLIMATE CHANGE</p> <ul style="list-style-type: none"> > Call for Pacific-tailored approaches to combating climate change > Recognise the role that renewable energy targets can play in driving the transition of national energy sectors to a low carbon future. > Leaders commended the initiatives of Tonga and Tuvalu in incorporating renewable energy

FOCUS	AFRICA	THE CARIBBEAN	ASIA-PACIFIC
			targets into national energy strategies
DEVELOPMENT BANKS (Umbrella Projects)	<p>In March 2008, the African Development Bank approved the <u>Clean Energy Investment Framework (CEIF)</u> which will work in partnership with the World Bank to harness additional financing</p> <ul style="list-style-type: none"> > A “Clean Energy Access and Climate Adaptation Facility” for Africa has been proposed and a draft concept note has been discussed internally. > The Evolution One Fund is the first specialized private equity fund focused on clean energy technologies across southern Africa. In 2009, a ZAR 100 Million equity investment was approved by the AfDB. 	<p>In 2009, the Inter-American Development Bank created the <u>Sustainable Energy and Climate Change Unit</u> (SECCI) with a focus on: 1) renewables & energy efficiency, and carbon markets; 2) biofuels development; 3) carbon market; and 4) adaptation.</p> <ul style="list-style-type: none"> > SECCI funds offer grants to a broad range of applicants (from private sector to NGOs) to cover a variety of activities (from project development to feasibility studies) > With US\$750K from SECCI funds Haiti, El Salvador, and 	<p>The Asian Development Bank (ADB) has a <u>Program to develop renewable energy projects in the Pacific region.</u></p> <ul style="list-style-type: none"> > In August 2009, a \$3 million grant was allocated to the development of pilot projects in Papua New Guinea (hydro), Solomon Islands (bio-energy), and Vanuatu (solar). These countries will provide non-cash contributions of \$200K each.

FOCUS	AFRICA	THE CARIBBEAN	ASIA-PACIFIC
	<p>> South Africa will account for 60-75% of the Fund's overall investments; 25-40% will be earmarked for all other Southern African Development Community countries.</p>	<p>the Dominican Republic will develop feasibility studies for biofuels.</p>	
<p>REGIONAL RENEWABLE ENERGY PROGRAMS</p>		<p>THE CARIBBEAN RENEWABLE ENERGY DEVELOPMENT PROGRAMME (CREDP) began its implementation in 2004</p> <p>> 13 nations participate in this programme.</p>	<p>The PACIFIC ISLANDS GREENHOUSE GAS ABATEMENT THROUGH RENEWABLE ENERGY PROJECT (PIGGAREP) seeks to reduce GHG emissions in 11 PICs by 33% by 2015</p> <p>> Five Pacific Island States have set renewable energy targets for the next few years (Fiji, Tonga, Vanuatu, Samoa and Nauru)</p>

Annex 5: Barriers to Renewable Energy Development in Pacific Island Countries

TYPE	BARRIERS
Technical	Lack of Renewable energy system installations on the ground
	Absence of guidelines on renewable energy technical specifications suitable for the PICs
Market	Lack of private sector involvement in renewable energy service delivery
	High costs of delivering renewable energy services
Institutional	Inadequate capacity to address the challenges of climate change, including the design and implementation of RE projects
	Ineffective coordination among stakeholders
Fiscal & Financial	Absence of sustainable capital fund for renewable energy development
	Local investors are not confident on renewable energy application projects
	Biased fiscal policies
Regulatory	Lack of (or poor implementation) climate change and energy legislations and policies
Knowledge	PICs lack technical experts in the area of renewable energy applications
	Inadequate national public awareness campaigns
	Inadequate dissemination of information on best practices and success stories
	Lack of knowledge about the renewable energy resources potentials in the PICs
	People in rural areas in the PICs lack knowledge about climate change and its links to renewable energy

Source: SPREP (2009) Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project (PIGGAREP): UNEP Global Environment Facility Project Brief. SPREP (2009c) Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project (PIGGAREP): UNEP Global Environment Facility Project Brief.