



IDLO-CISDL COMPENDIUM OF LEGAL BEST PRACTICES ON CLIMATE CHANGE POLICY

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1 INTRODUCTION

Climate change is an immense environmental and socio-economic challenge. The Intergovernmental Panel on Climate Change (IPCC) has made it clear that climate change will impact geophysical and biological as well as social systems, including food supply, health, water resources, infrastructure and the foundations of our economic system. Although the effects of climate change vary in each region, economies in transition and developing countries will experience the impacts most severely because they lack capacity to adapt and because their economies depend more directly on climate-sensitive sectors.¹ Since 1992, Parties to the United Nations Framework Convention on Climate Change (UNFCCC), which boasts near **universal membership, have sought to avert the “dangerous consequences”** of climate change through evolving mechanisms for mitigation and adaptation with commitments to limit or reduce greenhouse gases, capacity-building for countries in need, technology transfer and finance.²

Despite the difficulties in reaching consensus on a comprehensive global regime for climate change, the UNFCCC has successfully established numerous frameworks, protocols and work plans that are currently in effect, and that have generated significant other activities beyond its direct oversight. These include well-known **mechanisms as in the Kyoto Protocol’s Clean Development Mechanism (CDM)**, regional emissions trading such as the European Union Emissions Trading Scheme, and Reducing Emissions from Deforestation and Forest Degradation (REDD+) as well as lesser-known green economy instruments at the domestic level as in power purchasing agreements, public procurement tools and disaster risk reduction. Importantly, the UNFCCC has scaled-up its commitments in recent years with pledges of USD 100 billion annually by 2020, while also acknowledging the role of sound legal and institutional frameworks to access that finance and implement climate change policy at the domestic level. Therefore, the 2010 Cancun Agreements strongly emphasize the necessity of regional, national and subnational strategies in all aspects of climate change policy, using a country-driven approach that is bolstered by international objectives and support.³

The purpose of this *Compendium of Legal Best Practices on Climate Change Policy* is to highlight the challenges that domestic governments face in implementing their international commitments to climate change policy and the means through which those challenges can be overcome. It gathers 12 recent best practices in legal and institutional reform that exemplify promising methods of addressing mitigation, adaptation and finance at the domestic level. Several of these best practices involve reform to facilitate engagement with mechanisms under the UNFCCC multilateral regime. **Others represent countries’ independent and voluntary measures that go**

¹ Intergovernmental Panel on Climate Change, *Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge: Cambridge University Press, 2007).

² United Nations Framework Convention on Climate Change, FCCC/INFORMAL/84 (1992), Art.2.

³ UNFCCC, Decision 1/CP.16, “The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention,” (29 Nov-10 Dec 2010).

well beyond their international commitments. In both cases, they are informative of the many opportunities for legal and institutional preparedness for climate change that can be reproduced or adapted elsewhere.

2 LEGAL AND INSTITUTIONAL BARRIERS TO CLIMATE POLICY

International action on climate change is a relatively new phenomenon. Legal systems designed prior to the establishment of the multilateral regime for climate change may not have conceived of laws and institutions necessary, for instance, to the Clean Development Mechanism rules. At the same time, countries have ongoing socio-economic development strategies that must now account for uncertain environmental conditions. Furthermore, some governments may already struggle with issues of good governance and the rule of law, and are in the course of clarifying or formalizing institutional capacity, land tenure, infrastructure codes, human rights and security, among others. Therefore, while each country is context specific, there are common systemic legal and institutional gaps and challenges in responding to climate change at the domestic level.⁴

2.1 Legal and Institutional Reform for Mitigation

Mitigation of climate change requires robust legal and institutional frameworks to ensure that countries meet the exigencies of specific UNFCCC mechanisms and foster the investor confidence that is necessary to access international finance. A range of legal tools that directly address mitigation can be implemented at multiple levels, for instance, in overarching national strategies, sectoral programming or local by-laws. While mitigation laws may stand-alone in response to specific international climate change commitments or project proposals, in most cases, they must also be mainstreamed into existing legal frameworks and ongoing development strategies. This may involve the amendment or, where necessary, the establishment of guidelines that integrate climate considerations across multiple sectors and agencies in a coordinated manner that eliminates jurisdictional conflict and duplication of efforts.

The best practices for mitigation presented in this *Compendium* include legal and institutional reforms undertaken at various levels of government that are in different **stages of planning and implementation. Mexico's subnational governments have** been active in coming to agreement on regional and municipal action plans and legislation that specifically address mitigation opportunities available at the local level, such as the newly emerging market mechanism, REDD+, which is anticipated to provide finance for sustainable forest management. Many African countries such as Kenya and South Africa have already created broad National Climate Change Response Strategies that are now at the stage of further elaboration with a view to

⁴ International Development Law Organization, *Legal Preparedness for Climate Change*, e-learning course (May 9-June 3, 2011).

implementation through detailed Action Plans. Norway is an example of a developed country that has been at the forefront of climate change policy since the founding of the UNFCCC. However, like many other developed countries, it still struggles to limit or reduce its greenhouse gases to meet its Kyoto Protocol targets, and has adopted domestic carbon taxes and emissions trading in response. Furthermore, India is an economy in transition with rising energy needs for a growing population and higher standards of living. It has, however, been one of the leaders among developed and developing countries alike in establishing incentives for renewable and efficient energy, for instance in power purchasing agreements with solar panel developers.

2.2 Legal and Institutional Reform for Adaptation

Adaptation to the effects of climate change has received increasing attention in recent years as developing countries begin to cope with rising sea levels, natural disasters and climate variability. In 2010, the UNFCCC significantly scaled up pledges for adaptation finance with half of the USD 100 billion per year by 2020 to be allocated thereto. Moreover, the Parties established the Cancun Adaptation Framework, which advocates for a **country-driven approach “with a view to integrating adaptation into relevant social, economic and environmental policies.”**⁵

For developing countries, responding to natural disasters is not new. However, the projected effects of climate change call on them to adopt short, medium- and long-term planning with significant coordination that is multi-sectoral (i.e. agriculture, transportation, water, energy, infrastructure) and multi-level (international, national, subnational, local). Adaptation planning is often decentralized and takes place at the level where losses are incurred. However, it also requires assessing vulnerabilities and future climate risks, weighing costs, prioritizing measures and creating adaptation strategies that fit into broader development plans.⁶ Consequently, an enabling legal and institutional framework is key to effectively prepare for the anticipated effects of climate change.

The best practices for adaptation presented in this *Compendium* include legal and institutional reforms for disaster risk reduction, risk sharing insurance, protective infrastructure and water resource management. The Caribbean Community, which increasingly suffers from persistent extreme weather events and inundation from sea level rise, created the first multi-country risk sharing mechanism of its kind at

⁵ UNFCCC, Decision 1/CP.16, “The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention,” (29 Nov-10 Dec 2010), Art. II.12. See also: Art. III.E; S.Mason-Case, *The Cancun Agreements and Legal Preparedness for Climate Change in Developing Countries* (IDLO-CISDL, 2011).

⁶ *Ibid.*; *supra* note 4; S. Agrawala & S. Fankhauser, *Economic Aspects of Adaptation to Climate Change: costs, benefits and policy instruments* (OECD, 2008); OECD, *Integrating Climate Change Adaptation into Development Co-operation: Policy Guidance* (OECD, 2009), online: http://www.oecd.org/document/26/0,3746,en_2649_34361_44096282_1_1_1_1,00.html#How_to_obtai; UNFCCC, “Action on the Ground: A Synthesis of Activities in the Areas of Education, Training and Awareness-Raising for Adaptation” (2010), online: http://unfccc.int/adaptation/nairobi_work_programme/items/3633.php.

the Caribbean Catastrophe Risk Insurance Facility, thereby providing a good example of collaboration on disaster risk reduction in a regional context. In Mexico, subnational governments have established coordinated response plans for adaptation measures such as the inclusion of adaptation criteria in the design of subsidy and investment projects for mitigation and regional environmental funds. **The Netherland's *National Water Plan* provides an example of a developed country's** response to the risks posed by sea level rise by setting a coherent policy that coordinates different government agencies for projects that are now underway. In contrast to the Netherlands, Bangladesh also experiences the adverse effects of coastal erosion, inundation and flooding from sea level rise, but as a developing country is in need of extensive international financial support. Through the adoption of a comprehensive national strategy and action plan on adaptation, Bangladesh has begun to receive some such support, although it is still largely underfunded.

2.3 Legal and Institutional Reform for Climate Finance

Climate finance constitutes all financial flows for low-carbon and climate resilient pathways and includes a range of economic instruments.⁷ Climate finance has taken **shape under the UNFCCC, as in the Kyoto Protocol's emissions trading regime** for developed country Parties and the Clean Development Mechanism offset market, whereby developed country Parties earn credits for investing in low-carbon projects in developing countries.⁸ One rationale behind offsets, and climate finance generally, is to promote sustainable economic development by investing in projects that promote carbon sequestration or that, if implemented otherwise, would result in higher greenhouse gas emissions.⁹ Climate finance can also foster and accelerate socio-economic development by directly and indirectly enhancing employment; new industries; existing sectors; capital investments; infrastructure development and sustainable sources of energy, food and water.¹⁰

Financial flows for low-carbon and climate resilient pathways pass through myriad instruments, including official development assistance, product labeling standards, voluntary carbon markets, REDD+, and international trade and investment agreements. Those economic instruments challenge the legal and institutional capacity of developing countries to access climate finance by participating in a complex, formalized market economy. For instance, financial flows available under the CDM have proved inaccessible to states without capacity to enter into complex agreements. Many other climate finance instruments also require clear rights to property and business registration, which often remain in the informal economy. Therefore, gaps in legal and institutional capacity create barriers to a range of climate finance mechanisms. Moreover, informal arrangements for benefit sharing,

⁷ UN Secretary General's High-Level Advisory Group on Climate Change Financing, "Report of the UN Secretary General's High-Level Advisory Group on Climate Change Financing" (5 November 2010).

⁸ UNFCCC, Kyoto Protocol (11 December 1997), online: http://unfccc.int/kyoto_protocol/items/2830.php.

⁹ *Ibid.* Art. 12(2).

¹⁰ UNEP, *Green Economy Report* (UNEP, 2011); Commission on Legal Empowerment of the Poor, *Making the Law Work for Everyone: Report of the Commission on Legal Empowerment of the Poor* (New York: UNDP, 2008).

land tenure rights, and employment standards create internal disparities among those who benefit from climate finance for sustainable development.¹¹

The best practices for climate finance presented in this *Compendium* address how some countries have overcome common barriers to the primary mechanisms for climate finance. In the case of REDD+, which affects the rights of rural populations that undertake forest management such as indigenous and forest communities, Vietnam has devised a benefit sharing distribution system that it will implement incrementally to test capacity for the emerging market mechanism. In South Africa, China and Brazil, governments have enacted legislation to tax CDM credits in a manner that attracts increased investments or that levies a portion of CDM revenues to fund other sustainable development activities. Senegal and Honduras were the first countries to receive international funding from the UNFCCC Adaptation Fund, which they will use toward broad institutional reforms to cope with water and infrastructure management. Lastly, several Canadian provinces demonstrate how developed economies can implement economic incentives for renewable energy through feed-in tariffs legislation that alleviates the start-up costs of assuming new technologies.

3 LEGAL BEST PRACTICES IN ADDRESSING CLIMATE CHANGE

3.1 Legal Preparedness for Mitigation

3.1.1 Subnational Agreements for Mitigation in Mexico

Mexico presents a diverse portfolio of laws and policies at the subnational level depending on whether the response to climate change comes from a highly industrialized economy or whether it has been designed by a state with forest conservation and development needs. The climate responses of **Nuevo Leon** and **Mexico City** have become the paradigmatic cases of urban mitigation planning through the enactment of the first mitigation oriented *Climate Change State Action Plans* (PEACCs).¹² **Mexico City's climate law is now considered a mandatory reference for the development of any climate law within a highly industrialized capital in Latin America.** **Chiapas** alongside the **Yucatan Peninsula** on the other side of the spectrum have become examples of states with high levels of poverty and high vulnerability whose mitigation response has been via local carbon sequestration. The main focus of the development of their REDD+ mechanisms has been to enhance forest conservation within their territories and to promote the sustainable development of indigenous and rural communities inhabiting forests within their states. Mexican subnational mitigation responses have hence been

¹¹ *Ibid.*

¹² Ibararán, María E., Malone, Elizabeth L. and Brenkert, Antoinette L., "Climate Change Vulnerability and Resilience: Current Status and Trends for Mexico," (2009) 12:3 *Environment, Development and Sustainability*.

based on the recognition of the opportunities provided by carbon markets and green economies to provide for their own populations.

In 2010, **Nuevo Leon** enacted its *Climate Change Action Program*¹³ as a means to respond to the pressing nature of national policies to reduce GHGs. **Mexico City** had done so two years earlier through its own *Climate Change Action Program*.¹⁴ **Nuevo Leon's approach provides a wide range of state mitigation actions through twenty well-defined policies, each of which is related to a series of existing programs and plans that need to be jointly interpreted. They touch on the key sectors: transportation, energy, construction, ecological planning and solid residues. Mexico City, on the other hand, as a large metropolis, designed its mitigation strategy based on the climate actions set forth by other cities such as London and Tokyo, and the recommendations of the IPCC. They are based on 26 actions that target the energy, transportation, infrastructure, solid residues, agriculture, forest, health and hydrological sectors. These same lines of action were incorporated in Mexico City's 2010 Mitigation and Adaptation Law to Respond to Climate Change and Sustainable Development,¹⁵ which follows the *Mexico City Pact* signed by 143 city mayors worldwide to reduce GHGs. Mexico City's climate law stresses the importance of mitigation projects to attract investments for economic development through the creation of the *Climate Change Environmental Fund* and the *Commerce System of Carbon Emissions*.**

In terms of carbon sequestration, **Chiapas** has assumed a pioneering role in the development of mitigation policies in the country. Its social and economic inequalities, alongside significant rural and indigenous poverty and the presence of one of the largest carbon sinks in Latin America (the Lacandona Rainforest) have made the state the main promoter of REDD+ strategies through a process that has involved a wide stakeholder participation. In 2010, Chiapas published its *Adaptation and Mitigation Law to Respond to Climate Change*¹⁶ before it opened the period of public consultation for its PEACC.¹⁷ The text of the climate law of Chiapas is largely based on that of Veracruz, the first state climate law nationwide. Notwithstanding, Chiapas broadens its objective to focus not only on climate change, but also on emphasizing the need to guarantee a sustainable use of natural resources because its climate policy targets forest carbon sinks.¹⁸ The *Environmental Fund* designed by the law as its financial mechanism will be designed to fulfil that purpose as well as to provide for the adaptation needs of the most vulnerable communities found within its territory.

¹³ Government of the state of Nuevo Leon, Secretary of Environment and Natural Resources, National Institute of Ecology, Tecnológico de Monterrey, British Embassy in Mexico, *Programa de Acción ante el Cambio Climático Nuevo León 2010-2015*, June 2010.

¹⁴ Environmental Secretary of the Government of Mexico City, *Programa de Acción Climática de la Ciudad de México 2008-2012*, September 2008.

¹⁵ Government of Mexico City, *Ley de Mitigación y Adaptación al Cambio Climático y Desarrollo Sustentable*, November 2010 (pending publication).

¹⁶ Government of the state of Chiapas, *Ley para la Adaptación y Mitigación ante el Cambio Climático en el Estado de Chiapas*, December 2010 (Chiapas Climate Law).

¹⁷ Government of the state of Chiapas *et al.*, *Programa de Acción ante el Cambio Climático del Estado de Chiapas*, April 2011, *available at*

http://www.cambioclimaticochiapas.org/portal/descargas/consulta/paccch_consulta.pdf.

¹⁸ *Chiapas Climate Law*, Art. 2 and 3.

As the regional approach to carbon sequestration mitigation strategies, the **Yucatan Peninsula** comprised by the states of Quintana Roo, Yucatan and Campeche signed the 2010 *Joint Declaration of Action to Respond Climate Change in the Yucatan Peninsula*¹⁹ followed by the legally binding 2010 *General Coordination Accord*²⁰ to respond jointly to the large set of shared vulnerabilities²¹ and the deeply embedded economic, environmental and social integration of the region. The Yucatan Peninsula Accord does not aim to pre-empt individual state action. It is a legal instrument that will complement individual climate policies and regulations of each state after their enactment and addresses solely the social, economic and environmental commonalities of the region. It is based on three lines of action one of which is the development of a *Regional REDD+ Strategy*.²² Aiming to provide an equitable distribution of the benefits under good governance and adequate policy and institutional schemes, the *Regional REDD+ Strategy* shall be designed and implemented under a joint collaboration with the *National Forestry Commission* (CONAFOR) and *The Nature Conservancy* to achieve the preservation of the natural corridor of Sian Kaan-Calakmul that runs across the three states of the Peninsula and enhance the living conditions of the population inhabiting it.

3.1.2 Acting on National Climate Change Response Strategies in Africa

Several African countries such as South Africa, Ghana, Kenya, and Zambia have recently or will soon have adopted *National Climate Change Response Strategies* (NCCRS) that set broad frameworks for domestic climate policy. Typically, NCCRS do not set targets or commitments but consist of a scoping exercise to identify areas of interest as well as gaps and barriers to implementation. They often include a basic assessment of the existing regulatory context and preliminary recommendations for future institutional coordination. Because they are policy guidelines, NCCRS are insufficient for tangible results-based activities and necessitate further action plans. It is important to remember that the development of NCCRS and their related implementation plans are a work in progress. Thus, while the initial documents may constitute general policy guidelines, they can enable later institutional reform. To that end, although **Zambia**²³ has only just recently completed its NCCRS (December 2010) and **Ghana**²⁴ is finalizing

¹⁹ State governments of Yucatan, Campeche and Quintana Roo, *Declaratoria para la Acción Conjunta ante el Cambio Climático en la Península de Yucatán*, December 7, 2010.

²⁰ State governments of Yucatan, Campeche and Quintana Roo, *Acuerdo General de Coordinación con el Objeto de Desarrollar un Marco de Cooperación y Coordinación Interestatal para Llevar a Cabo Acciones y Estrategias conjuntas para Abordar la Adaptación, Mitigación y Reducción de la Vulnerabilidad al Cambio Climático en la Península de Yucatán*, December 7, 2010 (Yucatan Peninsula Accord).

²¹ Ibarrarán, María E., Malone, Elizabeth L. and Brenkert, Antoinette L., "Climate Change Vulnerability and Resilience: Current Status and Trends for Mexico," (2009) 12:3 *Environment, Development and Sustainability*.

²² Yucatan Peninsula Accord, Fourth Clause.

²³ Zambia, *National Climate Change Response Strategy*, online: <http://www.nccrs-zambia.com/>.

²⁴ Ghana, "Ghana Prepares for Climatic Changes" online:

http://www.ghana.gov.gh/index.php?option=com_content&view=article&id=3956:ghana-prepares-for-climatic-changes&catid=96:top-headlines.

consultations on its draft National Climate Change Policy Framework, both South Africa and Kenya²⁵ are now building upon their prior NCCRS.

In April 2011, **Kenya's** Ministry of Environment and Mineral Resources solicited bids for consultants to develop an Action Plan including a component on an Enabling Policy and Regulatory Framework with the 2 outcomes: a National Climate Change Policy and a Regulatory Framework to enhance coordination and practical implementation at county levels. The solicitation lays out a projected structure to coordinate the relationship of the National Climate Change Policy and Regulatory Framework to specific areas of concern such as adaptation and mitigation planning and actions; technology transfer, research and development; performance and benefits measurement; capacity building and finance. The project is supported by third-party facilitators Climate & Development Knowledge Network (CDKN), UK Department for International Development (DFIC), Agence française du développement (AFD) as well as the Common Market for Eastern and Southern Africa (COMESA) "as a leading practice example that can be shared and replicated more widely across Africa."²⁶

In November 2010, **South Africa** disseminated the *National Climate Change Response Policy Green Paper 2010* for open public comment and stakeholder consultations in its 9 provinces.²⁷ The Green Paper reproduces the NCCRS in many instances, however, it also contains specific commitments to be integrated through legislative reform, including to: resolve regulatory barriers impeding feed-in tariffs; scale-up its 10,000 GWh 2013 Renewable Energy target; use Section 29(1) of the Air Quality Act to manage GHG emissions from industrial sources; implement an escalating carbon tax on all energy related emissions; implement a flat rate excise tax on passenger vehicle carbon emissions; broaden the mandate of the Construction Industry Development Board to include green construction practices as a requirement for public procurement; implement a national composting strategy to reduce organic waste land-filled by 50% on a 2000 baseline by 2020; and by 2013 to require mandatory submission of GHG data to a national registry by all significant emitters. With respect to governance, the Green Paper will establish the Inter-Ministerial Committee on Climate Change with jurisdiction to oversee the coordination of national policies and legislation with other sectoral, local and stakeholder agencies, including the multi-level state, Intergovernmental Committee on Climate Change. Moreover, it requires that all government departments and enterprises by 2014 ensure all policies, strategies, legislation, regulations and plans within their influence are fully aligned with the NCCRP.²⁸

²⁵ Kenya, *National Climate Change Response Strategy* (2010), *online*:

www.environment.go.ke/.../complete%20nccrs%20executive%20brief.pdf

²⁶ CDKN, "An action plan for Kenya's National Climate Change Response Strategy—Call for Expressions of Interest," *online*: <http://cdkn.org/2011/04/an-action-plan-for-kenya%E2%80%99s-national-climate-change-response-strategy-call-for-expressions-of-interest/>

²⁷ South Africa, "National Climate Change Response" *online*: <http://www.climatechange.co.za/>

²⁸ South Africa, Ministry of Environment, "National Climate Change Response Green Paper" *online*: <http://www.environment.co.za/environmental-laws-and-legislation-in-south-africa/national-climate-change-response-green-paper-2010-south-africa.html>.

3.1.3 Norway's Carbon Tax and Emissions Trading

Norway has a unique energy and industrial profile with half of all domestic energy coming from renewable sources and almost all electricity from hydropower. **However, Norway is also one of the world's greatest net exporters of oil and gas, which are together the country's largest industry and make up a quarter of its greenhouse gas emissions.**²⁹ Norway has committed to very ambitious targets to reduce greenhouse gas emissions in the equivalent of 30% of its 1990 levels by 2020 and to become carbon neutral by 2030 at the latest.³⁰ To meet those goals, Norway has invested in future offsets through generous donations abroad for REDD+, including pledges of up to NOK 3 billion per year (USD 545 million) to The Brazilian Amazon Fund, Indonesia, Guyana, Tanzania, Mexico, UN-REDD, and the Forest Carbon Partnership Facility, among others.³¹ Nevertheless, the Government of Norway has also undertaken significant measures on a domestic level for climate change mitigation under a designated agency of the Ministry of Environment, the Climate and Pollution Agency; under the *Climate Cure 2020* strategic planning group; and under targeted legislative provisions of the *Pollution Control Act*,³² and the *Greenhouse Gas Emission Trading Act*,³³ which impose both a **carbon tax** and an **emission trading scheme** on key sectors.

Norway introduced its **carbon tax** in 1991 as a cost effective means to limit emissions.³⁴ The carbon tax is levied on approximately 55% of total Norwegian GHG emissions, with rates of up to NOK 363 per tonne (USD 65).³⁵ At varying times, the **carbon tax has applied to: (a) consumers' use of ordinary petrol, (b) fuel-oil/domestic oil (c) coal and coke for energy use and (d) burning of oil and gas in offshore industry.**³⁶ Particularly high rates have applied to the petroleum industry

²⁹ Bugge, "National Monograph: Norway" in *International Encyclopedia of Laws: Environmental Law* (Wolters Kluwer, update as of Dec 2010) online:

<http://www.kluwerlawonline.com/toc.php?area=Looseleafs&mode=bypub&level=6&values=Looseleafs~IEL+Environmental+Law~National+Monographs~Norway>; Norwegian Ministry of the Environment, *Norway's Fifth National Communication under the Framework Convention on Climate Change: Status Report as of December 2009*, online: <http://www.regjeringen.no/en/dep/md/documents-and-publications/reports-and-plans.html?id=312886>.

³⁰ Norway, Climate and Pollution Agency, "State of the Environment Norway" online:

<http://www.miljostatus.no/en/Goals-and-indicators/Goals-and-indicators/Climate-change/>

³¹ Norway, Ministry of the Environment, "The Government of Norway's International Climate and Forest Initiative" online: <http://www.regjeringen.no/en/dep/md/Selected-topics/climate/the-government-of-norways-international-.html?id=548491>.

³² Norway, *Act of 13 March 1981 No. 6 Concerning Protection Against Pollution and Concerning Waste* online: <http://www.regjeringen.no/en/doc/Laws/Acts/Pollution-Control-Act.html?id=171893>.

³³ Norway, *Act of 17 December 2004 No. 99 Relating to Greenhouse Gas Emission Allowance Trading and the Duty to Surrender Emission Allowances* online:

<http://www.regjeringen.no/en/doc/Laws/Acts/Greenhouse-Gas-Emission-Trading-Act.html?id=172242>.

³⁴ Norwegian Ministry of the Environment, *Norwegian National Allocation Plan for the Emissions Trading System in 2008-2012* (March 2008).

³⁵ Norwegian Ministry of the Environment, *Norway's Fifth National Communication under the Framework Convention on Climate Change: Status Report as of December 2009*, online:

<http://www.regjeringen.no/en/dep/md/documents-and-publications/reports-and-plans.html?id=312886>

³⁶ Bugge, "National Monograph: Norway" in *International Encyclopedia of Laws: Environmental Law* (Wolters Kluwer, update as of Dec 2010) online:

<http://www.kluwerlawonline.com/toc.php?area=Looseleafs&mode=bypub&level=6&values=Looseleafs~IEL+Environmental+Law~National+Monographs~Norway>;

with exemptions for other industries that are exposed to international competition. Because the *Pollution Control Act* applies to GHGs, emissions are included in the initial permits that industrial operations must otherwise obtain for their operations.³⁷ **Norway credits the carbon tax as “the most important instrument for reducing emissions in the petroleum sector...the low level of CO₂ emissions per produced oil equivalent is to a great extent due to the general improvements in technology and emission-reducing measures implemented after the introduction of the CO₂ tax.”**³⁸

In 2005, Norway also introduced an **emissions trading scheme** (ETS) on emissions not subject to the carbon tax. As a result, the scope of the carbon tax was amended to exempt certain activities under the purview of the ETS or lower tax rates, as in the offshore petroleum industry. In the current system, set for the Kyoto Protocol commitment period (2008-2012), the ETS is linked to the European Union Emissions Trading Scheme and carbon credits from Kyoto based mechanisms can be applied toward a maximum of 20% of the total quantity of allocated allowances.³⁹ The offshore petroleum sector is specifically targeted in that it is required to purchase emission allowances in market auctions rather than receive them free of charge, providing a good source of public revenue.⁴⁰ The ETS is also meant to provide an incentive for mitigation in the form of technology innovation for carbon capture and storage (CCS), and the government is considering allowing facilities with CCS that are not covered by the ETS to opt-in to the regime.⁴¹

3.1.4 Incentives for Renewable Energy in India

India is the 5th largest power generator in the world but consumption is only 30% of the world average. Energy generation, distribution and efficiency are critical to **India’s development goals, particularly with current rates of population growth that will create a demand for production six-fold today’s by 2030. With coal as the primary source of energy, a GHG and air pollution emitter, and with only 25% of primary energy used in coal-fired plants reaching end-users, India’s pursuit of alternative energies is understandable.** Indeed, India is a leader among non-Annex I as well as Annex I countries alike in promoting renewable and efficient energy. The Government of India provides considerable assistance to promote clean energy through generation-based incentives, subsidies, tax exemptions, credits, ecolabeling and reduced import duties, all of which have contributed to private investment in renewables estimated at USD 34 billion.⁴²

³⁷ Norwegian Ministry of the Environment, *Norway’s Fifth National Communication under the Framework Convention on Climate Change: Statsu Report as of December 2009*, online: <http://www.regjeringen.no/en/dep/md/documents-and-publications/reports-and-plans.html?id=312886>

³⁸ *Ibid.* at 11.

³⁹ Norwegian Ministry of the Environment, *Norwegian National Allocation Plan for the Emissions Trading System in 2008-2012* (March 2008).

⁴⁰ Norwegian Ministry of the Environment, *Norway’s Fifth National Communication under the Framework Convention on Climate Change: Statsu Report as of December 2009*, online: <http://www.regjeringen.no/en/dep/md/documents-and-publications/reports-and-plans.html?id=312886>

⁴¹ Norwegian Ministry of the Environment, *Norwegian National Allocation Plan for the Emissions Trading System in 2008-2012* (March 2008).

⁴² The Climate Group, *India’s Green Revolution* (UK: The Climate Group, 2011).

For instance, in 2010-2011, the Minister of New and Renewable Energy removed customs levied on imports of essential components used in **electric vehicles** and introduced an incentive package for manufacturers, ranging up to USD 8,800 for electric minibuses.⁴³ Other achievements include the addition of a **carbon tax on coal** to fund a National Green Energy Fund, which will be used for R&D and remedial programmes. The expected earnings of the Fund are USD 500 million in 2010-2011. India's Cabinet also approved the *National Mission on Enhanced Energy Efficiency* in June 2010, one of the eight missions under a *National Plan on Climate Change*, pursuant to which India will implement an emissions trading **Perform, Achieve and Trade (PAT) Mechanism** covering facilities that account for more than 50% of fossil fuels.⁴⁴ Another of many notable reforms is the **Jawaharla Nehru National Solar Mission** approved in January 2010,⁴⁵ which seeks to set up an enabling environment for solar technology penetration in the country on a vast scale (up to 20,000MW by 2022) both at a centralized and decentralized level. To increase viability and lower costs to purchasers, the Ministry of Power has entered into power purchase agreements with 53 solar power developers, will blend solar and conventional power for distribution and will sell solar power at a tariff rate.⁴⁶

3.2 Legal Preparedness for Adaptation and Disaster Risk Reduction

3.2.1 Compensating Losses with the Caribbean Catastrophe Risk Insurance Facility

The UNFCCC Cancun Adaptation Framework invites Parties to enhance climate change DRR strategies by creating risk sharing and transferring mechanisms, such as insurance schemes at local, national, and regional levels. Moreover, the creation of a climate risk facility is a possible UNFCCC development to be discussed in the lead up to COP17 in Durban.⁴⁷ The **Caribbean Catastrophe Risk Insurance Facility (CCRIF)** was the first multi-country risk pool in the world of its kind and provides a good example of how such a sharing agreement works in the context of regional institutional planning. Prompted by losses incurred in 2004 from Hurricane Ivan, the Caribbean Community (CARICOM) Heads of Government resolved to implement a cost-effective risk transfer programme for member governments that opt-in to the mechanism. The CCRIF is a non-profit mutual insurance entity designed to quickly provide short-term liquidity when a member country is in need of coverage, including for climate change related catastrophes. Because governments pool funding through premium contributions, also supplemented by substantial donor funding from foreign governments and multilateral development banks, insurance payouts far surpass the socio-economic capacity of any individual country. In 2007, the CCRIF made a payment of USD 1 million to the Dominican and St Lucian governments after the earthquake in the eastern Caribbean. In 2008, it paid out USD 6.3 million to the Turks & Caicos Islands after Hurricane Ike.

⁴³ *Ibid.*

⁴⁴ India, Ministry of Environment and Forests, "India: Taking on Climate Change Post-Copenhagen Domestic Actions," (30 June 2010), online: <http://www.moef.gov.in>.

⁴⁵ India, *Resolution No. 5/14/2008-P&C*, "Jawaharla Nehru National Solar Mission" (11 January 2010).

⁴⁶ India, Ministry of Power, "Half a Decade of Powering Progress," online: www.powermin.nic.in.

⁴⁷ UNFCCC, FCCC/CP/2010/7/Add.1, "Enhanced action on adaptation," Arts. 14(e), 28(a)-(b).

Additionally, in 2010, the CCRIF made a payment of USD 7.75 million to the Government of Haiti.⁴⁸

The CCRIF works closely with CARICOM government agencies toward their ongoing development strategies, for instance the Caribbean Disaster and Emergency Management Agency under the *Hyogo Framework for Action*. It is also a likely collaborating partner in the *Implementation Plan for the CARICOM Regional Framework for Achieving Development Resilient to Climate Change (2009-2015)*, which seeks to “develop new legal tools that make for a more responsive insurance industry.”⁴⁹ It is currently considering expanded products for utility companies through the Caribbean Electric Utility Service and the agricultural sector through national governments.⁵⁰ Accordingly, “the CCRIF represents a paradigm shift in the way governments treat risk, with Caribbean governments leading the way in pre-disaster planning.”⁵¹

3.2.2 Subnational Agreements for Adaptation in Mexico

The cases of the state of Veracruz and the Yucatan Peninsula are paradigmatic references for subnational development of climate policies in Mexico. **Veracruz** has become one of the leading states in the development of climate responses because of its pilot status in the development of an adaptation oriented *Climate Change State Action Plan* (PEACC) and its enactment of the first climate law in Mexico focused on large coastal territories with significant human settlements.⁵² The **Yucatan Peninsula**, on the other hand, has received international recognition and praise since its creation. It is the clearest example within any Latin American country of coordinated and successful regional action at the subnational level due to the geographic and vulnerability commonalities of the region and the economic and social integration of its three party states.

In 2009, **Veracruz** tailored its *Climate Change Program* to strengthen the state’s resilience through the inclusion of economic and social strategies taking into account cross-cutting programs, regulations and current state laws directly related to adaptation responses.⁵³ Its general lines of action set the framework for the 2010 *Mitigation and Adaptation State Law to Respond to the Effects of Climate Change*, which offers a more balanced climate vision through its promotion of sustainable development via mitigation and adaptation policies at the state and municipal

⁴⁸ CCRIF, “About us,” online: <http://www.ccrif.org>; CCRIF, “The CCRIF Model- An Essential Component of a Climate Change Adaptation Strategy,” online: <http://www.ccrif.org>.

⁴⁹ Caribbean Community Climate Change Centre, *CARICOM Regional Framework for Achieving Development Resilient to Climate Change (2009-2015)* (July 2009); Caribbean Community Climate Change Centre, *Draft Implementation Plan, Regional Framework for Achieving Development Resilient to Climate Change, Executive Summary* (March 2011).

⁵⁰ CCRIF, “A guide to understanding CCRIF,” online: <http://www.ccrif.org>

⁵¹ CCRIF, “About us,” online: <http://www.ccrif.org>.

⁵² Ibararán, María E., Malone, Elizabeth L. and Brenkert, Antoinette L., “Climate Change Vulnerability and Resilience: Current Status and Trends for Mexico,” (2009) 12:3 *Environment, Development and Sustainability*.

⁵³ Government of the State of Veracruz, University of Veracruz, National Institute of Ecology, British Embassy, Center of Atmospheric Sciences-UNAM, Institute of Ecology, *Programa Veracruzano ante el Cambio Climático*, June 2009.

level.⁵⁴ In its **adaptation component, Veracruz's climate law identifies the criteria to define and design policy instruments to reduce the vulnerability of its population, economy and environment in the short-, medium- and long- term.**⁵⁵ It recognizes as well the need to adopt a multidisciplinary approach and proposes the inclusion of adaptation criteria in the diversity of programs, regulations, codes and laws that promote the development of the state.⁵⁶ Though this proposal does not have any mandatory power upon other judicial instruments at the same level, its intent sets forth an important signal to the regulatory and policy system. Through its aim to **enhance the green economy of the state, Veracruz's climate law recognizes that adaptation criteria need to be incorporated in the design and implementation of the rules of operation of any subsidy and investment projects for increased resilience of the most vulnerable populations within its territory.**⁵⁷

As part of the three lines of action of the Yucatan Peninsula Accord, the states of Quintana Roo, Yucatan and Campeche agreed on the establishment of a **Regional Environmental Fund** as its financial mechanism and the design of a **Regional Adaptation Strategy** to respond to the high vulnerabilities of the **Yucatan Peninsula**. To maintain the stability of the Accord and avoid financial confrontation among states, the **Regional Environmental Fund**, designed upon current regional trusts among the states, has only been allowed to finance technical climate studies of the region. Hence, it is to be expected that these funds will be a source of finance of the **Regional Adaptation Strategy**, which shall be designed based on social, environmental and economic vulnerability studies of the region emphasizing the need to reduce the vulnerability of the oil industry and tourism of the region due to **their significant contribution of the state's economy.**⁵⁸

3.2.3 The Netherlands National Water Plan

The Netherlands provide an example of a developed country that will face very challenging environmental changes due to sea level rise. One fourth of the Dutch territory lies below average sea level, and only the half of the territory is higher than 1 meter above that level.⁵⁹ The Dutch legislation on water management results from two important documents adopted in 2009. Firstly, the **Water Act** is a procedural guide that regulates the respective competence of different national **authorities, such as ministerial authorities and provinces, but also "water basin districts."**⁶⁰ This clarification of the competence of various jurisdictions enabled the Cabinet to adopt a **"National Water Plan"** for the period 2009-2015. The National Water Plan is a comprehensive national adaptation policy for water management, with two main concerns: flood prevention and freshwater supply. The aim of the **Plan is for the Netherlands to become "a safe and livable delta, now and in the**

⁵⁴ Official Gazette of the state of Veracruz, Ley Número 878 Estatal de Mitigación y Adaptación ante los Efectos del Cambio Climático, November 3, 2010, (Veracruz Climate Law) Art. 1

⁵⁵ Veracruz Climate Law, Chapter II (Art. 3-6), Chapter VII (Art. 26-28)

⁵⁶ Veracruz Climate Law, Art. 27

⁵⁷ Veracruz Climate Law, Art. 27.IX

⁵⁸ Yucatan Peninsula Accord, Third Clause.

⁵⁹ See generally M. VanKoningsveld, "Living with Sea-Level Rise and Climate Change: A Case Study of the Netherlands" (2008) *Journal of Coastal Research* 367

⁶⁰ Netherlands, *Water Act, 2009*, online: <http://www.helpdeskwater.nl/algemene-onderdelen/serviceblok/english/legislation/@29167/dutch-water-act/>.

future.” More precise planning documents, such as the Delta Plan that is currently in the making, will give more thorough directions on certain specific adaptation issues. At the present time, the regulations mainly aim at setting a coherent policy through coordinating different actions that the government commits to take or will continue to implement.⁶¹

The *National Water Plan* includes several programs and operations, such as the Room for the River river-widening program, which is probably the most ambitious adaptation project in the Netherlands. This expensive set of more than 40 small programs is being carried out over one decade (2006-2015), for an estimated cost of EUR 2.2 billion (USD 3.3 billion). It is due to reduce the risk of occurrence of major floods to once every 10,000 years. The Room for the River program was adopted by Parliament after extensive public stakeholder consultations. Several national committees were consulted and additional studies and impact assessments were carried out by independent institutions.⁶² The *National Water Plan* also includes the Meuse Projects, a joint project of the ministries of Agriculture, Nature and Food Quality and Transport, Public Works and Water Management aimed at flood protection for nearby human settlements.

3.2.4 Institutional Reform in Bangladesh

As in the Netherlands, Bangladesh is a very low-lying country. 80% of Bangladesh territory is made up of fertile alluvial lowland prone to flooding and global warming has largely increased preexisting environmental vulnerability. The country is particularly vulnerable to storm surges and monsoons, which can flood very large tracts of land as well as droughts and cyclones.⁶³ Unfortunately, Bangladesh does not have the economic capacity to implement programs comparable to the *Netherlands' National Water Plan*. Bangladesh has a GDP per capita is 25 times lower than the Netherlands.⁶⁴ This not only means that the financial resources of Bangladesh are lower than those of the Netherlands, but also that a greater part of these resources have to be used to fulfill the primary needs of the population, such as food and habitat, and a lower share of this GDP per capita is available to fund programs for adaptation to climate change. Nevertheless, the government of Bangladesh adopted a comprehensive adaptation and mitigation plan of action in 2008, the *Bangladesh Climate Change Strategy and Action Plan*, where it estimated that financial efforts going to adaptation and mitigation should represent 0.5 to 1% of the GDP.⁶⁵ Establishment of the Strategy and Action Plan was led by the Ministry of Environment and Forests, but it also involves most of the other interested ministries, such as the ministries of: Food and Disaster Management

⁶¹ Netherlands, *National Water Plan (2009-2015)*, online: http://english.verkeerenwaterstaat.nl/english/topics/water/water_and_the_future/national_water_plan/

⁶² See: “Explanatory Memorandum Room for the River” online: <http://www.ruimtevoorderivier.nl/meta-navigatie/english.aspx>.

⁶³ See: Ahmed Ahsan Uddin, *Bangladesh. Climate Change Impacts and Vulnerability, A Synthesis* (Bangladesh Department Of Environment, 2009), online: <http://preventionweb.net/go/574>.

⁶⁴ In 2010, Bangladesh GDP per capita was estimated at \$1,700, and the Netherlands GDP per capita was estimated at \$40,500 (CIA World Factbook, 2010, online: <https://www.cia.gov/library/publications/the-world-factbook/index.html>).

⁶⁵ Bangladesh, *Climate Change Strategy and Action Plan 2008*, online <http://www.sdnbd.org/moef.pdf>,

(including the Disaster Management Bureau and the Comprehensive Disaster Management Program), Water Resources (including the Bangladesh Water Development Board and other research and forecasting organizations), local government, rural development and cooperatives (including the Local Government Engineering Department and the Department of Public Health Engineering), Agriculture, Livestock and Fisheries, Energy, and the Ministry of Health.⁶⁶

The *Strategy and Action Plan* has also been closely linked with other governmental actions, such as the *National Poverty Reduction Strategy*. Implementation of the plan relies on climate change cells within different ministries, coordinated by the climate change secretariat of the Ministry of Environment and Forests, with an “overall coordination” by the National Steering Committee on Climate Change of the same Ministry, and with strategic guidance and oversight of the National Environmental Council, an interdepartmental group chaired by the Prime Minister.⁶⁷ It has also led to the adoption of an extremely ambitious 134 point adaptation and mitigation plan, which the Prime Minister of Bangladesh presented at the United Nations as requiring “enormous funds.”⁶⁸ In the result, although it is still underfunded, in 2010, the European Union promised EUR 8.5 million in finance as a start to the realization of Bangladesh’s efforts.⁶⁹

3.3 Legal Preparedness for Climate Finance

3.3.1 Readiness for REDD+: Governance and Benefit Sharing in Vietnam

Vietnam has achieved spectacular gains in economic development over the past 20 years with reductions in the poverty rate from 58% to 16%.⁷⁰ However, Vietnam is highly vulnerable to the impacts of climate change that could significantly undermine its development gains, for instance with economic losses worth 10% of GDP under a scenario of a 1 meter sea level rise.⁷¹ Moreover, Vietnam still ranks 113 out of 169 countries on the United Nations Development Programme Human Development Index because of sharp inequalities in wealth distribution and “persistent pockets of poverty” with 52.2% of ethnic minorities living in poverty.⁷² Vietnam’s growth has also been fuelled by intensive exploitation of natural resources, focusing on sectors such as forestry, agriculture and mining that directly affect the rights of the rural poor.⁷³ Therefore, the World Bank has recognized that

⁶⁶ *Ibid.*

⁶⁷ *Ibid.*

⁶⁸ Statement by H.E. Sheikh Hasina before the General Assembly, 25 September 2010.

⁶⁹ German Information Center in New Delhi, “EU pledges millions for climate change adaptation in Bangladesh” (21 June 2010), online: http://german-info.com/euro_union_shownews.php?pid=469.

⁷⁰ World Bank, Vietnam Country Overview, online:

<http://siteresources.worldbank.org/INTVIETNAM/Resources/VietnamCountryOverview.pdf>.

⁷¹ Dasgupta et al., “The Impact of Sea Level Rise on Developing Countries: A Comparative Analysis,” *World Bank Policy Research Working Paper 4136* (Feb 2007).

⁷² Canadian International Development Agency, “Vietnam,” online: <http://www.acdi-cida.gc.ca/acdi-cida/ACDI-CIDA.nsf/Eng/JUD-217143241-QWY>; World Bank, “Vietnam Country Brief,” online:

<http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/VIETNAMEXTN/0,,menuPK:387575~pagePK:141132~piPK:141107~theSitePK:387565,00.html>

⁷³ World Bank, “Vietnam Development Report 2011,” online:

<http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/VIETNAMEXTN/0,,contentMDK:22416790~menuPK:387571~pagePK:2865066~piPK:2865079~theSitePK:387565,00.html>;

as the country's growth continues, resources will need to be harvested in a manner that is sustainable and allows for replenishment, that the proceeds of exploitation be invested in other forms of capital, and that the country will need "clear property rights, rules of transactions, and conflict resolution" because of increased competition over natural resources.⁷⁴

Vietnam is very committed to climate change mitigation measures in the UNFCCC as a Non-Annex I Party to the Kyoto Protocol; under its strategic plan, the *National Target Program to Respond to Climate Change (2008)*;⁷⁵ and also through extensive participation in emerging market mechanisms for natural resource management in organic agriculture, payment for ecosystem services and **Reducing Emissions from Deforestation and Forest Degradation (REDD+)**. REDD+ in Vietnam, in particular, is receiving considerable international attention. With much of developed countries' recent pledges for UNFCCC Fast Start Finance of USD 30 billion in the period 2010-2012 flowing to sustainable forest management in developing countries,⁷⁶ and with the possibility that it will become a new market mechanism for carbon credits, Vietnam is preparing for REDD+ through the UN-REDD program⁷⁷ and the Forest Carbon Partnership.⁷⁸ However, pursuant to the outcomes of COP16, in preparation for REDD+, domestic governments will be required to undertake significant measures to establish a clear national action plan; monitoring, reporting and verification; and safeguards for the rights of indigenous peoples and forest communities. Important issues will also arise with respect to the establishment of benefit sharing systems the allow REDD+ as a sustainable economic development mechanism to benefit the rural poor involved in forest management. Therefore, as in many other developing countries, REDD+ poses critical legal and institutional challenges to Vietnam's existing governance systems.

Currently, Vietnam has a complex forest tenure system with all forest resources under the ownership of the people with the State entrusting management to, inter alia: companies, individual households, government agencies, and community committees. There are also inconsistent rules for legal status that bar important stakeholders, such as village communities, from legal empowerment to enter into contracts for REDD+. Nevertheless, in 2010, Vietnam in collaboration with the UN-REDD program has undertaken extensive work for the *Design of a REDD Compliant Benefit Distribution System for Viet Nam (BDS)*.⁷⁹ The BDS sets out several comprehensive possibilities for equitable, transparent and compliant legal

UNEP, "Sustainable Development Implementation Vietnam", online :

<http://www.rrcap.unep.org/nsds/uploadedfiles/file/gms/vn/reference/NSDS-VN-Sustainable%20Development%20Implementation.pdf>.

⁷⁴ World Bank, "Vietnam Development Report 2011," online:

<http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/VIETNAMEXTN/0,,contentMDK:22416790~menuPK:387571~pagePK:2865066~piPK:2865079~theSitePK:387565,00.html>.

⁷⁵ Vietnam, Ministry of Natural Resources and Environment, *National Target Program to Respond to Climate Change* (2008).

⁷⁶ Climate Funds Update, online: <http://www.climatefundsupdate.org/fast-start-finance>; World Resources Institute, "Summary of Developed Country 'Fast-Start' Climate Finance Pledges", online: <http://www.wri.org/publication/summary-of-developed-country-fast-start-climate-finance-pledges>.

⁷⁷ UN-REDD, online: <http://www.un-redd.org/>.

⁷⁸ Forest Carbon Partnership, online: <http://www.forestcarbonpartnership.org/fcp/>.

⁷⁹ UN-REDD, *Design of a REDD Compliant Benefit Distribution System for Viet Nam* (January 2010).

and institutional reform for REDD+ governance and revenue management, including classification of REDD+ revenues and creation of a dedicated fund; local payment levels and structuring; law enforcement for performance-based distribution; participatory monitoring; and mechanisms for recourse. **Vietnam's BDS is one of the first worldwide, and it will likely be piloted in a small number of districts and provinces before being mainstreamed on the national level.**⁸⁰

3.3.2 Legal Reforms for CDM Investments in South Africa, China and Brazil

A number of legal reforms facilitate increased investment in the Kyoto Protocol's Clean Development Mechanism projects in host countries. What reforms are most suitable in any given context depends on existing barriers, priorities and capacities. Three examples of different types of reforms include China's and South Africa's tax law amendments and Brazil's funding support programs. In order to encourage South African and foreign companies to take advantage of the CDM, **South Africa** has introduced fiscal reforms for favourable tax treatment of income derived from certified emissions reductions (CERs). South Africa attributed limited up-take of CDM projects as resulting from perceived high financial hurdles because the nature of the proceeds received on the disposal of CERs was unclear for tax purposes. To remedy that barrier, pursuant to the *Taxation Laws Amendment Act, 2009*, South Africa exempted income derived from the disposal of CERs under section 12K of the *Income Tax Act, 1962*.⁸¹ Moreover, for the purpose of international sales to Annex I countries under the Kyoto Protocol, South Africa has issued a Memorandum designating CER trading as governed by the value-added tax (VAT) provisions according to which exports are taxed at a zero-rate. It also treats CERs as a VAT service rather than a good as the requirements for the former are less stringent, thereby advantaging CDM project participants.⁸²

The Government of **Brazil** provides another example of CDM facilitation incentives. Several government direct financing and credit mechanisms are available to support the development of CDM projects. For instance the National Bank for Economic and Social Development (BNDES), established a Clean Development Program, which provides investment capital for projects that potentially generate CERs. The BNDES Support for Investments in the Environment line of credit also assists with feasibility studies, the costs of preparing Project Development Documents, and finance needed during the validation and registration phases of CDM approval. Moreover, the Support Program for CDM Projects (*Programa de Apoio a Projetos do Mecanismo de Desenvolvimento Limpo – Pró-MDL*), run by Brazil's Research and Projects Financing (FINEP) agency, offers reimbursable and non-reimbursable finance for CDM technological development efforts.⁸³

⁸⁰ *Ibid.*

⁸¹ *South Africa Income Tax Act, 1962*, online: <http://www.acts.co.za/tax/index.htm>.

⁸² South Africa, National Treasury, *Explanatory Memorandum on the Taxation Laws Amendment Bill, 2009 (10 September 2009)*; South African Institute of Chartered Accountants "Exempt Income" 1827. Carbon emissions reductions credits Issue 127 (March 2010).

⁸³ Curnow & Hodes eds., *Implementing CDM Projects: Guide to Host Country Legal Issues* (UNEP Risoe Centre, 2009); BNDES, "Support for Social and Environmental Projects," online: http://www.bndes.gov.br/SiteBNDES/bndes/bndes_en/Institucional/Social_and_Environmental_Respo

The Government of **China** has taken almost the opposite approach to CDM finance. As the primary host of CDM projects worldwide and 1 of 3 countries totaling a share of 80% of all projects in the CDM pipeline,⁸⁴ China has used CER taxation to raise domestic revenues. Pursuant to Art. 24 of *Measures for Operation and Management of Clean Development Mechanism Projects in China* (2005), revenue from the transfer of CERs is owned jointly by the Government of China and the project owner, and China levies specified tax percentages from the transfer of CERs. China's allocation is based on government priorities, including sustainable development, and feasibility of costs as follows: 65% from hydrofluorocarbon and perfluorocarbon projects; 30% for nitrate oxide projects and 2% for CDM projects in the areas of renewable and efficient energy, methane recovery and forest management projects. The revenues collected from CER transfers, totaling over USD 300 million by 2009, are to be used to support activities on climate change through China's CDM Fund grants and investments programme.⁸⁵

3.3.3 Adaptation Fund Approved Institutional Reform in Senegal and Honduras

Senegal and Honduras are the first recipients of approved project proposals under the UNFCCC Adaptation Fund (AF), which is financed as a percentage of CDM revenues and also through direct donation. Although they differ significantly in scope, these ongoing projects provide a good example of two **developing countries'** successful access to assistance for adaptation through existing mechanisms under the multilateral regime. As of its last reporting period ending 31 January 2011, the AF had in trust USD 212 million.⁸⁶ It is unclear how the AF will be coordinated with the new Green Climate Fund agreed upon at COP16 to be the new operating entity of UNFCCC financial mechanisms. With developed country pledges of USD 100 billion by 2020, the Parties agreed that a "significant share of new multilateral funding for adaptation should flow through the Green Climate Fund."⁸⁷ The AF is, nevertheless, expected to have available resources of USD 250-350 million by 2012.⁸⁸

Senegal's funded project "**Adaptation to Coastal Erosion in Vulnerable Areas**"⁸⁹ (approved November 2010) consists of several objectives to strengthen that West African coastal country's vulnerability to climate change related sea level rise. Under a 1m sea level rise scenario by 2100, flooding and erosion will result in a

nsibility/support_for_social_environmental_projects.html; FINEP, "The Brazilian Innovation Agency," online: www.finep.gov.br/english/FINEP_folder_ingles.pdf.

⁸⁴ UNEP Risoe Centre, online: <http://cdmpipeline.org/cdm-projects-region.htm>.

⁸⁵ China, Department of Climate Change, National Development and Reform Commission, *Measures for Operation and Management of Clean Development Mechanism Projects in China*, online: <http://cdm.ccchina.gov.cn/english/NewsInfo.asp?NewsId=905>; China, Energy Research Institute of the National Development and Reform Commission, *EU-China Facilitation Project: Improvement of CDM Policies in China (August, 2009)*; Xie Fei, China CDM Fund, "Brief Introduction of China CDM Fund" EU-China CDM & Bioenergy Conference (Beijing, 12 June 2009); China CDM Fund, online: <http://www.cdmfund.org/en/index.aspx>

⁸⁶ Adaptation Fund, "Financial Status of the Adaptation Fund Trust Fund," AFB/EFC.4/10/Rev.2 (10 March 2011).

⁸⁷ UNFCCC, FCCC/CP/2010/7/Add.1, "Finance, technology and capacity-building," Art. 100.

⁸⁸ Adaptation Fund, online: <http://adaptation-fund.org/howtoapply>

⁸⁹ Adaptation Fund, "Funded Project: Adaptation to Coastal Erosion in Vulnerable Areas," available online: <http://www.adaptation-fund.org/fundedprojects>.

significant reversal of Senegal's development gains, including destruction of infrastructure, fisheries, tourist areas and human settlements as well as agriculture, which is vital to 14.7% of GDP. While Senegal's financed project proposal addresses those risks through infrastructure amendments and community-based awareness programmes, it also envisions legal reform for coastal management. At present, several laws pertain to coastal management, including the *Environment Code*,⁹⁰ *Sea Fishery Code*,⁹¹ *Urban Development Code*⁹² and the *Local Government Code*.⁹³ Certain of those laws are now in the revision process to take into account integrated coastal management approaches for climate change. Moreover, Senegal is finalizing an overarching *Coastal Act*, and new laws on biodiversity and aquaculture, which will consolidate and bolster existing regulations as well as create new provisions to protect against erosion, economic damages and biodiversity loss. At a local level, the project will involve consultations, knowledge building and devising local codes of conduct to ensure enforcement and sustainability.⁹⁴

Honduras' "Addressing Climate Change Risks on Water Resources in Honduras: Increased Systemic Resilience and Reduced Vulnerability of the Urban Poor"⁹⁵ (approved March 2011) is an institutional reform project to address adverse impacts of climate change on water security. The third poorest country in Latin America and the Caribbean, Honduras suffers from incapacity to manage water distribution despite its generous watersheds. The capital city of Tegucigalpa can only provide water services a few hours each day. In marginalized neighbourhoods, there is no public water system and the cost of water can represent 25% of household income. Still, the Government has announced more frequent and longer cuts in water services due to climate change impacts, such as decreased precipitation. Other anticipated climate change effects include flash floods and landslides from extreme weather events coupled with weak infrastructure protections. Over the course of 2009-2010, Honduras passed the *Water Law* and the *National Plan Law*, which call for inter-sectoral and landscape approaches to mainstream climate change concerns. The AF project seeks to improve the application of those new laws by ensuring compatibility with development priorities and improving institutional capacity by, inter alia: clarifying mandates of the Water Authority and Planning Secretariat, ensuring that line ministries and subnational actors integrate climate risks into planning (urban development, investments, allocation of water use rights), and creating economic incentives, including through the revision of water pricing in Tegucigalpa. The project implementation foresees substantial coordination among currently fragmented governance structures that have inhibited prior government efforts.⁹⁶

⁹⁰ Senegal, *Law 2001/01 of 15 January 2001*.

⁹¹ Senegal, *Law 98-32 of 14 April 1998*.

⁹² Senegal, *Law 8113/81 of March 1981*.

⁹³ Senegal, *Law 9606 of 22 March 1996*. See also: *Law 9607 of 22 March 1996*.

⁹⁴ Adaptation Fund, "Funded Project: Adaptation to Coastal Erosion in Vulnerable Areas," available online: <http://www.adaptation-fund.org/fundedprojects>.

⁹⁵ Adaptation Fund, "Funded Project: Addressing Climate Change Risks on Water Resources in Honduras: Increased Systemic Resilience and Reduced Vulnerability of the Urban Poor," available online: <http://www.adaptation-fund.org/fundedprojects>.

⁹⁶ *Ibid.*

3.3.4 Canadian Provinces' Feed-in Tariffs Legislation

Following known forerunners in power purchasing policies, such as Germany, several Canadian provinces have recently implemented feed-in tariff (FIT) legislation to provide financial incentives for renewable energy generation and consumption. FITs are a rapidly growing finance instrument whereby grid operators are mandated to purchase power from available renewable sources. FITs provide suppliers, from small-scale household producers to large industries, with fixed prices for a determinate period that are meant to be sufficient to stimulate investment in new infrastructure.

As the only Canadian province without substantial resources in fossil fuels, hydroelectric or nuclear energy, **Prince Edward Island** (PEI) imports nearly 85% of its energy needs, mostly from petroleum-based resources. This heavy reliance on foreign suppliers makes PEI consumers vulnerable to fossil fuel price volatility and supply disruptions. In response, the PEI government has vigorously pursued renewable energy strategies, in particular wind energy. In 2004, the *Renewable Energy Act* was implemented and with it the province became the first in Canada with feed-in tariffs.⁹⁷ **Nova Scotia** suffers from similar dilemmas in energy supply and has passed its *Renewable Energy Plan* and regulations, which include Community FITs forthcoming in 2011 aimed at municipalities, indigenous communities, cooperatives, universities and non-profits. **Two of Canada's most** populous provinces have done or are also in the process of passing FIT legislation. **Ontario** enabled its programme under the *Green Energy and Green Economy Act, 2009*, which allows for purchases from large energy developers as well as MicroFITs that even extend to homeowners.⁹⁸ The province of **British Columbia** is expected to pass similar regulations in 2011 under the *Clean Energy Act*.⁹⁹

Highlighting potential conflicts between domestic incentives for climate change mitigation and the international trade regime is the Government of Japan's 2010 request for consultation to the Dispute Settlement Body of the WTO with respect to Ontario's FIT. It should be noted, however, that the basis of the consultation is not the FIT legislation, per se, but Ontario's minimum domestic content requirement, which Japan says is inconsistent with Art. III:4 of the *General Agreement on Tariffs and Trade* (1994) as according "less favourable treatment to imported equipment than that accorded to like products originating in Ontario" as well as Art. 3 of the *Agreement on Subsidies and Countervailing Measures* because Japan argues that the FIT is a subsidy "contingent upon the use of equipment...produced in Ontario over such equipment imported from countries such as Japan."¹⁰⁰

⁹⁷ Prince Edward Island, *Prince Edward Island Energy Strategy (2008)*.

⁹⁸ Ontario Power Authority, *Micro Feed-in Tariff Program, (2010)*, online: <http://microfit.powerauthority.on.ca/>.

⁹⁹ Minister of Energy, Mines and Petroleum Resources, *Bill 17- Clean Energy Act, 2010*, Legislative Session: 2nd Session, 39th Parliament, First Reading.

¹⁰⁰ *Canada – Certain Measures Affecting the Renewable Energy Generation Sector* (2010), WTO Doc. WT/DS412/1, Request for consultations of 16 September 2010. See also: V. Tunteng, "Legal Aspects for Climate Change Policy" in Sustainable Development Law in Climate Change: Legal Working Paper Series (IDLO-CISDL, 2010).

4 CONCLUSION

There are a multitude of opportunities for climate change mitigation and adaptation, including through finance for sustainable development and green growth. Developed country Parties to the UNFCCC recently pledged substantial finance in the amount of USD 100 billion per year by 2020 to assist developing countries to plan and implement a variety of actions. In order to access that finance, the 2010 Cancun Agreements encourage the Parties to adopt a country-driven approach that is supported by the multilateral regime but is also based on domestic possibilities and capabilities. However, while the possibilities are many, including the Clean Development Mechanism, REDD+ and the Adaptation Fund, domestic capabilities are currently lacking due to gaps and barriers in the legal and institutional frameworks that are prerequisites to effective climate policy.

This *Compendium of Legal Best Practices for Climate Change Policy* brings together 12 examples of legal and institutional reforms undertaken by developed and developing countries in the attempt to overcome the challenges posed by climate change. For instance, countries such as Brazil and South Africa have committed to increase Clean Development Mechanism projects by creating tax incentives that make their countries more attractive to investors. Vietnam has attempted to ensure that the benefits of REDD+ are distributed in an equitable manner amongst those persons who manage forests, including indigenous and forest communities. India has implemented a far-reaching strategy for renewable energy to meet the growing needs of its population in a sustainable manner. Governments in Mexico have come to agreement on climate laws that address climate change taking into account subnational priorities. Moreover, the Caribbean Community has established a risk sharing facility that provides compensation for extreme weather events in an amount that far exceeds the capabilities of any Member State.

Therefore, while the legal best practices presented here are all a work in progress, they are, nevertheless, exemplary of the types of reforms that can be replicated, adapted and improved according to the circumstances. Above all, they demonstrate that domestic governments can be proactive in creating an enabling framework to access the opportunities created by the international regime for climate change policy as well as take on voluntary commitments that are cost effective and successful.