



KINGDOM OF MOROCCO

**Ministry of Energy, Mines,
Water and Environment**

MOROCCAN INTEGRATED WIND ENERGY PROJECT

**Speech by Mrs. Amina Benkhadra,
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Majesty,

I have the great honor and the distinct privilege of speaking before Your August Person on this momentous day when Your Majesty is inaugurating the **Tangier1** wind power farm of **140 MW** which, with an investment cost of **2.75 billion Dirhams**, is so far the largest project of its type in the Cherifian Kingdom.

This project forms a part of the planned programs to be implemented in the framework of the new energy strategy drawn up in compliance with Your Royal High Directives placing the development of renewable energy sources and energy efficiency as a major priority and an optimal vehicle enabling our country to address the challenges of securing energy supply, preserving the environment and promoting sustainable development.

In this vision, and in conjunction with the Moroccan solar energy project Your Majesty launched on November 2, 2009 in Ouarzazate for the construction of five solar power plants of 2000 MW by 2020, today I have the honor, together with the General Director of the Office National of Electricité, of presenting before Your Majesty an outline of the **Moroccan integrated wind energy project**. **This project entails the building of new wind farms that will bring the installed electrical wind power from the current 280 MW to 2000 MW in 2020.**

Majesty,

The world has gone through deep mutations from which a new productive order will emerge that will mark a historic rupture with the current production and consumption patterns that have proven economically, socially and environmentally unsustainable. In the framework of these transformations, renewable energy sources, both clean and sustainable, are being developed at an accelerated pace to meet in the long term energy supply security requirements, progressively take over the fossil fuels and reduce greenhouse gas emission for climate change mitigation.

Therefore, electricity production from renewable sources is experiencing a huge increase. In particular, electricity generation from wind power are increasing at an average annual growth of **30%** over the past ten years that brought the installed wind electrical power at **158 GW in 2009**, avoiding annual emissions of more than **200 million tons of CO2**.

At that pace, renewable sources of energy as of 2015 will become the second source of electricity generation after coal. Thanks to the fast-paced advances made in their technology and the resulting drop in the cost of the electricity generated, wind and

solar energies will become competitive with fossil fuels to spread over the forthcoming decades across the world.

Majesty,

Under your enlightened guidance, Morocco is making great strides in its economic and social development with the extensive projects already achieved or programmed in the fields of agriculture, industry, infrastructure, housing and tourism. This unprecedented growth entails increasing needs in various types of energy at a sustained annual average pace of **5%**. **The global installed electrical power** is forecast to **rise threefold in 2020** against its current level. By then, the power plants using renewable energy will represent **42%** of the global electrical capacity with solar, wind and hydraulic power each accounting for **14%**.

The new energy strategy which fits into the framework **of Your Majesty Comprehensive and Integrated Vision of Sustainable Development**, aims to build an energy mix where renewable energies will occupy a prominent place to meet this growing demand, as well as to preserve the environment and reduce our energy dependency from abroad.

To take up this major challenge and in conjunction with the Moroccan solar energy project, the development of **wind energy sector will be accelerated**, in compliance with **Your High Royal Directives**. In this framework, the project submitted to Your Majesty deals with large scale wind electricity output by **2020** involving the building of **2000 MW**. This program integrates the manufacture of wind farm equipment to become part of the national industrial sector designed to achieve a long lasting impact on the domestic economy in general and the development of wind energy in particular.

In this framework, and in addition to the 280 MW of wind power provided by the wind farms of **Adbelkhalek Torres**, of **Essaouira** and **Tangier 1**, as well as the 720 MW being developed in **Tarfaya**, **Akhfinir**, **Bab Eloued** in **Laayoune** at **Haouma** in **Tetouan**, five new high potential sites have been earmarked for the construction of wind power plants with a global power of 1000 MW. This refers to the sites of **Koudia El Baida** in **Tetouan**, **Taza**, **Laayoune** and **Boujdour**. Special importance has been lent to the regions of the North and Oriental with six wind farms in the offing, two of which have already been completed given their extensive wind energy potential.

The projects will be achieved in the framework of public/private partnerships through the creation of one company per project in which the Office National de l'Electricité, the Fonds Hassan II pour le Développement Economique et Social and the Société

d'Investissements Energétiques will be associated with one or several strategic partners of worldwide references in the wind industry and electricity generation.

The **cost of the project investment** estimated at **31.5 billion dirhams** will be covered by national and international public and private funds as well as by concessionary and non concessionary financing mechanisms available in the framework of multilateral and bilateral cooperation.

These ambitious goals will be achievable thanks to the advantages offered by our country in this particular sphere. Indeed,

- **Our considerable wind power potential is estimated at 25000 MW**; 6000 MW of which can be implemented in sites identified in the regions of Essaouira, Tangier and Tetouan with wind speeds varying from 9.5 to 11 meters per second at a height of 40 meters, as well as in the regions of Tarfaya, Dakhla, Laayoune and Taza where wind speeds reach 7.5 to 9.5 m/s.
- **The Kingdom occupies a strategic position at the heart of an energy crossroads**, enabling it to become a prime platform of growing electrical energy trade in the Mediterranean Basin thanks to the interconnections developed with Spain and Algeria.
- **Projects of a regional scale**, such as the Mediterranean Solar Plan and the DESERTEC initiative enhance synergy in the development of solar and wind energy in the Euro Mediterranean space.
- **We have capacities allowing us to set up wide-ranging projects** such as Tangier Med port and large scale electrical power plants.

Majesty,

This grandiose project in its multiple dimensions matches the unflinching determination of Your Majesty to **reconcile economic and social development with environmental protection and the fight against climate change**. It will make it possible to produce 6600 GWh per year corresponding to 26% of our country's current electricity output.

By achieving this wind energy project and the Moroccan solar energy project, our country will be able to cut down its energy imports through annual savings of **2.5 million tons oil equivalent of fossil fuels**, thereby cutting back **carbon dioxide** emissions by nearly **9 million tons of per year**.

At the end of this presentation, under the Presidency of Your Majesty, the State, represented by the Ministry of Finances and Economy and the Ministry of Energy, Mines, Water and Environment , the Office National de l'Electricité, the Fonds Hassan II pour le Développement Economique et Social and la Société d'Investissements Energétiques, will sign a framework agreement for developing the wind energy integrated project.

May God help us to be up to the trust which **Your Majesty** was kind enough to bestow on us.

Our strong determination to bring this project to full fruition is bolstered by our deep attachment to **Your August Person** and our unflinching fidelity to the **Alaouite Throne**.