



100% Renewable Energy in Morocco

The importance of getting the policies right

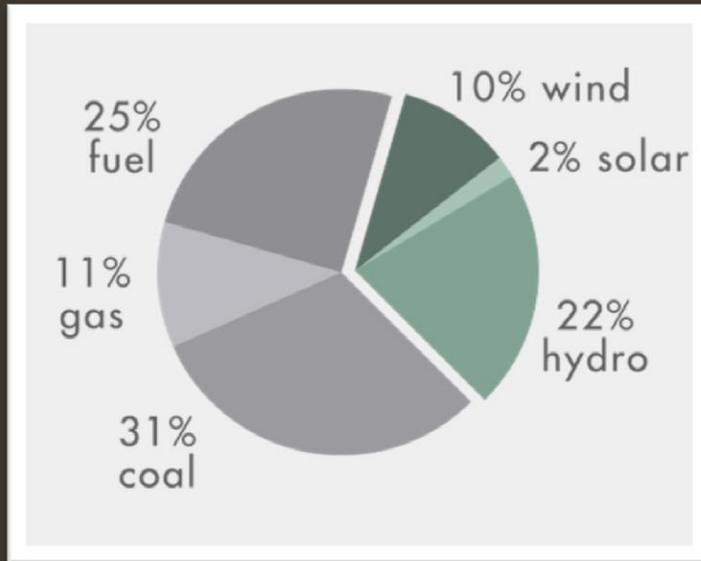
Irene Garcia, Policy Officer Climate, Energy and Cities, World Future Council
Smart City Expo Casablanca, May 18-19, 2016



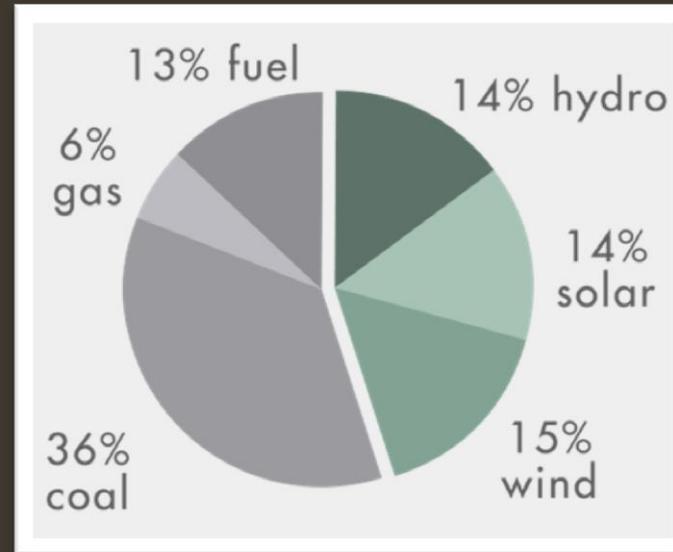
100% RE: A reality today



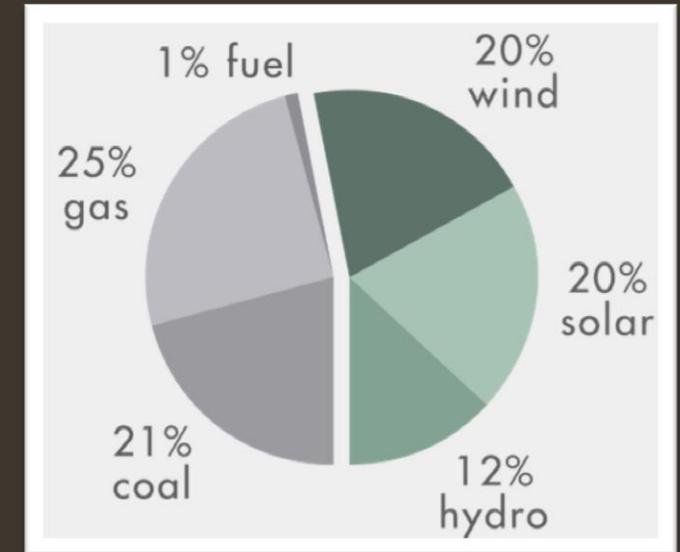
Morocco is part of the list of countries joining the RE club



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

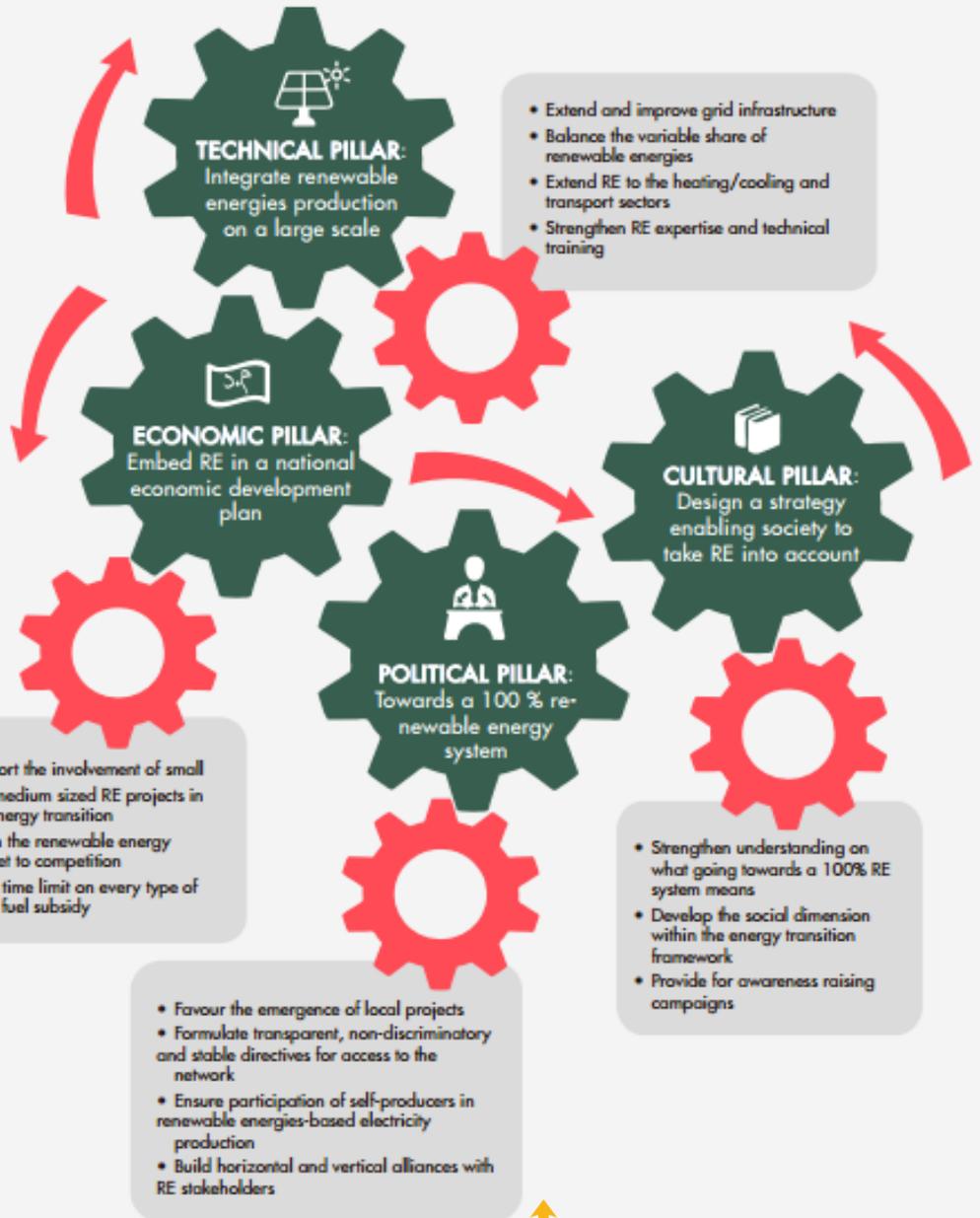
CAPITALISE ITS RE POTENTIAL
SOLAR RESOURCES ARE EQUIVALENT TO
20,000MW AND WIND POTENTIAL TO 25,000MW

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 |

What's keeping Morocco from going 100% RE?





Thank you for your attention!

For further information, please read:
“A roadmap for 100% Renewable in Morocco”,
World Future Council (2016)

Contact information: Irene García (Policy Officer Climate,
Energy and Cities, World Future Council)
irene.garcia@worldfuturecouncil.org

