

**The People's Democratic Republic of Algeria**

**Intended Nationally Determined Contribution  
INDC-Algeria-**

**September 3<sup>rd</sup>, 2015**

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**1. Preamble**

Algeria, a country severely affected by desertification is- like other countries in Africa and in the south of the Mediterranean- particularly vulnerable to the multiform effects of climate change that threaten to undermine its economic and social development.

Respecting its contractual engagements, Algeria renews its commitments to work together with the Contracting Parties to achieve the objectives of the United Nations Framework Convention on Climate Change (UNFCCC). To this end, it reaffirms, at the highest level, its willingness to spare no effort for the success of the twenty-first session of the Conference of the Parties, to be held in Paris on December 2015.

Given the climate emergency, Algeria reiterates the need for the adoption in Paris of an ambitious and durable agreement on climate change, inspired by the latest scientific findings, and centered around the principle of common but differentiated responsibility, while taking due consideration of the specific circumstances and respective capabilities of the Contracting Parties. It is in this spirit that the present provisional contribution, nationally determined, was prepared and submitted by Algeria, in accordance with the relevant provisions of decisions 1/CP 19 and 1/CP 20 of the Conference of the Parties to the UNFCCC.

This provisional contribution concerns the two equally important pillars of the UNFCCC; namely, the mitigation of greenhouse gas emissions (GHG) and adaptation to climate change impacts.

As a developing country, Algeria has no historical responsibility in terms of accumulation of greenhouse gases. Being a low GHG-emitting country, its current responsibility is very limited. In addition, country's socio-economic and development needs are continuously increasing in order to meet the legitimate expectations of its people, especially its youth.

The provisional contribution of Algeria is submitted under the condition of access to new external financial resources from its bilateral and multilateral partners, as well as clean technology transfer on concessional and preferential terms and strengthening its technical capabilities.

This provisional contribution is designed taking into account the particularly difficult financial and economic present conditions of Algeria, due to the significant drop in oil prices.

Its final contribution at the time of entry into force of the Paris Agreement on Climate Change will be adjusted accordingly.

Algeria's INDC covers the 2021-2030 period. It involves mainly the sectors of energy, industry, transport, agriculture and forestry, construction and the environment. Algeria will submit its final contribution at the time of ratification of the Paris agreement, before its intended entry into force in 2020.

## **2. The INDC preparation framework**

Following the adoption of decision 1/ CP20 on December 2014 that defined the framework of the Intended Nationally Determined Contribution, Algeria launched a review of its institutional and regulatory framework in the matter of energy efficiency and the promotion of new and renewable energy adopted in 2011.

On February 2015, this review has been finalized and submitted for adoption by the Council of Ministers that endorsed it at its meeting on May 24<sup>th</sup>, 2015. A working group on the INDC was established, with the participation of representatives from 14 ministries and the National Economic and Social Council, and placed under the authority of the Minister in charge of environment. The preliminary outcomes of the work of that group have been submitted for the consideration and decision of the Interministerial Council meeting devoted to the climate issue, held on July 7<sup>th</sup>, 2015, under the chairmanship of the Prime Minister. A National Climate Committee (NCC), placed under the authority of the Minister in charge of environment, was established. It is composed of representatives of relevant governmental departments and the National Economic and Social Council.

The NCC strengthens the institutional framework to ensure coordination, monitoring and assessment of national policies and programs on climate change and proposes measures to guarantee the implementation of Algeria's commitments in relation to the UNFCCC, international institutions and /or decisions on climate change issues.

At its meeting on July 26th, 2015, chaired by the Minister in charge of environment, the NCC finalized the provisional contribution of Algeria.

The INDC of Algeria was developed in an inter-sectorial framework and has greatly benefited from the consultation process with stakeholders held at the national level. In addition, the National Dialogue Conference on Climate, organized on July 28<sup>th</sup>, 2015 was a platform for dialogue and exchanges on Algeria's climate ambitions, with the participation of institutional and socio-economic actors, local authorities and business organizations, socio-professional associations, environmental protection associations, as well as experts, scholars, and representatives of the civil society. Six ministers, four of which were represented at the NCC, as well as the President of the National Economic and Social Council, have participated in this Conference.

Within the framework of public awareness chapter, media representatives took also part in this meeting, the first of its kind to be held in Algeria, and with more than 500 participants. Based on this wide consultation, a reviewed version of the Algeria's INDC was submitted for adoption to the Interministerial Council, chaired by the Prime Minister, at its meeting on September 3rd, 2015.

### **3. National circumstances**

Algeria is an African and a Mediterranean country covering 2 381 741 km<sup>2</sup>. Like many of the countries in its region, Algeria is affected by desertification and land degradation. Most of the country is arid or semi- arid. The areas receiving more than 400 mm of rain per year are located in a narrow strip along the coast, not-exceeding 150 km large. Moreover, due to climate changes, yearly average rainfall declined by more than 30% over the past decades.

Parallel to the coastline, mountains act as a barrier and accentuate the climate drought towards the south of the country. Anthropic effects aggravate those caused by geographic characteristics. Indeed, 85 % of the Algerian population lives in the northern part of the country. Moreover, land characteristics reduce the possibilities of carbon capture in Algeria, when compared to countries with a large vegetal coverage.

Algeria is facing extreme climate events recrudescence, which accentuates its vulnerability. In addition, the recurrence of drought cycles, with longer durations, accelerates desertification.

In fact, more than 50 million of hectares face highly deteriorated conditions. Rural population -composed mainly of farmers and breeders- is forced into exodus to large cities, for survival. This situation is the direct result of land impoverishment and the decline in water resources.

Important programs were launched by public authorities since the seventies. This includes the realization of a “great green dam”, a forest cover of 1200 km long and 20 km large, on average. This achievement constitutes today one of the great prides of our country and represents a significant carbon sink. Other big projects were also initiated, such the program of pastoral plantation covering thousands of hectares.

With regard to floodings, the country is always facing this phenomenon. Several regions witnessed tragic events resulting in heavy losses human lives and considerable material damages. For example, the 2001 catastrophic floods in Algiers resulted in the death of 715 persons and thousands of disaster victims. The recurrent floods continue to adversely impact public financial resources.

Therefore, Algeria is entitled to benefit from the climate international solidarity arising from the future Paris agreement. It is particularly vulnerable to greenhouse gases accumulation effects, for which it is not in any way responsible, neither in the past, nor today or in the future. Natural gas, a cleaner energy than coal, dominates Algeria's energy mix since decades. In this respect, its proven and possible natural gas resources shall be able to assist its partners to promote the use of this clean source of energy.

Algeria also faces the challenges related to food security, to its ecosystems and agriculture resilience, to major risks and to natural resources scarcity. In addition, it shall satisfy the expanding needs of its growing population, in terms of employment, education, health and housing, while the economic and financial environment is aggravated by the significant drop in oil prices.

It should be noted as well that Algeria is already contributing for several decades in the mitigation efforts through its energy mix, based essentially on natural gas. The development of its electricity generation capacity is largely based on combined-cycle power plants. A hybrid power plant, combining solar energy and natural gas, is already operational. Besides, Algeria's efforts to reduce gas flaring emissions are to be pursued and sustained.

#### **4. Mitigation Measures**

Algeria's mitigation strategy covers mainly energy, forests, housing, transport, industry and waste sectors. It is based in particular on the national programs for renewable energy and energy efficiency. This reflects its willingness to pursue its efforts in combating the adverse impacts of climate change. Such programs shall be pursued and sustained so long as Algeria benefits from international support in terms of new and external financial resources, and technology transfer, and capacity building.

Algeria's contribution in mitigation is based on the three most important greenhouse gases: carbon dioxide gas (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O).

At the meeting held on May 24<sup>th</sup>, 2015, under the chairmanship of His Excellency President of the Republic Mr. Abdelaziz BOUTEFLIKA, the Council of Ministers adopted the new national programs for renewable energy and energy efficiency.

These ambitious programs aim at reducing by 9% the global consumption of energy by 2030. It aims to engage thermal insulation of an important housing program, as well as to convert to LPG a million of light-duty vehicles and more than 20.000 buses.

By 2030, it aspires to the deployment, on a large scale, of photovoltaic and wind power as well as thermal solar energy, and the integration of cogeneration, biomass and geothermal energy. This program ultimately aims to reach the target that 27% of the electricity produced nationally is derived from renewable sources of energy.

In fact, Algeria, being the largest country in Africa, in the Mediterranean and in the Arab world, has one of the highest solar deposits in the world, estimated to exceed five billion GWh/yr. The annual sunshine duration is estimated to be around 2 500 hours on average, and could exceed 3 600 hours in some parts of the country.

In addition to its 200 thermal cities, Algeria, the tenth largest country in the world, has a geothermal reservoir composed of Albian groundwater, which extends over 700 000 km<sup>2</sup>.

The action plan of the government aspires also to reduce gas flaring to less than 1%, by 2030.

Regarding methane emissions reduction, Algeria intends to give priority to the management of household solid waste, with the objective to achieve, by 2030, a full coverage of wastes dumps in its territory.

Regarding carbon capture, the country aims to accelerate and intensify its National Reforestation Plan with a global objective of reforestation of 1 245 000 ha.

The mitigation actions to be implemented by Algeria, planned for the 2021-2030 period, will lead to the following contribution:

**Reduction of greenhouse gases emissions by 7% to 22%, by 2030, compared to a business as usual -BAU- scenario, conditional on external support in terms of finance, technology development and transfer, and capacity building. The 7% GHG reduction will be achieved with national means.**

The Algerian contribution regarding mitigation is defined as follows:

<b>Type of INDC:</b> Relative reduction compared to Business as usual (BAU) scenario.
<b>Implementation period:</b> 2021-2030
<b>Methodological approach:</b> combined approach: Bottom-Up concerning sectors and Top-Down concerning national objectives.
<b>Sectors covered:</b> Energy (Generation, Transport, Building and Industry); Industrial processes; Agriculture, Forests, Land use and Waste.

**Estimating GHG emissions:** Directives of IPCC -2006- and Global Warming Potential, as agreed in the IPCC 4<sup>th</sup> Assessment Report on Climate change.

**Coverage of Greenhouse Gases:** Carbon Dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrous Oxide (N<sub>2</sub>O).

**Global Warming Potential (GWP):** the used GWP are those of the IPCC 4<sup>th</sup> Assessment Report: GWP (CO<sub>2</sub>) = 1, GWP (CH<sub>4</sub>)= 25, GWP (N<sub>2</sub>O)= 298.

**Implementation, monitoring and readjustment instruments:**

- National Climate Committee;
- National Climate Change Agency;
- National Climate Plan;
- National Actions Plan for Environment and Sustainable Development ;
- Legal framework;
- National system of Measurement, Reporting and Verification -MRV- (2016-2020).

**Main planned actions:** conditional on support in terms of external finance, technology development and transfer and capacity building.

Operate an energy transition and an economic diversification to achieve Algeria's sustainable development goals.

**Main Actions in Energy Sector:**

- Reach 27% of electricity generated from renewable sources of energy by 2030;
- Generalize high-performance lighting;
- Thermal insulation of buildings between 2021 and 2030;
- Increase the share of liquefied petroleum and natural gas in the consumption of fuels between 2021 and 2030;
- Reduce the volume of gas flaring to less than 1 % by 2030.

**Main Actions in Waste Sector:**

- Waste valorization ;
- Composting organic waste and green waste;
- Energy recovery and recycling of methane from landfill sites and waste water treatment plants.

**Main Actions in forestry Sector:** afforestation, reforestation and prevention of forest fires as well as improving means to fight them.

**Awareness, Information and Education Actions:** Information, awareness and communication on issues and climate change challenges and implementation of an education, training and research climate change national program.

## **Considerations of fairness and ambition of the INDC based on national circumstances**

- Algeria, as a low GHG emitting country, has already invested heavily in adaptation to climate change impacts as well as in mitigation and intends to pursue its efforts in this regard;
- Algeria has been participating since a long period of time in the greenhouse gas mitigation, by virtue of its high share of natural gas in its energy mix;
- The Algerian economy is highly dependent on petroleum export revenues. This situation makes Algeria vulnerable to climate change adverse effects, as well as to the negative impacts of response measures;
- Algeria faces significant and growing development and adaptation needs given its high population growth, increasing demand for energy, goods and services.

## **How INDC will contribute to the accomplishment of article 2 of the Convention on Climate Change**

Through its mitigation actions for by 2030, considering its socio-economic development objectives, and taking into account its national circumstances, Algeria will contribute, on an equitable basis, to the achievement of the objective of article 2 of the Convention.

## **5. Adaptation Measures**

Algeria aims to develop a national plan of adaptation to the impacts of climate change in the context of the finalization of its contribution, and in order to promote a more climate change resilient economy. Priority will be given to the protection of the population and the preservation of natural resources and key infrastructure against the risks of extreme events.

The objective of this national plan is:

- To reinforce the ecosystems resilience (flooding and drought) in order to curtail the risks of natural disasters related to climate change;
- To fight against erosion and rehabilitate its degraded lands as part of the efforts to combat desertification ;
- To integrate the impacts of climate change into sectorial strategies, in particular for agriculture, water management, public health and transport;
- To integrate the impacts of climate change on political stability and national security.

The main adaptation measures to be adopted require diversified international support, including financing, capacity-building and technology transfer. These adaptation measures mentioned in the National Climate Plan are as follows:

- Adapting the institutional and regulatory framework to climate change;
- Reinforcing institutional and human capacities in combating climate change;
- Establishing a monitoring and early warning system and capacity building with regard to extreme climate events management;
- Elaborating regional and local plans for adaptation to climate change.

## **6. Planning and Institutional Framework for Implementation**

The provisional intended and nationally determined contribution will be finalized between 2016 and 2020 under the authority of the National Climate Committee. It will be updated according to the outcomes of the Paris Climate Conference and will take into account the financial situation of Algeria at the moment of its finalization.

It will address quantified greenhouse gas mitigation objectives for the period 2020-2030, using the methodology developed by the Intergovernmental Panel on Climate Change. The contribution will be finalized and implemented with the active participation of all the actors in the society and, in particular, representatives of the civil society, economic actors, representatives of the local authorities and the scientific community.

It will be accompanied by a comprehensive public awareness-raising campaign through the media, schools, companies, local collectivities and mosques. In this regard, forums on cities and climate change will be set up.

Algeria's ambition regarding mitigation and adaptation will be achieved within North-South and South-South cooperation, with its bilateral and multilateral- traditional and new- partners. A group of "Friends of Algeria's Ambition for Adaptation and Mitigation" (G5A), will be established and convene its first meeting on the sidelines of the Paris Conference.

Finally, Algeria aims to establish and host a World Forum on Renewable Energy that will provide the appropriate platform for dialogue and consultation between policy-makers, industry and civil society. The first session of the Forum will be held in 2016. Its outcomes will be presented at the 22<sup>nd</sup> Conference of the Parties.

## **Conclusion**

The ambition of GHG mitigation- shown by Algeria in its provisional INDC- is based on four pillars: an institutional tool represented by the National Climate Change Agency, a mechanism of coordination and monitoring represented by the National Climate Committee, the climate roadmap of Algeria through the National Climate

Plan, and the national MRV system (Measurement, Reporting and Verification) that will be established.

The climate strategy of Algeria is defined in the National Climate Plan. It aims, notably, at reinforcing water resources mobilization, controlling flood, protecting the coastline, combating drought and desertification and increasing the ecosystems and agriculture resilience and facing climate change.

For that purpose, Algeria is committed to finalize and adopt its National Climate Plan before the 21<sup>st</sup> Conference of the Parties.