

Energy transition and technological and regulatory strategies for the deployment of renewable energies in Algeria

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Introduction

Why the Energy Transition?

The reason to engage in Energy Transition from fossils to the Renewables Energies is for improve the Economic and Politic of Energy, moving towards an Energy model that allows satisfying Sustainable, and consume less and better.



Energy Balance Sheet of Algeria

Table. 1. Energy Statistics in Algeria (Million TOE)

YEARS	2001	2006	2011	2015	2016
PRIMARY ENERGY PRODUCTION	147.2	178	157.7	154.9	166.2
NATIONAL ENERGY CONSUMPTION	30.8	37.4	46	58.2	58.3
EXPORTS OF ENERGY	119	100.1	114.1	100.2	110.7
IMPORTS OF ENERGY	0.8	1.7	3	4.7	4.1

Source: Ministère d'énergie et des mines algérie, (MEM), assessed 02/27/2018

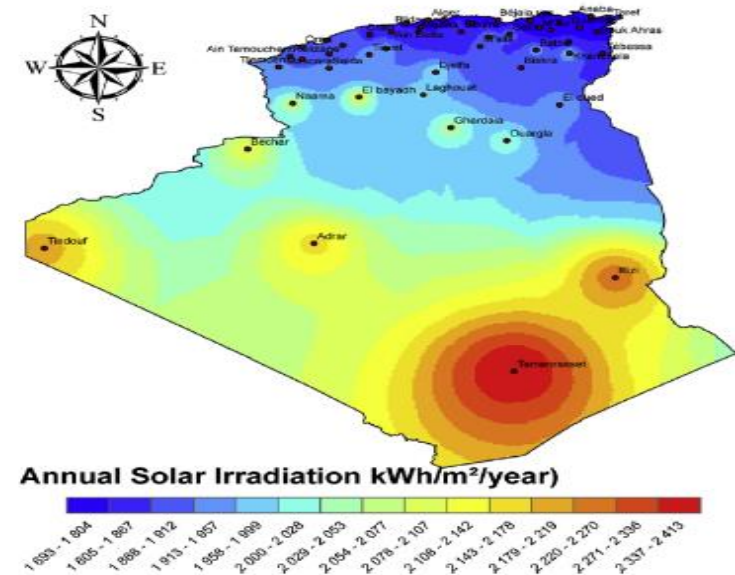
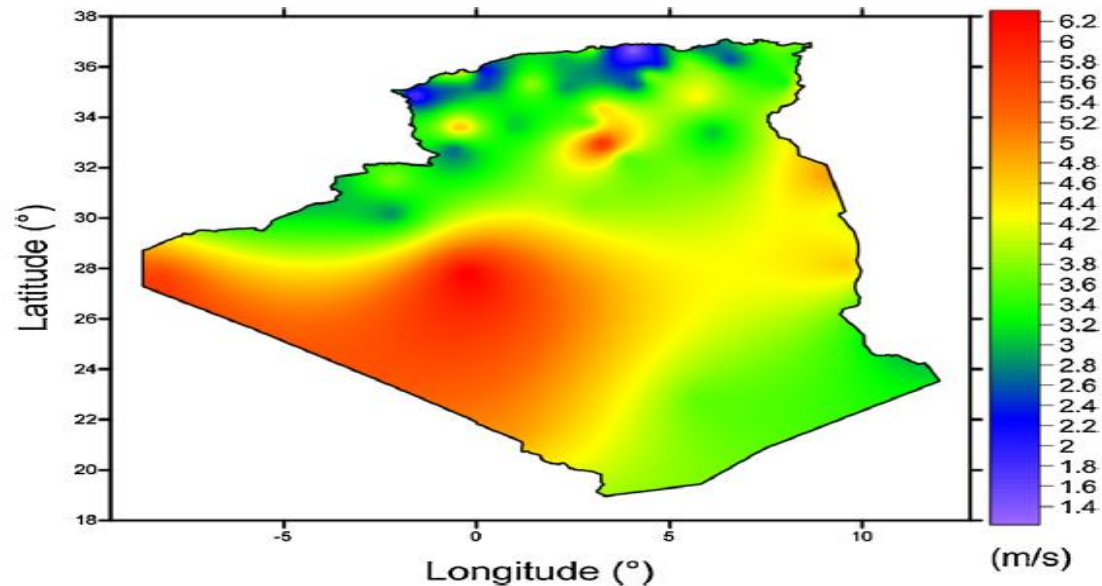


Figure 1. Solar irradiation and the distribution of annual wind speed in Algeria at 10 m height

Source: Rahmouni, S. et al.. (2016). Prospects of hydrogen production potential from renewable resources in Algeria, international journal of hydrogen energy, (1-13). BOUDIA, S. (2013). Optimisation de l'Évaluation Temporelle du Gisement Énergétique Éolien par Simulation Numérique et Contribution à la Réactualisation de l'Atlas des Vents en Algérie. Université de Tlemcen.

Criticism of the national energy program of RE

Table .2. Revised National Program of Renewable Energy from 2014 to 2030

	1ST PHASE 2015-2020 [MW]	2ND PHASE 2021-2030 [MW]	TOTAL [MW]
PHOTOVOLTAIC	3000	10575	13575
WIND	1010	4000	5010
SOLAR THERMAL	-	2000	2000
BIOMASS	150	250	400
COGENERATION	360	640	1000
GEO THERMAL	05	10	15
TOTAL	4525	17475	22000

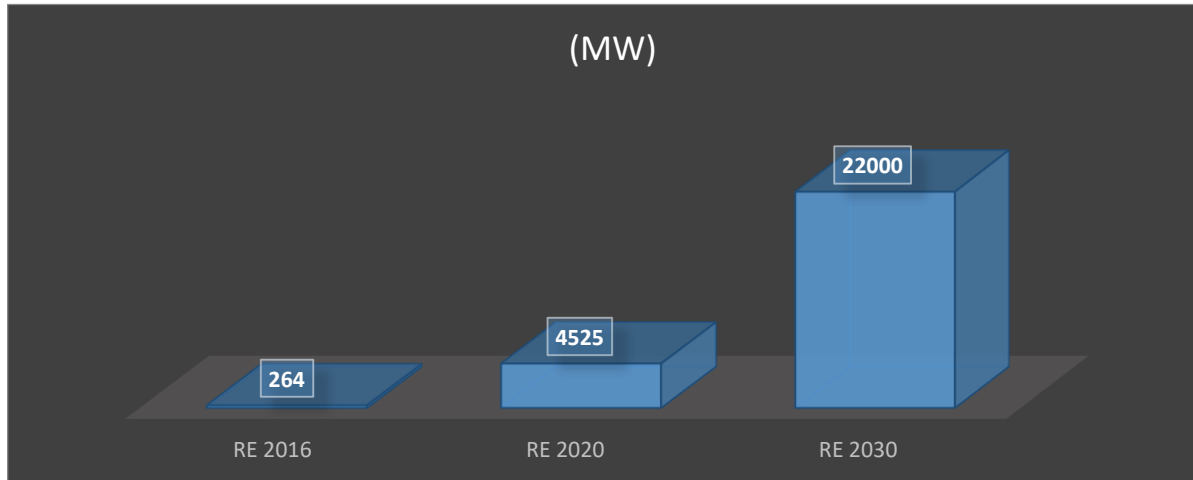


Figure 2. Renewable Energies Targets in Algeria

Source: www.cder.dz, assessed 25/01/2017

Table .3. According (SALAMI, Y., 2017) published by ecology web review in Algeria 2017.

Slice (kWh)	Algeria (Euro)	Morocco (Euro)	Tunisia (Euro)
250 to 500	0,0125	0,064	0,024
> 500	0,028	0,113	0,1

According to (ARH, 2017) (2018) the fuel prices detailed in **Table .4.** below

Type of Fuel	Price in 2015 (Euro)	Price in 2016 (Euro)	Price in 2017 (Euro)	Price in 2018 (Euro)
Normal gasoline	0,15	0,20	0,23	0,28
Super gasoline	0,16	0,22	0,25	0,30
Unleaded gasoline	0,16	0,22	0,25	0,30
Gasoil	0,09	0,13	0,14	0,16
LPG	0,06	0,06	0,06	0,06

Conclusion

- ✓ Algeria has a large reserve of hydrocarbons especially natural gas and oil.
- ✓ There are a huge solar potential able to answer on electricity demand.
- ✓ There are many legal texts support RE development especially the ambitious programs for rational use to fossil fuels and develop RE.
- ✓ Many barriers as subsidy government to energy prices, ignore energy efficiency in building sector and bring industries different on what is mention in program like car factories.