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Royaume du Maroc

CONTRIBUTION  
DETERMINED  
AT NATIONAL  
LEVEL -  
UPDATED

CDN-MAROC

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## List of abbreviations

<b>ADA</b>	Agricultural Development Agency
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>CMA</b>	Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement
<b>NAC</b>	Normal course of business
<b>CCDB</b>	National Commission for Climate Change and Biological Diversity
<b>CP</b>	Conference of the Parties
<b>FVC</b>	Green Climate Fund
<b>GHG</b>	Greenhouse gases
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>HFC</b>	Hydrofluorocarbons
<b>MDP</b>	Clean Development Mechanism
<b>MRV</b>	Monitoring, notification and verification
<b>NMPE</b>	Minimum energy performance standards
<b>ODD</b>	Sustainable development goals
<b>PCN</b>	National Climate Plan
<b>PCT</b>	Territorial Climate Plans
<b>GDP</b>	Gross domestic product
<b>PMH</b>	Small and medium hydraulics
<b>PMI</b>	Partnership for market implementation
<b>PNAM</b>	Shared Liquid Sanitation Program
<b>UNDP</b>	United Nations Development Programme
<b>PRG</b>	Global warming potential
<b>RBT</b>	Biennial Transparency Reports
<b>SNDD</b>	National Sustainable Development Strategy
<b>STEP</b>	Wastewater treatment plants

# 1. INTRODUCTION

The Government of Morocco hereby submits an update of its nationally determined contribution for the period 2020-2030, in accordance with articles 4.2 and 4.11 of the Paris Agreement, paragraphs 23 and 24 of decision 1/CP.21 and other relevant provisions of the Agreement.

In terms of mitigation, the updated NDC revises upwards the objectives of the first version of the NDC, presenting a target of 45.5% by 2030, including an unconditional target of 18.3%. These new targets reflect a significant increase in Morocco's mitigation ambitions. Morocco's updated NDC is multidimensional and anchored in a variety of enabling elements, such as:

- respect for human rights and gender equality, recognized in Morocco's 2011 Constitution;
- the synergies to be exploited with the other two Rio Conventions, aimed at restoring, respecting and maintaining biological diversity, integrated water resource management, and sustainable land management to counter desertification and soil degradation in its territory;
- aligning climate change actions with the United Nations (UN) Sustainable Development Goals (SDGs), particularly goals 1, 3, 6, 7, 8, 9, 11, 12, 13 and 17;
- the implementation of advanced regionalization, which will strengthen the implementation of the NDC by enhancing the potential and resources of each region and encouraging inter-regional solidarity.

Despite its low contribution to global GHG emissions, Morocco has drawn up its NDC in the firm belief that global ambitions to tackle climate change call for consistent commitment from all parties in terms of mitigation, adaptation, means of implementation, cooperative approaches and transparency.

Morocco remains firmly committed to the Paris Agreement, and is determined to pursue climate mitigation and adaptation objectives in line with its national circumstances and capabilities.

## 2.

# NATIONAL PRIORITIES

### Morocco's vision of climate change

Make our territory and civilization more resilient in the face of climate change, while ensuring a rapid transition to a low-carbon economy.

Morocco's vision of climate change is anchored in Framework Law 99-12 on the National Charter for the Environment and Sustainable Development (CNEDD), published in the official bulletin on March 21, 2014, which specifies "the rights and duties inherent in the environment and sustainable development recognized to natural and legal persons and proclaims the principles that must be respected by the State, local authorities and public establishments and companies".

This political will is also confirmed by the National Sustainable Development Strategy (SNDD-2030) and the National Climate Plan (PCN 2030):

- the SNDD, adopted on June 25, 2017 by the Council of Ministers, aims to achieve a gradual transition to a green economy, taking into account environmental challenges, working to promote human development and social cohesion, and consolidating economic competitiveness in a sustainable way ;
- the drafting in 2019 of the National Climate Plan to 2030 (PCN 30) constitutes a convergence framework for the development of a medium- and long-term climate policy and offers the country the opportunity to implement its NDCs.

The design of PCN 30 is the result of a detailed diagnosis of the vulnerability of Moroccan ecosystems and an in-depth analysis of sectoral plans and policies. It encompasses measures and projects to adapt Morocco's key ecosystems and sectors, notably water resources, agriculture, fisheries and fragile ecosystems. It also aims to consolidate the mitigation objectives of all sectoral strategies and action plans, particularly in the fields of energy, agriculture, transport, waste, forests, industry and housing. It takes into account the territorial vocation by advocating the generalization of Regional Climate Plans (PCR) and City Climate Plans (PCV).



## Highlights of the updated NDC

### In terms of adaptation

Adaptation is a priority for Morocco, given its high vulnerability to the impacts of climate change. The cost of implementing adaptation programs in the sectors most affected is estimated at nearly 40 billion US dollars. The sectors concerned include water, agriculture, fisheries and aquaculture, forestry, health, housing and the most vulnerable environments and ecosystems: oases, coastlines and mountains.

### In terms of mitigation

Morocco's overall updated target represents a 45.5% reduction in GHG emissions from its economy by 2030, including an unconditional target of 18.3% compared with the reference scenario, which corresponds to emissions in the "normal course of business" (NCOB). The mitigation scenario leading to the overall target is based on 34 unconditional measures and 27 measures conditional on international financing.

### Financing and investment flows

The total cost of mitigation actions included in the NDC is estimated at US\$38.8 billion, including US\$21.5 billion for conditional actions.

Implementing the NDC requires major investments that exceed the capacity of any single player, and therefore calls for enhanced interaction between the Moroccan government, the private sector and international financial institutions, including new climate finance mechanisms such as the Green Climate Fund (GCF) and the financial instruments of multilateral development banks.

Morocco also considers it essential to set up market mechanisms to encourage cooperation between the Parties, as provided for in Article 6 of the Paris Agreement, in particular by reducing the total costs of achieving the objective of limiting the rise in temperatures, as set out in Article 2 of the Agreement.



### 3.

## MITIGATION

### 3.1. reference scenario

The mitigation targets presented in this updated NDC are in line with current practice in developing countries, i.e. they are expressed in relation to a counterfactual reference scenario corresponding to a trend in emissions following the NAC by 2030, using 2010 as the base year.

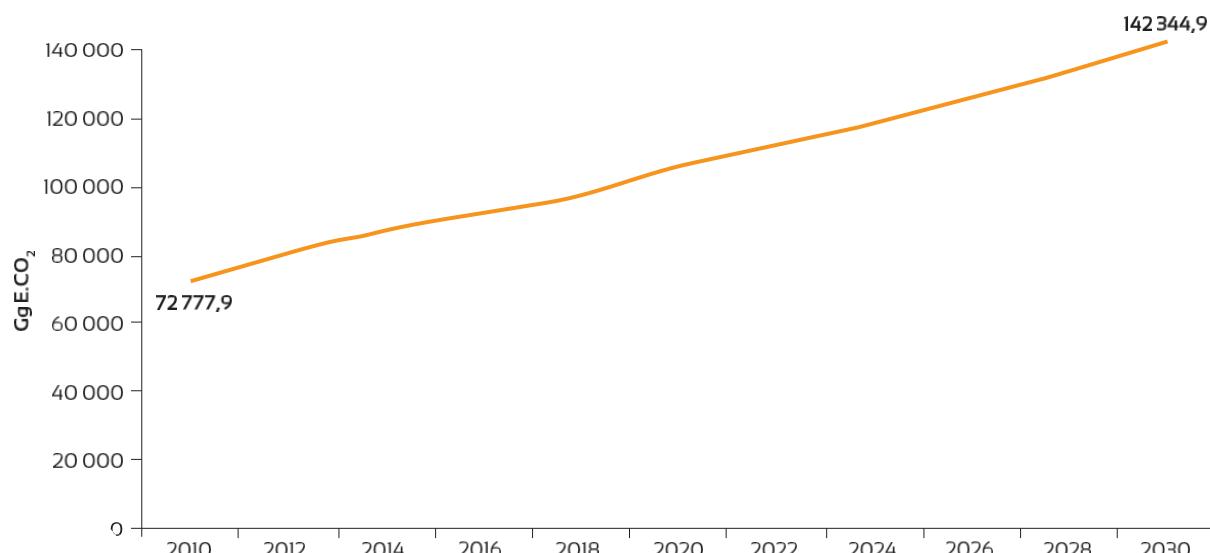
A revision of the reference scenario during the NDC implementation period may be justified by technical updates to the parameters or fundamental changes in the scenario determination methodology. In the case of Morocco, the revision of the reference scenario, when the NDC is updated, is linked to the use of the 2006 guidelines of the Intergovernmental Panel on Climate Change (IPCC) instead of the 1996 guidelines (used in the initial NDC), which has an impact on emissions in the reference year 2010, the starting point for the reference scenario.

Morocco's reference scenario includes all mitigation policies and/or measures adopted before the 2010 reference year. Policies and/or measures adopted after 2010 will be taken into account in achieving the mitigation objective. As a country engaged in the modernization of its productive structures and its demographic transition, Morocco's economic and social objectives are more ambitious than a continuation of the trend of the last decade.

The choice of 2010 as the reference year is not arbitrary, as it corresponds to the first year of implementation of Morocco's National Plan to Combat Global Warming.

The following figure shows the overall reference scenario for GHG emissions from all sectors for the period 2010-2030.

Fig. 1: Global GHG emissions baseline



### 3.2. Measures unconditional

The unconditional mitigation scenario comprises **thirty-four (34) measures** (Annex 2) to which Morocco commits as part of its Nationally Determined Contribution (NDC), taking into account its internal circumstances and capabilities. The unconditional target translates, in absolute terms for 2030, into emissions of 116.1 Mt CO<sub>2</sub>eq.

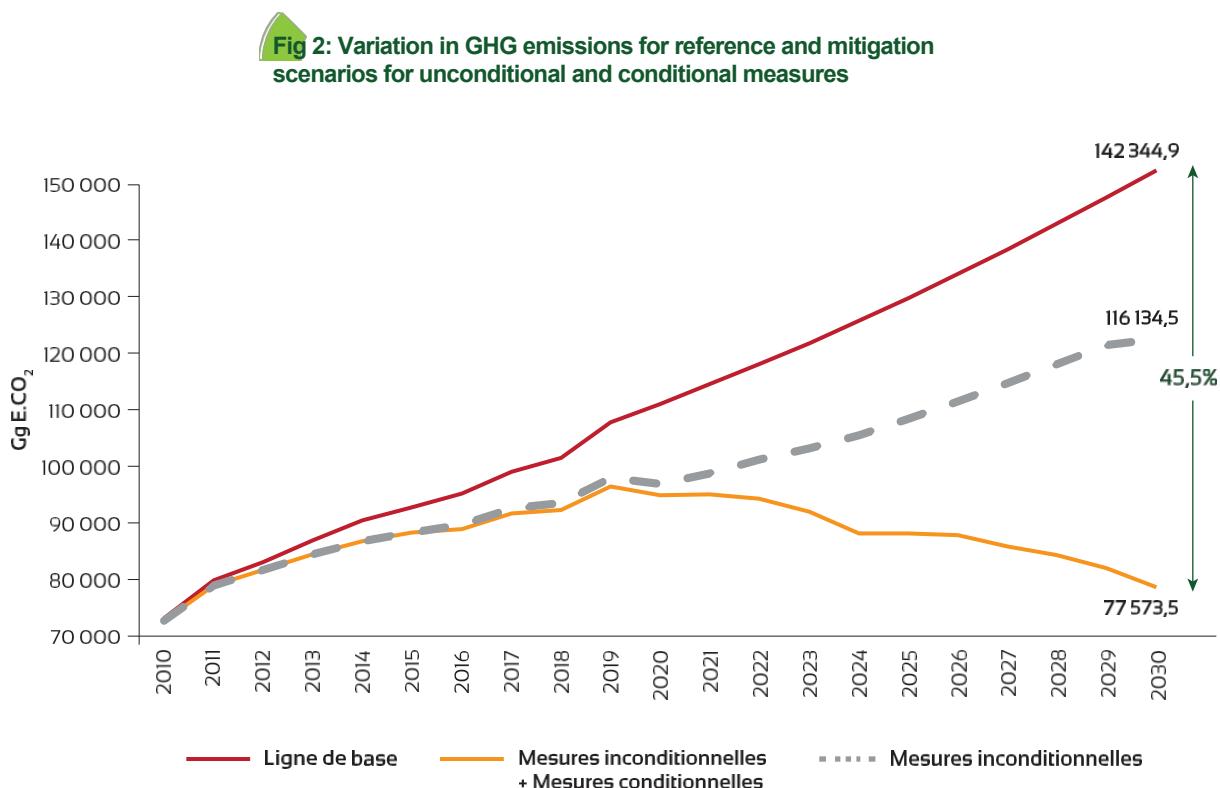
The **unconditional** measures, estimated to cost around 18 billion USG, will reduce emissions in 2030 by 26,119.2 Gg CO<sub>2</sub>eq, or **18.3%** of baseline emissions in 2030.

### 3.3. Overall objective (unconditional measures and conditional measures)

The updated NDC presents an overall mitigation target of 45.5% (unconditional and conditional measures) by 2030, compared with the reference scenario. This new target marks an increase in mitigation ambition compared with the first version of the NDC. It translates, in absolute terms for 2030, into emissions of 77.5 Mt CO<sub>2</sub>eq if Morocco receives the necessary support to implement all the proposed measures (unconditional and conditional).

The increase in the ambition of the updated NDC is attributable to three factors:

- the revision of the reference scenario using the 2006 IPCC guidelines;
- the inclusion of new industry sub-sectors, namely cement production and phosphate production;
- the identification of new mitigation actions in sectors covered by the NDC1 and changes to the scope of certain projects.



### 3.4. Breakdown by sector

The updated NDC includes **61 mitigation actions** (Appendix 1), of which **34 are unconditional** and **27 conditional**. Of the 34 unconditional actions, 9 actions, notably in the energy and agriculture sectors, have already been implemented (partially or fully) before 2020 and will continue to mitigate GHG emissions over the period 2020-2030.

 Table 1: Number of mitigation actions by sector

Sector	Unconditional shares	Conditional actions	Total
Power generation	6	2	8
Industry	10	5	15
City, housing and services	6	3	9
Transport	2	5	7
Waste	0	2	2
Agriculture	6	7	13
Land Management and Forestry	4	3	7
<b>Total</b>	<b>34</b>	<b>27</b>	<b>61</b>

Although the transition to a low-carbon economy is a cross-cutting project based on a range of mitigation measures in all sectors, power generation and industry (including phosphates and cement) remain the spearhead of the decarbonization of the Moroccan economy. In the electricity sector, Morocco has announced its ambition to achieve 52% of installed electricity capacity from renewable sources by 2030.

For the unconditional target, the industry sector accounts for half of the national mitigation effort by 2030, boosted by the phosphate sector alone accounting for 27.5% of Morocco's 2030 targets.

Other key sectors included in the updated NDC are: agriculture, land management and forestry, cities, housing and services, transport and waste.

Figures 3 and 4 illustrate the breakdown of the mitigation effort by sector of the global target in 2030 and the cumulative global target between 2020 and 2030.

 Fig. 3: Breakdown of global mitigation effort (unconditional and conditional) between sectors in 2030

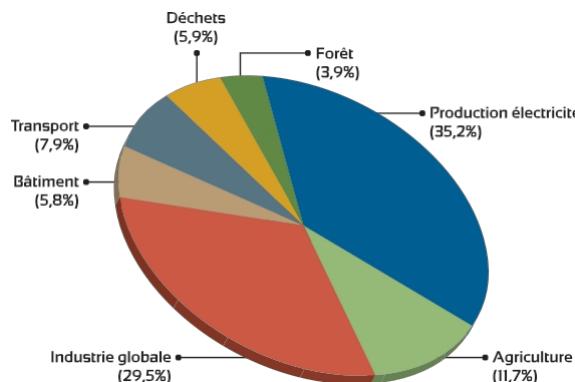
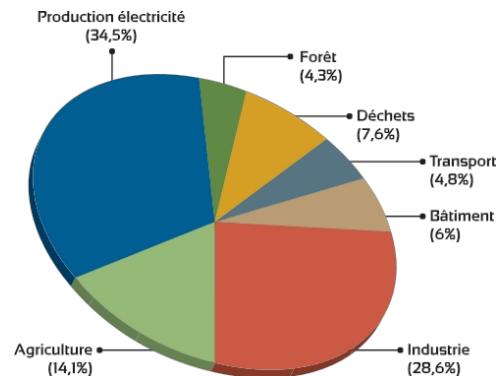


 Fig. 4: Breakdown of global effort by sector emissions over the period 2020-2030



### 3.5. Information required for clarity, transparency and understanding of CDN

1. Quantified information on the reference point, including, where applicable, a base year	
a. Reference year(s), base year(s), reference period(s) or other starting point(s).	2010.
b. Quantifiable information on reference indicators, their values in the reference year(s), base year(s), reference period(s) or other starting point(s) and, where applicable, in the target year.	The reference indicator is quantified on the basis of total national greenhouse gas (GHG) emissions. For the 2010 reference year, the emission level was 72,979 Gg of CO <sub>2</sub> equivalent.
c. For strategies, plans and actions referred to in paragraph 6 of Article 4 of the Paris Agreement, or policies and measures as elements of nationally determined contributions where paragraph 1 (b) above is not applicable, Parties shall provide <b>further relevant information</b> .	NA
d. Target in relation to the reference indicator, expressed numerically, for example as a percentage or quantity of reduction.	An economy-wide net reduction in GHG emissions of <b>18.3% in 2030</b> compared to the reference scenario (CNA), with the country's own resources backed by international support comparable to that received up to 2020.  With more substantial support, Morocco could achieve a <b>45.5%</b> reduction in emissions compared with the CNA.
e. Information on <b>the data sources</b> used to quantify the reference point(s).	The quantification of reference indicators was based on data from the national GHG emissions inventory, which will be communicated in the Fourth National Communication.
f. Information on the circumstances in which the country party can <b>update</b> the values of the reference indicators.	The national GHG inventory is regularly reviewed by the national GHG inventory committee, following the IPCC 2006 methodologies and guidelines.  Information on benchmark indicators may be updated and recalculated as a result of ongoing methodological improvements or the availability of relevant information not previously available.  Information on the updates made will be included in the relevant UNFCCC reports and, from 2024, in the biennial transparency reports.
2. Deadlines and/or lead time	
a. Implementation <b>schedule and/or</b> period, including start and end dates, in accordance with any other relevant decisions adopted by the GCA.	2020-2030.
b. Whether annual or multi-year, as the case may be.	A single target year: 2030.
3. Perimeter and cover	
a. General description of the mitigation objective.	Unconditional commitment to reduce GHG emissions by 18.3% ( 26,119.2 Gg Eq CO <sub>2</sub> ) in 2030 compared with the (CNA) scenario with international support levels in force in 2020, increased to 45.5% (64,771.5 Gg Eq CO <sub>2</sub> ) with greater international support.

<p><b>b. Sectors, gases, categories and basins covered</b> by the nationally determined contribution, including, where applicable, in accordance with IPCC guidelines.</p>	<p>The NDC concerns the entire economy. It reflects all anthropogenic emissions and removals as reported in the Fourth National Communication and the BUR2, and more specifically :</p> <ul style="list-style-type: none"> <li>• All sectors, as defined by the 2006 IPCC guidelines, in particular: Energy, Industrial Processes and Product Use (IPUP).</li> <li>• Agriculture, Forestry and Other Land Use (AFAT), Waste.</li> <li>• Greenhouse gases included in the 2006 IPCC guidelines include CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, NO<sub>x</sub>, SO<sub>2</sub>, NMVOCs and CO.</li> <li>• All categories, as included in the 2006 IPCC guidelines, occurring in Morocco and listed in the QCN.</li> <li>• All carbon reservoirs in Morocco, as included in volume 5 of the 2006 IPCC guidelines.</li> </ul>
<p>c. How the country Party has taken into account <b>paragraphs 31 c) and d)</b> of decision 1 / CP.21.</p>	<ul style="list-style-type: none"> <li>• Morocco's NDC includes all categories of anthropogenic emissions or removals estimated in greenhouse gas inventories. No source, sink or activity that was included in the previous version of the NDC has been excluded.</li> <li>• Only those categories of anthropogenic emissions or removals that do not exist in the country are excluded. Morocco has not decided to exclude any sector from its NDC.</li> <li>• For the time being, efforts are focused on sectors with the greatest mitigation potential, with the highest probability of implementation, aligned with the GHG inventory's key category analysis.</li> </ul>
<p>d. <b>Mitigation co-benefits</b> resulting from Parties' adaptation measures and/or economic diversification plans, including descriptions of specific projects, measures and initiatives of Parties' adaptation measures and/or economic diversification plans.</p>	NA
<b>4. Planning process</b>	
<p>a. Information on the planning processes that the country party has undertaken to prepare its NDC and, where applicable, the country party's implementation plans, including, where applicable:</p> <p>i. National institutional arrangements, public participation and engagement with local communities and indigenous peoples, in a gender-sensitive manner.</p>	<p><b>NDC updating process</b></p> <p>The process of updating the NDC was launched, in 2019, and saw the completion of the following flagship activities:</p> <ul style="list-style-type: none"> <li>• July 2019: a series of bilateral consultations to start the process of updating the NDC;</li> <li>• October 2019: sector workshops to agree on the main changes to be made to the first version of the NDC;</li> <li>• January 2020: a 2<sup>ème</sup> series of sectoral consultations to decide on the status of the mitigation actions and adaptation objectives set out in the CDN1 and on the changes to be made during the updating exercise;</li> </ul>

	<ul style="list-style-type: none"> <li>• February to July 2020: exchange with various stakeholders to gather the data needed to inform the technical process of updating the NDC ;</li> <li>• September to November 2020: drafting and readjustment process with the sectors and validation of the updated NDC Draft;</li> <li>• December 2020 and February 2021: two official presentations of the updated NDC to the National Commission on Climate Change and Biological Diversity.</li> </ul> <p><b><i>Institutional arrangements for implementing climate policy</i></b></p> <p>Morocco has put in place new institutional arrangements for governance and technical and financial capacity building that make its ambitions feasible and realistic:</p> <ul style="list-style-type: none"> <li>• Institutionalization of the <b>National Commission on Climate Change and Biological Diversity</b>. This commission is placed under the governmental authority in charge of the environment and constitutes a consultation and coordination body to ensure the follow-up of the implementation of the commitments provided for in the international conventions and their protocols relating to climate change and biological diversity. This commission comprises two sub-commissions: the Biological Diversity sub-commission and a "Climate Change" sub-commission which is made up of 4 working groups according to the stakes of climate change (Negotiation, Adaptation, Mitigation and Finance);</li> <li>• Institutionalization of the <b>National Commission for Sustainable Development</b>, chaired by the Head of Government, with two committees: the "Committee for monitoring and steering implementation of the national sustainable development strategy" and the "Committee for monitoring and supporting sustainable development objectives";</li> <li>• Setting up the <b>National GHG Inventory System (SNIGES)</b>. The agreed institutional framework includes a National Inventory Commission (CNI), a National Inventory Unit (UNI), a National Coordinator, five Sectoral Coordinators, Inventoryists and Focal Points. In addition, a draft decree on the monitoring and evaluation framework for national climate action is currently being finalized, to implement all the MRV and reporting criteria of the transparency framework.</li> </ul>
ii. Contextual issues, including but not limited to:	
ii (a). <b>National circumstances</b> , such as geography, climate, economy, sustainable development and poverty eradication.	<p><b>Geographical position</b></p> <p>Situated on the southern shore of the Mediterranean, at the north-western tip of Africa, at the gateway to Europe and on the western edge of the Arab-Muslim world and the Maghreb, Morocco occupies a prime geostrategic position and has always been a crossroads of civilizations.</p> <p>Morocco's unique geographical position gives it a remarkable range of bioclimates, from humid to desert. As a result, it boasts some of the greatest bioecological diversity in the Mediterranean basin.</p>

	<p><b>Climate</b></p> <p>Morocco's climate is highly varied: arid and desert-like in the southern provinces and southeast of the Atlas Mountains, temperate in the northern half, with semi-arid zones appearing in the Souss, Haouz and Oriental regions. In fact, average annual rainfall amounts worsen from north to south and from northwest to southeast.</p> <p>Morocco is one of the countries most affected by climate change and its impacts. An analysis of climate data for the period 1960-2018 shows that Morocco has experienced a reduction in rainfall, an increase in temperature and a more arid climate.</p> <p>According to the Direction Générale de la Météorologie (DGM, 2020), the various CC scenarios project a drop in rainfall over Morocco during the winter season. This would be accompanied by an increase in the temporal persistence of drought. The change in rainfall distribution would coincide with warming on both seasonal and annual scales, leading to an intensification of extreme weather phenomena (heat waves, heavy thunderstorms, strong winds, etc.).</p> <p><b>National economy</b></p> <p>The national economy is strongly correlated with the agricultural sector and global economic conditions. After a 2016 marked by declining growth (1.6%) due to the drought, the growth rate climbed back up to 4% in 2017. Morocco is experiencing a slowdown in economic growth, to 3.1% in 2018, which was confirmed in 2019 with a rate of 2.5% and negative growth in 2020 due to the covid 19 health crisis.</p> <p>The Kingdom is committed to making the Moroccan economy more resilient to agricultural fluctuations, which are strongly impacted by climate change. To this end, major reforms have been introduced as part of a sectoral diversification strategy (decompensation of gasoline, diesel and industrial fuel oil, adoption of an organic law on finance laws (LOLF), a new industrial development plan, a new agricultural strategy, etc.).</p> <p>In addition to the short-term stimulus plan needed to kick-start the economy after a difficult year marked by an unprecedented health crisis, it is imperative to define medium- and long-term development ambitions. This crisis is revealing and accelerating underlying economic trends, as well as triggering new dynamics. A social Morocco, creating wealth at regional level, with a sustainable economy that is low-carbon and resilient to climate change: these are the priorities for the development model that the Kingdom should have, in the medium term, after this crisis.</p> <p><b>Sustainable development</b></p> <p>On June 25, 2017, the Council of Ministers adopted the national Sustainable Development strategy, which aims to achieve a gradual transition to a green economy, taking into account environmental challenges, working to promote human development and social cohesion, and consolidating economic competitiveness in a sustainable way.</p>
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	<p><b>Fighting poverty</b></p> <p>To eradicate the scourge of poverty, public authorities have opted for sustainable development based on integrated public policies as part of a global project to which all components of society must adhere.</p> <p>The National Initiative for Human Development, launched by HM King Mohammed VI in May 2005, is part of this vision and aims to combat poverty, precariousness and social exclusion through the implementation of basic infrastructure support projects, training and capacity-building projects, social, cultural and sports activities, as well as the promotion of income-generating and employment-generating activities.</p> <p>The INDH is in its third phase 2019-2023. This phase is structured around four programs:</p> <ul style="list-style-type: none"> <li>• Programme 1: Catching up with deficits in infrastructure and basic social services ;</li> <li>• Program 2: Support for people in precarious situations ;</li> <li>• Program 3: Income enhancement and economic inclusion for young people ;</li> <li>• Program 4: Boosting human capital for the next generation.</li> </ul>
ii (b). <b>Best practices</b> and experience in NDC preparation.	<ul style="list-style-type: none"> <li>• Morocco's NDC has been drawn up within an easily verifiable framework of transparency. 61 sectoral measures with quantifiable individual reduction targets have been identified, along with their implementation costs.</li> <li>• Morocco has set up a dedicated online MRV platform to monitor the implementation of CDN actions. Sectoral focal points have been trained to monitor the implementation of their actions.</li> </ul>
ii (c). <b>Other aspirations and contextual priorities recognized upon accession to the Paris Agreement.</b>	NA
b. Specific information applicable to Parties, including regional economic integration organizations and their member States, that have reached an agreement to act jointly under Article 4, paragraph 2 of the Paris Agreement, including the Parties that have agreed to act jointly and the terms of the agreement, in accordance with Article 4, paragraphs 16 to 18 of the Paris Agreement.	NA
c. How has the country party preparing its NDC been informed by the results of the global review, in accordance with paragraph 9 of Article 4 of the Paris Agreement.	NA
d. Each Party with an NDC under Article 4 of the Paris Agreement that consists of <b>adaptation measures and/or economic diversification plans leading to mitigation co-benefits</b> in accordance with Article 4, paragraph 7 of the Paris Agreement to submit information on:	<p>NA</p>
i. How were the economic and social consequences of the response measures taken into account in the development of the NDC.	NA
ii. <b>Specific projects, measures and activities</b> to be implemented to contribute to mitigation co-benefits, including information on adaptation plans that also produce mitigation co-benefits, which may cover, but are not limited to, the following sectors	NA

<p>such as energy, resources, water resources, coastal resources, human settlements and urban planning, agriculture and forestry; and economic diversification actions, which can cover, but are not limited to, sectors such as manufacturing and industry, energy and mining, transport and communications, construction, tourism, real estate, agriculture and fisheries.</p>	
<p><b>5. Assumptions and methodological approaches, including anthropogenic emissions of greenhouse gases.</b></p>	<b>to estimate and account for greenhouse emissions and, where applicable, absorptions.</b>
a. Assumptions and methodological approaches used to account for anthropogenic greenhouse gas emissions and removals corresponding to the nationally determined contribution of the country Party, in accordance with paragraph 31 of decision 1/ CP.21 and the accounting guidelines adopted by the CMA.	The methodological approach adopted to account for the NDC's anthropogenic greenhouse gas emissions and removals is identical to that used in the GHG inventory, which complies with the directives of the 2006 IPCC guidelines.  It is planned that by December 31, 2024 at the latest, the approach will be in line with the accounting guidelines for CDNs set out in Appendix II of Decision 4 / CMA.1.
b. Assumptions and methodological approaches used to report on the implementation of policies and measures or strategies in the nationally determined contribution.	The same assumptions and approaches are used to report on the implementation of policies and measures or strategies in the NDC.
c. Where appropriate, information on how the country Party will take into account existing methodologies and guidance under the Convention for accounting for anthropogenic emissions and removals, in accordance with Article 4, paragraph 14 of the Paris Agreement, where applicable.	Morocco's current GHG inventory is submitted in accordance with decision 24 / CP.19 and uses the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.  In its accounting of anthropogenic emissions and removals corresponding to the NDC, Morocco has emphasized environmental integrity, transparency, accuracy, completeness, comparability and consistency. It has also taken care to avoid double counting.
d. Methodologies and parameters used by the IPCC to estimate anthropogenic greenhouse gas emissions and removals.	Methodologies : 2006 IPCC Guidelines.  Metrics: Global Warming Potential according to the IPCC Fourth Assessment Report (AR4). The GWP values used are those determined in (AR4):  GWP CO <sub>2</sub> = 1 (by convention); GWP CH <sub>4</sub> = 25 ; PRG N <sub>2</sub> O = 298 ; GWP HFCs = 1.5 - 14 800.
e. Assumptions, methodologies and approaches specific to the sector, category or activity, in accordance with IPCC guidance, as appropriate, including, where relevant:	
i. Approach to addressing emissions and subsequent removals of natural disturbances on managed lands.	All emissions and removals reported in the Kingdom of Morocco's GHG inventory are included in the NDC, with no specific approach to excluding emissions from natural disturbances.
ii. Approach used to account for emissions and removals from harvested wood products.	Informally harvested wood products were estimated.
iii. Approach used to deal with the effects of age-class structure in forests.	The effects of age-class structure in forests are not taken into account.

f. Other assumptions and methodological approaches used to understand the nationally determined contribution and, where appropriate, estimate the corresponding emissions and removals, including:	
i. How <b>reference indicators</b> , reference levels and/or benchmarks, including, where applicable, sector-, category- or activity-specific benchmarks, are constructed, including, for example, key parameters, assumptions, definitions, methodologies, data sources and models used.	The 2010 GHG emissions inventory and the reference and mitigation scenarios were produced in accordance with the 2006 IPCC guidelines. The reference NAC and mitigation scenarios were developed using data from the National Statistics Yearbook, sectoral activity data and prospective economic, demographic and sectoral analyses. Morocco's reference scenario has been constructed on the basis of historical and forecast data on mitigation policies and/or measures adopted prior to the 2010 reference year. Policies and/or measures adopted after 2010 will be taken into account in achieving the mitigation objective.
ii. For Parties whose Nationally Determined Contributions contain elements other than greenhouse gases, information on the assumptions and methodological approaches used in relation to these elements, where applicable.	NA
iii. For climate forcers included in nationally determined contributions not covered by IPCC guidelines, information on how climate forcers are estimated.	NA
iv. <b>Additional technical information</b> , if required.	NA
g. The intention to use voluntary cooperation under Article 6 of the Paris Agreement, if applicable.	Morocco is actively preparing to participate in the financial and cooperation mechanisms provided for in Article 6 of the Paris Agreement. In the context of the World Bank's Market Implementation Partnership (MIP) and Transformative Carbon Asset Facility (TCAF), Morocco aims to lay the foundations for participation in Article 6 pilot activities. Morocco also plans to use its experience in developing and managing CDM projects to participate in Article 6 mechanisms.
<b>6. How does the country party consider its NDC to be</b>	
a. How does the country Party consider its NDC to be in light of its national situation.	The updated NDC revises upwards the targets of the first version of Morocco's NDC, presenting a target of 45.5% by 2030, including an unconditional target of 18.3%. These new targets represent a significant increase in Morocco's mitigation ambitions. CDN1 was universally recognized as being very ambitious, with mitigation targets of 17% (unconditional) and 42% (unconditional +conditional) compared with the reference scenario for 2030, which will be increased in CDN2 to 18.3% and 45.5%, respectively, compared with the reference scenario.
b. Equity considerations, including reflection on equity.	<b>Equity</b> With a level of 0.2% of total global GHG emissions in 2018, Morocco's per capita emissions are disproportionately low compared to the global average. Moreover, in terms of emissions intensity per unit of GDP adjusted for purchasing power, Morocco is 38.5% below the world average.

	<p>The accumulation of historical emissions remains low compared with those of industrialized countries. This demonstrates Morocco's low responsibility for the anthropogenic causes of climate change. The country's geographical position makes it highly vulnerable to the impacts of climate change.</p> <p>Nevertheless, by recognizing the common but differentiated responsibilities formulated under the UNFCCC and reconfirmed in the Paris Agreement, Morocco aims to make a more significant contribution to mitigating GHG emissions than would be consistent with its historical responsibility. This is based on the idea of global equity, and on the recognition of the planetary emergency to which humanity as a whole is committed.</p>
c. How the country Party has dealt with <b>paragraph 3 of Article 4</b> of the Paris Agreement.	<p>The Government of Morocco submits an update of its nationally determined contribution (NDC 2) under the Paris Agreement for the period 2020-2030, in accordance with articles 4.2 and 4.11 of the Paris Agreement, paragraphs 23 and 24 of decision 1/CP.21 and other relevant provisions of the Agreement.</p> <p>The updated NDC represents an improvement on the previous NDC, and corresponds to the highest possible level of ambition.</p>
d. How the country Party has dealt with <b>paragraph 4 of Article 4</b> of the Paris Agreement.	<p>The Kingdom of Morocco's NDC is an absolute economy-wide emissions reduction target, as stipulated in Article 4.4 of the Paris Agreement.</p>
e. How the country Party has dealt with <b>paragraph 6 of Article 4</b> of the Paris Agreement.	NA
<b>7. How CDN contributes to the achievement of objectives</b>	<b>ctives of the Convention as set out in Article 2</b>
a. How the NDC contributes to achieving the objective of the Convention as set out in Article 2.	<p>Morocco considers that its revised NDC is consistent with the objective of the UNFCCC and the long-term objective of the UNFCCC Paris Agreement, as explained in points 6a and 6b.</p> <p>Morocco's NDC represents Morocco's contribution to the objectives of Article 2 of the Convention to stabilize GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.</p> <p>Sections 4 and 6 detail the Kingdom of Morocco's mitigation ambitions, which will contribute to the fulfillment of Article 2 of the Convention.</p>
b. How the NDC contributes to the realization of article 2, paragraph 1 a), and article 4, paragraph 1, of the Paris Agreement.	<p>Sections 4 and 6 detail the Kingdom of Morocco's mitigation ambition, which will contribute to achieving Article 2 of the UNFCCC.</p>



### 3.6. Planning implementation

The following table gives an overview of the most important sectoral strategies and their mitigation objectives that contribute to the implementation of the NDC.



**Table 2: Main sectoral strategies, plans and programs and their objectives for implementing the NDC in terms of mitigation**

Strategies, plans and programs	Objectives
<b>National Energy Strategy</b>	<ul style="list-style-type: none"> <li>• Achieve 52% of installed electrical capacity from renewable sources, including 20% solar, 20% wind and 12% hydro by 2030;</li> <li>• Achieve energy savings of 20% by 2030 compared with the trend;</li> <li>• Reduce energy consumption in buildings, industry and transport by 5% by 2020 and 20% by 2030. For the year 2030, energy savings by sector would be 17% for industry, 24.5% for transport, 14% for the city, housing and tertiary sector and 13.5% for agriculture and sea fishing;</li> <li>• Install an additional 450 MW of combined-cycle capacity using imported natural gas by 2030;</li> <li>• Supply major industries with energy via imported and regasified natural gas pipelines.</li> </ul>
<b>National Logistics Strategy</b>	<ul style="list-style-type: none"> <li>• Reduce logistics costs for the benefit of consumers and the competitiveness of economic operators by optimizing, securing and consolidating the flow of goods;</li> <li>• Accelerate GDP growth by increasing added value through lower logistics costs;</li> <li>• Contribute to sustainable development by reducing nuisances.</li> </ul>
<b>National Strategy for Waste Reduction and Recovery</b>	<ul style="list-style-type: none"> <li>• Reduce waste going to landfill and improve recycling rates by 2030, including : <ul style="list-style-type: none"> <li>- 20% recycling of household and similar waste ;</li> <li>- 20% recovery of organic waste ;</li> <li>- 10% energy recovery from waste ;</li> <li>- 25% recycling of industrial waste ;</li> <li>- 70% recycling of end-of-life vehicles ;</li> </ul> </li> <li>• Create sustainable green jobs, in particular by integrating ragpickers, creating more landfill and recycling centers (CEV), encouraging the creation of recycling units and increasing the number of public-private agreements.</li> </ul>
<b>Programme National d'Assainissement Liquide et d'Épuration des Eaux Usées (National program for liquid sanitation and wastewater treatment)</b>	<ul style="list-style-type: none"> <li>• Achieve an overall connection rate to the sanitation network in urban areas of 75% in 2016, 80% in 2020 and 100% in 2030;</li> <li>• Achieve 50% wastewater treatment by 2016, 60% by 2020 and 100% by 2030;</li> <li>• Treating wastewater up to the tertiary sector and reusing 50% of it for inland cities by 2020.</li> </ul>
<b>Green Morocco Plan</b>	<ul style="list-style-type: none"> <li>• Modernize the agricultural sector in order to increase agricultural GDP from 60 to 90 billion Dhs to reach 110 to 150 billion Dhs by 2020, and reach an export value of 44 billion Dhs by 2020;</li> <li>• Take into account the agricultural sector in all its sociological and territorial components, in particular through the development of solidarity-based agriculture and sensitive and vulnerable areas such as oases and mountains;</li> <li>• Improve the income of 2 to 3 million rural dwellers by 2 times;</li> <li>• Manage natural resources more efficiently, especially water (savings of 20-50%).</li> </ul>



Strategies, plans and programs	Objectives
<b>Green Generation 2020-2030 strategy</b>	<ul style="list-style-type: none"> <li>• Consolidate agricultural sectors, in particular by continuing planting programs for olive trees, date palms, argan trees, fruit trees, cacti, etc. ... ;</li> <li>• Developing organic farming;</li> <li>• Promote renewable energies (biomass, solar, etc.), particularly in the field of irrigation, by promoting the use of solar pumping in water-saving irrigation projects;</li> <li>• Preserving ecosystems, especially the development of rangelands.</li> </ul>
<b>Morocco's Forest Strategy</b>	<p>Morocco's Forest Strategy aims to meet the objectives of halting deforestation, recovering 30 years of forest degradation and making the forestry sector more competitive and modern, and focuses on four key areas:</p> <ol style="list-style-type: none"> <li>1. Reinventing and structuring the participative approach;</li> <li>2. Differentiate and develop spaces according to their vocation;</li> <li>3. Investing in and modernizing the core business and</li> <li>4. Rebuilding the institution.</li> </ol>
<b>Urban Public Transport Improvement Program</b>	<ul style="list-style-type: none"> <li>• Equip major conurbations with high-capacity public transport systems using renewable energy sources;</li> <li>• Set up a program to renew the cab fleet;</li> <li>• Set up a road support fund for urban transport, capitalized at 200 million US dollars.</li> </ul>
<b>Ratification of the Amendment of Kigali</b>	<ul style="list-style-type: none"> <li>• Freeze HFC consumption in 2024 and start the first reduction stage from 2029;</li> <li>• Act early on HFC reduction and introduce climate-friendly solutions. In line with energy efficiency activities focused on refrigerators and air conditioners, Morocco is considering the transition to environmentally-friendly, low-GWP refrigerators and air conditioners by replacing hazardous equipment and moving directly to green, climate-friendly technologies.</li> </ul>
<b>Plan de l'exemplarité de l'Administration (developed as part of the implementation of the SNDD 2030)</b>	<ul style="list-style-type: none"> <li>• Encourage the use of renewable energies and energy-saving or energy-efficient technologies in all public administrations;</li> <li>• Increase the proportion of environmentally-friendly cars (hybrid or electric) in the government fleet by 30%;</li> <li>• Promote waste sorting at source in public administrations.</li> </ul>



## 4. ADAPTATION

### 4.1. Impact of climate change on sectors and their vulnerabilities

The Kingdom of Morocco is particularly vulnerable to three types of climate impact: rising temperatures, changes in precipitation patterns and increasing aridity. These types of impacts are associated with an increase in the frequency and intensity of extreme weather events, such as severe droughts, floods, forest fires, heat and cold waves, as well as storms and marine submersions, landslides, locust invasions and snowstorms. A significant proportion of Morocco's population and several key sectors of its economy are particularly vulnerable to these hazards.

Studies of current and projected impacts and vulnerabilities to climate change are being carried out by the various key sectors (water resources, agriculture, fisheries, forestry and biodiversity, coastline, housing and health). In terms of water resources, the analysis of impacts and vulnerability has shown that the impact of climate change is estimated at a decline of around 25% in water resources, including the effect of the droughts Morocco has experienced since the 1980s. The worsening water deficit is the combined result of declining surface and groundwater resources, and rising demand for irrigation and drinking water. Climate projections according to the RCP8.5 emission scenario to 2050, show a decrease in rainfall that could translate into a drop in agricultural yields of 3% to 39% in several regions and provinces of the Kingdom by 2050 (ADA, 2017).

Morocco's fishing sector is vulnerable to the impacts of climate change, due to its high exposure to climatic variations and the limited economic resources of its stakeholders. Overall, climate projections show that the impact of climate change and the vulnerability of the fishing sector increase in severity from an optimistic to a pessimistic scenario. Indeed, according to a global comparative study of the vulnerability of national economies conducted by Allison et al (2009), Morocco ranks 11th among 133 countries most vulnerable to climate change in the fishing sector.

Forest ecosystems are subject to socio-economic constraints linked to the precarious conditions of the rural populations who use them, and natural constraints, mainly linked to climate change, with the increasing aridification of the climate and the accentuation of the risks of extreme phenomena, amplified by the sensitivity of the land to desertification. Climate change will lead to the degradation of forests, the destruction of ecosystem structures and architecture, and the alteration of species' ranges. The repercussions of climate change, however slight on ecosystems, will have an impact on the populations that depend on them, by reducing their means of subsistence and increasing their exposure to extreme phenomena.

In addition to water, agriculture, fisheries and forestry, other sectors are strongly impacted by climate change, notably housing and health. Projections to 2050 show that the housing sector will be more exposed to various climatic hazards (flooding, drought, etc.) (MATNHUPV, 2020).

In addition, the latest vulnerability analysis of the health sector highlighted several types of risk, the most important of which are :

- the introduction and emergence of new diseases (malaria, leishmaniasis, etc.);
- an increase in respiratory and diarrhoeal diseases linked to changes in water, air and food quality.

Morocco's vulnerability is exacerbated by the heightened sensitivity of local communities, insufficient climate funding dedicated to adaptation policies and measures, and insufficient capitalization on national expertise in the fields of scientific research, forecasting, prevention and climate modeling, as well as increased erosion of biodiversity and environmental services. In the absence of adaptation to climate change, the risks generated by the vulnerability profile will hamper the achievement of the Sustainable Development Goals.

## 4.2. Building resilience and adaptation in Morocco: a work in progress

To cope with the serious economic and social impacts of current and future climate change, Morocco is committed to promoting effective adaptation measures in economic sectors that are a priority for the climate.

Building resilience to climate risks is one of the pillars on which the National Climate Plan 2030 is based. Climate risks are now taken into account in investment decisions and development planning.

The Priorities of the PCN2030 are included in the National Strategic Adaptation Plan, which now constitutes a roadmap for implementing a coordinated national adaptation policy at national and territorial level.

### 4.2.1. *The National Strategic Adaptation Plan (PNSA): major orientations (2020-2030)*

NASP objective
"By 2030, support political decision-makers and stakeholders at all levels (national, regional and local) to develop and implement, as part of a collaborative and coordinated approach, coherent and effective policies and measures, putting people at the center of concerns, in order to adapt and increase the resilience of natural, social and economic systems to the impacts of climate change".

The PNSA also promotes actions to reduce climate impact through strengthened institutional capacity at national, sectoral and local levels, improved knowledge management, and a convergent approach to climate change adaptation and the reduction of risks associated with climate-related disasters. Although the technical and financial requirements for building resilience to climate change across all economic sectors are still being assessed, it is already clear that significant efforts will be required, as well as the mobilization of innovative solutions, additional financial resources and institutional capacity for effective adaptation action.

Morocco's approach to climate change adaptation also integrates aspects affecting the most vulnerable socio-economic and natural systems, such as marine coastlines, mountains and oases, population groups, and urban and rural communities. These systems face critical issues that require a coherent and extensive response in the form of transformative adaptation interventions aimed at minimizing climate risks and vulnerabilities.

The PNSA is structured around five key areas:

Axes	Strategic objectives
<b>Strategic plan governance</b>	Consolidate and optimize the governance and strategic steering of the national adaptation policy, including better coordination with local levels of governance and the involvement of civil society players.
<b>Climate information and knowledge</b>	Inform decision-making by improving access to climate data, information and knowledge, and supporting the development of climate-related scientific research.
<b>Assessment, prevention and reduction of climate risks and vulnerabilities</b>	Assess and prevent risks and vulnerabilities, and reduce climate impacts on safety, health and economic assets (social, cultural, public, private and for the population as a whole).
<b>Resource resilience and sensitive ecosystems</b>	Strengthen the resilience of natural ecosystems to climate change as part of an approach combining the preservation of ecosystem services and sustainable livelihoods.
<b>Resilience of production sectors</b>	Strengthen the resilience of the most vulnerable economic sectors to climate change.

#### **4.2.2. Sector objectives to strengthen resilience for the 2030 and 2050 horizons**

One of the objectives pursued by the SNDD, which has a direct impact on the quality of life of Moroccans, is to improve the management and development of natural resources in order to enhance biodiversity conservation, improve access to safe water sources, promote human development and reduce social and territorial inequalities.

This global objective is the basis for measures targeting key sectors of the Moroccan economy that can contribute to the country's sectoral and global climate resilience, as well as its adaptation to climate change. These measures will contribute to achieving the following SDGs: 1, 2, 3, 6, 11, 12, 13, 14 and 15. Morocco's vision of adaptation is broken down into a number of quantified sectoral objectives for the 2030-2050 horizon. Although Morocco is already investing heavily in adaptation, achieving these objectives will only be possible with substantial support from the international community and donors. The main adaptation objectives are presented in the table below:



**Table 3: Main sectoral adaptation objectives**

Meteorology Sector	
<b>Objectives Looking ahead to 2030</b>	Strengthening the network of weather observation stations (currently of 200) through the acquisition of new stations and the implementation of a national meteorological network by integrating the stations of other partners, to arrive at a single network of 1,000 stations.
	Expand weather radar coverage from 7 radars in 2019 to 12 radars.
	Further development of numerical weather and climate prediction at finer spatial and temporal scales (going from 10 km resolution to resolution of less than one kilometer).
	Extend climate change impact assessments to other sectors socio-economic studies (15 studies to be carried out at a rate of one or two per year).
	Increase the power of the Direction Générale de la Météorologie's computers (DGM) to meet forecasting needs on different time and space scales. for simulations of new climate change projections. Go to from 5800 billion operations per second in 2019 to 15 thousand trillion operations per second (15x1015).
Agriculture sector	

<b>Policies, strategies, programs, plans and actions to strengthen the sector's resilience and adapt to climate change</b>	<p><b>Generation Green 2020-2030:</b></p> <ul style="list-style-type: none"> <li>• Green Morocco Plan strategy ;</li> <li>• Strategy for the Conservation and Development of Crop Genetic Resources ;</li> <li>• National Irrigation Water Saving Program ;</li> <li>• Strategy for the Development of Rural and Mountain Areas ;</li> <li>• Oasis and Argan Development Strategy ;</li> <li>• National Program for the Development of Rangelands and the Regulation of Transhumant Flows;</li> <li>• Program to rehabilitate PMH perimeters covering 150,000 ha by 2030;</li> <li>• Innovative public-private partnership projects, such as the Water Desalination and Irrigation Safeguard Programs;</li> <li>• Program to extend irrigation downstream of dams Comprehensive climatic insurance ;</li> <li>• Climate multi-risk insurance.</li> </ul>
<b>Targets for 2030</b>	<p>Extension of irrigation to new agricultural perimeters, covering an area of 60,000 ha, for a total investment of 3.5 billion USD.</p> <p>Localized irrigation equipment on an additional 350,000 ha for a total investment of US\$1 billion.</p>

<b>Water sector</b>	
<b>Policies, strategies, programs, plans and actions to strengthen the sector's resilience and adapt to climate change</b>	<ul style="list-style-type: none"> <li>• National Water Strategy ;</li> <li>• Drought Management Plan ;</li> <li>• Integrated Water Resources Management Master Plans ;</li> <li>• National Flood Protection Plan ;</li> <li>• National Liquid Sanitation Program ;</li> <li>• National Rural Sanitation Program ;</li> <li>• National Wastewater Reuse Plan ;</li> <li>• National Water Strategy ;</li> <li>• National Water Plan ;</li> <li>• Water Law 36/15.</li> </ul>
<b>Targets for 2030</b>	<p>90% connection to the sewerage network in urban areas, with a treatment rate of 80%.</p> <p>50% connection to the sewerage network in rural areas (town centers) with a 40% treatment rate under the PNAM.</p> <p>Reuse of wastewater, to reach a capacity of 275 million m<sup>3</sup> in urban areas and 16 million m<sup>3</sup> in rural areas within the framework of the PNAM.</p> <p>Reuse of wastewater to reach a capacity of 183 million m<sup>3</sup> in coastal cities.</p> <p>Project for the mobilization and sustainable management of water resources in the priority areas of Tangier, Oujda and Meknes affected by climate change.</p>
<b>Targets to 2040</b>	Flood protection for medium- and high-risk sites by 2040.
<b>Targets for 2050</b>	<p>Construction of 50 large dams by 2050 covering the whole of Morocco, with an additional storage capacity of 11 billion m<sup>3</sup>.</p> <p>Construction of small dams and hill dams for local development, with an inventory of around 900 sites to be studied and built within the framework of an inter-ministerial committee, and with the involvement of local authorities.</p> <p>Implementation of 3 interconnection projects between different hydraulic systems for dynamic and integrated management of water resources:</p> <ul style="list-style-type: none"> <li>• Interconnection of the Loukkos system with the Tangier system ;</li> <li>• Interconnection of the Oued Laou-Moulouya basin system ;</li> <li>• Interconnection of the Sebou-Bouregreg and Chaouia-Oum Er Rbia-Tensift basins.</li> </ul>

	Construction of six seawater desalination plants in the short and medium term: Greater Casablanca, Tarfaya, Sidi Ifni and, in coastal areas, Safi and Dakhla, representing a maximum desalination capacity of up to 1 billion m <sup>3</sup> .
	Improve the efficiency of drinking water, industrial and tourist water distribution networks, with a target of 80% as the national average by 2040 and 85% by 2050.
	Reconversion and upgrading of localized irrigation to reach 70% of total irrigated area.
	Modernization of multiservice channels.
	Rainwater collection program of 300 million m /year. <sup>3</sup>
	Reduce overexploitation of groundwater by 50% by 2030 and reach equilibrium by 2050 (artificial recharge, participative groundwater management, improved recognition of groundwater, etc.).
	Improving the quality of water resources by reducing pollution to over 70% and increasing the reuse rate to almost 30% by 2050.
	Accelerate projects to protect sensitive ecological systems, particularly wetlands and oases.
	Creation of various programs and actions to preserve water resources and the natural environment, and improved management of extreme climatic phenomena, for a total investment of 5.7 billion USD.

Fisheries and aquaculture sector	
Policies, strategies, programs, plans and actions to strengthen the sector's resilience and adapt to climate change	<ul style="list-style-type: none"> <li>• <b>Halieutis Plan :</b> <ul style="list-style-type: none"> <li>– Plan de Renforcement de la Recherche Halieutique Nationale ;</li> <li>– Fisheries management plans ;</li> <li>– Programme de Création d'Aires Marines Protégées ;</li> <li>– Artificial Reef Immersion Program ;</li> <li>– Programme d'Adaptation et de Modernisation de l'Effort de Pêche ;</li> <li>– National Aquaculture Development Plan ;</li> <li>– Program to Strengthen and Develop Fishing and Marketing Infrastructures ;</li> <li>– Integrated Projects Program "Land-based Fishing/Capture Enhancement" ;</li> <li>– Plan de Promotion de la Compétitivité des Produits de la Pêche aux Échelles Nationale et Internationale.</li> </ul> </li> <li>• <b>IBHAR:</b> program to upgrade and modernize coastal and small-scale fleets.</li> <li>• Control of fishing activities to combat illegal, unreported and unregulated fishing.</li> </ul>
Targets for 2030	Establishment of a coastal observation network, with three oceanographic and meteorological buoys, and expansion of the coastal environmental and health monitoring and warning system to 40 observation zones.
	Continued implementation of management measures aimed at the sustainable exploitation of fishery resources, based on scientific advice.
	Establishment of marine protected areas corresponding to 10% of the exclusive economic zone.
	Development of two hatcheries to restock five endangered coastal species.
	Implementation of aquaculture development plans in five coastal areas.

Forest sector	
<b>Policies, strategies, programs, plans and actions to strengthen the sector's resilience and adapt to climate change</b>	<ul style="list-style-type: none"> <li>• New "Moroccan Forests 2020-2030" strategy;</li> <li>• Wood Energy Strategy ;</li> <li>• National Strategy for Forest Health Monitoring and Surveillance ;</li> <li>• Strategy for Urban and Peri-urban Forests ;</li> <li>• Plan Directeur de Lutte Contre les Incendies de Forêts ;</li> <li>• Reforestation Master Plan ;</li> <li>• National Forestry Program ;</li> <li>• National Action Program to Combat Desertification ;</li> <li>• National Watershed Management Plan ;</li> <li>• Protected Areas Master Plan ;</li> <li>• National Strategy for the Development of the Aromatic and Medicinal Plants Sector ;</li> <li>• Morocco's National Biodiversity Strategy and Action Plan ;</li> <li>• Strategic Action Plan for the Conservation of Marine and Coastal Biodiversity in the Mediterranean.</li> </ul>
<b>Targets for 2030</b>	<p><b>Sustainable management (population organization and participatory management) :</b></p> <ul style="list-style-type: none"> <li>• Organization of populations in partner solidarity structures with an unconditional target of 300 civil society organizations (CSOs), i.e. associations and cooperatives, serving as support structures for sustainable forest management;</li> <li>• Participatory management and improved benefits for local populations, with an unconditional target of 200 forest development organizations (FDOs) serving as support structures for sustainable forest management.</li> </ul> <hr/> <p><b>Strengthening the resilience of socio-ecosystems in vulnerable areas (mountain areas, deserts and coastal dunes):</b></p> <ul style="list-style-type: none"> <li>• Watershed development, gully fixation and improving people's benefits through anti-erosion measures to reach the target of 1,500,000 ha in 22 priority basins (2015-2030);</li> <li>• Opening up vulnerable populations by opening tracks, with a target of 240 km/year (unconditional) and 60 km/year (conditional).</li> </ul>

Sensitive environments sector: coast, mountains and oases	
<b>Policies, strategies, programs, plans and actions to strengthen the sector's resilience and adapt to climate change</b>	<ul style="list-style-type: none"> <li>• New guidelines for public policy on regional development ;</li> <li>• Schémas Régionaux d'Aménagement du Territoire (SRAT) ;</li> <li>• National Strategy for the Management and Development of Oases in Morocco ;</li> <li>• Oasis Climate Change Adaptation Project (PACC-Oasis) ;</li> <li>• Stratégie Nationale de Développement des Zones Oasiennes et de l'Arganier ;</li> <li>• Rural and Mountain Area Development Strategy ;</li> <li>• High Atlas Sustainable Territorial Development Program ;</li> <li>• Anti-Atlas Sustainable Territorial Development Program ;</li> <li>• Rif Sustainable Territorial Development Program ;</li> <li>• Stratégie Nationale de Gestion Intégrée du Littoral Marocain ;</li> <li>• Replication of the Tafilalet Oasis Development Program in other fragile areas;</li> <li>• National Program of Emerging Rural Centers: selection of five emerging centers;</li> <li>• Fisheries management plans.</li> </ul>
<b>Targets for 2030</b>	<ul style="list-style-type: none"> <li>• Determination of the State's options in terms of regional planning, taking into account the vocations and specific features of the various territories in a forward-looking vision shared by all stakeholders.</li> <li>• Promoting the territorial coherence of public intervention across the country.</li> </ul> <hr/> <ul style="list-style-type: none"> <li>• Ensuring the articulation of development choices and the framework of strategic territorial planning documents.</li> </ul> <hr/> <ul style="list-style-type: none"> <li>• Optimal use of resources and the creation of a healthy, low-carbon environment, where the territory is a focal point for initiatives.</li> </ul>

	Strengthening the resilience of mountain areas and developing tools and bases to support decision-making.
	Creation of a forward-looking vision and an appropriate, scalable mode of governance, and support for stakeholders in integrated coastal zone management.
	Encourage the promulgation of implementing regulations for law 22.07 on protected areas.
	Strengthening oceanographic observation and warning systems.
	Encourage the implementation of the targets of the ODD14.
	Protecting and enhancing fragile ecosystems in areas of great ecological interest.
	Helping to reduce socio-spatial imbalances and inequalities between cities and rural areas affected by climate change.

<b>Housing, Spatial Planning and Urban Development Sector</b>	
<b>Policies, strategies, programs, plans and actions to strengthen the sector's resilience and adapt to climate change</b>	<ul style="list-style-type: none"> <li>• Schéma Régional d'Aménagement du Territoire (SRAT) ;</li> <li>• Regional Development Program (PDR) ;</li> <li>• Program for the Sustainable Development of Morocco's Ksour and Kasbah ;</li> <li>• Schéma Directeur d'Aménagement et d'Urbanisme (SDAU) ;</li> <li>• Functional Organization and Layout Diagram (SOFA) ;</li> <li>• Plan d'Aménagement (PA) ;</li> <li>• Community Development Plan (CDP) ;</li> <li>• Urban Master Plan (PDU) ;</li> <li>• Local Housing and Urban Development Plan (PLHDU) ;</li> <li>• Cities Without Slums program (PVSB) ;</li> <li>• Housing in danger of collapse", "Urban upgrading" and "Non-regulated housing" programs;</li> <li>• National Spatial Planning Scheme (SNAT) ;</li> <li>• National Urban Development Strategy (SNDU) ;</li> <li>• Urban Planning System (SPU) ;</li> <li>• Plan d'Adaptation aux Changements Climatiques dans le secteur de l'Habitat dans la région Tanger -Tétouan-Al-Hoceima, drawn up by the Département de l'Habitat et de la Politique de la Ville.</li> </ul>
<b>Targets for 2030</b>	<p><b>Generalize City Climate Plans (PCV) :</b></p> <ul style="list-style-type: none"> <li>• Definition and institutionalization of a governance framework for the political support and implementation of PCVs;</li> <li>• Support for local authorities in drawing up their Territorial Climate Plans (PCT) and setting up capacity-building programs in this area;</li> <li>• Coordination of PCTs with SRATs, PDRs and other regional planning projects ;</li> <li>• Ensuring consistency between PCTs and PCVs ;</li> <li>• Support for the town councils concerned in drawing up PCVs ;</li> <li>• Supporting local authorities in mobilizing climate finance ;</li> <li>• Establishing a knowledge base on the vulnerability of the territory to climate change;</li> <li>• Evaluation of the costs and benefits of adaptation actions by carrying out analysis studies for different sectors in an urban environment.</li> </ul>
	<p><b>Eco-districts, a lever for sustainable development</b></p> <ul style="list-style-type: none"> <li>• Capitalizing on innovative sustainable city systems ;</li> <li>• Introduction of a charter for eco-neighborhood projects to encourage citizens to take responsibility for the environmental challenges they collectively face;</li> <li>• Annual funding of sustainable neighborhood projects by 2030 through the programs of the relevant ministerial departments (Housing, Environment, etc.).</li> </ul>

	<p><b>Ecosystem-based adaptation to mitigate the effects of heat islands urban :</b></p> <ul style="list-style-type: none"> <li>• Maintaining and improving urban green spaces (e.g. ecological corridors, trees, gardens);</li> <li>• Planting trees with high carbon sequestration potential. Trees can be planted in school courtyards, all around urban and suburban areas, and along watercourses;</li> <li>• Use of treated wastewater to irrigate and maintain green surfaces, particularly lawns (e.g. golf courses);</li> <li>• Promoting green roofs and walls. Green roofs and facades improve the thermal comfort of buildings, especially in hot, dry climates;</li> <li>• Renaturalization of watercourses bordering urban areas;</li> <li>• Recovery and storage of roof water in areas with low water availability. Roof water collection systems are to be encouraged in residential buildings and for community buildings with a large roof area (e.g. schools, mosques, markets, etc.);</li> <li>• Controlling and optimizing the capture and use of water resources ;</li> <li>• Reinforcement of the distribution network leakage reduction program;</li> <li>• Optimization of industrial processes to reduce water consumption, and reuse of wastewater after appropriate treatment;</li> <li>• Reuse of treated wastewater for irrigation of certain crops, parks and green spaces.</li> </ul>
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Health Sector	
<b>Policies, strategies, programs, plans and actions to strengthen the sector's resilience and adapt to climate change</b>	<ul style="list-style-type: none"> <li>• Stratégie Nationale d'Adaptation du secteur de la santé au changement climatique (under development) ;</li> <li>• Health Plan 2050 ;</li> <li>• Operational Action Plan for Health Sector Adaptation to Climate Change 2017-2021 (PAOA);</li> <li>• National strategy for the management of medical emergencies and health risks related to natural disasters ;</li> <li>• Hospital emergency plan and a medical emergency action plan.</li> </ul>
<b>Targets for 2030</b>	<p><b>Dealing with the three major types of disease that can jeopardize health programs :</b></p> <ul style="list-style-type: none"> <li>• Vector-borne diseases with the risk of introducing new vectors;</li> <li>• Cardiovascular disease, which will affect more elderly people and a larger segment of the working population;</li> <li>• Diarrheal diseases and respiratory illnesses that will affect children as a result of cold snaps and flooding.</li> </ul>
	<p><b>Strengthen system capacities by implementing mechanisms and tools alert for :</b></p> <ul style="list-style-type: none"> <li>• Improving information and warning populations during periods of high air pollution;</li> <li>• Improve the information and capacity of healthcare professionals so that they can contribute effectively to information and awareness campaigns and communicate appropriate protective measures;</li> <li>• Coping with extreme weather events and implementing health emergency response plans;</li> <li>• Reinforce actions to monitor air quality and its impact on health;</li> <li>• Reduce the risk of disease to wild and farmed marine livestock from emerging pathogens and other invasive alien species.</li> </ul>
	<p><b>Developing system capabilities to increase infrastructure resilience and health services through :</b></p> <ul style="list-style-type: none"> <li>• The development of codes and standards for the design of health infrastructures;</li> <li>• Strengthening research and studies on "health and climate change";</li> <li>• The development of community training programs for healthcare staff on the risks associated with climate change.</li> </ul>

## 4. APPENDICES

### Appendix 1 Summary of mitigation measures for the overall objective

N°	Sector	Measures	Description	Attenuation		Cost (Millions U\$)
				2020-2030	2030	
				(Gg CO2)		
1	Electricity generation	National wind power plan for 2020	Construction of wind farms at several sites by 2020, for a total capacity of 1,467 MW.	33 761,3	3 305,3	2 000,0
2		National Solar Plan 2020	Installation of concentrated thermodynamic and photovoltaic solar power plants at several sites by 2020, for a total capacity of 827 MW.	15 501,7	1504,6	2 550,0
3		Hydropower plants by 2020	Hydropower plant: Tanafnit El Borj (Khénifra), 40 MW, plus 40 MW of micro-hydropower capacity.	1064,4	102,2	160,0
4		Combined-cycle power plants by 2020	23MW expansion of the Tahaddart power plant.	557,7	62,6	16,0
5		Combined-cycle power plants to 2030	The project involves a 450 MW expansion of the Tahadart power plant, scheduled for 2025.	6 354,4	1197,6	2 280,0
6		Hydroelectric plants to 2030	Construction of several pumped storage power stations (STEP) and hydroelectric power plants with a total capacity of 1,098 MW by 2030.	1178,8	379,5	1 124,5
7		National wind power plan to 2030	Installation of several wind farms at different sites, for a total capacity equivalent to 2180 MW by 2030.	55 234,8	10 975,2	2 925,0
8		National Solar Plan to 2030	Installation of concentrated thermodynamic and photo-voltaic solar power plants at several sites, for a total capacity equivalent to 4,000 MW by 2030.	42 003,0	8 458,5	6 026,0
		<b>Total scenario</b>		<b>140 795,2</b>	<b>22 770,7</b>	<b>17 081,5</b>
9	Industry (excluding cement and phosphates)	Industrial energy efficiency program	Reduce industrial energy consumption by 17% by 2030.	25 106,2	5 028,7	200,0
10		Implementation of energy performance rules (MEPS) for electric motors over 75 kW	Introduction of minimum energy performance standards (MEPS) for electric motors.	630,0	105,0	NA
11		Natural gas in the industrial sector to 2030	Import of liquefied petroleum gas to increase industrial use as a replacement for fuel oil to improve efficiency and the local environment.	6 229,0	1111,4	650,0
12		Industrial biomass valorization program	Inventory, organization and development of the biomass sector for industrial use as a substitute for fuel oil.	8 487,8	1657,2	405,5
13		Self-consumption renewable energy (PV) installation program for industry	Program to install rooftop photovoltaic solar power plants on industrial sites with a total capacity of 1,500 MW between 2021 and 2030 in self-consumption mode, pending authorization to inject the power into the medium-voltage grid.	886,5	176,4	3 000,0
		<b>Total scenario</b>		<b>41 339,7</b>	<b>8 078,8</b>	<b>4 255,5</b>

N°	Sector	Measures	Description	Attenuation		Cost (Millions U\$)
				2020-2030	2030	
				(Gg CO2)		
14	Cement	Recycling used tires	Replacement of fossil fuels (petroleum coke) with used tires.	3 730,2	337,9	NA
15		Wastewater treatment plant sludge recovery	Replacement of fossil fuels (petroleum coke) with WWTP sludge.	375,1	36,0	1,5
16		Recycling household waste	Replacement of fossil fuels (petroleum coke) by household waste (case of the Oum Azza landfill).	1682,1	203,7	6,0
17		Olive pomace valorization	Replacement of fossil fuels (petroleum coke) with olive pomace.	1 159,5	108,5	0,0
18		Fly ash reclamation	Substitution of part of the clinker by fly ash in a mix to obtain cement with the desired characteristics and contribute to the reduction of GHG emissions by reducing clinker production.	4 079,5	732,5	13,5
		<b>Total scenario</b>		<b>11 026,5</b>	<b>1 418,8</b>	<b>21,0</b>
19	Phosphates	Slurry pipeline Khouribga - Jorf Lasfar	Phosphate transport by slurry pipeline instead of trains.	11 767,5	1 230,0	530,0
20		Cogeneration	Thermal power plants and heat recovery systems.	39 818,1	5 246,5	280,0
21		Solar energy	Solar farms.	2 067,4	737,0	100,0
22		Solar drying of phosphate	Replacement of No. 2 fuel oil used for phosphate drying by solar energy.	565,7	191,2	300,0
23		Capture and recovery of CO2 from phosphoric chimneys	Capture and recovery of process-related CO2 emissions.	10 521,0	2 195,2	271,4
		<b>Total scenario</b>		<b>64 739,8</b>	<b>9 599,9</b>	<b>1 481,4</b>
24	Building	National development plan for solar water heaters from 2010 to 2020	Solar thermal program of 40,000 m <sup>2</sup> /year between 2010 and 2020.	28,0	0,0	200,0
25		Program for the widespread use of LED lamps in the residential sector by 2030	Program to install 40 million compact fluorescent lamps (CFLs) and 40 million light-emitting diode lamps (LEDs) between 2010 and 2030.	11 005,7	1 468,0	210,9
26		Introduction of Minimum Energy Performance Standards (MEPS) for energy-efficient refrigerators.	Improving the energy efficiency of refrigerators in line with energy performance regulations and promoting energy-efficient refrigerators.	4 818,8	648,4	500,0
27		Introduction of Minimum Energy Performance Standards (MEPS) for air conditioners.	Introduction of NMPEs and labelling for air conditioners.	1 813,2	296,8	NA
28		Energy efficiency for new building envelopes	Adoption of the Moroccan Code of Thermal Building Regulations for residential and tertiary buildings.	499,8	80,0	18,0
29		Energy efficiency in tourist accommodation establishments	Implementation of an energy efficiency program in the tourism sector, including: 300,000 low-energy lamps, 300,000 m <sup>2</sup> of solar water heaters and application of the Moroccan building regulations code.	280,8	44,6	86,0
30		National development plan for solar water heaters post 2020	Installation of the equivalent of 40,000 m <sup>2</sup> /year of solar water heaters.	647,5	91,3	308,0
31		Solar photovoltaic panel installations, by 2030, for self-consumption in the residential and tertiary sectors	Implementation of a program to promote photovoltaic solar panels connected to low-voltage grids, with a total capacity of 1,000 MWp by 2030.	4 472,0	942,2	2 020,0
32		Energy efficiency program for public lighting	Implementation of an energy efficiency program for public lighting in Morocco's major cities.	1 159,9	210,9	310,0
		<b>Total scenario</b>		<b>24 689,0</b>	<b>3 781,7</b>	<b>3 652,9</b>

N°	Sector	Measures	Description	Attenuation		Cost (Millions U\$)
				2020-2030	2030	
				(Gg CO2)		
33	Transport	Rabat tramway extension	Extension of the tramway, which provides a choice solution for transport in Rabat.	153,8	14,3	485,5
34		Casablanca tramway extension	Extension of the tramway, providing a choice solution for transport in Casablanca.	204,5	19,0	1600,0
35		Improved environmental standards for vehicles	Limiting emissions of certain polluting gases from vehicle emissions. From 2023 onwards, the standard will require manufacturers to produce cleaner cars, in particular to comply with emission levels for fine particles and nitrogen oxides. From January 2023 onwards, all new passenger cars and commercial vehicles (M and N categories) placed on the Moroccan market will have to comply with the Euro 6 standard.	6 487,2	1571,2	0,1
36		Bonus-Malus system	The bonus-malus system is designed to encourage the choice of a vehicle with low CO2 emissions and penalize the purchase of the most polluting models.	1 504,2	363,9	1,2
37		Renewal and breakage program	The program aims to remedy the obsolescence that characterizes the professional road transport fleet in Morocco, by granting renewal and scrapping bonuses according to eligibility conditions defined in the finance laws.	233,6	32,4	154,0
38		Eco-driving	The adoption of good eco-driving practices aims to reduce fuel consumption and vehicle maintenance costs, reduce environmental pollution and improve road safety.	184,6	26,9	0,3
39		Application of CO2 emission performance standards for new passenger cars and light commercial vehicles	The aim of this action is to converge, with a 10-year time lag in 2030, towards the application of the European Regulation setting CO2 emission performance standards for new passenger cars and light commercial vehicles. This action would make it possible to harness a greater potential for reducing CO2 emissions.	10 935,6	3 113,6	0,6
	<b>Total scenario</b>			<b>19 703,5</b>	<b>5 141,3</b>	<b>2 241,7</b>
40	Waste	Recovery of GHGs from WWTPs	Collection of biogas from wastewater treatment plants (WWTPs) for use in power generation.	692,2	129,7	617,2
41		Mechanical-biological treatment and co-incineration of household waste	Recovery of household waste through biomechanical treatment combined with co-incineration. The process consists of the following operations: mechanical sorting and shredding, biological operation with aerobic drying.	30 446,7	3 720,5	1 309,1
		<b>Total scenario</b>		<b>31 138,9</b>	<b>3 850,3</b>	<b>1 926,3</b>
42	Agriculture	Olive-growing program (tranche 1)	Planting 447,000 ha of olive trees in areas unsuitable for annual crops, to combat soil erosion and improve small farmers' incomes.	11719,5	1 069,8	1 209,5
43		Fruit-growing program (tranche 1)	Planting fruit trees on 160,000 ha to improve and diversify farmers' incomes, especially in fragile mountain areas.	11 907,6	1 087,0	753,0
44		Citrus program (band 1)	Citrus plantation covering 45,000 ha (density of 600 plants/ha) to improve farmers' incomes and export revenues.	1 439,5	131,4	450,0
45		Date palm program (tranche 1)	Planting 3 million date palms to improve oasis productivity and combat desertification and the rural exodus of young people.	768,2	70,1	353,0
46		Programme national de développement des parcours et de régulation des flux de transhumants - Tranche 1	Development of rangelands to combat desertification, improve income for livestock farmers and protect biodiversity (planting of 14,500 ha of fodder shrubs).	4 233,6	386,5	70,0

N°	Sector	Measures	Description	Attenuation		Cost (Millions U\$)
				2020-2030	2030	
				(Gg CO2)		
47	Agriculture	Cactus planting program (phase 1)	Revegetation of bare or eroded land through the planting of 44,000 ha of cactus in arid zones, resulting in improved income for small farmers and women's cooperatives.	2 394,1	218,5	31,1
48		Olive-growing program (phase 2)	Extension of olive-growing program to 300,000 ha.	3 480,0	661,2	812,1
49		Fruit-growing program (tranche 2)	Extension of the arboriculture program to 400,000 ha.	13 521,9	2 569,2	917,9
50		Date palm program (tranche 2)	Extension of the date palm program to 2 million plants.	233,4	44,3	236,0
51		Programme national de développement des parcours et de régulation des flux de transhumants - Tranche 2	Extension of the national rangeland development and transhumant flow regulation program to 300,000 ha.	2 961,7	562,7	60,0
52		Cactus planting program (phase 2)	Extension of cactus planting program to 85,150 ha.	2 095,5	398,1	60,5
53		Argan tree planting program	Extension of plantations to 49,300 ha.	1 158,4	220,1	145,3
54		40 MW Dakhla wind farm	Installation of a 40 MW wind farm to supply energy to the Dakhla seawater desalination plant.	1 521,7	156,9	200,0
		<b>Total scenario</b>		<b>57 435,1</b>	<b>7 576,0</b>	<b>5 298,4</b>
55	Forest	Ecosystem restoration activities (unconditional part).	A1: Restoration activities involving biological reforestation and regeneration (50,000 ha per year) A2: Forest plant distribution (6,000,000 plants per year).	6 613,4	1194,0	593,0
56		Degradation avoided (unconditional part).	B1: Compensation for protection (90,000 ha per year) ; B2: Energy efficiency through the distribution of improved ovens (6,000 ovens per year) ; B3: Improved fire risk management, including the opening and maintenance of firebreaks (500 km per year); construction of 65 water points per year; surveillance during periods of high sensitivity (1,245 lookouts per year); monitoring and diagnostics (900 observations per year).	873,1	130,6	257,3
57		Strengthening the resilience of socio-ecosystems in vulnerable areas (unconditional part).	D1: Fixation of maritime and continental dunes (800 ha per year).	16,6	3,0	697,6
58		Activities between 2010 and 2020.		6 529,6	590,9	541,6
59		Ecosystem restoration activities (conditional part).	A1: Restoration activities involving biological reforestation and regeneration (20,000 ha per year).	2 147,2	387,0	232,0
60		Degradation avoided (conditional part).	B1: Compensation for protective measures (30,000 ha per year) ; B2: Energy efficiency through the distribution of improved ovens (3,000 ovens per year); B3: Improved fire risk management, including: opening and maintenance of firebreaks (53 km per year); installation of 5 water points per year; surveillance during periods of high sensitivity (145 lookouts per year); monitoring and diagnostics (220 observations per year).	1 440,4	247,8	354,4
61		Strengthening the resilience of socio-ecosystems in vulnerable areas (conditional part).	D1: Fixation of maritime and continental dunes (800 ha per year).	4,2	0,8	174,4
		<b>Total scenario</b>		<b>17 624,4</b>	<b>2 554,1</b>	<b>2 850,3</b>
		<b>Total scenario</b>		<b>408 492,2</b>	<b>64 771,5</b>	<b>38 809,0</b>

■ Conditional projects □ Unconditional projects

**Appendix 2**  
**Summary of unconditional mitigation measures**

N°	Sector	Measures	Unconditional measures		
			Attenuation		Cost (Millions of U\$)
			2020-2030	2030	
			(Gg CO2)		
1	Electricity generation	National wind power plan for 2020	33 761,3	3 305,3	2 000,0
2		National Solar Plan 2020	15 501,7	1504,6	2 550,0
3		Hydropower plants by 2020	1064,4	102,2	160,0
4		Combined-cycle power plants by 2020	557,7	62,6	16,0
5		Combined-cycle power plants to 2030	6 354,4	1197,6	2 280,0
6		Hydroelectric plants to 2030	1178,8	379,5	1124,5
		<b>Total scenario</b>	<b>49 669,5</b>	<b>4 900,7</b>	<b>8 130,5</b>
9	Industry	Industrial energy efficiency program	25 106,2	5 028,7	200,0
10		Implementation of energy performance rules (MEPS) for electric motors over 75 kW	630,0	105,0	NA
		<b>Total scenario</b>	<b>25 736,2</b>	<b>5 133,7</b>	<b>200,0</b>
14	Cement	Recycling used tires	3 730,2	337,9	NA
15		Wastewater treatment plant sludge recovery	375,1	36,0	1,5
16		Recycling household waste	1682,1	203,7	6,0
17		Olive pomace valorization	1159,5	108,5	0,0
18		Fly ash reclamation	4 079,5	732,5	13,5
		<b>Total scenario</b>	<b>11 026,5</b>	<b>1418,8</b>	<b>21,0</b>
19	Phosphates	Slurry pipeline Khouribga - Jorf Lasfar	11 767,5	1230,0	530,0
20		Cogeneration	39 818,1	5 246,5	280,0
21		Solar energy	2 067,4	737,0	100,0
		<b>Total scenario</b>	<b>53 653,1</b>	<b>7 213,5</b>	<b>910,0</b>
24	Building	National development plan for solar water heaters from 2010 to 2020	28,0	0,0	28,0
25		Program for the widespread use of LED lamps in the residential sector by 2030	11 005,7	1468,0	11 005,7
26		Minimum Energy Performance Standard (MEPS) for refrigerators.	4 818,8	648,4	4 818,8
27		Minimum Energy Performance Standard (MEPS) for air conditioners	1813,2	296,8	1813,2
28		Energy efficiency for new building envelopes	499,8	80,0	499,8
29		Energy efficiency in tourist accommodation establishments	280,8	44,6	280,8
		<b>Total scenario</b>	<b>18 409,7</b>	<b>2 537,3</b>	<b>1 014,9</b>
33	Transport	Rabat tramway extension	153,8	14,3	485,5
34		Casablanca tramway extension	204,5	19,0	1600,0
		<b>Total scenario</b>	<b>358,3</b>	<b>33,3</b>	<b>2 085,5</b>
42	Agriculture	Olive-growing program (tranche 1)	11 719,5	1069,8	1 209,5
43		Fruit-growing program (tranche 1)	11 907,6	1087,0	753,0
44		Citrus program (band 1)	1439,5	131,4	450,0
45		Date palm program (tranche 1)	768,2	70,1	353,0
46		National program to develop rangelands and regulate transhumant flows (tranche 1)	4 233,6	386,5	70,0
47		Cactus planting program (phase 1)	2 394,1	218,5	31,1
		<b>Total scenario</b>	<b>32 462,6</b>	<b>2 963,4</b>	<b>2 866,6</b>
55	Forest	Ecosystem restoration activities (unconditional part)	6 613,4	1194,0	593,0
56		Degradation avoided (unconditional part)	873,1	130,6	257,3
57		Strengthening the resilience of socio-ecosystems in vulnerable areas (unconditional part)	16,6	3,0	697,6
58		Activities between 2010 and 2020	6 529,6	590,9	541,6
		<b>Total scenario</b>	<b>14 032,7</b>	<b>1 918,5</b>	<b>2 089,5</b>
	<b>Total scenario</b>		<b>205 348,5</b>	<b>26 119,2</b>	<b>17 318,0</b>



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