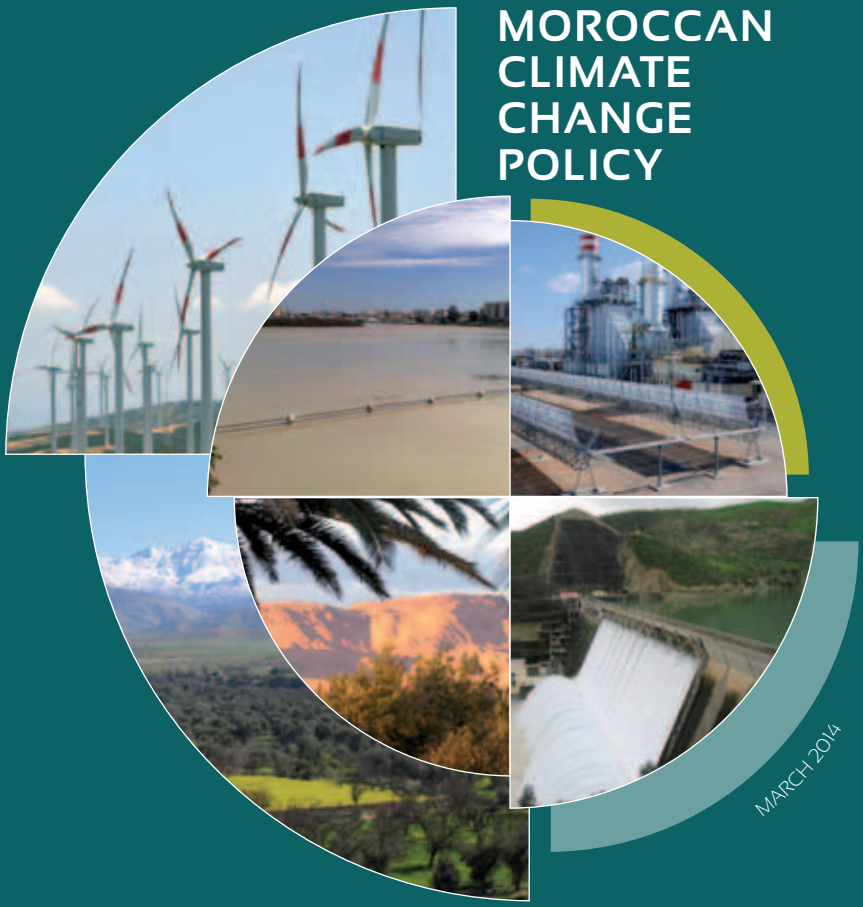
المملكـــة المغربيـــة
KINGDOM OF MOROCCO

Ministry Delegate of the Minister of Energy, Mines,
Water and Environment, in charge of Environment

MOROCCAN CLIMATE CHANGE POLICY



MARCH 2014

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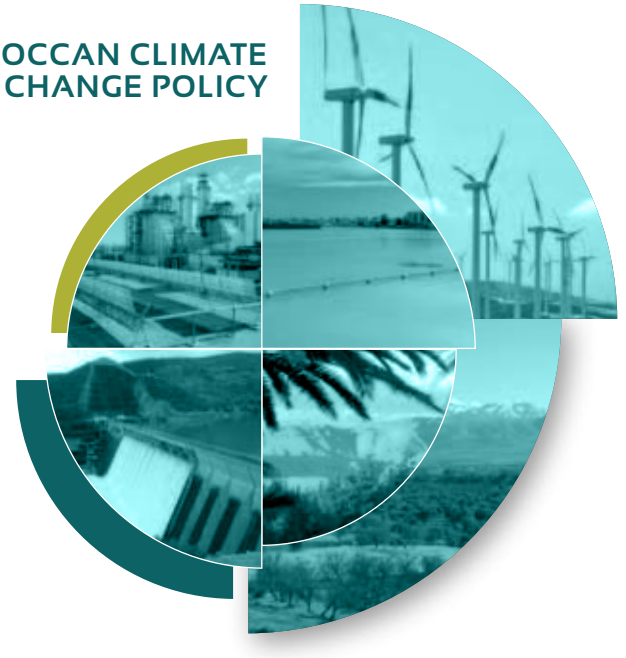

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EXCERPTS FROM THE ROYAL LETTER DELIVERED AT THE UNITED NATIONS CONFERENCE ON CLIMATE CHANGE IN COPENHAGEN, DECEMBER 2009

« (...) Morocco, like all countries, is suffering from the effects of climate change with the specifics linked to its geographical position and the diversity of its ecosystems.

This is the reason why our country was among the first to join the universal awareness, consecrated by the Rio Summit, by ratifying the relevant international conventions and adopting national action programs in the field.

We have also included environmental issues at the heart of our development programs – including those on water – following a pioneering and proactive approach about the mobilization of our water resources and the fight against floods and drought. We also launched and implemented a National Initiative for Human Development (INDH), in addition to sectoral strategic development plans, especially in the areas of agricultural development, environmental protection, energy efficiency and the development of renewable energies.

(...) By adopting this sustainable development model, Morocco reiterates its strong support to the international effort to fight against the phenomenon of global warming (...). Actually, the situation has reached a level of severity which makes imperative a stronger collective commitment to ensure the survival of humanity and save our Planet Earth. (...) ».

EXCERPTS FROM THE KING'S SPEECH DURING THE 14TH THRONE DAY ANNIVERSARY, JULY 2013

« (...) The desire that drives Us in this regard is matched only by Our determination to continue to give shape to our societally project combining sustainable economic growth, sustainable development and social responsibility.

(...) It is in this same spirit that Morocco's is seeking to develop capacity to produce renewable energy, contributing therefore to give its concrete expression to Our sustainable development vision. Hence the implementation of the solar energy program, including the launch of "Nour Complex" construction sites in Ouarzazate, along with the deadlines listed in the wind power program. Besides their environmental importance, these projects will make us less dependent on energy imports. It is therefore necessary to initiate a policy of efficient training and skills development in this area, which will help, in addition, the implementation of the National Environmental Charter. (...) ».

EXCERPTS FROM THE KING'S SPEECH ON THE OCCASION OF THE 38TH ANNIVERSARY OF THE GREEN MARCH, NOVEMBER 2013

« (...) The special relationship that link Morocco to the Sub-Saharan Africa's countries (...) are, after all, secular human and spiritual bonds.

Given the situation in some of these countries, many of their citizens immigrate to Morocco in a legally or illegally way.

(...) Given the significant increase in the number of immigrants from Africa or Europe, We have urged the government to develop a new global policy on immigration and asylum issues, following a humanitarian approach consistent to the international commitments of our country and respectful of the immigrants' rights.

To reinforce this orientation, Morocco presented, on the sidelines of the General Assembly this year, the initiative of the African Alliance for migration and development. (...) ».

PREFACE

In an international context disturbed by many concurrent crises: financial, economic, energy, climate... Morocco is well aware of the need to ensure its transition to a new development model more respectful of both its human and natural resources and to initiate a green growth. This transition occurs through structural projects such as energy policy or energy efficiency, water conservation, sustainable management of solid and liquid waste and the National Initiative for Human Development (NIHD).

Even though the Kingdom of Morocco has a status of low carbon emitter, its geographical position confines it to a great natural vulnerability to climate change (desertification, floods, water scarcity...). This vulnerability is exacerbated by the increase of arid and semi-arid zones, hence worsening the desertification phenomenon and impacting water resources. With agriculture still largely dominated by rainfed crops) and therefore dependent on rainfall, vulnerability to the impacts of climate change is real. With the increasing needs of the population and industries, these vulnerabilities will go increasing while climate change will exacerbate the ecological footprint of activities.

To address this issue, Morocco is committed to proactively implement adaptation and mitigation actions as part of an integrated, participatory and responsible approach. This political will was instilled by HIS MAJESTY THE KING MOHAMMED VI and today finds its place in the National Charter for Environment and Sustainable Development, following a process of consultation and dialogue that involved all stakeholders and is now adopted as a framework law. This will is in line with the international effort that should lead, according to the principle of common but differentiated responsibility, to the establishment of a new international agreement to fight against climate change.

The present policy is Morocco's strategic framework to develop a medium and long term vision to respond in a proactive and ambitious way to the challenges posed by climate change.It is also a tool for coordinating various measures and initiatives started in the fight against climate change and is a dynamic, participatory and flexible structuring policy instrument for a low-carbon climate-resilient development.

Although convinced of the need to fight against climate change, the Kingdom is aware of its limits. Financial limits first, as the scale of projects to be undertaken requires support from the international community through the acceleration of the implementation of the Green Climate Fund with a fair deal between adaptation and mitigation projects. Technological limits then, because the implementation of adaptation and mitigation strategies requires the deployment of techniques and proven technologies.

The Kingdom of Morocco remains convinced that it is the unshakable foundation of solidarity between countries humanity must build its new model of wealth creation.

Hakima El Haité
Minister Delegate to the Minister of Energy,
Mines, Water and Environment,
in charge of Environment

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List of acronyms

4C	Climate Change Competence Centre
ADA	Agriculture Development Agency
CC	Climate Change
CIN CC	National Institutional Framework on CC (Cadre Institutionnel National du Changement Climatique)
CNCC	National Comittee on CC (Comité National sur les Changements Climatiques)
CNEDD	National Charter for Environment and Sustainable Development (Charte Nationale de l'Environnement et du Développement Durable)
CNST-CC	National Scientific Committee on CC (Comité National Scientifique et Technique du Changement Climatique)
CO_2	Carbon dyoxide
DGCL	General Directorate of Local Authorities (Direction Générale des Collectivités Locales)
DMN	Directorate of National Meteorology (Direction de la Météorologie Nationale)
EE	Energy Efficiency
FAD	Fight Against Desertification
FDRZM	Fund for the Development of Rural and Mountain Areas (Fonds pour le Développement Rural et des Zones de Montage)
FNE	National Environment Fund (Fonds National pour la Protection et la Mise en Valeur de l'Environnement)
FNEDD	National Environment and Sustainable Devlopment Fund (Fonds National de l'Environnement et du Développement Durable)
GCF	Green Climate Fund
GHG	Greenhouse Gas
HCEFLCD	High Commission for Water, Forests and Desertification Control (Haut-Commissariat aux Eaux et Forêts et à la Lutte Contre la Désertification)
INC	Initial National Communication
IPCC	International Panel of Experts on Climate Change
LEDS	Low Emission Development Strategies
MAPM	Ministry of Agriculture and Fisheries (Ministère de l'Agriculture et de la Pêche Maritime)
MC	Ministry of Communication
MCCP	Moroccan Climate Change Policy

List of acronyms

MDE	Ministry Delegate of the Minister of Energy, Mines, Water and Environment, In charge of Environment
MEMEE	Ministry of Energy, Mines, Water and Environment (Ministère de l'Energie, des Mines, de l'Eau et de l'Environnement)
MENA	Middle East and North Africa
MES	Ministry of Superior Education, Research and professional trainning (Ministère de l'Enseignement Supérieur, de la Recherche scientifique et de la Formation des cadres)
MHPP	Micro-Hydraulic Power Plant
MRV	Measurement, Reporting & Verification
MUATN	Ministry of Urban and Regional Planning of the National Territor (Ministère de l'Urbanisme et de l'Aménagement du Territoire National)
NAMA	Nationally Appropriate Mitigation Actions
NAP	National Adaptation Plan
ONEM	National Environment Observatory of Morocco (Observatoire National de l'Environnement du Maroc)
OREDD	Regional Observatories of the Environment and Sustainable Development (Observatoires Régionaux de l'Environnement et du Développement Durable)
PCD	Community Development Plan (Plan Communal de Développement)
PMV	Morocco's Green Plan – Agriculture Development (Plan Maroc Vert)
PNRC	National Plan against Global Warming (Plan National de lutte contre le Réchauffement Climatique)
PTRC	Territorial Plan against Global Warming (Plan territorial de lutte contre le Réchauffement Climatique)
RE	Renewable Energy
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SD	Sustainable Development
SNC	Second National Communication
SNDD	National Strategy for Sustainable Development (Stratégie Nationale de Développement Durable)
SRAT	Regional development plans (Schémas régionaux d'Aménagement des Territoires)
TOE	Tonne Oil Equivalent
UNFCC	United Nations Framework Convention on Climate Change

INTRODUCTION

Climate change, a global challenge

Climate change represents nowadays a worldwide major issue to humanity. Although difficult to tackle, the consequences of this phenomenon are manifold, irreversible and beyond the response capacity of both ecosystems and humans, which may be permanently altered or destroyed. Morocco, like many developing countries, is severely affected by this phenomenon and has already recorded many impacts at the national level.

The adoption of the United Nations Framework Convention on Climate Change (UNFCC) in 1992 is the basis to identify ways to stimulate a global sustainable development. At a result of this Convention and of the Kyoto Protocol, various initiatives and actions have been implemented. However, these efforts remain modest with respect to the remaining leeway.

KEY POINTS OF THE FIRST VOLUME OF THE FIFTH IPCC REPORT (SEPTEMBER, 2013) - EXPECTED IMPACTS FOR THE XXI CENTURY

- **Temperature:** Increase on the earth's surface by more than 1.5 degrees C° at the end of the century compared to the period from 1850 to 1900 for three of the four scenarios of future climate modeling;
- **Water cycle:** The changes in the global water cycle will not be uniform. The contrast in rainfall between humid and dry regions and between wet and dry seasons will increase, although there may be regional exceptions;
- **Elevation of sea level:** Depending on the scenarios considered it should be between 0,24m and 0.30m over the period 2046-2065 compared to 1986-2005;
- **Cryosphere:** Further reductions in the extent and thickness of Arctic sea ice, as well as the extent of snow cover in the Northern Hemisphere, of about 7% at the end of the century;
- **Ocean acidification:** Increase for all scenarios. The decrease in pH varies in these scenarios from 0.06 to 0.32;
- **Carbon cycle:** Atmospheric levels of greenhouse gas (GHG) emissions reached 400 ppm in 2013. The four considered scenarios foresee an amplification of increased cumulative emissions of CO_2 for the period 2012-2020. The average reaches 990 Gt CO_2 for the most optimistic scenario, and 6180 Gt CO_2 for the worst scenario.

Morocco's engagement regarding the international climate change regime

Morocco, low emitter country but vulnerable to the effects of climate change, took early its responsibilities by gradually designing the outlines of its own vision, while complying with the measures undertaken at the global level. To this end, Morocco fits perfectly within the obligations expected by the international framework on climate change. The First and Second National Communication demonstrate its commitment to the UNFCC. This commitment is confirmed and reinforced by the Third National Communication currently under preparation.

In addition, Morocco has launched several sectoral strategies integrating the environmental dimension, including that of climate change in key sectors of the national economy (energy, transport, agriculture, tourism, construction, fishery, water, waste, forest, etc.). This engagement is the beginning of a shift towards a new climate policy in line with the socio-economic development of the country.

Morocco was one of the first countries to establish a Designated National Authority for the Clean Development Mechanisms, under the Kyoto Protocol. Morocco has also supported the Copenhagen Agreement by notifying the UNFCC Secretariat (in January 2010) a list of NAMAs intended to reduce its GHG emissions by 2020. Nevertheless, the implementation of various projects and measures planned in this context still face a lack of financial resources at the national level.

The support of the international cooperation and the mobilization of additional resources are crucial to the implementation of the Moroccan Climate Change Policy.

Contribution to sustainable development in Morocco through a strategic dimension : the MCCP

Morocco is fully committed to the policy statement «The Future We Want» adopted in June 2012 at the Rio + 20 Summit. The operationalization of this statement, as well as guidelines and measures inherent to the «National Charter for Environment and Sustainable Development» (CNEDD) and the «National Plan against Global Warming» (PNRC), will be realized with the adoption of the future «National Strategy for Sustainable development» (SNDD), currently under development, which «will bring Morocco to a strong commitment for the sustainable development and a renewed governance.» The adoption of the new Constitution accompanies this operationalization by promoting a sustainable economic development in line with the protection of the environment and geographic, heritage, cultural and historical wealth.

The Moroccan Climate Change Policy is in line with this approach and supports the Moroccan response to the Cancun Agreements. This Policy represents a a coordination tool of the various measures and initiatives against climate change. It is also a dynamic, participatory and flexible structuring policy instrument for a low-carbon climate-resilient development.

KEY OBJECTIVES OF THE SNDD

Economic Pillar
Combining competitiveness and sustainability.

Social Pillar
Ensure human development and social cohesion.

Environment Pillar
Systematize the environmental issues consideration.

Governance Pillar
Governance for a sustainable development.

SOME ENVIRONMENTAL AND SUSTAINABLE DEVELOPMENT PROVISIONS OF THE NEW MOROCCAN CONSTITUTION

Article 31

The access to a healthy environment and to a sustainable development is recognized as a right of all citizens.

Article 35

The State will carry out a sustainable human development, that will even allow (...) the natural resources preservation and the rights of future generations.

Article 88

Environment is the Kingdom priority. After his appointment, the Head of Government is required to present his program, considering domains related to the economic, social, environmental, cultural and foreign policy.

CHAPTER I

CHALLENGES FOR MOROCCO

NATIONAL CLIMATIC SITUATION

Located North of Africa, Morocco is characterized by four types of climate: humid, sub-humid, semi-arid and arid. Climate observations, made over the past decades indicate that the regions that were classified as humid or sub-humid regress to semi-arid to arid climate regions. The climate projections made by DMN foresee an increase in average summer temperatures of 2 °C to 6 °C and a 20% decline in average rainfall by the end of the century.

FEATURES AND INDICATORS

GEOGRAPHY

- Area : 710 850 km²
- Privileged geographical position : North Africa at the European gates
- Atlantic front : 2 934 km
- Mediterranean front : 512 km
- Wide range of landforms

DEMOGRAPHY

- Population :
  > 31.89 million inhabitants (2010) ;
  > 35.36 million inhabitants (2020) ;
  > 41.36 million inhabitants (2050) ;
- Population growth rate of 1.1% in 2007 (approaching the global rate);
- Steady decline in the growth rate: 3% in 1950, 1.4% in 2000 and 1.1% in 2007;
- Young population: 31.2% (0-14 years), 60.7% (15-59).

ECONOMY

- Average annual GDP growth of 3.3% between 2001 and 2012 ;
- Leading sectors of the Moroccan economy:
  > Industry : represents on average 28% of GDP;
  > The agriculture contributes by 19% of GDP and about 80% of direct rural employment;
- The national primary energy consumption rising (annual rate rise of 5% over the last year), established in 2011 to 16.9 Mtoe;
- Modest energy consumption per capita (0.52 toe in 2011), compared with the world average (1.7 toe) ;
- The dependency on foreign energy imports is almost total (currently approaching 97%).

ENVIRONMENT

Water

- 135 Large dams with a total capacity of nearly 17.5 billion m^3;
- 4 billion m^3 of exploitable groundwater;
- Drinking water :
  > Urban service rate: 100% ;
  > Rural service rate: >92%.

Biodiversity

- At the Mediterranean Basin, the Moroccan biodiversity occupies the second place after Turkey, with an overall rate of 20% endemism;
- Morocco has 10 national parks, with a total surface area of 750 000 ha;
- Morocco has three Biosphere Reserves. A fourth one is planned in the Middle Atlas;
- Morocco has high ecosystem and landscape diversity, with 40 types of large natural ecosystems:
  > 4 500 species of vascular plants;
  > 550 vertebrate species;
  > Thousands of invertebrate species.

- 7 000 species have been identified in the Moroccan flora and 24,661 in the Moroccan fauna;
- 24 Moroccan wetlands were classified RAMSAR areas until 2005.

Threatened species by extinction

- 2.5% of the Moroccan fauna, so 613 species are considered rare or threatened;
- 1,641 species or subspecies on the 4,500 species of vascular plants are rare or endangered.

GHG emissions

- Global emissions per capita are modest but in steady increase:
  - > 48,07 $MtCO_2$ in 1994 ⇢ 1,84 Teq CO_2/habitant;
  - > 63,44 $MtCO_2$ in 2000 ⇢ 2,21 Teq CO_2/habitant ;
  - > 75,04 $MtCO_2$ in 2004 ⇢ 2,5 Teq CO_2/habitant ;
- Morocco is one of the least emitting countries in the MENA region;
- The energy sector is responsible for over 52% of global emissions in the country, followed by agriculture with31%, for the year 2004;
- CO_2 absorptions:
  - > 5,090 kT in 1994 (INC) ;
  - > 5,623.73 kT in 2000 (SNC).

Vulnerability

Located in Africa with a large Mediterranean coast, Morocco is very vulnerable to climate variability, according to the Fourth IPCC Climate Assessment Report.

VULNERABILITY: OBSERVATIONS, PROJECTIONS AND IMPACTS

Observations

Morocco, given its geographical localization, climate, coastline, among others, is strongly affected by climate change and has an increasingly growing vulnerability. The global average warming over the entire territory is estimated around 1 °C, there is a temporal and spatial variability of rainfall with a significant drop between 3% and 30% depending on the areas, an acceleration of extreme events (e.g., droughts and floods), a tendency to rising heat waves and less cold waves, and finally a rising sea level. These are the main phenomena identified in Morocco in recent decades. This vulnerability is exacerbated by several factors, including the economic structure, the level of awareness and knowledge, the legal framework, the lack of an appropriate integrated territorial approach, etc.

Projections and Impacts

If the current demographic trends continue through 2030, the proportion of people aged over 60 years will be more than double compared to 2004 (according to projections made by the High Planning Commission). Given its fragility and its low capacity to adapt to heat, this population would be exposed to health problems during heat waves.

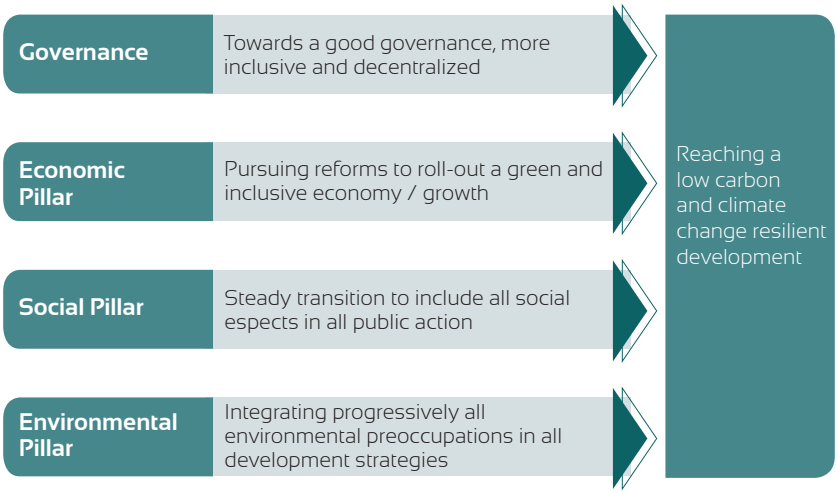
Several sectors will be affected, including agriculture, due to huge pressure on water, and poultry. The water sector currently faces major challenges such as an increasing demand, the scarcity of water resources and overexploitation of groundwater. Climate change should most likely worsen this situation, especially due to the intensification of extreme events such as droughts and floods. The economy of the country which is very dependent on water resources, agriculture and its coastline should be strongly affected.

The impacts of climate change on a Regional level have also direct consequences, as they triggered the increase of migration, namely from sub-Saharan Africa. In this context, Morocco has developed an integrated and proactive strategy in line with the socio-economic development objectives of the country, in order to regularize the situation of more than 52,000 illegal immigrants.

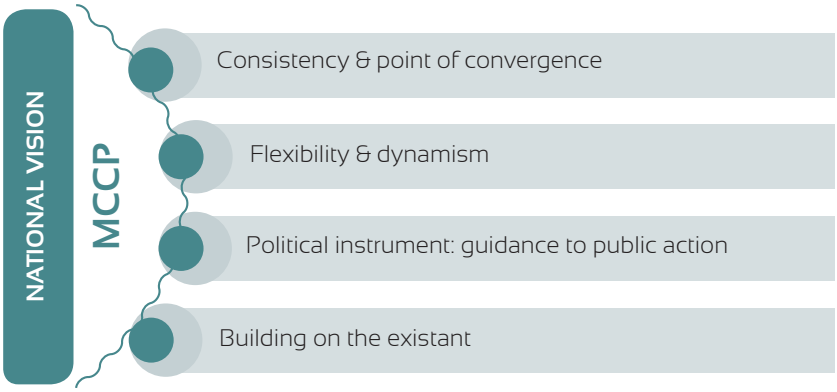
CHAPTER II
THE NATIONAL VISION

Morocco aims to continue its efforts to fight against climate change within the framework of a global sustainable development vision. The objective is to ensure the transition towards a low-carbon development and climate-resilient, aspiring to contribute to the global efforts to fight against this phenomenon.

The National Vision places accordingly the fight against climate change as a top priority, a constraint used as a lever to build a green economy in Morocco. The National Vision aims to guide public action in all its decisions, at the sectoral and cross-sectoral, national and local levels, in a coherent and convergent manner, and taking into account the interaction between these multiple levels. In accordance with the National Strategy for Sustainable Development, The National Vision is based on the following four pillars:



The CCVM intends to capitalize on the measures and actions already implemented in order to generate maximum synergies. The CCVM is established in 2030, maturity date for the majority of sectoral and cross-sectoral national strategies and aims to be a dynamic and flexible instrument with a monitoring and evaluation mechanism to allow necessary refinements to be considered.



In order to place this National Vision into a medium and long term reality, taking into account achievements as well gaps, strategic pillars are proposed and are detailed in the following chapters.

CHAPTER III
THE CROSS-CUTTING STRATEGIC PILLARS OF THE MCCP

The lack of coordination between sectoral policies requires transversal measures to be developed for sectors concerned by climate change. The Moroccan National Vision has been developed based on six cross-cutting strategic pillars outlined below:

1. **Strengthening the legal and institutional framework:** the existing institutional framework, gradually built to meet the UNFCCC and the Kyoto Protocol requirements, is neither sufficient nor suitable for an effective implementation of the MCCP (unfavourable to the coordination and arbitration of public policies). It is the same for the current legal framework. It is therefore necessary to strengthen the Institutional National Climate Change Framework through concrete legal and regulatory measures in accordance with the provisions of the framework law of the environment and sustainable development.

2. **Improving knowledge and observation:** numerous studies confirm the importance of acquisition, management and data consolidation (climate risks and vulnerability, sources and level of emissions, potential and opportunities to reduce these levels, etc.). It is therefore necessary to further develop knowledge on climate change and climate science and to strengthen monitoring and forecasting systems for the impacts of climate change.

3. **Territorial declination:** taking into account regional specificities and the active engagement of communities are two key elements in the climate change adaptation and mitigation. In a regionalization context, the national objectives need to be implemented as Territorial Plans against Global Warming (PTRC). These again should be articulated with the regional development schemes in order to realize integrated regional action plans.

4. **Prevention and reduction of climate risks:** Morocco has a strong commitment to adaptation actions for many sectors and areas of activity (National Plan of Protection against Floods, National Plan for the Fight against Desertification, Reforestation Master Plan...). Such initiatives are to be strengthened, some aspects to be deepen or improved (vulnerability of infrastructure and ecosystems, knowledge of climate risks...).

5. **Awareness, empowering of actors and capacity building:** the fight against climate change depends on everyone: individuals, communities, interest groups, public and private enterprises, local and national policy makers. Therefore, it is necessary to intensify outreach efforts by facilitating access to information, organizing training workshops, deploying a communication campaign on a large scale (mass media or social media), and strengthen the capacity of different stakeholders to sit for more effective skills to better adapt to climate change and mitigating its impacts.
6. **Promotion of research, innovation and technology transfer** : at a national level, various institutions conduct research in relation to climate change issues. However, for a better characterization of risks, potential benefits associated with this phenomenon and the vulnerability of different components, research and innovation must be supported and strengthened. In addition, partnerships and North-South and South-South cooperation should be promoted in order to spread and transfer technologies for the fight against climate change which is a cornerstone in the fight against climate change.

MCCP actions related to these cross-cutting strategic pillars are presented in the following table:

Cross-cutting Pillars	Recommended actions	Action initiator	Calendar	Funding	
				National	International
Strengthening the legal and institutional framework	Strengthen the National Institutional Framework of Climate Change (CIN CC) by a regulatory mean from the Framework Law of the Environment and Sustainable Development, defining the necessary institutional structures (CNCC, CNST-CC etc.), their roles, assignments, compositions, resources and synergies.	MEMEE/MDE	ST		
	Place the CIN CC within the environmental governance system advocated by the Framework Law of the Environment and Sustainable Development.	MEMEE/MDE	MT		
	Strengthen the integration of considerations related to CC in all public policies (strategies, programs and plans).	MEMEE/MDE	MT and LT		
	Establish a national framework for the creation of carbon footprints by companies.	MEMEE/MDE	MT and LT		
Improving knowledge and observation	Improve the process of collection process and management of data related to CC, including the monitoring of vulnerability and GHG emissions by implementing an information system.	MEMEE/MDE	ST and MT		
	Establish a Climate Change Competence Centre (4C) as a permanent and structured network of cooperation and bringing together the efforts and data from public institutions, local authorities, universities and the private sector to strengthen capacities of Morocco on adaptation to CC and reduction of GHG emissions.	MEMEE/MDE	MT		
	Strengthen the role of the National Environment Observatory (ONEM) and Regional Observatories of the Environment and Sustainable Development (OREDD) under the 4C for the establishment and management of databases (national and regional) on climate Change (projections / scenarios), extreme events, the vulnerability of communities and the inventory of GHG emissions.	MEMEE/MDE	MT		
	Strengthen the role of the 4C in improving the quality of data on the CC through the publication of specific data in Morocco (e.g., vulnerability indices, climatic risks, GHG emission factors, etc.)	MEMEE/MDE	MT and LT		
	Assess gaps and needs in terms of human, material and technology resources required to improve short, medium and long term observations and forecasts.	MEMEE/MDE, DMN	MT		
Territorial declination	Develop and implement Territorial Plans to Fight against Global Warming (PTRC) with a priority to identify the most vulnerable areas, climate risks and the reduction of social inequalities with respect to the negative impacts of CC.	MEMEE/MDE, MUATN and DGCL	ST and MT		
	Integrating CC considerations in Community Development Plans (PCD).	MEMEE/MDE and DGCL	ST and MT		

Prevention and reduction of climate risks	Development of a National Plan for Prevention and Response to Climate Risks.	MEMEE/MDE, DGCL, DMN and water	ST and MT		
	Update and implementation of the National Plan for Protection against Floods	MEMEE/MDE, DGCL, DMN and water	ST and MT		
	Improve the warning system for extreme weather events and implementation of an information system dedicated to climate vigilant and alert to extreme events easy and free of access for all sectoral actors.	DGCL and DMN	MT and LT		
Awareness, empowering of actors and capacity building	Communication and education, with novel and appropriate information and communication methods adapted to targets (shocking campaigns on the impacts and good practices, in schools, rural areas), and by providing public and private actors, in understandable manner data on CC and possible actions at their level.	MEMEE, DGCL and MC	ST and MT		
	Strengthen human and technical capacities of 4C actors regarding statistical tools and efficient modelling in order to perform better the tasks of monitoring, climate forecasting and making projections of GHG emissions trend at sectoral level.	MEMEE/MDE	MT and LT		
	Promote the role of the 4C in networking the public and private expertise, scientific research and expert networks.	MEMEE/MDE	ST and MT		
	Integrate further science and climate engineering in university curricula and training of engineers.	MES	MT and LT		
	Organize workshops for capacity building on issues related to CC for different actors in order to allow the consideration of this phenomenon and its integration into policy and decision making.	MEMEE/MDE	ST and MT		
	Training public actors to take ownership of the vision, concepts and integrated approach to the fight against CC and for them to incorporate elements of the international climate regime.	MEMEE/MDE	MT and LT		
Promotion of Research, innovation and technology transfer	Establish a permanent and structured climate research within the 4C network, ensuring cooperation and coordination between the institutions involved in research related to CC and development of innovative techniques and technologies (adaptation and mitigation).	MEMEE/MDE	MT and LT		
	Position the 4C as an active player in the exchange of experiences and international dialogue on CC.	MEMEE/MDE	LT		
	Assess technology needs regarding adaptation to CC and mitigation of emissions.	MEMEE/MDE	MT and LT		
	Optimize technology transfer by encouraging and supporting partnerships and North-South and South-South cooperation.	MEMEE/MDE	MT and LT		

Caption:
ST : Short-term - horizon 2015 • MT : Mid-term - horizon 2020 • LT : Long-term - horizon 2030

CHAPTER IV
THE STRATEGIC SECTORAL PILLARS OF MITIGATION AND ADAPTATION

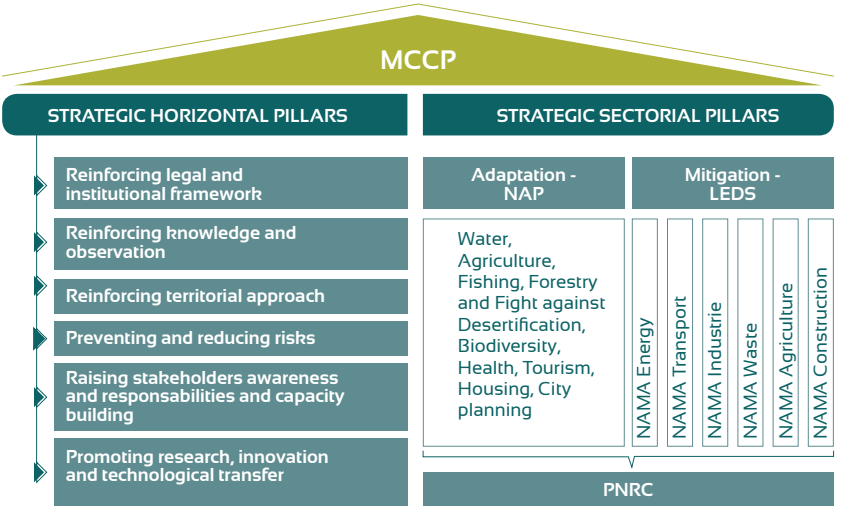
Aware of its vulnerability and the need to act, Morocco showed early commitment in the fight against climate change through the establishment of the pillars of a proactive policy in different sectors. Its climate policy aims to mitigate GHG emissions, reduce vulnerability, anticipate the risks, and adapt the population, economic sectors and natural environments...

In addition to the cross-cutting strategic pillars accompanying the implementation of the National Vision. This visionmust be based on the various programs and strategies implemented to address climate constraints and should ensure a continuous updating of the fixed objectives in line with the performed development. An identification and coordination process of sectoral policies and measures will be implemented to ensure a comprehensive action system to achieve the National Vision (see Chapter VI).

The elaboration of the strategic mitigation pillar as a LEDS is planned for 2015. It will take into account the NAMAs covering the majority of economic sectors emitting GHG.

The adaptation component will be accompanied by the development of a NAP and will aim at identifying priority activities to address urgent and immediate needs of adaptation to the CC.

The diagram below provides an overview of the main measures to be implemented in order to achieve the objectives of the MCCP.



MITIGATION COMPONENT

Different sectors are concerned by establishing GHG reduction measures. The main targets or estimates of emissions mitigation potential for the sectors concerned are presented below:

Energy

The National Energy Strategy established in 2030 draws a new sector orientation, based primarily on the promotion of renewable energy (RE) and energy saving through energy efficiency (EE) measures. A summary of the main objectives of this Strategy is presented below:

	Overall objective		Potential	Achievable potential (MW)				Saved Energy (ktoe /year)		Avoided Emissions of CO_2 (MT/yr)	
						2020	2030	2020	2030	2020	2030
RE	Reach an installed renewable electricity capacity of **42%** by **2020**	Wind	25 000 MW			2 280	5 520	624	1 561	4,25	10,6
		Solar	5 kWh/m²/d	PV		200	1 140	29	59	0,22	0,5
				CES		1 700 000 m²	3 000 000 m²	103	181	0,62	1,2
				CSP		470	1 040	162	344	1,1	2,36
		Hydraulic	987 MW and 200 sites MCH identified			–	–	–	–	–	–
	Value the unsuspected reservoir of Morocco	Biomass	Large potential (waste)			200	400	169	339	1,15	2,3
EE	Energy saving • **12 to 15%** in 2020 • **20%** in 2030	Building	–			–	–	602	957	2 466	3 918
		Industry	–			–	–	360 ktep	450 ktep		
		Transport	See Transport section								

Transport

The National Strategy for Development of Logistics Competitiveness main objectives are the reduction of logistics costs and the acceleration of GDP growth; it also covers the country participation in the sustainable development through:

- Reducing CO_2 emissions by around 35% by 2020;
- Decrease of transported tones/travelled km by 30% by 2020.

Industry

In the framework of the National Pact for Industrial Emergence, which came into force in 2009, and the 3rd general meeting of the industrial sector of February 2013, an engagement was signed, foreseeing, among others :

- The preservation of the environment;
- The rational use of raw materials, including recycling and waste recovery;
- The rational use of energy especially through energy efficiency measures and the use of renewable energies.

Waste

Different mitigation measures of GHG emissions are planned in the waste sector particularly in the framework of the national plan for household waste (PNDM). These measures mainly concern:

- The rehabilitation of uncontrolled waste sites;
- The recovery of methane gas from controlled and uncontrolled landfills;
- The establishment of recycling and recovery of waste.

Forest

Four strategies reflect the efforts deployed to strengthen the conservation and sustainable management of forest genetic resources and to ensure mitigation of GHG emissions:

- The Reforestation Master Plan, launched in 1994, for the achievement of a 1.5 million ha reforestation in 2030. Mitigation potential varies between 1,500,000 and 2,210,376 $TeqCO_2$/year according to the baseline scenario and can reach 3,700,000 $TeqCO_2$/year in case of a REDD+ implementation strategy;
- The Prevention and Fight against Forest Fires Master Plan will be strengthened further in the REDD+ scenario, allowing an average gain in terms of emissions reduction of about 380,000 $TeqCO_2$/year;

- The Strategy of Fight against Overgrazing, targeting the restoration of pastoral balance on all overgrazed land will, according to the assumptions, allow an average reduction of emissions between 2,385,768 and 6,120,252 $TeqCO_2$/year over the period 2013-2030;
- The National Strategy of Energy Mastery planned under the REDD+ scenario, will allow an energy wood saving from the forest equivalent to 207 140 m^3/year on average. This corresponds to a potential emissions reduction of 227,855 $TeqCO_2$/year.

Agriculture

Restructuring the agricultural sector and ensuring its upgrade, are the Morocco's Green Plan (PMV) goals, launched in 2008. The climate change dimension is incorporated in order to improve the sector's resilience and mitigation of GHG emissions. Concerning the GHG emissions mitigation, and through the implementation of land use change and management projects in the PMV, the baseline is estimated at 61,773,196 $TeqCO_2$ with a potential reduction estimated between 16,439,680 (pessimistic scenario) and 117,000,000 $TeqCO_2$ (ultimate scenario).

ADAPTATION COMPONENT

The fight against climate change implicates the establishment of measures focusing on reducing the vulnerability of economic sectors, of communities and of the natural environment and on strengthening their capacity to adapt to climatic constraints. Morocco established in this regard various programs and strategies:

Water

Climate change significantly impacts the availability of water resources. To meet the needs of its population and avoid failures that may worsen in the coming decades, Morocco has implemented its National Water Strategy, established in 2030 with main goals:

- The demand management and water efficiency by:
  - > the water saving irrigation program;
  - > drinking, industrial and touristic water saving, with incentives to use efficient practices.
- Management and supply development through:
  - > the construction of 60 large dams to mobilize 1.7 billion m^3/year and several small dams;
  - > the transfer of raw water resources in the basins of the North to the South (800 Mm^3/year);
  - > the mobilization of unconventional resources through the reuse of treated wastewater, capture rainwater, desalination of seawater and brackish water desalination.
- The preservation and protection of water resources, natural habitats and sensitive areas;
- Reducing vulnerability to floods and droughts through:
  - > the Works of protection against flooding (PNI);
  - > the drought management by river basin Plan;
  - > improved hydrometeorological forecasting.

Agriculture

Agriculture is a strategic lever for socio-economic development in Morocco. The sector remains highly dependent on rainfall and hence climatic hazards. Programs and plans were initiated to improve the strength of the sector to climate drifts, mainly:

- The National Irrigation Water Saving Programme targeting the alleviation of water stress and a protective and sustainable management of water resources for irrigated agriculture. In order to do this, it is planned to move to drip irrigation over an area of 555,000 ha, which would make a considerable saving of water resources of about 1.4 billion m^3/year, in 2020;
- The Integration of CC Project implemented in 2011 by ADA under the Green Morocco Plan launched in 2008. This project aims at strengthening the capacities at the institutional and farmers levels in five target regions and has two main components:
  - > strengthening the integration of CC by the institutions concerned. The achievement of this component is assigned to ADA;
  - > promotion of CC resilient technologies to farmers benefiting from Pillar II projects. This will be done by the Regional Directorates of Agriculture with the assistance of ADA.

Fishery

With large fishery resources, and given the important contribution of the fishery sector to the national economy, Morocco has implemented in 2009 the Halieutis Plan. This plan aims at a sustainable use of resources and a reduction in the ecological footprint through:

- the preservation of marine biodiversity and endangered species;
- the fight against overfishing;
- the promotion of sustainable fishing practices.

Health

Climate change is a major threat to human health. The health sector in Morocco is poorly adapted to cope with the inevitable impacts of climate change. To overcome these weaknesses, Morocco launched in 2010 an Adaptation Strategy of Health Sector to climate change, focusing on:

- the protection of population health towards the impacts of climate change and the reduction of health risks inequalities;
- improved epidemiological surveillance system;

- strengthening the health facilities resilience towards extreme events;
- the emergency and response plans preparation;
- the reinforcement of professionals abilities concerning CC;
- the research promotion on the impacts of climate change on health;
- the information and effective awareness of the various populations: makers, vulnerable persons...

Forest and fight against land degradation

Moroccan forest is a rich and diverse heritage, subjected to multiple natural and anthropogenic pressures and threatened by various phenomena of desertification which affects large areas and intensifies with the arid climate. To cope with these pressures, Morocco has implemented several plans, strategies and programs that had a major contribution in maintaining the adaptive capacity and resilience of ecosystems, including:

- the Master Plan of Land Conservatory Management in Storm Drainage Areas (1994);
- the Protected Areas Master Plan (1995) ;
- the Strategy for the development of overgrazing lands (1995);
- the reforestation Master Plan (1996);
- the National Plan for Watershed Management (1997);
- the National Forestry Program (1998);
- the Fight for Forest Fires Master Plan (2001);
- the National Strategy for Control and Monitoring Forest Health (2008);
- the National Development Strategy of Urban and Suburban Forests (2009).

The State action has evolved into an integrated territorial planning that recently resulted in the updated National Action Plan for the Fight against Desertification (PANLCD, 2012), which mainly aims to sustainably manage natural resources by reducing human pressure to ensure better knowledge of desertification and land degradation...

Biodiversity

Morocco is characterized by a high ecological diversity that is at the origin of the beauty and richness of its landscapes and natural environments. It is indeed one of the pillars on which the economic and social development depends. The protection of this biodiversity is a country priority resulted in the National Strategy for the Conservation and Sustainable Use of Biological Diversity,

launched in 2004, with the aim to reconcile economic and social realities and ecological needs. This strategy is based on the following key objectives:

- the conservation and sustainable use of biodiversity;
- improving the knowledge and the promotion of scientific research;
- the awareness and education through the development of specific and intended programs designed for target populations.

In addition to this strategy, an Integrated Agriculture and Solidarity Project in Morocco (ASIMA) was launched in 2013 under the PMV to strengthen adaptation measures for soil conservation and biodiversity by small farmers beneficiaries of Pillar II projects.

Tourism

Tourism is a key sector of the national economy through its contribution to GDP and its role in job creation. Geography, natural and cultural heritage, available infrastructure, among other things, attract large numbers of tourists every year. The National Tourism Strategy – Vision 2020 aims to promote sustainable tourism and put Morocco as a reference destination for sustainable development in the Mediterranean. In terms of sustainable development and fight against climate change, this Vision is based on the following guidelines:

- ansure the resources preservation in a broad sense including natural and cultural heritage, tangible and intangible heritage;
- incorporate sustainability in tourism and benchmarks standards in the marketing strategy.

The management and monitoring of «sustainable tourism» component of Vision 2020 is based around a set of Sustainable Development Indicators in the tourism sector, to ensure the visibility of the strategy and the consideration of sustainability imperatives in tourism projects. These indicators will be gradually put throughout the national territory.

Housing, Town planning and Territories

The Morroccan Ministry of Urban and Regional Planning (MUATN) deploys adaptation measures in various areas:

- **Oasis:** Various measures have been implemented in the framework of the national strategy for oasis development including measures in the oasis of Tafilalet and Draa for the preservation of natural resources, the fight against desertification and silting.

- **Mountains:** There also is a specific strategy for the development of mountain areas. Projects covered for example the fight against floods, the development of natural resources, improving the living conditions of the population (in the Moulouya Valley and the Eastern Middle Atlas) and the integration of climate change aspects.
- **Rural development:** In the framework of the national strategy for rural development several projects have been implemented for risk management, the fight against flooding, biodiversity conservation, etc. The Fund for the development of rural and mountain areas (FDRZM) supports various projects aimed at reducing the effects of climate change.
- **Coastline:** The national strategy for integrated management of the Moroccan coast is actually being launched with the objective of developing an integrated coastal management model taking climate change into account and organizing the necessary mechanisms to mitigate its effects.

Besides these areas, MUATN aims to integrate sustainability into other areas. Indeed, the draft Code of Urban Development, integrates sustainability into the zoning and communal development plans and reflects as such the respect of SD criteria in the development of strategies for urban development.

CHAPTER V

FINANCING THE FIGHT AGAINST CLIMATE CHANGE

The desire to make a transition towards a low-carbon climate-resilient development requires the mobilization of financial resources that exceed the capacity of national funding.

The inadequate or lack of financial resources is a huge obstacle for the realization of the MCCP. In this regard, the National Vision and the MCCP cross-cutting and sectoral strategic pillars serve as a reference framework to bring in a politically credible and consistent manner, mitigation or adaptation measures appropriate at the national level seeking international funding particularly in a regional or bilateral cooperation context. The ability to mobilize additional and appropriate financial resources at both national and international level should be strengthened. To do this, it is planned to implement the following actions:

Type of measure	Actions	Calendar
Institutional	Refining the costs estimation of policies and measures of fight against climate change (mitigation and adaptation).	MT
	Enrol the institutionalization of climate finance in Morocco as part of the transformation of the National Environment Fund (FNE) as a National Fund for the Environment and Sustainable Development (FNEDD) advocated by the framework law of the CNEDD.	ST & MT
	Integrating public funding dedicated to mitigation and adaptation in the State budget (called positive subsidies).	LT
	Identifying so-called negative subsidies under the Finance Act in view for their removal.	LT
	Consolidating data on national (FNE, FDRZM, etc.) and international funding (bilateral, regional and multilateral) as part of an MRV system of financial support.	MT & LT
	Integrating finance in the framework contracts between State and regions to ensure the budget transfer and secure solidarity with poorer regions (fiscal equalization).	LT
Financial engineering	Develop financial, fiscal and market tools likely to encourage private investments (public-private partnerships, investment companies, etc..).	LT
Technical assistance	Strengthen the capacity of Morocco in its international climate finance readiness (institutional level) for direct access under the Green Climate Fund (GCF).	ST & MT
	Support sectors concerned by NAMAs to submit their applications for funding related to the phase of preparation and or implementation under UNFCC registry or any other potential source of funding.	ST & MT
Enhanced cooperation	Strengthen the capacity of the Moroccan delegations responsible for international negotiations on climate finance.	ST & MT
	Ensuring better coordination between and with international donors for optimal mobilization of their support to Morocco.	ST & MT

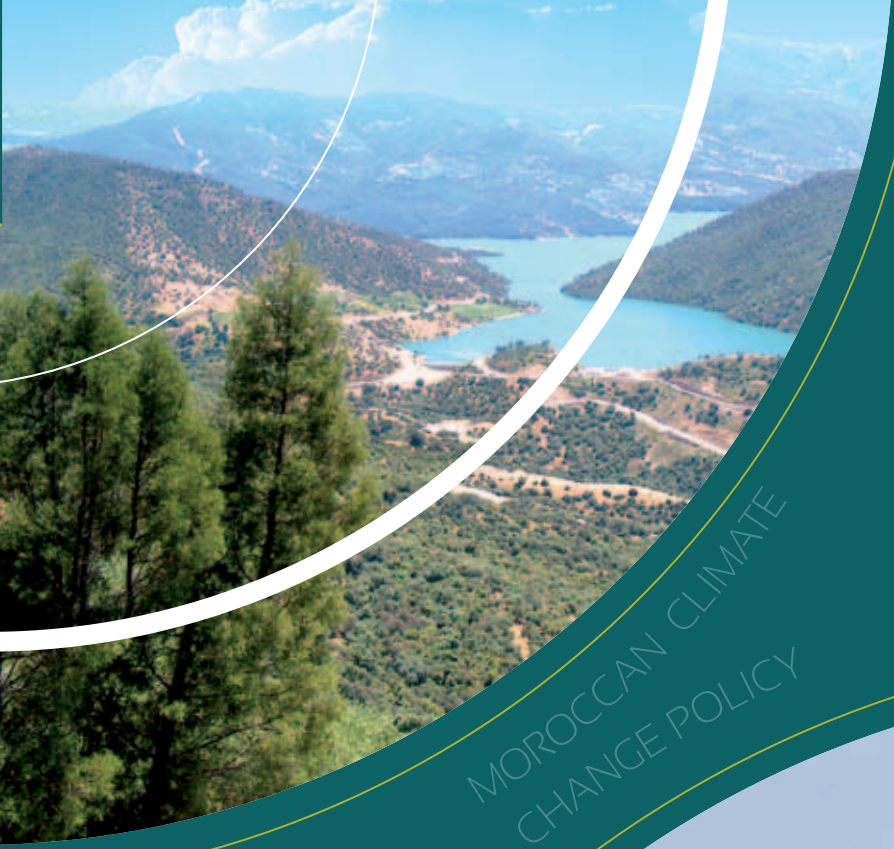
CHAPTER VI
MONITORING AND EVALUATION

A Steering Committee of the MCCP will be implemented under the new CC CIN. This committee should ensure effective implementation of the Moroccan Climate Change Policy and its continuous improvement.

The establishment of a monitoring of policy decisions and technical, regulatory, institutional and organizational measures taken to fight against climate change in Morocco would be useful in many ways. On a more operational level, this monitoring could also identify information about breakthroughs in technology, research and development and the measures taken or proposed to strengthen the information, education, training and capacity building and also cover the highlights of the regional and international cooperation.

This monitoring should be hosted within the Competence Centre on Climate Change (4C) in the form of a web portal with a biannual update.

The Steering Committee set up to achieve the objectives of MCCP should be the primarily organ responsible for the implementation of this monitoring, its follow-up and update. This committee would work under the authority of the MCCP for a better follow-up of performance indicators and for the evaluation and review of the MCCP objectives.



MOROCCAN CLIMATE CHANGE POLICY

Clé Concept-Rabat

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