



## STRAIGHT TO THE POINT

- » Morocco's NDC makes an unconditional commitment of 18 percent emissions reduction by 2030 below a business-as-usual (BAU) scenario (including agriculture, forestry, and other land use (AFOLU)). Morocco aims to further reduce emissions by an additional 24 percent, for a total 42 percent emissions reduction potential conditional on resources from the international community. Morocco estimates that USD 50 billion in total funding is needed to achieve its emission reduction targets, including USD 24 billion in international support.
- » The country's adaptation targets are focused on agriculture, water, forests, and fisheries, including clear targets in each sector for 2020 and 2030. The total cost of adaptation measures for that period is estimated at USD 35 billion.
- » The Moroccan Competence Centre for Climate Change (4C Maroc), established by the Moroccan government Ministry of Environment in partnership with German Agency for International Cooperation (GIZ), leads knowledge exchange of climate change expertise across national and international stakeholders. The related online knowledge database<sup>1</sup> was developed in collaboration with United Nations Development Programme (UNDP).
- » To drive markets toward low carbon systems, Morocco is reducing public subsidies for fossil fuels to create a level playing field for cleaner sources of energy, and using green bonds to incentivize investments in renewable energy.
- » Key areas of engagement for the NDC Partnership in Morocco are to: identify and secure financing and technical assistance to close the gap on resources needed toward adaptation and mitigation targets; develop an NDC implementation roadmap and platform for south-south dialogues; and increase political visibility and agenda setting.
- » Based on work initiated with UNDP, Morocco was able to secure Green Climate Fund resources of over USD 39 million to start implementing mitigation activities in the agriculture sector.

## BACKGROUND

### ALIGNING CLIMATE GOALS WITH RISKS

Morocco maintains stable governance and high capacity at the national level, reflected in strong fiscal management. Recent efforts to strengthen macroeconomic policy in 2014 resulted in improvements to the country's line of credit in 2016. Multi-lateral financing partners are supportive of the government's attempts to strengthen its fiscal policies and management authorities, but encourage them to pursue more inclusive growth strategies to reduce unemployment and improve social reforms.<sup>2</sup>

The country has experienced stable economic growth over the past decade, with annual growth rates averaging roughly five percent. Morocco's GDP was USD 101.4 billion in 2016, down from its record high

<sup>1</sup> The online database developed with support from UNDP is housed in [www.4c.ma](http://www.4c.ma).

<sup>2</sup> <https://www.imf.org/en/Publications/CR/Issues/2017/06/07/Morocco-First-Review-Under-the-Arrangement-Under-the-Precautionary-and-Liquidity-Line-Press-44973>



in 2014 of USD 109.9 billion.<sup>3</sup> In 2016, the country's fiscal deficit reduced to 3.9 percent of GDP and public debt held at 66 percent of GDP, largely due to subsidy reforms and strengthened financial management at the national level. Fifteen percent of GDP is attributable to agriculture, which is deeply affected by regional weather variations and susceptible to the impacts of climate change. In 2016, for example, regional droughts that hampered cereal production led to a steep decline in the GDP growth rate, which fell to 1.1 percent. More favorable conditions in 2017 project GDP growth to rebound to four percent.<sup>3</sup>

Due to the effect that climate change imparts on Morocco's economy, there is deep concern about future climate projections. Temperatures are expected to rise by one degree to 1.5 degrees Celsius by 2050. Rainfall is expected to decline by 10 to 20 percent by 2100 across the country, with even higher rainfall shortages projected in the Saharan regions. Variations in precipitation will also lead to reduced snowpack in the Atlas Mountains, which hold and release water during drier times of the year. Sea-level rise will also affect coastal regions and communities, with an 18 to 59 centimeter rise in sea level projected by 2100.<sup>5</sup>

These projected climate change impacts are prompting the Government of Morocco to adopt and pursue ambitious climate change policies and programs and leverage its relationship with the international community. Morocco has developed its climate agenda through the National Strategy for Sustainable Development (NSSD) (adopted early July 2017) and is actively engaging with the NDC Partnership to enhance the ability of its economic and industrial policies to achieve its climate ambitions and development goals.

## COUNTRY AMBITION

### CLIMATE GOALS SUPPORTED BY COORDINATED LEADERS

Morocco has a strong foundation for integrating and pursuing ambitious climate change policies. In 2011, the right to sustainable development for all citizens was written into the country's constitution. In 2014, Morocco enacted the Framework Law on the National Charter for Environment and Sustainable Development (NCESD), which provides policy structures for environmental protection and sustainable development. This framework explicitly calls for strengthened capacities to promote adaptation to climate change, demonstrating a strong political commitment to address climate change through sustainable development. Throughout the suite of Morocco's climate programs, climate actions are focused on using market mechanisms to reduce emissions, promote gender parity, and promote equity within its citizenry and the global community, which together aim to promote economic growth in parallel to reducing emissions.

The country's overall vision for addressing climate change, as stated in its Nationally Determined Contribution (NDC), is to "make its territory and civilization more resilient to climate change while ensuring a rapid transition to a low-carbon economy." Within Morocco's NDC, adaptation measures are prioritized, which has been the trend since Morocco began developing its climate program. Between 2005 and 2010, 64 percent of total climate spending was allocated toward adaptation initiatives. The country is particularly vulnerable to the effects of climate change, and primary sectors of the economy, such as agriculture, fishery, and tourism, have already been negatively impacted and will continue to be affected.<sup>6</sup>

<sup>3</sup> <http://www.worldbank.org/en/country/morocco/overview>  
<sup>4</sup> <http://data.worldbank.org/country/morocco>

<sup>5</sup> [https://www.climatelinks.org/sites/default/files/asset/document/2016\\_USAID\\_Climate%20Risk%20Profile%20-%20Morocco.pdf](https://www.climatelinks.org/sites/default/files/asset/document/2016_USAID_Climate%20Risk%20Profile%20-%20Morocco.pdf)  
<sup>6</sup> <http://www.climate-expert.org/en/home/business-adaptation/morocco/>



With respect to mitigation, the country commits to reducing greenhouse gas (GHG) emissions by 42 percent below a business-as-usual (BAU) scenario by 2030, conditional on new sources of climate finance and increased support from the international community. Fifty-five actions to achieve mitigation targets are focused within energy, agriculture, forestry, housing, industry, infrastructure, transportation, water, and waste sectors. Specific energy sector targets to reach the 2030 NDC mitigation goal include:

- » Fifty-two percent of installed energy capacity is renewable
- » Energy consumption is reduced by 15 percent
- » Subsidies for fossil fuels are reduced
- » Natural gas use is increased to meet national energy needs

Morocco's climate change ambitions are driven through institutional leadership and political will, evident in the fact that the development of the NDC required a two-year process, consisting of extensive engagement and coordination with public, private, and civil society stakeholders. The NDC is based on the NCESD and the NSSD, both of which are aligned with the country's priority Sustainable Development Goals (SDGs).<sup>7</sup>

Additionally, Morocco has developed cornerstone pieces of a full institutional framework for ambitious and accelerated climate action, backed by staff, political support, coordinated government arms, and engaged citizenry. It has also created innovative financing mechanisms that are the first of their kind in the region, which can inspire other countries to pursue similar arrangements at home. Along the way to implementing its climate change programs, it has developed monitoring and evaluation frameworks that are being adapted to incorporate broader climate information sharing, data processing, and reporting needs. Over time, Morocco intends to continually pursue new projects and agendas that advance its climate ambitions and act as flagship models for others to learn from their experiences.

## STATE OF PLAY

### LEADING BY EXAMPLE AND SHARING EXPERIENCE

Morocco has made several important strides toward achieving its NDC through the creation of institutions, policies, and regional initiatives. The Secretary of State in Charge of Sustainable Development (SSSD) within the Ministry of Energy, Mines, and Sustainable Development is largely responsible for climate change actions and policies, and the implementation of the NSSD. Not all climate-related activities are restricted to just this department, however, as climate objectives transcend all ministries that are actively coordinated and engaged in climate action planning and implementation.

This cross-ministerial coordination is largely due to the effort of the Moroccan Competence Center for Climate Change (4C Maroc), created through a partnership between the SSSD and the German government, implemented by GIZ. The Centre aims to fill the previous absence of a formal climate change mitigation structure at both national and regional levels by establishing a platform for dialogue and cooperation between government ministries, five private sector institutions, and six civil society environmental associations. In adopting a participatory and multi-stakeholder approach, 4C Maroc facilitates significant progress toward implementing the country's NDC.

<sup>7</sup> Morocco's SDG priorities include SDG 1, 6, 7, 8, 9, 11, 12, 13, and 17.



Part of Morocco's strategy toward achieving its NDC commitments is to pursue diverse financing mechanisms to fund projects that achieve its emissions reduction targets. Morocco has put substantial effort into preparing and submitting investment-ready project proposals to international climate-related funding sources, including the Adaptation Fund and Green Climate Fund. In addition to being ready for funding and accessing international sources, Morocco is also looking internally to develop innovative market-based instruments, including the use of ad hoc taxes, green bonds, investment funds, the removal of fossil fuel subsidies, and the creation of a carbon market.

In putting resources behind climate-related projects, Morocco is perhaps best known for its use of green bonds to fund clean energy projects. The Moroccan Capital Market Authority developed a guide on the use of green bonds, which has been applied to finance large renewable energy projects. For example, the USD 2.45 billion 580 MW Ouarzazate Solar Power Station (NOOR I, II, and III) was largely financed through the use of domestic and international green bonds. In November 2016, the Moroccan Agency for Sustainable Energy (MASEN) issued the country's first green bond at USD 115 million to finance the NOOR Solar Thermal Plant. Additional project financing was provided largely through the Climate Investment Fund, the World Bank, the African Development Bank (together over USD 1 billion), and KfW (over USD 64 million). The NOOR project is the first of its kind in Africa, based on size, technology, and financing structure. For other renewable projects, the World Bank and French Development Agency (AFD) issued USD 150 million in green bonds to the Banque Centrale Populaire of Morocco to finance a variety of renewable energy projects throughout the country. The Ouarzazate Solar Power Station also secured significant funding from the European Union (EU), while providing assistance to Morocco on its climate change and solar goals.

The 2013 – 2017 EU-Morocco Neighborhood Policy Action Plan for the implementation of the advanced status for Morocco set ambitious targets for climate change cooperation including: establish and implement strategies and plans for mitigation and adaptation to change; establish inventories on greenhouse gases; cooperation on mitigation and adaptation to climate change; promote a low-emission development strategy (LED) as a contribution to the development of a green economy; promote Nationally Appropriate Mitigation Actions (NAMAs) including sector credit mechanisms. The EU's Neighborhood Investment Facility (NIF) catalyzed the implementation of the action plan, especially Morocco's renewable energy strategy. As a co-financing mechanism the NIF awarded €106.5 million for NOOR I, II and III, and catalyzed four European donors for this project, including the European Union, the European Investment Bank (EIB), the French Development Agency (AFD) and Kreditanstalt für Wiederaufbau (KfW). In May 2016, the European Union pledged to continue its support to participating in the next step of NOOR III, for an additional amount of nearly €43 million. European funds represent approximately 70 percent of the total amount of the project.

To drive markets toward low carbon systems, Morocco is reducing public subsidies for fossil fuels to create a level playing field for cleaner sources of energy. This move enables the Government to re-focus subsidies toward more strategic investments in renewable energy and reduce the country's reliance on fuel imports. With support from the World Bank's Partnership for Market Readiness (PMR), Morocco is analyzing the feasibility of new appropriate market-based instruments and carbon pricing approaches that can support NDC implementation and creating systems for monitoring, reporting and verifications of mitigation actions in three sectors (power, cement, and phosphates). This analysis is scheduled to be completed with results shared by the end of 2018.

Morocco is investigating the potential of a carbon pricing structure aimed at policy impacts, instead of emission sources. In partnership with the World Bank, Morocco is acting as a testing ground for a policy-level Monitoring, Reporting, and Verification (MRV) system, which will be a first step toward the World



Bank's "Transformative Carbon Asset Facility," a carbon financing and crediting mechanism that can be adapted to local contexts. The innovation of this policy-based mechanism is that payments are made after a policy change proves emissions reduction<sup>8</sup>, as opposed to more traditional models where credits are paid once heavy emitters reduce their emissions.

Additional mitigation actions are currently being developed under several existing policies and strategies in sectors related to NDC actions. Corresponding Nationally Appropriate Mitigation Actions (NAMAs) have been, and are in the process of, being developed related to the objectives of several national strategies, including the National Energy Strategy; National Logistics Strategy; National Household and Similar Waste Program; National Liquid Sanitation and Wastewater Treatment Program; Morocco Green Plan; Preservation and Sustainable Forest Management Strategy; and Urban Public Transit Improvement Program.

Some NAMAs under these strategies have already been developed and are in the process of implementation. In 2016, the Green Climate Fund awarded the Agency for Agricultural Development (ADA) USD 39.3 million for the Development of Argan orchards in Degraded Environment (DARED), which aims to restore 10,000 hectares of argan forest and avoid up to 604,000 tons of carbon dioxide-equivalent in emissions. The NAMA design was supported by UNDP's Low Emission Capacity Building (LECB) project. As Morocco charts a path toward its emissions reduction targets, it continues to develop NAMAs as investment-ready projects and verified to reduce emissions.

As headway is made toward developing emissions reduction strategies, Morocco is receiving support to ensure, align, and strengthen implementation mechanisms. UNDP has a Global Environment Fund (GEF), which funded a USD 6.5 million portfolio focused on cleaner logistics, solar pumping for irrigation, and renewable energy for Marrakech's Bus Rapid Transit (BRT) system. In addition, through the UNDP NDC Support Programme, which will launch in the third quarter of 2017, the Government will be supported in the development of investment strategies for the NDC and on Low Emission Development Strategy (LEDS) implementation. The UNDP LECB project provides a foundation for this work, having provided support through the design of the NAMAs, LEDS, and the underlying MRV systems; and ensuring alignment between NAMAs, the country's LEDS, and INDC design. This work was conducted in a fully participatory manner, including numerous national and sub-national meetings to engage relevant stakeholders.

Morocco is also working toward monitoring and evaluation processes to satisfy requirements for transparency and verification of progress toward the country's Paris Agreement commitments. The Moroccan government, through 4C Maroc and the SSSD, is coordinating with NDC Partnership members GIZ and the UN Food and Agriculture Organization (FAO) to develop a National Inventory System for Green House Gas (NIS-GHG). This inventory system, effectively disseminated across government and sectors, will be an impressive step and commitment toward transparency and proving progress toward achievement of Morocco's NDC.

## NDC PARTNERSHIP ENGAGEMENT

### ENGAGING WITH INTERNATIONAL AND REGIONAL PARTNERSHIPS

Morocco is very involved as a member of the NDC Partnership; the SSSD sits on the Partnership's Steering Committee and actively oversees and advises the organization's activities. Toward its mitigation and adaptation NDC commitments, Morocco is successfully leveraging existing partnerships to identify and

<sup>8</sup> <http://blogs.worldbank.org/climatechange/new-climate-finance-model-morocco-rewards-low-carbon-policies>  
<sup>9</sup> <http://www.greenclimate.fund/-/development-of-argan-orchards-in-degraded-environment-dared>



secure technical assistance and financial support for implementation needs. In line with this effort, the NDC Partnership is actively engaged with Morocco on several fronts.

The NDC Partnership is working closely with 4C Maroc and the Ministry of Energy, Mines, and Sustainable Development to support NDC implementation activities and establish Morocco as a regional leader in addressing climate change via planning and policy. Through an agreement between these three actors, they are jointly working to coordinate development partner engagement; strengthen knowledge exchange; build and sustain high-level support for NDC implementation; and support a national process for NDC implementation through a multi-stakeholder approach. The SSSD and 4C Maroc serves as focal points to the NDC Partnership.

Morocco spearheaded the establishment of a regional project to support African countries in actualizing agriculture-related NDC ambitions. The Adaptation of African Agriculture to Climate Change (AAA) Initiative, launched ahead of United Nations Climate Change Conference (COP22) in 2016, includes 25 other African countries, the UNFCCC, and FAO, as well as various development partners (GIZ, AFD, Japan International Cooperation Agency, Global Green Growth Institute, African Development Bank, Millennium Challenge Account-Morocco, and the European Union). The NDC Partnership Support Facility of the World Bank provided initial financial support USD 750,000 to develop country-level Climate Smart Agriculture (CSA) investment plans for Cote D'Ivoire, Mali, and Morocco, and to operationalize the AAA Initiative. Extensive development partner support for the AAA Initiative demonstrates external confidence in Morocco's ability to lead in climate change action.

The NDC Facility of the World Bank also initiated the Scaling Up Support for Morocco's NDC Implementation project, in partnership with the World Bank's Partnership for Market Readiness (PMR), working with the Ministry of Energy, Mines and Sustainable Development, the Ministry of Economy and Finance and an inter-ministerial coordinating committee. For this project, USD 250,000 was awarded through the NDC Partnership toward a total project cost of USD 1.3 million. The project focuses on scaling up and increasing the coverage of existing technical assistance and policy work focused on NDC implementation, identifying options for comprehensive, well-aligned policy reforms and support measures, that may be needed to effectively incentivize private investment and consumer choices in line with the NDC targets, and efficiently use public resources and external financing. The project also contributes to furthering the analysis of appropriate options of a green fiscal reform through modeling of its socioeconomic, fiscal and environmental impacts.

## OPPORTUNITIES FOR PARTNERSHIP

### IDENTIFYING RESOURCES FOR NDC IMPLEMENTATION

Even though Morocco is ready to act and has projects prepared to break ground, it lacks the necessary USD 50 billion to reach its emissions reduction goal. Of this amount, USD 24 billion is conditional on external support made available through new climate finance mechanisms, including the Green Climate Fund (GCF). From the USD 50 billion, Morocco forecasts that, between 2020 and 2030, the implementation of adaptation programs will cost a minimum of USD 35 billion for the most vulnerable sectors, specifically water, forestry, and agriculture.<sup>10</sup>

<sup>10</sup> Source: <http://www4.unfccc.int/ndcregistry/PublishedDocuments/Morocco%20First/Morocco%20First%20NDC-English.pdf>





To realize its funding needs, Morocco needs to expand its networks within the development partner community; to build opportunities for the private sector to invest in climate-related projects and strengthen existing policies; and maintain a pipeline of projects that move its national investment priorities toward its climate agenda. There will be a need to ensure that it has the right capacities, enabling policies, and legal frameworks in place to develop and manage climate financing priorities, including a national climate fund; carbon pricing mechanism; redirection of fossil fuel subsidies; and issuance of green bonds for renewable energy projects.

Beyond its financing needs, Morocco has a growing list of stakeholders involved in planning and implementing its climate agenda. These players need to be well coordinated to ensure efficient use of resources and prevent duplication of efforts or miscommunication between partners so that new programs are complementary and work toward shared, but separate goals. As many development partners are involved in Morocco's climate work, these players need to maintain open and active communication lines to align their work activities. The 4C Maroc already provides a mechanism to call stakeholders to action and disseminate information to key players. The NDC Partnership can provide logistical and technical support to 4C Maroc to ensure climate actions and policies are well coordinated and adapted to different sectors, which can be elaborated through an NDC implementation roadmap. The Partnership can also support the dissemination of NDC implementation responsibilities to sub-national levels of government, so that regional, district, and municipal leaders integrate climate actions into their own missions and services.

## PROJECTS READY TO BREAK GROUND

Morocco is eager to capitalize on assistance available through the NDC Partnership to increase its ambition, accelerate its achievement of results, and to exchange knowledge with other countries and experts working to address similar challenges related to NDC implementation. While the NDC Partnership has already identified several key areas of engagement for its work in Morocco, including policy reforms for energy efficiency in buildings, the development of a roadmap for NDC implementation, and investment plans in Morocco, there are other key opportunities for the NDC Partnership to assist Morocco in achieving its commitments:

- » Readying projects for funding;
- » Coordinating with existing and new development partners;
- » Developing and evolving frameworks for climate financing mechanisms, including green bonds, a national climate fund, and a national carbon pricing structure;
- » Strengthening monitoring and evaluation systems to report progress toward emissions reduction targets; and
- » Enhancing the visibility of 4C Maroc, as a platform for knowledge exchange and regional south-south dialogue.

The NDC Partnership serves as a bridge to fill the gaps between the needs of countries to implement climate and development agendas and the support that can be offered from the international community. Specifically, the NDC Partnership can help Morocco attract investment and financial support for investment-ready projects. Part of being ready to attract financing is having a database of projects that have been planned, vetted, and readied for implementation. The NDC Partnership can provide additional support to Morocco to meet its ambitions under the Paris agreement through building a pipeline of projects that decarbonize Morocco, including strengthening existing and developing new NAMA registered projects. This support needs to align with and build off previous efforts led by other actors, including the



UNDP's LECB Program, the NDC Support Program and the UNDP-GEF unit, to name a few. The Partnership can also assist Morocco in raising its ambition to go beyond its current NDC and develop additional projects that contribute to long-term mitigation and adaptation goals.

Increased engagement and coordination with development partners could help to clarify and coordinate Morocco's relationships with potential sources of funds and technical expertise. With many of the most progressive climate initiatives in the region, Morocco has proven itself a strong and serious player that is marketable as a smart investment, reflected in the fact that it has built strong relationships with the development community. As it seeks additional financing opportunities, it will be important for 4C Maroc to look beyond existing partnerships. There is an opportunity for the NDC Partnership to help Morocco grow its network with the international community and build relationships with new partners.

Morocco already has several financing mechanisms in development, with ambitions for other tools that support NDC-related activities. As the country moves toward developing a national climate fund and pursuing a carbon pricing system, the NDC Partnership has an opportunity to assist with developing corresponding legal structures, management systems, and monitoring and evaluation matrices. Because financing remains one of the biggest challenges for Morocco to achieve its goals, it is likely that these activities will be high priority for Morocco and the NDC Partnership.

The NDC Partnership will also be able to support Morocco in developing monitoring and evaluation systems. For example, the NDC Partnership could aid in adapting the NIS-GHG to report emissions for multiple sectors and at multiple levels. The NDC Partnership has extensive experience with GHG reporting, through the World Resource Institute's work developing the Global Protocol for Community Wide Greenhouse Gas Reporting (GPC), and can offer detailed advice and experience for Morocco to consider in the development of its own national system.

### SOUTH-SOUTH EXCHANGE: CONVENING COUNTRIES TO SHARE KNOWLEDGE

Beyond what Morocco can gain from the NDC Partnership, the country has plenty to share with other nations exploring NDC implementation tools. Through 4C Maroc, with support from the NDC Partnership, Morocco will host a platform from which it can work with, share experience, and learn from other countries through south-south dialogues. Specifically, Morocco's work using green bonds to finance renewable energy projects is an inspirational model from which other countries can learn, assuming they have the political will and readiness to pursue similar climate financing mechanisms. More specifically, 4C Maroc can assist the Republic of the Congo in developing the "Blue Fund" that aims to finance sustainable economic development. The 4C Maroc is also facilitating dialogues with African countries to explore the possibility of a regional carbon market in Africa that it will propose at COP23. In addition, the 4C Maroc is supporting Sahel countries in addressing climate change challenges, through the AAA Initiative. The NDC Partnership and 4C Maroc together are already in action, offering lessons learned to other Partnership member countries. In an NDC Partnership facilitated consultation workshop in Mali in August, 2017, 4C Maroc shared lessons-learned on developing investment plans that support NDC implementation. In late 2017, 4C Maroc will attend a workshop in Namibia to start planning for NDC implementation, bringing lessons-learned on climate and energy financing to regional conversations on NDC planning. Morocco has the experience, outreach, and innovative models to inspire other countries to pursue their own, locally-adapted climate ambitions.



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*The NDC Partnership is guided by its partners and assisted by a Support Unit hosted by the World Resources Institute (WRI). The Partnership is co-chaired by the Governments of Germany and Morocco.*

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**NDC PARTNERSHIP SUPPORT UNIT**

**Washington, DC, USA Office**

World Resources Institute  
10 G Street NE, Suite 800  
Washington, DC 20002, USA  
Phone: +1 (202) 729-7600  
Email: [info@ndcpartnership.org](mailto:info@ndcpartnership.org)

**Bonn, Germany Office**

P.O. Box 260124 D-53153  
Bonn, Germany  
Phone: +49 (228) 815-1777  
Email: [info@ndcpartnership.org](mailto:info@ndcpartnership.org)