



DOWN TO EARTH: Territorial Approach to Climate Change

Low-Emission and Climate-Resilient Development Strategies at the Sub-national Level

2010 REPORT



THE CLIMATE GROUP



Executive Summary

The financial resources involved in a shift to a low-emission climate-resilient economy are daunting but not impossible to achieve. The key challenge however of financing the transition towards a low-emission society is to redirect existing and planned capital flows from traditional high-carbon to low-emission and climate-resilient investments.

Through its TACC Facility and the Down to Earth: Territorial Approach to Climate Change (TACC) project, United Nations Development Programme (UNDP) assists sub-national governments in developing countries to prepare Low-emissions Climate-resilient Development Strategies (LECDRS) in line with their overall development plans. They help chart a development trajectory resilient to a range of possible future climate outcomes and redirect major public and private investments flows towards low-emissions development.

These strategic exercises promote country-driven, multi-stakeholder identification of priority mitigation and adaptation activities aligned to short and long-term development goals. An end-product of the LECDRS, synthesizing its various components, is a portfolio of investment ready projects in line with sub-national climate policies and targets.

Down to Earth: TACC is part of a partnership between the United Nations and sub-national governments for fostering climate at the sub-national level. This partnership is a collaborative effort involving the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP) and eight associations of regions.

2010 was a major milestone for the *TACC Facility* in four main areas:

- **MAINSTREAMING THE TACC AS A DRIVER OF A RENEWED UNDP CLIMATE STRATEGY:** The LECDRS approach which underpins the *TACC* has been mainstreamed in UNDP activities worldwide and supports UNDP's renewed corporate strategy for addressing climate change, both at national and sub-national levels. **UNDP therefore put in place a TACC Facility** with dedicated staff at the global, regional and country-levels.
- **DEVELOPMENT OF METHODOLOGIES:** The LECDRS approach supported by the TACC Facility is now outlined in a series of **eighteen practical guidance documents and toolkits** that have been/are being prepared by UNDP. Training modules were developed by UNEP and UNITAR, with UNDP support, for the regional awareness-raising workshops on climate action at sub-national level organized by UNEP.
- **COUNTRY-PROJECTS AT THE SUB-NATIONAL LEVEL:** The initiative is **now operational in six countries**. UNDP has received requests from more than 20 governments to provide support for the development of LECDRS.
- **NETWORK OF PARTNERS:** The work is implemented using a unique partnership concept that brings together the UN, the networks of sub national governments, the decentralized cooperation and counterparts from developing countries. The capacity of UNDP to mobilize co-financing from vertical funds and reach out to a large number of governments and other partners has been used to combine and leverage complementary sources of funding such as bilateral donors, decentralized cooperation, the private sector, the LDCF and UNDP's own resources.

UNDP enhances the capacity of sub-national governments to formulate, finance and implement low-emission and climate-resilient strategies, in a manner that catalyses an array of financing sources and delivers long term results



Background

The need for comprehensive climate strategies at the sub-national level as a framework for catalyzing climate finance

A key challenge when addressing human development in a changing climate is to identify ways to mobilize a variety of and sufficient resources at scale to address the transition to a low-emission and climate-resilient economy, while ensuring that funding can be delivered with adequate speed where are most needed. As a result, climate finance must be used catalytically and be intimately linked with governments' development priorities at the country-level. .

Most investments to reduce GHG emissions and adapt to climate change – 50 to 80 percent for mitigation and up to 100 percent for adaptation – take place at the sub-national and local levels. Developing the capacity of sub-national governments in low income countries to create conditions that reduce the perceived investments risks and access new sources of environmental finance is a key priority to scale up efforts to address climate change.

However, UNDP's research has shown that only a very small number of integrated climate policies and strategies exist at this level. The vast majority of climate action is limited to individual mitigation or adaptation projects with little transformational impact.

Recognizing the critical need to leverage these experiences and insert them into a comprehensive policy framework, **UNDP and UNEP have formed a partnership with eight networks of regions¹ in October 2008** to help sub-national governmental action to address the adverse impacts of climate change.

Set up in 2009, the UNDP ***Down to Earth: Territorial Approach to Climate Change (TACC)*** is the outcome of this partnership. It enables sub-national governments to better identify the optimum mix of regulatory and public financing instruments to attract catalytic financial flows toward low-emissions climate-resilient development.

Together with the United Nations, the Associations of sub-national governments fostered international cooperation among their members

The first key results of this partnership were a series of meetings held in 2008-2009, during which the commitment of regions, their associations and the UN was confirmed.

Organized by the Network of Regions for Sustainable Development (nrg4SD) and the Region Brittany, **the World Summit of Regions hosted in St Malo in 2008**, was an important milestone as regions from around the world, together with UNDP and UNEP,

“While central governments set policy directions much of the innovative thinking and action will come from the sub-national level.” Yvo de Boer, UNFCCC Executive Secretary, at the 2nd Governors' Global Climate Summit in Los Angeles in 2009

“Down to Earth: TACC is the outcome of a partnership between UNDP, UNEP and eight key networks of sub-national governments involving over 1000 regions “

¹ Global Forum for Associations of Regions (FOGAR), International Association of Francophone Regions (AIRF), Assembly of European Regions (AER), The Climate Group, Conference of Peripheral Maritime Regions (CPRM), The Northern Forum, Network of Regions for Sustainable Development (NRG4SD), Latin American Organization of Intermediary Governments (OLAGI)



committed to promote collaborative action with their peers in emerging and developing countries.

Building on these efforts, sub-national governments through The Climate Group made further commitments in the **2008 Poznan Statement of Action at COP 14** to show what they would achieve leading up to Copenhagen.

At COP 15 more than 60 state and regional governments delivered the **Copenhagen Statement** and unveiled major new climate actions. A number of cooperation agreements were signed among regions and UNDP to support the establishment of sub-national low-emission climate-resilient development strategies (LECRDS) in developing countries through the “*Down to Earth: TACC*” Initiative.

The formal recognition of the role of sub-national governments in the UNFCCC negotiating text was another major achievement in 2009. It revealed a growing consensus among the Parties that sub-national governments will end-up implementing most of the low-carbon policies and adaptation measures.

An important step further was reached in November 2010 when Governor Schwarzenegger launched as a legacy the R20, together with 35 sub-national governments, three networks of regions (The US Climate registry, the Assembly of Regions of Europe and METROPOLIS) and with the support of international organizations (such as the International Energy Agency, the International Chamber of Commerce, the UN, etc.). First announced at COP15, the R20 is a sub-national public-private alliance committed to fast tracking the development of clean technologies, climate-resilient projects and green investment.



Progress to Date

1. TACC Approach: A Major Driver of A Renewed UNDP Climate Strategy

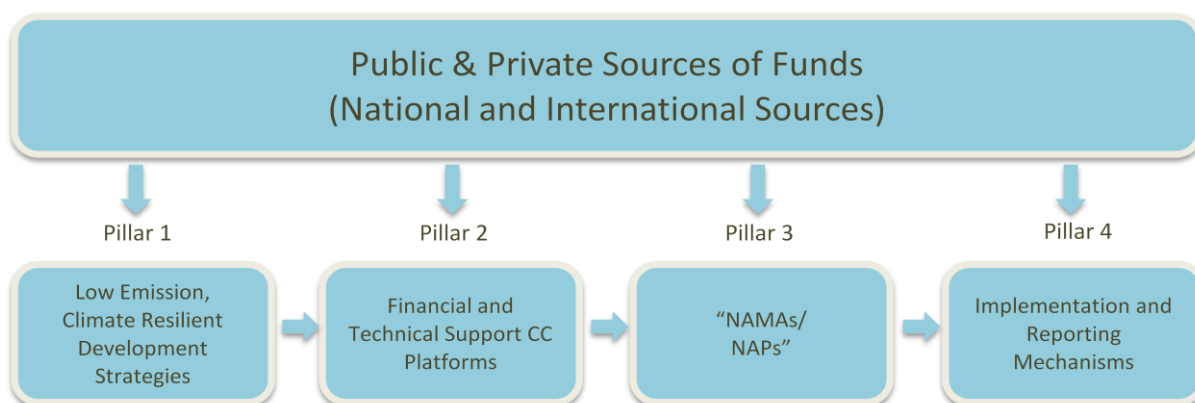
1.1 The UNDP framework for addressing climate change²

The *Down to Earth: TACC* global project document was signed by UNDP senior management in June 2010.

Since then, UNDP developed a renewed strategy which is underpinned by the TACC approach and its LECDRS methodology. It also relies on UNDP’s existing experience as one of the largest brokers of environmental grants in the developing world³ as well as one of the major sources of technical assistance in this area⁴.

UNDP believes in an integrated approach that focuses on mobilizing climate finance as well as governance structures for delivering these resources. It is therefore proposing a country-driven, multi-stakeholder climate finance framework to assist developing countries to scale up efforts to address climate change and to access the different sources of climate finance. The framework is built on four mechanisms at the country level as described in the figure 1.

Figure 1: A Country-Driven and Multi-Stakeholder Delivery Framework for Climate Change Finance



The *Down to Earth: TACC* initiative is part of the first mechanism that is being piloted at the sub-national level and touches upon the second mechanism by laying some of the groundwork for the financial and technical support platform.

² See : Discussion paper : *Human Development in a changing climate: A framework for climate finance.*

³ UNDP disbursed US\$ 1.58 billion directly and leveraged over US\$ 3 billion in co-financing from public and private sources to support sustainable development over the past three years

⁴ UNDP’s assistance to 140 countries to prepare their National Communications to the UNFCCC over the past decade, support to 29 LDCs to prepare their NAPAs and access new financing from LDCF to implement NAPA priorities, support for the design of 60 SCCF/LDCF projects for non-Annex I countries managed by UNDP, support to 114 countries to prepare National Capacity Self Assessments and assistance to 68 countries with their Technology Needs Assessments.

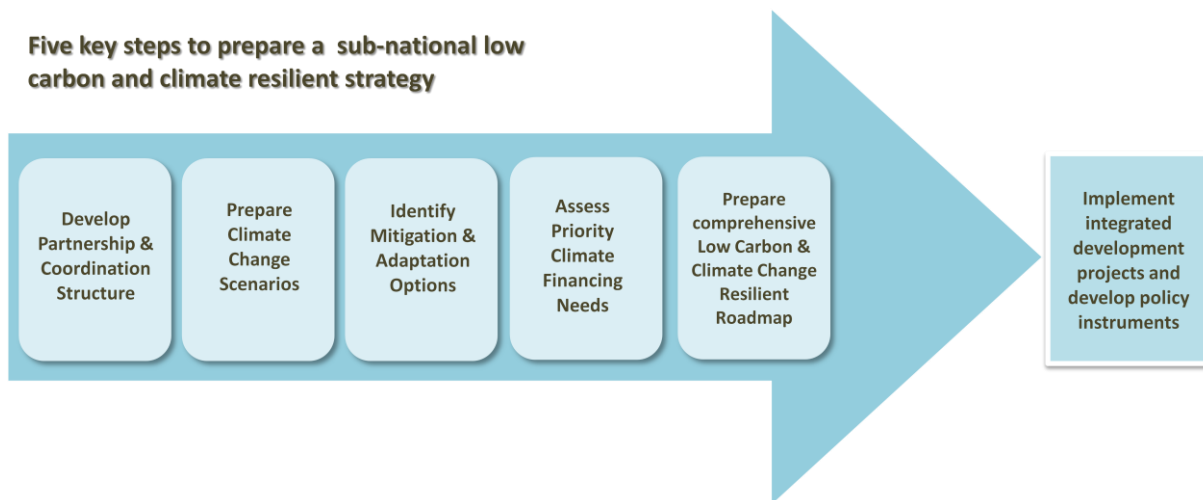


1.2 The establishment of Low-emissions Climate-resilient Development Strategies (LECRDS), piloted by the TACC at the sub-national level

For all the reasons stated in the background section of this document, the LECRDS are piloted at the sub-national level. More specifically UNDP has outlined the five components of the process (see figure 2) in a series of guidance documents, toolkits and knowledge products. Simultaneously, UNDP is field-testing the approach in six countries.

This methodology is not scale specific, and UNDP has received requests from national governments to scale up this approach to the national level.

Figure 2: Five Key steps to prepare a LECRDS



Core components of the LECRDS include:

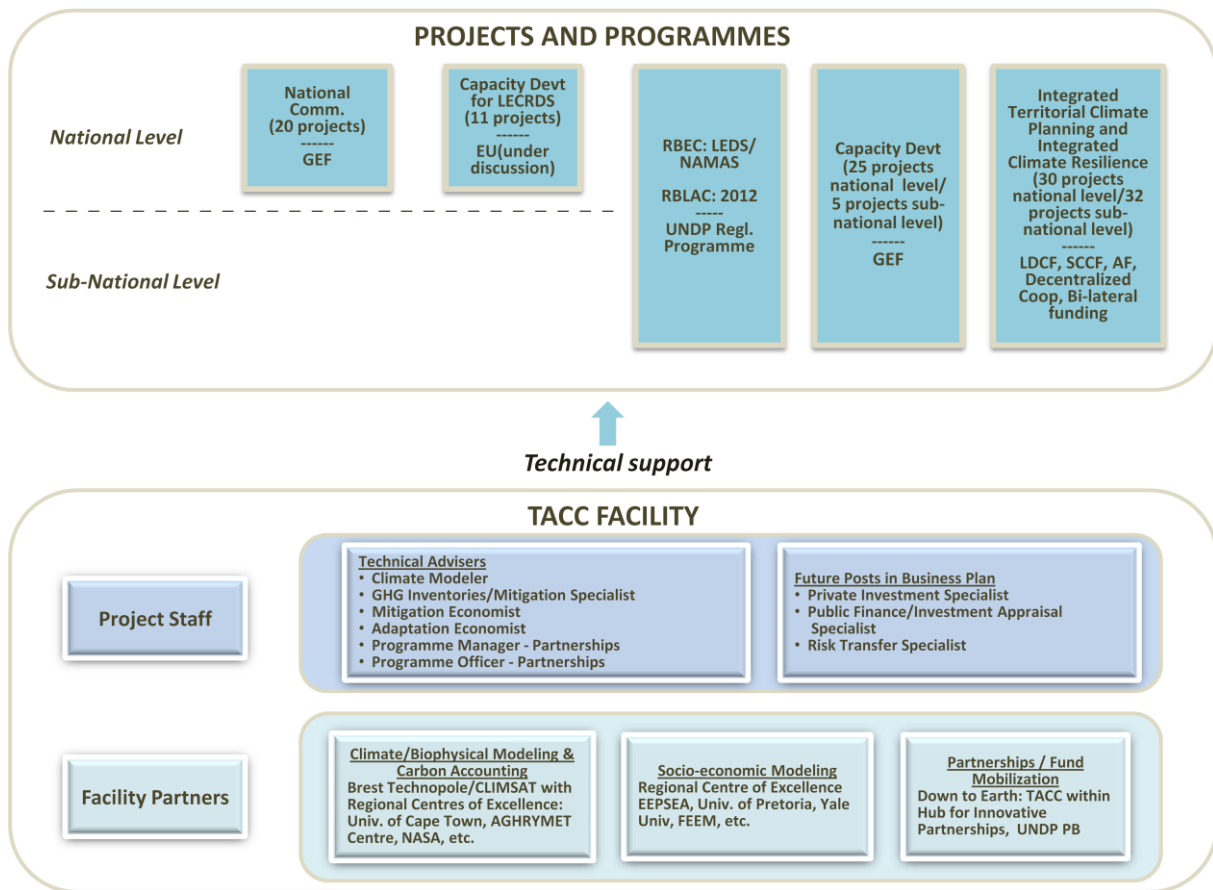
- **STEP 1: Partnership and coordination structures.** The first activities under the LECRDS aim to identify key stakeholders, including government officials, investors, community leaders and technical experts, and to build upon/put in place the structures for a participatory planning approach that accounts for synergies and trade-offs.
- **STEP 2: Climate change physical impact and vulnerability scenarios.** The second step is the generation of climate profiles and prospective climate scenarios that will help assess current climate vulnerabilities and future risks. These scenarios will help countries develop trajectories resilient to the range of possible climate outcomes and help prepare for the uncertainties inherent in climate change.
- **STEP 3: Prioritization of mitigation and adaptation options.** This component involves the identification and prioritization of climate activities that respond to vulnerability and emissions patterns and also lead to the transformation of economies.
- **STEP 4: Initial assessment of policy and climate financing needs.** Following an assessment of socio-economic impact and cost-benefit analysis of the identified options, financing and policy instruments would be identified to meet the financial flow requirements for implementation of the options.
- **STEP 5: Low-emissions and climate-resilient ecosystems and development road map.** Finally, a comprehensive low-emission and climate-resilient roadmap is developed to guide development of projects and policy instruments, and identification of financial flows to support the overall implementation of the strategic plan activities.



1.3 A TACC Facility established in 2010 to support the overall UNDP climate portfolio

A TACC Facility has been established to provide technical assistance to the *Down to Earth*: TACC country projects as well as other UNDP projects and programmes implemented at national or sub-national level with a LECDRS component. The Figure 3 outlines the global team, technical institutions, project and programmes supported by UNDP through its TACC Facility.

Figure 3: A TACC Facility to support the establishment of LECDRS over the period 2011-2014



The global support team is comprised of full-time technical advisors in the area of GHG inventories, mitigation analysis, vulnerability assessments, climate finance, climate modeling and partnership development.

In addition to the global support team and TACC Facility partners in figure X, the *TACC: Down to Earth* individual projects are being managed on a day-to-day basis by project teams with quality assurance and oversight provided by the UNDP Country Offices and UNDP/EEG Regional Technical Advisers (RTAs) located in the Regional Service Centers in Bangkok, Bratislava, Dakar, Pretoria and Panama.



2. The Methodologies

This LECRDS Approach and 5-step process supported by the TACC Facility is outlined in detail in a series of eighteen practical guidance documents and toolkits that have been/are being prepared by UNDP. These documents are designed specifically for project managers and stakeholders who participate in the TACC process.

This set of methodologies for the preparation of LECRDS is not scale-specific and thus closely complements and builds upon activities conducted through National Communications to the UNFCCC, NAPAs, NCSAs, etc.

Table 1: UNDP Guidance Document and Toolkits to Support LECRDS

Publication Title	Date Available	Planning level
<i>Global Approach</i>		
Charting a New Carbon Route to Development	Available	Sub-national
Human Development in a Changing Climate	Available	National/Sub-national
Guidebook on Preparing a Low-emission, Climate-resilient Development Strategy (LECRDS)	February 2011	National/Sub-national
<i>Step 1</i>		
LECRDS and Multi-stakeholder Dialogue Planning Processes	February 2011	National/Sub-national
<i>Step 2</i>		
Applying Climate Information for Adaptation Decision-Making: A Guidance and Resource Document	Available	National-Sub-national
Managing the National Greenhouse Gas Inventory Process	Available	National-Sub-national
Mapping Climate Change Vulnerability and Impact Scenarios - A Guidebook for Sub-national Planners	Early Dec. 2010	Sub-national
Guidance Document on the Utility of Climate-Model Downscaling for Planning and Decision Making	February 2010	National-Sub-national
Guidebook on Preparing a GHG Emissions Inventory at the Sub-National Level	February 2011	Sub-national
<i>Step 3</i>		
Technical Needs Assessments Handbook	Available	National/Sub-national
Toolkit for Designing Climate Change Adaptation Initiatives	Available	National/Sub-national
Proceedings on Internalizing Climate Risks into Infrastructure Design	January 2011	National/Sub-national
<i>Step 4</i>		
Engineering Investibility	February 2011	National/Sub-national
Website on CC Financing (jointly with World Bank)	Dec.2010	National/Sub-national
International Guidebook for Environmental Finance Tools	June 2011	National/Sub-national
<i>Step 5</i>		
MRV Guidebook	July 2011	National
National Climate Fund Guidebook	June 2011	National-Sub-national
A Guidebook on Legal Climate Instruments	Dec. 2011	National-Sub-national

Step 1: Partnership and coordination structures
 Step 2: Climate change physical impact and vulnerability scenarios
 Step 3: Prioritization of mitigation and adaptation options
 Step 4: Initial assessment of policy and climate financing needs
 Step 5: Low emissions and climate resilient ecosystems and development road map



3. The Country Projects

UNDP provides support to the local governments of Montevideo, Canelones and San Jose – chosen as members of nrg4SD - in Uruguay to develop a LECRDS. Projects to support sub-national governments to develop LECRDS are starting up in Colombia, Uganda, Senegal, Peru, Ethiopia, and Nigeria. The table 2 summarizes the current status of implementation, country requests, partners and funding.

Table 2: Status of the *Down to earth: TACC* country-projects.

COUNTRY	STATUS AS OF NOV. 2010	TOTAL FUNDING REQUIRED	AVAILABLE SOURCES OF FUNDS	CO-FUNDING
1. Uruguay (Montevideo, Canelones, San Jose)	Step 3	\$1,565,000	\$700,000	AECID
2. Colombia (Bogota/ Cundinamarca)	Steps 1 & 2 Project Manager selected	\$900,000	\$700,000	UNDP Veolia (Agreement under neg.)
3. Senegal (Five regions of Ferlo, Fatick)	Step 1 Project Manager selected	\$ 3,645,000	\$1,400,000 (+\$ 800,000 pledged)	Rhone-Alpes Catalonia Poitou-Charentes Wallonia Belgium (under neg) ADEME UNDP
4. Uganda (Mbale)	Step 1 Project Manager recruited	\$1,000,000	\$1,000,000	DFID UNDP DANIDA (under neg.)
5. Peru (Piura, Tumbes)	Project document finalized.	\$1,000,000	\$1,000,000	UNDP Ontario
6. Nigeria (Delta State)	Project formulation mission completed; project document under discussion	\$1,000,000	\$1,000,000	Government of Delta State
7. Morocco	Framework prodoc signed; individual regional prodocs pending; to be funded by national Govt.	\$4,200,000	\$4,200,000	Government of Morocco (tbc)
8. UAE (Dubai)	Project proposal on table under discussion; to be funded by national Govt.	\$1,000,000 (component of larger \$3.2m project)	\$1,000,000	Government of UAE
9. Algeria	Project proposal on the table under discussion; to be cleared by national govt.	~ \$1,000,000	\$500,000 USD	Quebec
10. Ethiopia (Addis-Ababa)	Embedded in approved LDCF PIF; project document now being prepared	~ \$1000,000 (component of larger LDCF project)	~\$800,000	GEF LDCF (Climate-resilient component linked to GEF LDCF project)

UNDP has since received requests from national governments to provide support for the development of LECDRS at sub-national level: Albania, Ecuador, Kenya, Nicaragua, South Africa, Ivory Coast, Burkina Faso, Namibia, Egypt, Lebanon, Samoa, China, and Indonesia. LECDRS will be implemented in these countries upon availability of funds.



Snapshot of the pilot-project in Uruguay

1. From Step 1 to Step 3: the main activities undertaken in 2010

Uruguay was the first pilot-country implementing the *Down to Earth: TACC* initiative. The project started in the three departments of Montevideo, San Jose and Canelones, in the second semester of 2009.

The TACC project in Uruguay is well advanced in the third step of the establishment of a sub-national LECDRS. The three local committee and the thematic working groups are **identifying the strategic adaptation and mitigation options to shift towards a low-emission and climate-resilient development trajectory**. The first two steps which consist in establishing a multi-stakeholder participatory process and in assessing the present and future business-as-usual emissions and vulnerabilities were completed in 2010.

In a nutshell, the main following activities were undertaken in 2010:

- Establishment and consolidation of the **multi-stakeholders working group** for each local government.
 - o Set up at the end of 2009, the Coordination Climate Change Committee for Montevideo was formalized by a resolution from the government in September 2010. Representative from 6 key ministries were officially assigned by the Governor to participate and lead this committee to support the establishment of the local LECDRS.
- Development of the **GHG Emission inventory** for the three departments: the results show that the main source of GHG emissions is the burning of fossil fuel in Montevideo, which significantly differs from the main source at the national level which comes from the agriculture.
- **Establishment of the climate scenario** completed through:
 - o Present climatology : downscaling of Global Climate Models (the two extremes: BAU and global cooperation towards sustainable development) to high temporal (3 hours) and spatial (5 km) resolutions based on historical data, precipitation and temperature
 - o Future climatology: precipitation and temperature patterns for medium and long term (2020 –2100)
- **Assessment of the present and future vulnerability** : identification of the main vulnerability of ecosystems (coastline, ocean, etc), existing social and economic systems (agriculture, water supply); and based on BAU regional development scenario, identification potential future impacts and risks.
- **Organization of 14 thematic workshops** (industry, transport, agriculture, coastal-area, biodiversity, disaster, etc), at local and sub-national levels and **identification** by the thematic working groups of **the strategic adaptation and mitigation options**
- Project proposals for early actions to access additional sources of funding: early project outputs resulted in a **follow-on adaptation project** on irrigation & management capacity development for small producers in San José **for EUR 300,000 funded by the EU**.
- **Awareness-raising of peers** with UNEP support undertaken in the whole-country, and in the region (Ecuador, Argentina, and Cuba).

The priorities identified and set by the workshops will serve as a basis for the completion of prefeasibility studies in the beginning of 2011. The establishment of the LECDRS is expected to be completed by 2011 subject to the availability of funds.



2. Climate-model downscaling for two emissions scenarios and two time periods in the Metropolitan area of Uruguay

One of the first issues that decision-makers face when exploring climate scenarios is the mismatch in the spatial scale of global climate models (GCMs) and what is needed for their territorial development planning

Territorial planners and decision-makers will most often need climate information at resolution significantly higher than GCMs, typically less than 50k. The proximity to the coast is one of the factors which influence significantly the temperature patterns in a given area. GCM which can produce climate scenarios over a relatively large area cannot produce sufficient information for planners in the Metropolitan Area in Uruguay. This mismatch is what drove the need for downscaling of future climate scenarios as predicted by GCMs.

To provide local-planners more accurate data to conduct prospective strategic exercises, UNDP/CLIMSAT downscaled **two main climate variables (temperature and precipitation) over two periods of time (2046-65 and 2081-2100)**. The two extreme emissions scenario were chosen to identify the widest range of possible climate future: the BAU scenario (A2) and the global cooperation towards sustainable scenario (B1).

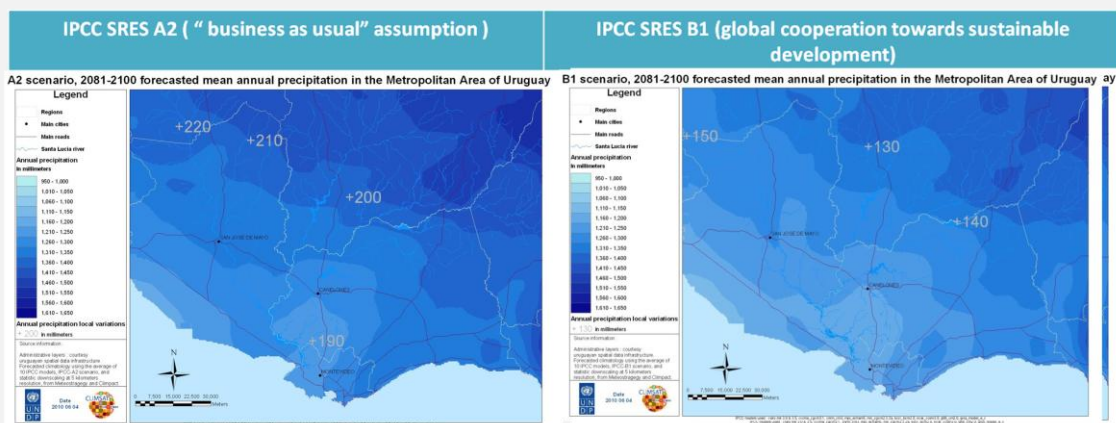
The climate of the Metropolitan area is determined by oceanic influence. Exposed to high winds from the pampas, the area is also highly exposed to extreme events (droughts, floods, storms, etc).

Precipitation forecasts follow the same trend in both scenarios: an increase in precipitation and the shift of the rainy season from March to April. The rainy season will thus coincide with storm surges frequent in April. These data highlight a major risk for the area in the future: land-based floods might concur with floods from the ocean. This risk can severely impact the infrastructure and the water supply.

More specifically, in A2 scenario, by 2100, the climate will be drier on the whole with a higher seasonal variation and a marked delay in the rainfall peak (1 to 2 months) compared to present. Heavier spring precipitation is also expected.

In B1 scenario, by 2100, decreasing rainfall is lower over time with a lower seasonal variation and less delay in the rainfall peak compared to present, although by 2050 rainfall patterns appear similar to A2 scenario.

Figure 4: Downscaling of the precipitation variables over 2081-2100 based on A2 and B1 scenario.



Trends at the end of the 21c
+ 200 mm in average, with a stronger increase along the coasts

Trends at the end of the 21c
+ 140 mm in average, with a stronger increase along the coasts.
 Same trend as A2 but with less intensity.



3. Identification of future vulnerabilities in the Metropolitan area based on a range of climate outcomes

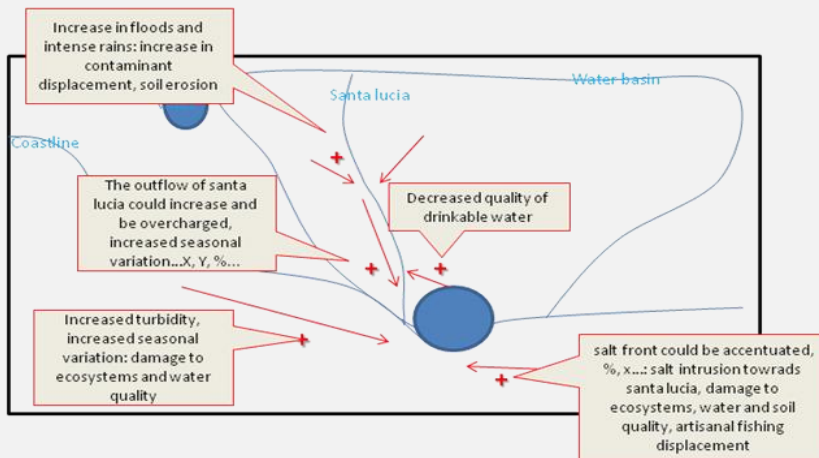
Based on the climate scenario, UNDP/CLIMSAT supported local planners in the Metropolitan area in assessing the present and future vulnerabilities, risks, and sensitivity of the water resources, the agriculture and food production to climate change.

With respect to the water resources, Montevideo is located at the beginning of the Santa Lucia watershed which is part of the Rio de la Plata Basin. The pumping station located 30 km north west from Rio de la Plata supplies almost 100% of the drinking water demand from the metropolitan population.

Water resources are threatened both in terms of quality and quantity because of their high exposure to important risks of land degradation which might increase the volume of sediments incoming Rio de la Plata, high seasonal variation of river discharges which increases the risks of flash foods and probability of cumulative large scale floods.

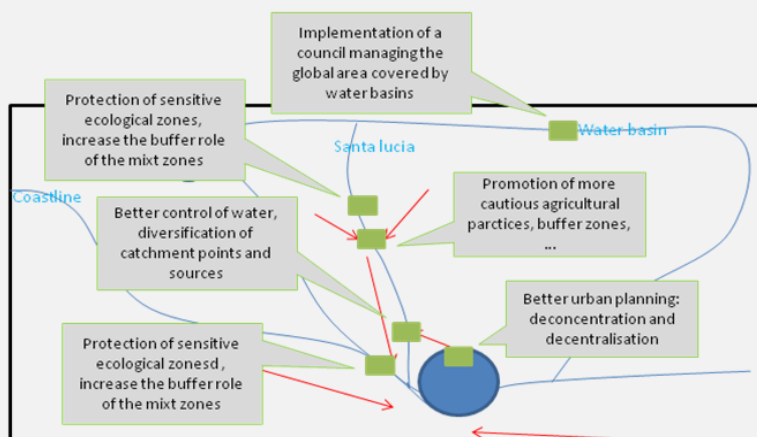
Figure 5 summarizes the current sensitivity of water resources to climate change in the metropolitan area of Montevideo, Uruguay – highlighting concerns for drinking water quality, saltwater intrusion, and flooding (in winter) and droughts (in summer).

Figure 5: Sensitivity of water resources to climate changes in the metropolitan area of Montevideo



Based on these assessments, the thematic working groups identified different adaptation options to mitigate the vulnerability of the water resources as described in Figure X.

Figure 6: Adaptation options to reduce the vulnerability of the water resources



4. The Network of Partners

If UNDP takes the lead through its TACC Facility, the establishment of LECRDS requires the involvement of a broad range of partners.

The Associations of Regions and their members

The Associations of Regions mobilized extensively their members to partner with the UNDP TACC initiative. And their engagement of the Associations of Regions proved to be critical to successfully implement the TACC initiative.

The Climate Group and nrg4SD were at the frontline of such efforts, enabling sub-national governments from industrialized countries to engage for the first time with the UN to address the climate challenge. Taking advantage of the Climate Leaders Summit organized by The Climate Group in December 2009 during COP 15, UNDP and regions (Delta Stave, Québec, Ontario, Wales/DFID, Rhone-Alpes, Poitou-Charentes, Wallonia) committed to join their efforts through the signature of several agreements. These agreements laid the ground for the implementation of the TACC initiative in the first pilot countries.

The active mobilization of these regions enabled also to leverage bilateral resources from their respective national governments to support the funding of sub-national LECRDS: as of Wales with DFID to support the Mbale region (Uganda) and the Canadian provinces to engage with their federal government, etc.

Beside the financial resources, the regions were keen to exchange and provide their expertise. Catalonia for instance assessed the vulnerabilities of its coastal area in the the Ebro Delta and identified the priority adaptation options. In the framework of its cooperation with Fatick within the TACC Senegal, Catalonia offered to share its methodologies and expertise with this region which coastline is also highly vulnerable

The bilateral and multilateral donors

Donors are increasingly interested in funding and facilitating the transition to low-emission and climate-resilient development. Thorough 2010, UNDP has strategically position itself as a credible provider of technical assistance in this field and built on this comparative advantage to engage with bilateral and multilateral donors.

Thanks to its capacity to reach out to a large number of governments and other partners, UNDP kept on intensifying its fundraising efforts to mobilize co-financing and to put them all in the service of helping the implementation of the *Down to Earth: TACC* initiative.

To date, DFID (UK) is financing the TACC Uganda and the Belgium government is negotiating the funding of TACC Senegal. In-depth discussions are ongoing with some other bilateral and multilateral organizations.

UNDP also reaches out to future investors who would be inclined to finance the portfolio of projects identified through the LECRDS process (these include development banks and the private sector).

Finally, UNDP used its capacity to leverage complementary sources of funding from vertical funds to make the case for the LECRDS mechanism at the sub-national level. LCDF will for instance significantly fund in 2011 the establishment of LECRDS at the sub-national level in Ethiopia (Addis-Ababa).



ClimSAT

ClimSAT is a multidisciplinary scientific center on regional climatology and adaptation to climate change, formed through a joint initiative of the Brittany Region and UNDP.

By building scientific partnerships with renowned centers of expertise, ClimSAT's mission is:

- to improve and develop downscaled climate projections and better identify associated uncertainties;
- to accurately quantify and map the extent of impacts, vulnerabilities and risks based on a range of climate outcomes.

In the framework of the Down To Earth: TACC project, ClimSAT undertook a range of activities such as developing:

- developing downscaled climate projections, based on two extreme emissions scenarios (A2 and B1) for TACC country-projects in Uruguay;
- developing evaluation reports with the qualifications of the uncertainties for Uruguay;
- assessing the vulnerability of the Rio de la Plata basin to future climate outcomes and particularly their impact on water resources, coastal erosion, land use and ecosystems, etc.
- modeling the impacts of the climate trends on the agriculture sector by 2050 and 2100 in Uruguay.

Box 1: GHG accounting

Any action to reduce greenhouse gas (GHG) emissions at local level requires that local governments have a good overview on the emission sources and the respective reduction potentials.

UNDP promotes the use of the existing tools to undertake the GHG inventories at the local level, as:

- Montevideo, San José and Canelones in Uruguay used the HEAT tool developed by ICLEI;
- ADEME worked together with UNDP on a simplified version of its Bilan Carbone™ tool;
- The Secretary of State for Environment of Sao Paulo, CETESB, in Brazil shared with UNDP, as a member of nrg4SD, its GHG inventory tool, as well as a tool recently developed to estimate GHG emissions from solid waste management.

UNEP

One other important outcome of the *Down to earth: TACC* partnership was a series of four regional workshops on a Territorial Approach to Climate Change (TACC) organized by UNEP in 2010, together with specific partners for each region.

Together with UNITAR and UNDP, UNEP developed eight training modules for awareness-raising sessions on climate change targeted to sub-national governments on the following themes: TACC/ climate change science/ mitigation/ adaptation/ integrated planning/ climate finance/ knowledge-sharing.

These modules were adapted to the needs of each region and countries where the workshops took place. From June to August 2010, four workshops were organized gathering from 40 to 50 participants each from sub-national governments: in Albania, in Thailand for 10 countries from South and South-East Asia, in Mexico, and in Uganda for 10 countries from Eastern Africa.



THE WAY FORWARD

As outlined in this report, 2009 was the year of the mobilization: the associations of regions, their members and the UN succeeded in promoting climate action at the sub-national level.

2010 proved to be critical as we have jointly demonstrated that a collective effort can be transformed and leveraged into a global-project carried out by an international organization, such as UNDP.

2011 will be the year of implementation. Beyond the pilot country in Uruguay, the methodologies will be tested and applied in different countries and regions. This will help us draw and share lessons learned. More specifically, UNDP will:

- **Combine and leverage complementary sources of funding supported by the UNDP TACC Facility and principal & regional technical advisors worldwide:** As one of the largest brokers of environmental grants in the developing world, UNDP has developed fund raising efforts that combine different types of funding sources and rely on its capacity to mobilize co-financing from vertical funds and reach out to a large number of governments and other partners.
- **Enlarge the number of target countries for the implementation of the Down to Earth: TACC:** UNDP intends to add ten new countries each year to its initial portfolio.
- **Field test methodologies:** thanks to its global presence UNDP will be able to test the methodology in different countries, (higher/lower income, primarily rural or urban context, higher/lower emission countries and regions, countries with different data availability or governance structures etc.) The lessons learned through on-the-ground implementation and discussions with stakeholders will help UNDP and its partners to refine the overall approach, e.g., with regard to time and cost constraints, identifying the necessary level of detail for prospective exercises, facilitating output-oriented multi-stakeholder processes, generating follow up investments, etc.
- **Collect and share the lessons learned from the LECDRS process taking place in the pilot-countries to make national, sub-national and local governments benefit from them.**



ANNEX - Model timeline of activities for the implementation of a LECDRS

The table below presents a general timeline of activities that are unique to each country depending on the availability and the quality of the information and the analyses, the existing structures of coordination, and the existing climate related project portfolio of UNDP, other donors and the host governments.

Table 3: Model timeline for the implementation of a LECDRS

Ideal Model timeline of activities	Y1				Y2			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Step 1: Project preparation and establishment of multi-stakeholder participatory process								
Internal preparation/collect info on existing local government climate issues, financial scan, review of existing projects and strategies/awareness-raising of regional authorities								
Establish a TACC Steering Committee and Proj Coord Unit								
Formulate multi-stakeholder consultative process/strategy to develop a TACC roadmap, incl. variety/composition of WGs freq of mtgs.								
Establish the Coordination Committee on CC and the technical working groups (energy, finance, water, urban development. etc)								
Undertake multi-stakeholder consultations to develop a TACC roadmap								
Develop technical capacities according to the identified needs								
Step 2: Assessment of present and future BAU GHG emissions and vulnerabilities								
Establishment of the climate scenario: Downscale GCM to regional (5-50 km2 resolution) scale based on historical data, precipitation and temperature on two extreme emission scenarios Map precipitation and temperature patterns for medium and long term (2020 – 2100) (BAU and global cooperation towards SD)								
GHG Emissions inventory and establishment of the BAU GHG emissions scenario								
Assessment of the present and future vulnerabilities: identify vulnerability of ecosystems, existing social and economic systems and related risks Based on BAU regional development scenario, identify potential future impacts, risks and vulnerabilities								
Step 3: Identify strategic adaptation and mitigation options to shift towards a low-emission and climate-resilient development trajectory								
Determine emission reduction targets and identify the related opportunities and options to achieve them								
Develop different low-emission development scenarios for the main sectors of the region (energy, transports, LULUCF, etc.)								
Assess the impact of the different scenarios on the vulnerability of the region								
Based on future emission scenario and vulnerability, define comprehensive low-emission and climate-resilient development objectives and identify the priority adaptation and mitigation options that may contribute to their achievement								
Step 4: Prioritization of adaptation and mitigation options through technical, financial and technological assessments								

Low-emission & Climate-resilient Territories





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