



HANDBOOK N°5
Seminar held in Marrakech, Morocco
16 - 17 April 2015

**Euro South Mediterranean Initiative:
Climate Resilient Societies
Supported by Low Carbon Economies**



Low-Emission Development Strategy (LEDS)



Project funded by the
European Union



Project implemented by
AGRICONSULTING CONSORTIUM
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The content of the report is based on presentations delivered by speakers at the seminar and discussions triggered by participants.

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FOREWORD

The Mediterranean region has been identified as a climate change hotspot by the Intergovernmental Panel on Climate Change (IPCC). Most countries in the region are already experiencing rising temperature, increasing water scarcity, rising frequency of droughts and forest fires, as well as growing rates of desertification. A common understanding is thus emerging in the region that fighting climate change is essential, by employing both mitigation and adaptation measures. These may also open new opportunities for further economic development, particularly those associated with low carbon options.

The EU-funded ClimaSouth project supports climate change mitigation and adaptation in nine Southern Mediterranean partner countries: Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine and Tunisia. The project assists partner countries and their administrations in transitioning towards low carbon societies while building climate resilience and promoting opportunities for sustainable economic growth and employment. The project also supports South-South cooperation and information sharing on climate change issues within the region as well as closer dialogue and partnership with the European Union.

As part of its efforts to enhance climate change strategic planning, the ClimaSouth project is producing a series of handbooks tailored to the needs of the South Mediterranean region. The key users targeted include relevant government departments at operational and policy levels, climate change units and committees, decision makers, meteorological services, and members of local gov-

ernment, the private sector and civil society. The ClimaSouth handbooks are based on peer-to-peer seminars and training sessions held by the project, which are designed to support national administrations in the development and implementation of climate change policy; they further help stakeholders in the region to engage more effectively in the global climate change framework.

This fifth handbook reflects the content presented, and the discussions held, during the ClimaSouth 'LEDS Seminar' held in Marrakech, on 16-17 April 2015, back-to-back with the 7th Africa Carbon Forum (Marrakech, 13-15 April 2015). The handbook is intended as an introduction to the concept of Low-Emission Development Strategies (LEDS). It discusses steps towards developing such strategies, highlighting that low-emission development paths can achieve sustainable development, turning challenges into opportunities for national economies. The role of policy in achieving LEDS goals and the process for LEDS policy making are also presented, and examples of LEDS in Europe are provided. We hope this handbook will contribute to policy-makers' and technicians' efforts at addressing climate change management issues.

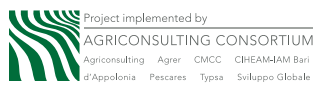
May your reading be informative and interesting.

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CLIMASOUTH HANDBOOKS

- Handbook N. 1: Building Capacity & Mainstreaming Climate Change Policy
- Handbook N. 2: Improving Climate Information
- Handbook N. 3: An Introduction to Greenhouse Gas Inventories and MRV
- Handbook N. 4: Long-range Energy Alternatives Planning System (LEAP) & Greenhouse Gas (GHG) Modelling
- Handbook N. 5: Low-Emission Development Strategy (LEDS)
- Handbook N. 6: Downscaling Climate Modelling for High-Resolution Climate Information and Impact Assessment
- Handbook N. 7: Connecting Downscaling, Impacts and Adaptation: A Summary



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LIST OF ACRONYMS

| | |
|--------------|---|
| ACF | Africa Carbon Forum |
| AFOLU | Agriculture, Forestry and Other Land Use |
| BAU | Business As Usual |
| CDKN | Climate and Development Knowledge Network |
| CDM | Clean Development Mechanism |
| Ci-Dev | Carbon Initiative for Development |
| CIF | Climate Investment Fund |
| CTCN | Climate Technology Centre and Network |
| DEG | Deutsche Investitions- und Entwicklungsgesellschaft (KfW) |
| DFI | Development Finance Institutions |
| EBRD | European Bank for Reconstruction and Development |
| ECN | Energy research Centre of the Netherlands |
| ECRAN | Environment and Climate Regional Accession Network |
| ENP | European Neighbourhood Policy |
| ESMAP | Energy Sector Management Assistance Program |
| EU ETS | European Union Emissions Trading System |
| FONERWA | Fund for Environment and Climate Change in Rwanda |
| FMO | Financierings-Maatschappij voor Ontwikkelingslanden (Netherlands Development Finance Company) |
| GCF | Green Climate Fund |
| GEF | Global Environment Facility |
| GEEREF (EIB) | Global Energy Efficiency and Renewable Energy Fund (European Investment Bank) |
| GET FiT | Global Energy Transfer Feed-in Tariffs |
| GHG | Greenhouse Gas |
| GIZ | Gesellschaft für Internationale Zusammenarbeit |
| IEA | International Energy Agency |

| | |
|---------|---|
| IFC | International Finance Corporation |
| INDC | Intended Nationally Determined Contributions |
| IPA | Instrument for Pre-Accession Assistance |
| IPCC | Intergovernmental Panel on Climate ChangeKfW Kreditanstalt für Wiederaufbau |
| IRENA | International Renewable Energy Agency |
| LCDS | Low-Carbon Development Strategies |
| LECB | Low-Emission Capacity Building programme |
| LEDS | Low-Emission Development Strategy |
| LEDS GP | Low-Emission Development Strategy Global Partnership |
| LULUCF | Land use & Land Use Change and Forestry |
| MENA | Middle East and North AfricaMRV Measuring Reporting and Verification |
| MTEF | Medium-Term Expenditure Framework |
| NA1 | Non-Annex 1 Countries |
| NAMA | Nationally Appropriate Mitigation Actions |
| NCCS | National Climate Change Strategy |
| NGO | Non-Governmental organization |
| ODA | TFs Official Development Assistance Task Forces |
| OPIC | Overseas Private Investment Corporation |
| PROSOL | Solar Programme |
| RCREEE | Regional Center for Renewable Energy and Energy Efficiency |
| TEIEX | Technical Assistance and Information Exchange |
| UNDP | United Nations Development Programme |
| UNEP | United Nations Environment Programme |
| UNFCCC | United Nations Framework Convention on Climate Change |
| USAID | United States Agency for International Development |
| VER | Voluntary Emission Reductions |
| WB CIF | World Bank Climate Investment Funds |
| WWI | World Watch Institute |

1. INTRODUCTION

The overall objective of the ClimaSouth project is to support the transition of ENP South countries (Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine and Tunisia) towards low carbon development and climate resilience. This is to be achieved in a context of sustainable and democratic development, by enhancing regional cooperation, information sharing and capacity development on climate change mitigation and adaptation.

In the area of mitigation, the specific purpose of the project is to assist in Strengthening institutional mitigation capacity towards low carbon development, including Measurement, Reporting and Verification (MRV), Low Emissions Development Strategies (LEDS), and Nationally Appropriate Mitigation Actions (NAMAs). Analyses and lessons learnt from stakeholders' consultations carried out during the ClimaSouth inception phase (February-June 2013) identified Capacity building on NAMAs & LEDS identification and formulation as one of the primary needs for almost all beneficiary countries.

Several global and bilateral initiatives are already providing technical support/training on NAMAs and LEDS to developing countries. Particularly relevant is the Low-Emission Capacity Building Programme (LECBP)¹ launched in January 2011 as part of a joint collaboration between the European Union (European Commission

and Member States) and UNDP. Since its inception, the LECB Programme has grown both in scope and breadth, including 25 participating countries (among them, Egypt, Lebanon & Morocco from the MENA region), and enhanced technical support through contributions from the European Commission, the German Federal Ministry for the Environment, the Australian Department of Climate Change and Energy Efficiency, and USAID. This collaborative, country-driven programme aims to strengthen technical and institutional capacities at the country level, while at the same time facilitating inclusion and coordination of the public and private sector in national initiatives addressing climate change.



¹ <http://www.lowemissiondevelopment.org/>

In this context, ClimaSouth activities are aiming to support the UNFCCC process by providing support in synergy with those existing initiatives, using the same tools, complementing the support needed and targeting national teams to address specific needs. A regional seminar was organised in April 2015 in Marrakech, Morocco to help ENP South countries to better understand the rationale for establishing a low-emission development strategy and to strengthen their capacities to develop a long-term low-emission development vision.

Objectives of the seminar

The two-day seminar, targeting representatives from ENP South countries aimed to present a clear idea about LEDS and how to proceed to develop such strategies. The seminar also meant to show that a low-emission development path can achieve sustainable development and that challenges can be turned into opportunities for national economies. It also intended to show the role of policy in achieving LED goals and the process for LED policy making: defining a LED vision, developing an LED strategy and implementing LED actions.

The objectives of the seminar:

- *demonstrate that robust economic growth is consistent with deep decarbonisation;*
- *make the link between a low-emission development path and opportunities for funding brought by the carbon market, the seminar being organised side-by-side with the "Africa carbon Forum" (Marrakech, 13-15 April, 2015);*

- *enhance regional and international collaboration through information and experience sharing, and networking.*

More specifically:

- strengthen the capacity of the ClimaSouth beneficiary countries to
 - develop a long-term vision for development planning,
 - decouple growth and the decarbonisation of national economies,
 - make the best use of the carbon market as a complementary source of funding,
 - explore approaches and choose suitable ones for the formulation of LEDS according to national circumstances and the level of ambition,
 - make the best use of available regional and international resources.
- enhance regional collaboration/coordination;
- pave the way for some LEDS formulations in the ClimaSouth beneficiary countries.

Seminar audience

This seminar targeted government officials in charge of, or involved in, designing or implementing sustainable development policy in the main sectors of the economy (energy, agriculture & forestry, industry, housing, transport, etc.), the business community and NGOs actively involved in the field of climate change mitigation. Participants were tar-

geted also for their interest in the carbon market (through CDM projects or NAMAs) to take advantage of the Africa Carbon Forum (opportunity to explore the main players in the carbon market, new market mechanisms, the conditions needed to benefit from the carbon market as one of the potential funding sources for supported NAMAs, LEDS, etc.). Besides ClimaSouth organizers, seven speakers from different institutions and countries and 22 participants from 7 ClimaSouth partner countries attended the seminar.

Background

The Mediterranean region is one of the most vulnerable to global warming and associated climate change impacts. These are already hitting and will continue to severely hit all economic sectors and most ecosystems of the Mediterranean countries. The poor are the segment of the population most affected by unusual floods, droughts, and heat waves, sea level rise, water scarcity, changes in agricultural seasons and yields, loss of biodiversity, migration of marine resources, etc. The economic, social, and environmental risks of climate change are immense. The impacts threaten to annihilate the results of decades of growth and development. The capacity of countries to achieve even the most basic socio-economic development goals in the future, including the eradication of poverty and continued economic growth, may be weakened. These risks affect all countries, developed and developing alike.

In the fifth Assessment Report (AR5) the contribution of the Working Group 2 (WG2) concludes that even a 2°C increase in global temperatures constitutes a serious threat

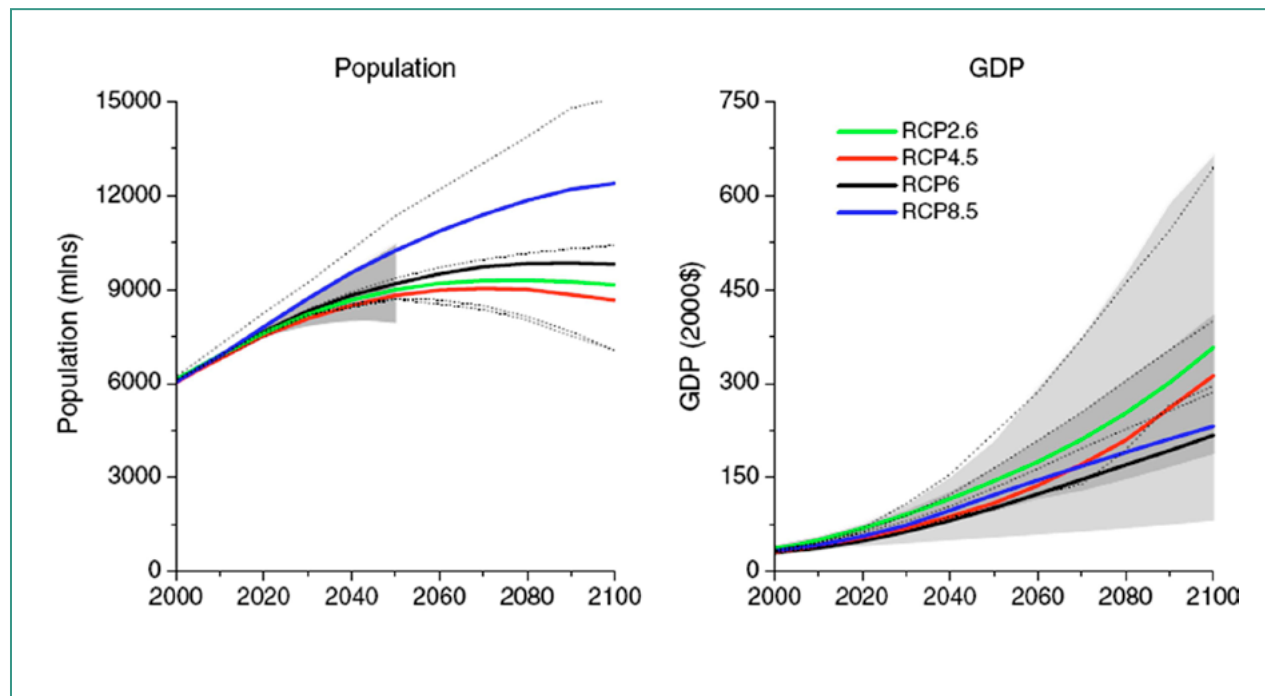


Figure 1: World population and CO₂ emissions
Source: van Vuuren et.al. 2011

to human wellbeing. Keeping global warming below 2°C is indispensable to maintaining climate change within the boundaries of manageable risks and for our ability to adapt to climate change. In the same report, Working Group 3 (WG3) calculates that in the absence of deep global reductions of GHG emissions, the world is on a trajectory to an increase in global mean temperature of 3.7°C to 4.8°C compared to pre-industrial levels.

When accounting for uncertainties, this range extends from 2.5°C to 7.8°C by the end of the century. In a 4°C warmer world, climate and weather extremes would have severe repercussions on human and physical systems. A strong commitment at the global level towards the reduc-



tion of GHG emissions and the adoption of a more sustainable path for development is therefore a crucial factor in meeting the target of staying within the 2°C limit. Governments, the business community, civil society and individuals must therefore understand and operationalize the profound transformations required to reach this target.

According to the latest scientific evidence,² show that reducing global GHG emissions to a level consistent with the 2°C limit is still within reach, but countries need to act quickly and in a determined and coordinated manner to deeply cut global emissions.

Planned and long-term low-emission development is the answer to decoupling economic growth from greenhouse gas (GHG) emission growth. In this context developing a Low-Emission Development Strategy (LEDS) is one of the tools that countries can use to plan their GHG emissions reductions. A LEDS is a planning and implementation framework for long-term, economy-wide development that fulfils country development goals while reducing GHG emissions.

² The IPCC AR5 WG3 report, the IEA World Energy Outlook (WEO) and Energy Technology Perspectives (ETP) reports, and the Global Energy Assessment (GEA), initiated by the Institute of Applied Systems Analysis (IIASA).

2. GREEN GROWTH, THE GREEN ECONOMY AND LOW-EMISSION DEVELOPMENT PATHWAYS: AN OVERVIEW

2.1 Global environmental changes

From the beginning of the 20th century the total population of the world has already grown by almost 6 billion people. By 2050 this figure is expected to reach 9 billion or more. Yet it has also become increasingly clear that human progress has been achieved at considerable cost to the environment.

Climate change is now a reality, with its fingerprints becoming increasingly visible.

Climate change is just one example of the global environmental changes that undermine the earth's life support systems.

Comprehensive assessments, such as 'the Millennium Ecosystem' (MA, 2005), have shown that biodiversity and many ecosystem goods and services upon which humanity depends are in decline or being degraded.

In addition to these global concerns, environmental changes, such as air and water pollution or land degradation, undermine progress towards local-level development objectives, namely human health and food security, further increasing vulnerabilities to climate change.

2.2 Green growth and the green economy

A more comprehensive approach in support of the economic, social and environmental pillars of sustainable development is needed since development and environmental issues cannot be looked at independently from each other. Development and environmental should be addressed together, if human welfare gains are to be sustained in a more crowded, interconnected and dynamic world.

'Green growth' is about realizing human welfare gains and development objectives in a time of change, while seeking to avoid adverse consequences for the environment. The aim is to compare possible pathways towards a particular development objective, say energy access, and identify those options that are not only economically viable but also make sense from an environmental sustainability perspective. Emphasis is being placed on resource use efficiency, avoidance of pollution and waste and the reduction of vulnerabilities to environmental risks/hazards, that no longer can be avoided (e.g., Sperling et al. 2012).

The 'Green Economy' in essence represents the goal post or desirable state of an economy in which human welfare gains are realized and economic, social and environmental concerns are balanced. It can be debated whether green growth as a process leads ultimately to a green economy. Green growth should be viewed as an iterative process. Priority measures and interventions in developed countries may look quite different from those of developing coun-

tries. Developed countries which have already achieved a high living standard, but which usually also have a large total ecological footprint (GHG emissions, consumption of resources, etc.) are faced with the challenge of reducing their total footprint. By comparison, most developing countries have a relatively small ecological footprint; their priority challenge is to address pressing development needs (e.g. poverty alleviation, energy access, water and food security).

Therefore, the focus of green growth in developing countries has to be to achieve the above-described development goals, but also to try decoupling economic growth from the depletion of natural assets, waste and pollution, so that the desired progress is also sustainable. Consequently, the main focal areas are upstream development planning efforts and programmatic investment strategies, which build the enabling environment for transformation.

2.3 Low-Emission Development Strategies

A Low-Emission Development Strategy (LEDS) is a country-led strategic plan to achieve sustainable development (development strategies), reduce greenhouse gas (GHG) emission trajectories (mitigation strategies) and enhance resiliency to climate change impacts (adaptation strategies). It is a national long-term strategy for reducing emissions while promoting sustainable development. The combination of development strategies can be called a 'climate compatible development strategy', a national, high-level, comprehensive, long-term strategy (Fig. 2).

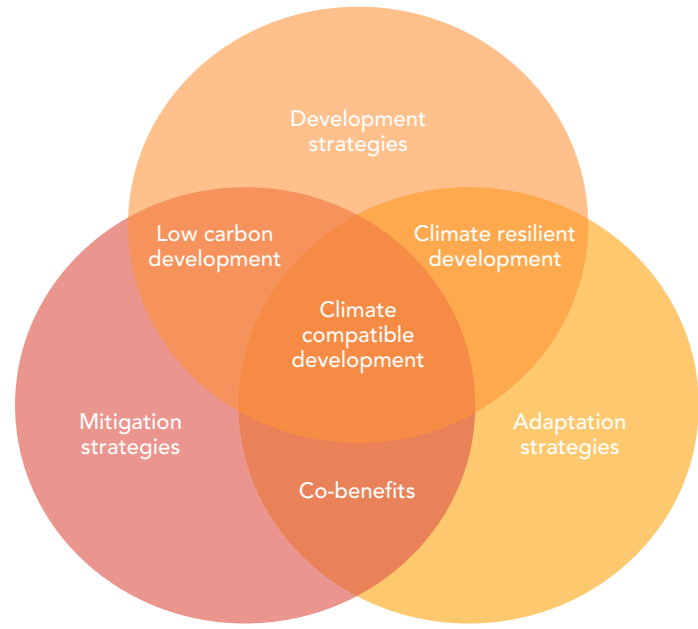


Figure 2: Climate-compatible development strategy

Source: adapted from Zadek, 2009, and informal communication with staff from the UK Department for International Development

Low-emission development strategies need to be viewed as an integral component of green growth ambitions, focusing on reducing emissions and enhancing efficiency. An emphasis should be placed on decoupling the achievement of development needs from an increase in emissions in key sectors such as energy, transport, agriculture and other land uses. In light of global trends, LEDS therefore need to think ahead to seize development opportunities, while managing risks and promoting sustainability and green growth. LEDS offer a more holistic focus for choos-

ing development pathways; in this context, with much of the infrastructure still needing to be built, developing countries have the opportunity to do things differently in terms of energy mix, transport systems and city planning. Not all countries have a formal document or process called a LEDS. However, many countries are incorporating LEDS-type concepts into other planning mechanisms, e.g., green growth or sustainable development strategies, climate change national plans, renewable energy and sustainable land-use strategies (Fig. 3).

Figure 3: Development strategies and LEDS



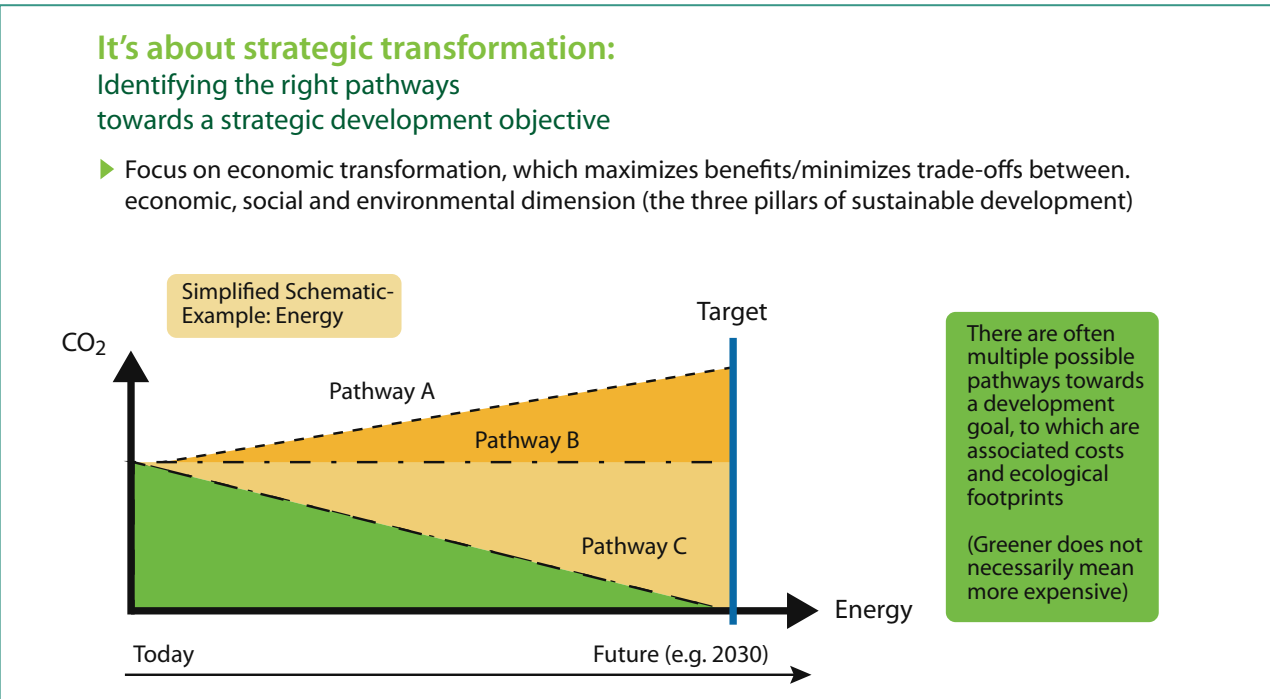
When LEDS are developed, they do not need to be new but can integrate and mainstream already existing Climate-Compatible Development Plans/Strategies. Regardless of their name, LEDS are distinguished by their focus on both enhancing development and reducing GHG emissions. Generally, low-emission development strategies (LEDS) represent one aspect of, and contribute to the broader scope of, green growth and the green economy. LEDS focus particularly on the relationship between development and climate change, seeking to promote economic goals while also creating co-benefits in terms of climate change mitigation and adaptation. This includes emphasizing strategic solutions that put countries on development trajectories with lower GHG emissions in comparison to business-as-usual policies and measures.

The core focus of LEDS are the development sectors which have traditionally contributed considerably to greenhouse gas emissions (GHGs), such as energy, transport, agriculture, forestry, and waste management. In addition, the linkages between climate change adaptation and opportunities for resilience building measures may also be considered. The aim is to identify solutions that meet development needs while minimizing the impact on the climate system and reducing vulnerabilities to climatic changes, which no longer can be avoided. LEDS initiatives are hence directly related to green growth and green economy planning efforts, which may place additional emphasis on environmental conservation and management of natural assets.

3. LEDS ANALYSIS, PLANNING AND COORDINATION

As the emphasis is on economic transformation by building a development model which uses natural resources in a more efficient and sustainable manner and minimizes adverse consequences on the environment, LEDS (like broader 'green growth' and 'green economy' initiatives) are particularly focused on improving upstream development planning and investment programming. This requires qualitative and quantitative assessments of development pathway choices. As illustrated in the schematic figure below (Fig. 4), the focus is on providing decision-makers and development practitioners with a more comprehensive overview of which development pathways are realistic for a particular country. Equally important is how these pathways compare in terms of economic, social and environmental consequences across sectors, with the aim of maximizing benefits and minimizing trade-offs early on in the development planning process. The LEDS preparation process can take up to two years to complete, as it requires the participation of multiple sectors, stakeholders, and levels of government, including high-level public and private authorities with decision-making authority.

Although no single formula for a LEDS can apply for all countries, a crucial first step in creating a LEDS is to identify the purpose(s) and key stakeholders, which will provide guidance as to which important elements to include



in the LEDS. Depending on national circumstances, these could be:

- **Vision/goal:** An overarching vision or goal can help guide policy decisions across development and climate change priorities over the long run.
- **Assessment of current situation:** A clear understanding of major greenhouse gas (GHG) emitting sectors and socio-economic indicators is fundamental to determining a path forward.
- **Emission projections, mitigation potential and costs:** Planned pathways for business-as-usual emissions can help provide a sense of the national emission trajectory, while mitigation potential and costs can be a first step towards identifying mitigation actions.
- **Vulnerability assessment:** Indications of how a country may be impacted by climate change can help engage stakeholders, including the general public, and can help identify adaptation needs and the range of possible adaptation outcomes.
- **Priority programmes and policies:** An indication of policy priorities for mitigation and adaptation, integrated with an economic development strategy, can identify synergies and trade-offs.
- **Finance:** Alignment of priority policies with the national budget and an indication of financing needs can be important information to communicate to domestic and international stakeholders.
- **Institutional arrangements:** An explanation of which institutions are responsible for implementing actions can provide clarity on responsibilities across government and contribute to effective policy implementation.

The extent to which countries are able to prepare these elements, as well as the length of preparation time, may depend on their national circumstances and the funding and support available. Additional potential elements, such as adaptation action costs, could provide important information to both domestic and international stakeholders but may be more challenging to provide for some developing countries. In this context, the identification and engagement of stakeholder groups is important to ensure appropriate buy-in and ownership of LEDS/green growth initiatives. Awareness building efforts are needed to form broad level understanding of the relevance of green growth and LEDS for development processes and to allow for feedback mechanisms, so that appropriate ownership of initiatives among stakeholder groups and the public is built over time. Where appropriate, links between national and sub-national processes should be considered and mechanisms should be established to help capture grassroots experiences and positive examples of community level development that can inform national and regional enabling environments. Stakeholder groups and their potential roles are outlined below:

- **Scientific and other technical bodies:** Provision of data and information for enabling fact-based decisions and measuring and tracking progress.
- **Private sector:** To scale up efforts and achieve economic transformation, the early engagement of the private sector through awareness-building, dialogue, incentive mechanisms and regulations is essential; Public-private partnerships can help reduce barriers for a transition to green growth.
- **Non-governmental organizations:** Important for assessing LEDS initiatives and promoting correction, where

necessary; critical link between community-based implementation and projects and national enabling environment.

Given the predominant strategic focus of LEDS and ‘green growth’, it is important that the resulting programmatic efforts be supported through effective coordination mechanisms across key sectors and stakeholder groups. This includes the comprehensive engagement of line ministries that are directly or indirectly affected by the development choices made in support of LEDS efforts. In addition, the early involvement of the Ministry of Finance or Planning is key. LEDS efforts should be an integral part of the mainstream development planning processes and not be pursued as a separate, parallel process. Hence, the linkage of LEDS efforts to the medium-and long-term vision for the development of a country is as important as the engagement in shorter term development programming efforts, such as Poverty Reduction Strategy Papers, which inform leaders about investments.

Lessons Learnt

In the concluding wrap up session, a list of highlights and LEDS essentials was proposed for discussion and the following conclusions were drawn:

- In order to establish an effective LEDS suitable to support the achievement the above-mentioned development path, the following methodological steps and recommendations need to be taken into account:

- Stakeholder identification and engagement: the development of partnerships and coordination structures at the national and subnational levels establishes a strong foundation for creating national ownership, capacity, and consensus about long-term development.
- Definition of baseline scenarios: estimate the future evolution of GHG emissions consistent with national long-term development objectives and business-as-usual development.
- Identification of low-emission options: use mitigation and sequestration options consistent with development objectives.
- Cost/benefit analysis: assess the associated costs and benefits of low-emission options using applicable rates of return, cost benefit analysis, development impact analysis, and other analytical tools.
- Definition of low-emission development scenario(s): designed to achieve long-term national development objectives.
- Low-emission development action plan: the prioritization of the various LEDS options should be based on common criteria reflecting development goals in a transparent and inclusive manner.
- In planning LEDS, it is fundamental to translate the high-level vision on green growth into a concrete set of analysable variables on benefits and a robust benefits analysis framework and to utilize a broad, though not necessarily complex, analytic framework that integrates a number of complementary approaches.

- Countries should carefully consider how LEDS fit with other existing planning tools and strategies to minimize the risk of additional burden and overlapping or conflicting strategies. LEDS can integrate, and build on, existing strategies, including national sustainable development strategies, national climate change strategies and technology needs assessments. It is also important to consider how information contained in a LEDS (e.g. policy priorities, funding and capacity needs) could be communicated to the international community. This could involve making LEDS publicly available, or including some elements of an LEDS in a national communication. Use tailored and robust benefits messages to address the variety of audiences

affected by green growth, while adapting messages to different “value groups” who will have different entrenched interests (examples - EU: highlighting financial benefits to motorists of reduced fuel spending when announcing limits on new car emissions; in Denmark: providing empirical data to skeptics that green programmes are reducing energy intensity and retaining GDP growth); and engage credible and trusted messengers in presenting robust, tailored, and balanced messages to offer evidence-based arguments for deviating from business-as-usual (for example, in India the Rural Energy Programme was promoted via a number of different formats, including street theatre in local dialects).

4. ORGANIZATION, IMPLEMENTATION AND FINANCING OF LEDS

Implementing a Low-Emission Development Strategy (LEDS) is a challenging process, which needs to be carefully designed and well-managed to be effective.

First of all, a comprehensive implementation plan is required. Then a transparent arrangement for the Measurement, Reporting and Verification (MRV) of data, information and emissions is required. If external financial, technological or capacity-building support is sought, then a proposal for financing should be prepared. Finally, in the course of actual implementation, an arrangement for monitoring implementation and taking into account lessons learned is required, with the resulting refinement of the implementation plan and, potentially, the design of the LEDS.

The main elements of an effective LEDS are summarized in Figure 5 below.

To ensure smooth implementation, it is necessary to develop a detailed implementation plan and to determine the responsible agencies for each of the planned measures and a mechanism for inter-agency coordination and monitoring during the implementation stage. It is also necessary to make an arrangement that allows revising and iterating the LED strategy based on the lessons learnt in the course of implementation. It is advisable that the broad stakeholder group meet regularly to review progress related to the low-emission development strategy and to ad-



Figure 5: Elements of an Effective LEDS

just the implementation plan based on changing circumstances. Provisions for the monitoring and measurement, reporting and verification (MRV) of the actions undertaken and the resulting GHG emission reductions are critical components of the implementation plan. They should be adjusted to national circumstances, but also correspond to international best practices and standards.

The implementation plan should outline clear timetables, roles and responsibilities, performance metrics and MRV arrangements, outreach and partnership activities, and arrangements for continuous monitoring and refinement.

The development of the implementation plans needs to include a broader group of stakeholders and the leading agencies in the relevant sectors and at the national level.

The financing and policy instruments to enable the magnitude of investment and financial flows required for the implementation of a LEDS are identified following an assessment of socio-economic impacts and a cost-benefit analysis of the priority mitigation and adaptation options. The objective is to establish an appropriate policy environment to attract and drive investments towards the priority climate actions identified through the multi-stakeholder decisionmaking process. Under this framework, there is a vast number of possible climate change policy options to catalyse capital towards green technologies. For example, there are more than 50 different types of policy mechanisms currently in use for supporting renewable energy alternatives around the world.

Moreover, the players involved in the climate finance mechanisms are numerous, dispersed, and answer to different interests; they include some 50 international public funds, 60 carbon markets, and 6,000 private investment funds.

The main sources of financing for LEDS are:

- National treasuries
- ODA and UN via TFs and Project Development Facilities (Infra and Climate Specific, e.g., ACAD, CTCN)
- Multilateral banks, equity funds and funds-of-funds, such as GEEREF (EIB)
- IFC, GEF, Adaptation Fund, Special CC Fund, and WB CIF, GCF

- DFIs (e.g., OPIC, KFW, DEG, FMO, and Proparco)
- NAMA facilities (Germany/ United Kingdom/ Denmark/ Belgium) (DE/UK/DK, BE)?
- Climate funds (e.g., Interact Climate Change Fund – debt and mezzanine financing)
- National Environment, Climate & Industrial Development Funds (e.g., SA Green Fund, FONERWA, Senegal, Kenya)
- Carbon Finance (including VER market).

In this context, the typical forms of support for LEDS financing include: planning grants/FS and project preparation facilities; pre investment capital; equity; concessional and non-concessional loans; full and partial risk guarantees; municipality and green bonds; trade financing and infra project financing. However, the key is to enable sub-national and national developing country governments to identify and access potential available funding that is appropriate for national purposes and to become familiar with the new financial instruments under development. This step involves bringing together potential public and private partners, supported by relevant technical and financial experts, to jointly assess and develop the priority options identified. This will enable governments to identify the optimal mix of policy and public financing instruments required to attract catalytic financial flows toward low-emission climate-resilient development.

Given the limited financial resources and the current economic crisis, sources of financing for LEDS implementation should be considered during the process of preparing a

LEDS. In addition to specific sources of financing, a LEDS can indicate which activities and policies have priority for domestic budgetary support and which may require international support. This can indicate resource needs and priorities to the international community, a potential key function of LEDS in the international context. Furthermore, aligning policy priorities with the national budget can facilitate the implementation of a LEDS.

Recommendations for Policymakers

In the concluding wrap up session a list of highlights and LEDS essentials was proposed for discussion and the following conclusions were drawn:

- Accelerate LEDS momentum by shifting national expenditures toward more cost-effective actions.
- Encourage national climate financing institutions to conduct reverse auctions to pinpoint the best action model from among Get FIT, Global Methane Initiative Pilot Facility, Ci-Dev.
- Assess GHG mitigation and co-benefits as part of a routine appraisal of projects and programmes in the budgeting process. Use MTEF vs annual lens.
- Incorporate GHG reductions into performance or payment criteria when devising PPP structures, tenders and concessions.

- Align & integrate frameworks and investment processes for climate and clean energy.
- Decentralize NAMA and sectoral LEDS development at the line ministry level.

Furthermore, the following points were noted. In order to make LEDS more bankable, the countries should:

- Scope out NAMAs and LEDS actions like any other major infrastructure investment – planning and framing the “story” in terms of additionality, catalytic impact, sustainability, main co-benefits to treasury and PS.
- Align financial design with primary non-carbon investment (or core business) drivers:
 - Profitability;
 - regulation (actual or anticipated);
 - technology development and innovation linked to industrial policy;
 - rising fossil fuel prices;
 - security of supply;
 - energy access.
- Stakeholders, mainly government, could create incentives to promote secondary investment drivers and meet international standards for ES+G (e.g., IFC due diligence and equator principles), prestige, brand value/reputational impact as well as CSR, local environmental considerations.

5. INTERNATIONAL & REGIONAL COLLABORATION ON LEDS

Several governments have produced low-emissions development strategies or similar plans. These governments as the first movers in the low-emissions development planning space, have benefitted from international assistance to complete the process, both from multilateral and bilateral cooperation.

Examples of international actors involved in cooperation on LEDS include:

- **Multilateral examples:** African Development Bank, LEDS Global Partnership (LEDS GP) and Africa LEDS Partnership (AfLP), Climate Technology Centre & Network (CTCN), Global Green Growth Institute (GGGI), International Mitigation and MRV Partnership, UNDP’s Low Emission Capacity Building Programme, UNEP’s Technology Needs Assessment, NAMA, and Green Economy Programmes, World Bank;
- **Bilateral examples active in the MENA region:** Agence Française du Development (AFD), European Commission (EC), Germany via GIZ and the International Climate Initiative, the United Kingdom Department for International Development (DfID supporting Climate and Development Knowledge Network - CDKN), the United States Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Programme



A non-exhaustive list of the most prominent programmes of international support for comprehensive low-emissions planning in developing countries is presented in the following table.

| TITLE | DESCRIPTION |
|--|---|
| Climate Change Capacity Building Program | The European Commission and United Nations Development Programme (UNDP) are working with five countries on scoping activities to assess capacity building needs for LEDS, NAMAs, and monitoring, reporting, and verification (MRV) in the public sector as well as capacity building needs in the private sector to implement actions. During the three-year programme from 2010 to 2013, the European Commission and UNDP seek to develop strong GHG inventory systems, develop NAMAs, and improve MRV. The Energy Research Centre of the Netherlands (ECN) is also supporting this programme through developing a capacitybuilding programme to complement the MRV recommendations and proposals. |
| Climate Investment Fund (CIF) Activities | The World Bank and regional development banks are working with a number of practitioners to support countries in the development of programmes and plans associated with CIF funding instruments. These include the Climate Technology Fund and the Strategic Climate Fund, which supports the Forest Investment Programme, the Pilot Program for Climate Resilience, and the Programme for Scaling Up Renewable Energy in Low Income Countries. |
| Developing Countries Project | Since 2005, the Center for Clean Air Policy (CCAP) has worked with five developing countries to assess GHG mitigation opportunities that will have the greatest economic impact and other co-benefits. The centre also seeks to assist countries in participating in the UNFCCC process. |
| Enhancing Capacity for Low-emissions Development | The U.S. Agency for International Development and the U.S. Department of State are working with several other U.S. agencies and national laboratories to support the creation of LEDS in developing countries. Assistance will build on current low-emissions planning efforts in the countries to enhance the capacity to design, assess, and implement these strategies. The strategies will be country-led and action-oriented with a strong focus on each country's development objectives. |
| Green Growth Strategy Support | The recently established Global Green Growth Institute, an initiative of the Government of South Korea and the ClimateWorks Foundation, will be assisting developing countries with the development of "green growth strategies." They will be working with a diverse mix of countries to demonstrate that climateresilient, low-emissions development is possible across circumstances and sectors. Methodology development will focus on development, mitigation, and climate resilience. Phase 1 country support began in 2010, and Phase 2 began in 2011. |
| International Low- Carbon Energy (IEA) Technology Platform | The Technology Platform's central aim is to accelerate and scale-up action for the development and deployment of clean energy technologies. A forum is being developed to bring together stakeholders working to catalyse partnerships and activities to enhance the development and implementation of low-carbon energy technology strategies and technology roadmaps at regional and national levels. The forum will allow for the sharing of experience on best-practice technology policy and will build capacity on technology policy planning methodologies to enable more efficient and effective policy development. |
| Low-Carbon Growth Country Studies Program | Since 2007, the World Bank's Energy Sector Management Assistance Program (ESMAP) program has worked with seven emerging economies to prepare these studies, which were country-led and tailored to different economic circumstances. The ESMAP developed a process framework that included these elements: support national goals, scope a low-carbon growth study, mobilize resources, build capacity, model low-carbon pathways, identify GHG mitigation options, and implement strategies. The programme is using lessons from the programme to develop a suite of "knowledge products", including best practice documents, guides, e-learning, and interactive training and modelling toolkits. |
| Low-Carbon Growth Planning Support | The ClimateWorks Foundation, the European Climate Foundation, Project Catalyst, and McKinsey & Company supported twelve countries with low-carbon growth planning activities prior to the 2009 UN Climate Change Conference of Parties (COP 15). This assistance focused on sustainable development, GHG mitigation, and climate resiliency based on country priorities and a strategic vision. Sample activities included assistance with the development of marginal abatement cost curves and assessment of economic impacts. |
| Low-Carbon Development Strategies Project | The World Watch Institute (WWI) is working with two regions on policy development to complement low-carbon development strategies. The WWI plans to extend this work to other countries, regions, and municipalities. |

| TITLE | DESCRIPTION |
|--|---|
| Mitigation Action Plans and Scenarios (MAPS) | This programme, operated by SouthSouthNorth, implemented by the Energy Research Centre (ERC) at the University of Cape Town and in-country institutions, and funded by the Children’s Investment Fund Foundation (CIFF), supported four Phase 1 countries and Phase 2 countries with the development of mitigation action plans and scenarios from 2010 to 2013. This programme focused strongly on stakeholder engagement and on the sharing of lessons and knowledge across developing countries. |
| NAMA Templates | Ecofys is working with Mexico on NAMA templates for the transport and building sectors. Ecofys has used this work to produce a report providing guidance and general conclusions about sectoral NAMAs. |
| Operationalising NAMAs | The International Institute for Sustainable Development (IISD) is working with two countries on NAMA development. Assistance is particularly focused on Sustainable Public Procurement (SPP), energy efficiency, fossil fuel subsidy reform, and agriculture. The institute is also exploring options for supporting leastdeveloped countries (LDCs) with the development of NAMAs. |
| Paving the Way for Low-Carbon Development Strategies (LCDS) | The ECN is working with two countries to understand better the national circumstances relating to low-emissions development planning. This programme seeks to support the development of country-tailored LCDS methodologies. |
| Quantifying Emission Reduction Opportunities in Emerging Economies | Ecofys worked with five emerging economies to develop emission reduction scenarios and to assess current 20 Low-Carbon-Growth Country Studies Program: Getting Started – Experience From Six Countries, ESMAP, 2009 national policies to support low-emissions development. Ultimately, this study was used to compare the “climate performance” of these countries. |
| Roadmap Development Assistance | The International Energy Agency (IEA) has produced several technology roadmaps to provide information on technology development, policy, regulatory and legal needs, finance requirements, public participation, and international cooperation. The IEA is also now assisting individual countries with the development of technology roadmaps and has produced a guide to support such development. |
| Technology Needs Assessments and Technology Action Plans | The United Nations Development Programme and the United Nations Environment Programme-Risoe Centre are supporting several countries to assess climate mitigation and adaptation technologies that are most suitable to their national circumstances. These TNAs will inform the development of technical assistance programmes (TAPs) to support the transfer of these technologies. The programme began in 2009 in fifteen countries and has assisted up to 45 countries during the three-year programme period. |

LEDS Global Partnership

The LEDS GP catalyses action and collaboration across more than 160 countries and international organizations. The partnership was launched in 2011 and now engages government officials and experts from more than 80 coun-

tries and over 60 international organizations, with logos of some of the international organizations. The partnership is sponsored by several organizations, with core support provided by the US government (State Department and

USAID), the UK government (through CDKN), and the Inter-American Development Bank and likely additional core support in 2015 from the European Commission. The LEDS GP is organised in Global working groups that provide technical support and training in areas of planning and sub-national integration, analysis tools, finance for different sectors (AFOLU, energy, transport, waste, finance, sub-national, benefits analysis). The working groups feed regional platforms that define priorities and conduct peer learning and collaboration. The LEDS GP is managed by a secretariat and a steering committee.

Africa LEDS Partnership

Its mission is to promote low-carbon emissions and climate-resilient development, in support of poverty alleviation, job creation and environmental management in Africa. Its objectives are to:

- Promote information exchange and coordination among LEDS programmes and country institutions undertaking and supporting LEDS;
- Cultivate and support LEDS champions across Africa;
- Enhance the capacity for LEDS design and implementation in Africa

Remote Technical Assistance on LEDS

- No-cost remote technical assistance to developing country governments on LEDS analysis, the sub-national integration of LEDS, linkages of climate resilience

and LEDS, financing, energy, waste, and transport measures.

- Assistance can include a review of policies, the sharing of tools and guidance on applying these to inform policymaking, among others.
- Assistance available to all countries and technical institutes that are LEDS GP members

The purpose of the session on the “Examples of LEDS from Europe” was to provide the representatives of the ENP South Countries with a robust benchmark for the LEDS implementation process and impacts through the analysis of existing experiences at the regional level (EU), from Annex I (UK and Italy) and Non-Annex I (Montenegro) countries, providing different case studies with specific features representative of the main potential issues which the ENP countries could have to deal with in the LEDS implementation process.



6. EXAMPLES OF LEDS

Specifically, the session target was to provide examples on how to proceed to develop LEDS for their countries and the related opportunities and challenges, providing examples tailored to the participant countries’ national circumstances, while also highlighting the role of policy in achieving LEDS goals and the process for LEDS-related policy making (defining a LED vision, developing a LED strategy and implementing LED action).

6.1 LEDS examples in the MENA region

The countries of the Middle East and North Africa, the MENA region, face a drastic increase in population in the years ahead, while economic growth is expected to continue at a steady pace. This scenario will lead to a significant rise in the demand for energy and natural resources. Furthermore, national policies are promoting energy consumption by subsidising fossil fuels such as oil and gas. As a result, greenhouse gas emissions are continuing to increase and with them, the pressure on ecosystems and natural resources.

So far, climate change mitigation in the MENA countries has focused on increasing the share of renewable energies in the total primary energy supply (TPES) – the area thought to offer the largest benefits, for instance by en-

sureing reliable domestic energy supplies or enabling the phase-out of subsidies. Regional initiatives, such as the Arab Renewable Energy Framework (AREF), offer MENA countries a common framework for their national efforts to promote energy generation from renewable sources. Some countries have started to develop funding mechanisms and devise CO₂ reduction activities for their energy sectors and other areas beyond this. However, to date, little research has been conducted into their impacts on energy consumption and the economy. At the implementation level, national regulatory conditions and the actual integration of renewables into existing energy systems often pose further obstacles. The use of other climate-friendly technologies is still a marginal phenomenon. The exchange of experience on climate technology between specialist institutions in the region does not take place at all levels of the hierarchy and is too infrequent.

In this context, RCREEE was commissioned by the World Bank Group to undertake a market screening/gap analysis for 17 countries in the MENA region on the potential of energy efficiency. The analysis identified barriers and indicators of scaling-up energy efficiency in each country. These include institutional, policy, regulatory, awareness and communication, pricing and financing barriers. In addition, the analysis estimated energy demand projections for the years 2020 and 2025, and sectors with the greatest energy efficiency potential. The analysis was embedded in RCREEE’s flagship publication, Arab Future Energy In-

dex (AFEX) Energy Efficiency, 2015 edition. The main output and impacts of the programme were:

- Up-to-date energy balances compiled from different sources for 17 countries.
- Socio-economic data compiled for 17 countries (for 12 years), including Gulf Cooperation Council (GCC) countries.
- A more comprehensive Arab Future Energy Index (AFEX) Energy Efficiency, 2015 edition.
- The barriers and indicators of scaling-up energy efficiency in each country were identified. These include institutional, policy, regulatory, awareness and communication, pricing and financing barriers.
- The energy demand projections for the years 2020 and 2025 were estimated, in addition to the sectors with the greatest energy efficiency potential.

6.2 LEDS examples in Africa

The presentation was on the regional overview of the development of climate-resilient strategies in Sub-Saharan Africa. An overview of the energy situation in the region, involving energy demand and supply, was presented. Climate-resilient programmes and projects being advanced in the region were mentioned and two country case studies (Cape Verde and Kenya) were detailed. Below is the bullet point summary of the detailed presentation:

- Sub-Saharan African countries have developmental challenges which are being worsened by lack of access to cleaner, affordable and reliable energy services.

- Developmental challenges coupled with the impact of climate change pose significant threats to socio-economic development in Sub-Saharan Africa.
- A significant percentage of the national budgets are spent on fossil fuels to provide energy which is unreliable, unsustainable and inimical to the global environment.
- Several countries in Sub-Saharan Africa have initiated climate-resilient programmes and projects to supply energy for people and for development.
- Biomass energy could play a major role in the final quest for reliable and sustainable energy in the region as a result of the abundance of biomass.

Main issues raised by participants

- Participants raised the issue of the impact of the development of climate-resilient projects in the case study countries and asked whether there is evidence of a reduction in carbon dioxide emission.
- Participants were concerned about the promotion of biofuels, as they believe bioenergy crops could compete with food crops for land and other resources.
- Raised concern as to whether hydro-power was also being developed in the region.

Responses to issues raised by participants

- The monitoring, reporting and verification (MRV) of carbon dioxide emissions are implemented at country level. There was no information immediately available

from any of the countries to present to the participants. However, since climate-resilient projects such as solar and wind energy projects do not emit carbon dioxide, this could already be considered as acceptable evidence of GHG emissions mitigation, although statistical and quantitative data will in any case need to be collected.

- With the promotion of biofuels, the participants were made aware that biofuels could be produced with the proper agricultural policies, e.g., land zonation for animal and crop production, land tenure systems and the decision to opt for bio-energy crops among non-food crops.
- The effects of climate change impacts on the sub-region have led to erratic rainfall patterns, unreliability and variable rainfall regimes do not support mini-hydro projects, especially where the source of the river does not have protection. Africa south of the Sahara has abundant hydro potential, as shown in certain baseline reports. Current planning in the various countries includes mini-hydro projects on rivers with abundant resources.

6.3 LEDS Examples in Europe

The contents of the session were articulated following a top-down approach, starting from the regional experience, by presenting the overarching vision of the EU and its 2030 Climate & Energy Framework and the overall Road Map to 2050, and then focusing on the country level, with 3 case studies specifically representative of:

- A country with comprehensive LEDS developed and in force, the UK Low Carbon Transition Plan.
- An Annex I country with a set of sectoral low-carbon policies, the CO₂ Emissions Reduction Plan of Italy.
- A Non-Annex I country currently developing a National Climate Change Strategy – Montenegro.

A final part of the session was dedicated to the description of lessons learnt and the proposed main conclusions of the session.

The EU Level

The efforts at the EU Level for the definition of its Low-Emission development vision was framed in the context of the global mitigation challenge, detailing the international commitments of the EU and the EU LEDS development path, with a specific focus on the 20-20-20 targets and the related level of achievement. In addition, the session provided a view on the evolution of the emission targets in the context of the wider EU 2050 Roadmap towards the 2030 Climate & Energy Policy Framework.

Estimated investment needs for the support and implementation of the emission reduction policies in the EU were given, offering details on budget, objectives and the functioning of existing (2013–2020) and proposed (2021–2030) funding and financing lines, such as auctioning, free allocation, New Entrants Reserve (NER) and the Innovation fund and Modernization Fund. On the basis of the elements presented, the main lessons learnt from the case studies were the following:

- Climate and energy policies require significant investments; the 2030 framework requires more investments with the higher investment needs in the lower income member states.
- The majority of private investments depend on a stable regulatory environment and a strengthened carbon market.
- Public resources need to be more effectively channelled to mobilize and accelerate private investments.
- Investing now is an opportunity to facilitate the EU's low-carbon transition.

UK Low-Carbon Transition Plan

The UK Low Carbon Development Plan, approved in 2009, sets out how the UK will achieve decarbonisation within the framework of its overarching energy policy, making the transition to a low-carbon economy while maintaining energy security, and minimizing costs to consumers, particularly those in poorer households. Within the session, the UK Low-Carbon Transition Plan was presented, starting from its background and rationale, embodied in EU regulations (EU Energy and Climate package, EU 20-20-20 target, etc) and UK legislation (Climate Change Act 2008, Five-year carbon budgets, Publish policies to meet budgets). Specific focus was given to the presentation of the sectoral Carbon Budget & Target, detailing the expected emission-reduction path and outlining the financing and support schemes envisaged by the government, paying particular attention to aspects related to the engagement of the private sector and the effective channelling of pub-

lic and IFIs funding. In addition, an overview of the main proposed measures was provided with the aim of offering examples of real measures for the reduction of carbon emissions and related potential benefits and criticalities.

As a conclusion, evidence was given of the latest statistics and projections of energy demand, supply and greenhouse gas (GHG) emissions published by the UK Department of Energy and Climate Change (DECC) in order to illustrate the effects of the low-carbon strategy implementation: namely, according to the latest projections and statistics, the UK met its first carbon budget (2008-2013) by 36 Mt-CO₂e; furthermore, the government has a suite of policies to meet carbon budgets two and three; the Projections for 2013 to 2022 suggest that the UK will meet both.

ITALY –2013-2020 Emission Reduction Plan

Having not yet developed a formally comprehensive Low-Emission Development Strategy, the case study on LEDS implementation in Italy was presented building on the experience with the 2013-2020 National Plan for CO₂ emissions reduction, approved in 2013 as an update of the 2003-2010 plan. This represents an important tool at the national level for the decarbonisation of the country's economic sectors and is a funding element of the long-term Italian emission-reduction vision. Specifically, during this part of the session, the overview of the 2 scenarios (trend-measures approved until 2010, trend with measures-after 2010) was provided as a basis for the assessment of the proposed emissions-reduction measures, complemented with an in-depth description of the following proposed measures:

- establishment of a catalogue of technologies, systems and products to decarbonize the Italian economy;
- introduction of the carbon tax (resources in strengthening the Fund for Kyoto);
- promotion of energy efficiency, distributed generation and the development of smart grids for 'smart cities';
- extension until 2020 of the tax credit (55%) for investment in a low-CO₂ economy;
- management of forests as both tanks for the capture of CO₂ and for the production of biomass and biofuels;
- yearly financial review and update via national financial laws and national documents on economic and financial planning, which is the main funding support scheme for the implementation of the proposed GHG emission-reduction actions.

among the different strategies were also presented, particularly those already existing which aim at the reduction of GHG emissions at the national, local or sectoral level, with specific focus on the relationship between the National Strategy on Sustainable development and the national Climate Change Strategy of Montenegro. The latter is presently under development with the bilateral assistance of the European Commission. In addition, an overview of the preliminarily measures proposed in the NCCS with the related implementation timeline was provided, along with an indicative estimation of the investments needed for their implementation, followed by a description of the present landscape of governmental support, multilateral assistance and market-based financing mechanisms.

Montenegro – National Climate Change Strategy (NCCS)

The aim of this part of the session was to provide the beneficiary country representatives with examples of the ongoing efforts towards the implementation of a LEADS made by a non-annex I country Montenegro belongs to the EU area, has a relatively short independent history (since 2006), and is characterised by climatic and morphological features typical of the Mediterranean.

In this part of the session the national circumstances of Montenegro and relevant national policies and legal frameworks were presented. The functional relationship





7. LESSONS LEARNT & CONCLUSIONS

In the concluding wrap up session, a list of highlights and LEDS essentials were proposed for discussion and the following conclusions were drawn:

- Low-Emission Development strategies are voluntary policy instruments that identify the sources of a country's GHG emissions and prioritize options for their mitigation; LEDS focus on achieving economic and social development through mitigation actions.
- LEDS implementation can leverage funding and support policies, helping to improve framework conditions for private-sector investment in mitigation actions.
- On the domestic level, LEDS are country-driven policy instruments.
- On the international level, they support the global goal of GHG emission reduction and help to attract international support & recognition of NAMAs.

Building on the remarks above, the following factors were identified as key elements for the successful implementation of LEDS:

- Top-level commitment and leadership.
- Integration into development planning; using a cross-cutting approach.
- Strong data basis & scientific analysis (GHG inventory, BAU, scenarios, etc.).

- Transparency in approach and assumptions.
- Stakeholder participation and engagement.
- Acceptance of technical assistance and use of peer-to-peer learning.
- LEDS viewed as a living and dynamic document.
- Inter-ministerial coordination structure including key ministries (environment, finance, economy, energy, etc.).

Questions & Answers

Along with the discussion of the concluding remarks, a Q&A session was opened to stimulate the gathering of additional information and facilitate peer-to-peer exchange of experiences; the questions raised by the attendees were mainly related to:

- LEDS funding support needs and opportunities.
- The potential interaction between LEDS and the oil & gas sector.
- Time and resources need for implementation.

Questions on LEDS' funding support needs and opportunities were addressed, with examples given of interaction among bilateral cooperation donors, governments, the private sector and the population. The programme PRO-SOL, for example, funded by UNEP and the Italian Ministry



of the Environment, Land and Sea, is successfully being implemented in Tunisia with the aim of supporting the deployment of solar water heaters in households, commercial and tertiary building stock. Also, there were discussions about potential governmental and fiscal schemes (a tax credit (55%) for investment in the low-CO₂ economy in Italy; feed-in tariffs, preferential financing, differential pricing and credit guarantees, EU-ETS) as well as international agency support facilities (EBRD, IRENA) and technical assistance programmes (TAIEX, IPA, ECRAN). In addition, cooperation opportunities with international partnerships dedicated to LEDS support, such as the LEDS Partnership and its regional organizations (Africa LEDS Partnership) were pointed out and encouraged.

Oil & gas is a driving economic sector in the region and some of the participant countries' economies strongly depend on it; thus, many questions were raised in order to identify potential actions suitable to mitigating the GHG emissions of the sector without limiting process efficiency and profitability. In this context, the energy and economic savings connected with the implementation of energy efficiency and GHG mitigation measures were highlighted through examples of CDM projects implemented in oil & gas facilities (M'Boundi Congo–gas recovery from refineries), and an overview of carbon capture and storage strengths and weakness points.

Climate change is a cross-sectoral problem that poses significant challenges to the various societal institutions charged with designing and implementing policy to address the issue; therefore, developing and implementing a LEDS often requires significant time and resources. In this context, the attendees asked to be provided with exam-

ples of timing and resources estimated for the implementation of specific measures; in response, examples were provided from the action plan for the implementation of the Montenegro NCCS (5-, 10- and 15-year time horizons) and the progress path in the implementation of the UK Lowcarbon Transition Plan. The latter started in 2009 and is already producing results in terms of emissions reductions and employment. To provide indicative numbers about the budget for specific measures, reference was made to the TNA of Montenegro and the DECC's yearly progress report on the implementation of the UK Low Carbon Transition Plan.

Conclusions

The discussions and analyses that took place throughout the entire session revealed that the attendees see the Low-Emission Development strategy as a voluntary policy instrument that identifies the sources of a country's GHG emissions and prioritizes options for their mitigation, focusing on achieving economic and social development through mitigation actions. On the domestic level, LEDS are perceived as country-driven policy instruments, while on the international level, they are seen as tools to support the global goal of GHG emission reduction and help attract international support & recognition of NAMAs.

The representatives of the beneficiary countries understood the potential of LEDS implementation in leveraging funding and support policies, helping to improve framework conditions for private-sector investment in mitigation actions. They also highlighted the need for more information about the potential impacts on national economic

sectors. In addition, the attendees recognized the following key factors for successful LEDS implementation:

- Top-level commitment and leadership.
- Integration into development planning; the use of a crosscutting approach.
- Strong data basis & scientific analysis (GHG inventory, BAU, scenarios, etc.).
- Transparency in approaches and assumptions.
- Stakeholder participation and engagement.
- Acceptance of technical assistance and use of peer-to-peer learning.
- LEDS viewed as a living and dynamic document.
- Inter-ministerial coordination structure, including key ministries (environment, finance, economy, energy, etc.).

To further support the development of LEDS in the ENP south countries, the provision of additional training on LEDS planning, preparation and management could represent an important tool to raise awareness. It also serves to coordinate teams from different institutions, since some of the trainees will be involved in the management of LEDS rather than direct LEDS development. This would also include training on how to set up expert judgment teams. As mentioned above, the training provided should be regarded as a starting point for a number of additional training sessions, which need to be tailor-made for the Mediterranean countries represented in the programme; the future work of trainees should be mainly aimed at:

1. developing detailed, country-specific recommendations for preparing LEDS;
2. providing hands-on training sessions on the use of the LEDS support mechanisms and partnerships.

Recommendations for Future Training

The session revealed some of the training needs of participants who are interested in, but not necessarily in charge of developing LEDS or compiling sectoral assessment into their national strategy. Therefore, the training provided should be regarded as a starting point for a number of additional training sessions, which need to be tailored to the needs of the Mediterranean countries represented in the program.

In this context, the communication and exchange of knowledge and the use of peer-to-peer learning at the regional and international levels should be enhanced and supported, with reference to experiences and best practices concerning LEDS data gaps. These include the choice of data, data sources, and emission factors among the countries of the region, with a specific focus on the collection of data and statistics and sensitivity analysis, including the exchange of experiences.

Further information about, and analysis of, the climate finance landscape, multilateral donor activities and technology and experience transfer support schemes at the international level, with a focus on the different programmes, facilities, budgets and rules, could facilitate a better definition of the LEDS vision and implementation plan.

Furthermore, information and examples showing how to incorporate low-carbon development measures and their impacts on emission rates and on the economic sectors at the country level should be provided in order to promote the incorporation of these practices and their effects into the national policy and market framework. This

would allow Non-Annex I countries to fully exploit the mechanisms and opportunities and foster the establishment of comprehensive and robust LEADS, promoting the exchange of experiences and information among target countries and enhancing capacities for efficient LEADS management.



8. REFERENCES

- AfDB and OECD, 2013. Enabling Green Growth in Africa. Joint regional workshop, Lusaka, Zambia. Workshop report.
- AfDB and WWF, 2012. Africa Ecological Footprint Report. African Development Bank and World Wide Fund for Nature. Tunis and Gland.
- Crutzen, P. 2002. Geology of mankind. Nature 415.
- IPCC, Intergovernmental Panel on Climate Change, 2014. Climate Change 2014: The Physical Science Basis. Summary for Policy Makers. Cambridge University Press, Cambridge and New York.
- MA, Millennium Ecosystem Assessment, 2005. Ecosystems and Human Well-being: Synthesis. Island Press, Washington, DC.
- Rockstrom, J., W. Steffen, K. Noone, A. Persson, F. S. Chapin, III, E. Lambin, T. M. Lenton, M. Scheffer, C. Folke, H. Schellnhuber, B., Nykvist, C. A. De Wit, T. Hughes, S. van der Leeuw, H. Rodhe, S. Sorlin, P. K. Snyder, R. Costanza, U. Svedin, M. Falkenmark, L., Karlberg, R. W. Corell, V. J. Fabry, J. Hansen, B. Walker, D. Liverman, K. Richardson, P. Crutzen, and J. Foley. 2009. Planetary boundaries: exploring the safe operating space for humanity. Ecology and Society 14(2): 32.
- Sperling, F, I. Granoff. and Y. Vyas (2012). "Facilitating Green Growth in Africa: Perspectives from the AfDB."
- van Vuuren, D.P. et al. 2011. The representative concentration pathways: an overview. Climatic Change, DOI 10.1007/s10584-011-0148-z.

Other Documentation

- [www.unfccc.int/Updated CGE training materials](http://www.unfccc.int/Updated%20CGE%20training%20materials)
- [www.unfccc.int/national communications](http://www.unfccc.int/national%20communications)
- www.ipcc.int
- <http://www.ipcc-nggip.iges.or.jp/software/>
- Tool kit for NAI: <http://unfccc.int/2607.php>
- Updated CGE Training Materials on National GHG Inventories Building Sustainable National GHG Inventory Management Systems, [http://unfccc.int/national reports/nonannex i natcom/training material/methodological documents/items/349.php](http://unfccc.int/national%20reports/nonannex%20i%20natcom/training%20material/methodological%20documents/items/349.php)

- US EPA “National System Templates: Building Sustainable National Inventory Management Systems”
<http://www.epa.gov/climatechange/Downloads/EPAactivities/Complete-TemplateWorkbook.doc>
- NCSP/UNDP “Lessons Learned and Experiences from the Preparation of National Communications from non-Annex I Parties to the UN-FCCC” <http://ncsp.undp.org/news/lessons-learned-and-experiences-preparation-nationalcommunications-non-annex-i-countries>
- Revised 1996 IPCC Guidelines,
- IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories (IPCC 2000), and
- IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry (IPCC 2003).
- GPG-2000;
- Climate Change 2013: The Physical Science Basis WGI contribution to the IPCC AR5 (Thomas Stocker & Qin Dahe, 259 Authors from 39 Countries, WGI Technical Support Unit Team;
- Conclusions of the IPCC Working Group I Fifth Assessment Report, R. K. Pachauri, 11/11/2013 Warsaw, Poland;
- Highlights of the New IPCC Report, Gian-Kasper Plattner, Head IPCC WGI TSU, 259 Authors from 39 Countries, WGI Co-Chairs and TSU Team;
- NAIS Web Application (Release version 1.1.3) User Manual (As of 10 February 2014)
- 6th National Communication of Italy to UNFCCC;
- 1st National Communication of Montenegro to UNFCCC
- Data management systems for national greenhouse gas inventories: Insight from ten countries, World Resources Institute (Working paper, 2015)

Climate finance resources

- Climate Finance Options – Funding database
- Climate Public Expenditures and Institutional Reviews (methodologies, examples)

- UNDP LECB website
- Climate Funds Update
- Demystifying Private Climate Finance (UNEP FI)

Examples of country LEDS

- Ethiopia Climate-Resilient Green Economy Strategy (CRGES) — http://www.uncsd2012.org/content/documents/287CRGE%20Ethiopia%20Green%20Economy_Brochure.pdf
- Kenya National Climate Change Action Plan — http://cdkn.org/wp-content/uploads/2012/04/National-Climate-Change-Response-Strategy_April-2010.pdf
- Rwanda National Strategy for Climate Change and Low Carbon Development — <http://cdkn.org/wp-content/uploads/2010/12/Rwanda-Green-Growth-Strategy-FINAL1.pdf>
- South Africa Long-Term Mitigation Scenarios — http://www.erc.uct.ac.za/Research/publications/07Scenario_team-LTMS_Scenarios.pdf
- Vietnam National Green Growth Strategy — <http://www.greengrowth-elearning.org/pdf/VietNam-GreenGrowth-Strategy.pdf>

LEDS reports

- Energy Sector Management Assistance Program (ESMAP) — “Planning for a Low-Carbon Future: Lessons from Seven Country Studies” — <http://www.esmap.org/node/2091>
- Green Growth Best Practices (GGBP) Report— <http://www.ggbp.org/report/green-growth-practice-lessons-country-experiences>
- Green Growth Knowledge Platform — <http://www.greengrowthknowledge.org/resources>

- LEDES Global Partnership Resources - <http://ledsgp.org/publications>
- Linkages between LEDES-NAMA-MRV—
<http://www.mitigationpartnership.net/international-partnership-mitigation-and-mrv-leds-globalpartnership-nama-partnership-2014-linkages>
- OECD-LEDES: Technical, Institutional, and Policy Lessons—
http://mitigationpartnership.net/sites/default/files/2010_oecd_clapp_leds_technical_institutional_and_policy_lessons.pdf
- Step-by-Step Guidance to a Long-Term Framework for Sustainable Development Cooperation—
http://mitigationpartnership.net/sites/default/files/leds-tool_5_2_finalpub.pdf

LEDES tools & other resources

- Climate Smart Planning Toolkit — <https://www.climatesmartplanning.org>
- Development Impact Assessment Toolkit — <http://ledsgp.org/dia-toolkit>
- LEDES Framework Wiki on OpenEI — http://en.openei.org/wiki/Introduction_to_Framework
- Reegle Policy Search Engine for Renewable Energy (RE) and Energy Efficiency (EE)— <http://www.reegle.info/policy-and-regulatory-overviews>
- Toolkit of Policy Options to Support Inclusive Green Growth — <http://www.oecd.org/greengrowth/toolkit.pdf>
- Transport LEDES Toolkit — <http://ledsgp.org/transport>
- UNDP — Green Low Emission Climate Resilient Development Strategies Guidance Manuals and Toolkits —
http://www.undp.org/content/undp/en/home/ourwork/environmentandenergy/focus_areas/climate_strategies/green_lecrds_guidance-manualsandtoolkits/
- World Bank e-courses — <https://einstitution.worldbank.org/ei/CourseCalendarCurrent>
- World Bank ESMAP Tools for Low Carbon Planning —
http://www.esmap.org/sites/esmap.org/files/World_Bank_ESMAP_Analytical_Tools_CG_Intro7.pdf
- World Bank ESMAP - http://www.esmap.org/Low_Carbon_Development

