



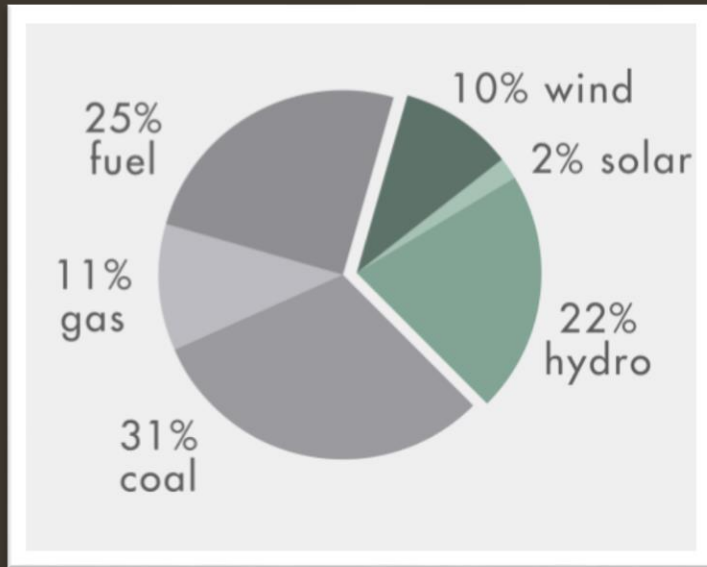
100% Renewable Energy in Morocco

The importance of getting the policies right

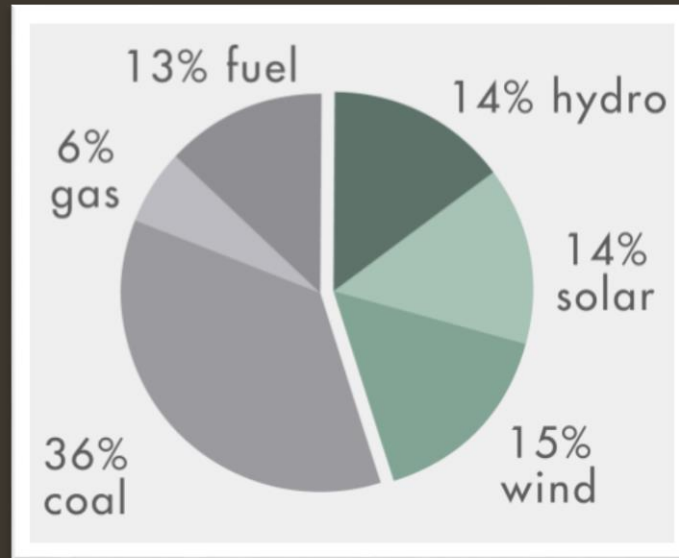
Irene García, Policy Officer Climate, Energy and Cities, World Future Council



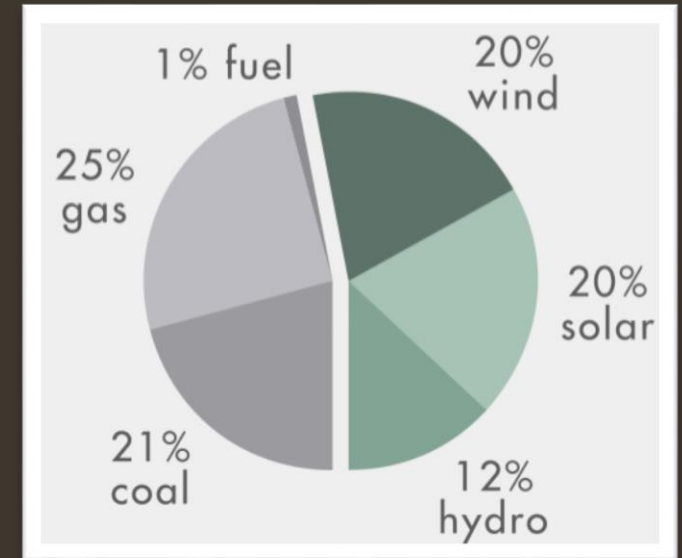
Morocco is part of the list of countries joining the RE club



2015



2020



2030

Axes for RE deployment in Morocco



LEGAL FRAMEWORK

RE is the subject of a diversified portfolio for solar, wind and hydro anchored in a legislative framework, notably Law n° 13-09, promulgated in 2010 to liberalise and develop the RE sector in Morocco.



INSTITUTIONAL BUILDING

The progressive liberalisation of the energy sector has been accompanied by the establishment of institutions to take up the challenges of the energy transition, amongst which: MASEN, ADEREE, SIE, IRESEN



SUBSIDIES REFORM

In 2013, the government of Morocco announced the reform of fossil fuel subsidies. Since 1st December 2015, the prices of fuels obey the free play of supply and demand. Only the price of butane continues to be subsidised.

Renewables as a key development vector in Morocco

SOCIO-ECONOMIC BENEFITS



WIND PROJECTS CAN
SAVE \$750mil.
& **5.6mil. tn.**
EMMISSIONS A YEAR



SOLAR PROJECTS WILL
SAVE \$500mil.
AND **3.7mil. tn.**
EMMISSIONS A YEAR

THE 850MW WIND ENERGY
PROJECT FORESEES A
**70% INDUSTRIAL
INTEGRATION**



**+13,300
JOBS**
BY 2020

NEVERTHELESS, MOROCCO MUST GO FURTHER AND FASTER TO:

COPE WITH GROWING ELECTRICITY DEMAND
INCREASING AT AN ANNUAL RATE
OF 6.6% IN THE LAST TEN YEARS

FIGHT CLIMATE CHANGE
ITS TEMPERATURES WILL INCREASE BY 0.5 TO 1°C
BY 2020 AND BY 1 TO 1.5°C BY 2050 AND 2080

END FOSSIL FUEL DEPENDENCE
95% OF ITS CONSUMPTION IS IMPORTED, TAKING
10-12% OF GDP FROM THE NATIONAL BUDGET

CAPITALISE ITS RE POTENTIAL
SOLAR RESOURCES ARE EQUIVALENT TO
20,000MW AND WIND POTENTIAL TO 25,000MW

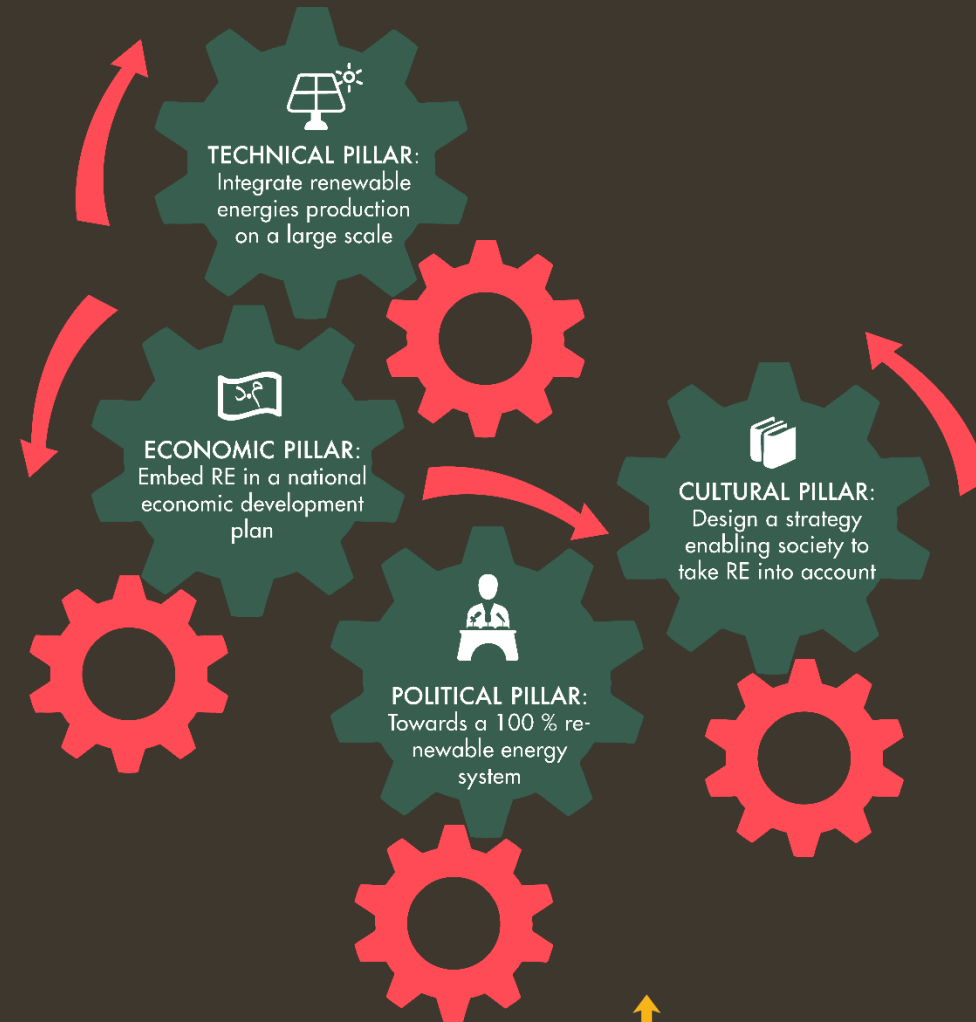
The GOOD NEWS: wind and solar energy is already competitive in Morocco!

Renewable Energy projects	Installed capacity	Per KWH price in electricity purchase contract	Developer
Taza wind park	150 MW	0,57 Dh (0,05 US\$) / KWh	EDF/MITSUI
Tarfaya wind park	301 MW	0,72 Dh (0,07 US\$ / KWh)	Nareva-Engie
Integrated wind project	850 MW	0,31 Dh (0,03 US\$ / KWh)	Nareva-Siemens Enel Green Power
Noor O I csp	160 MW	1,5 Dh (0,15 US\$ / KWh)	Acwa Power
Noor O II csp	200 MW	1,4 Dh (0,14 US\$ / KWh)	Acwa Power
Noor O III csp	150 MW	1,4 Dh (0,14 US\$ / KWh)	Acwa Power

How can Morocco unlock its full potential and achieve its pledge of going 100%RE?



A roadmap to 100% RE in Morocco



Political Pillar: Towards 100% RE system

- Favour the emergence of local projects
- Formulate transparent, non-discriminatory and stable directives for access to the network
- Ensure participation of self-producers in renewable energies-based electricity production
- Build horizontal and vertical alliances with RE stakeholders

Economic Pillar: Embed RE in a national economic development plan

- Support the involvement of small and medium sized renewable energy projects in the energy transition
- Put in place measures inciting investments in RE
- Open the renewable energy market to competition
- Set a time limit on every type of fossil fuel subsidy

Technical Pillar: Integrate renewable energies production on a large scale

- Extend and improve grid infrastructure
- Balance the variable share of renewable energies
- Extend renewable energies to the heating/cooling and transport sectors
- Strengthen renewable energy expertise and technical training

Cultural Pillar: Design a strategy enabling society to take RE into account

- Strengthen understanding on what going towards a 100% RE system mean
- Develop the social dimension within the energy transition framework
- Provide for awareness raising campaigns

Thank you for your attention!

For further information, please read:

“A roadmap for 100% Renewable in Morocco”,

“Feuille de route pour un Maroc 100% énergie renouvelable”

World Future Council (2016)

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