

A Euro-Mediterranean Solar Plan and the New Deal

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The WALLE SAHARIAN Programme & the New Numedia project



A Euro-Mediterranean New Deal, based on solar energy development

1- A project for sustainable energy and economic development, answering to the requirements of Algeria's national development to:

- Return the country at the level of development of the Euro-Mediterranean region
- End the economic dependence on hydrocarbons, and contribute to lower regional CO₂ emissions

2- A precise project which can be integrated in the solar plan of *Union for the Mediterranean* (UpM)

3- A template for an international “sectoral approach” based on solar energy?

The need for a New Deal

- Algeria, Morocco, Tunisia suffer from:
 - Ailing economies
 - Inadequate human resources
- Algeria may be the only country with financial ease.
- Radical change is needed in the region's energy and economic development.
 - The UpM could be the basis of this New Deal.
- **New Numedia**: a pragmatic first step as proof of concept, based on sustainable, and high-value added development choices, including solar power



Gibraltar

El-Jazair (Alger)

72°F / 22°C

Tanger

Mer d'Alborán

73°F / 23°C

70°F / 21°C

Tunisie

72°F / 22°C

72°F / 22°C

60°F / 16°C

73°F / 23°C

77°F / 25°C

73°F / 23°C

Maroc

79°F / 26°C

71°F / 22°C

73°F / 23°C

75°F / 24°C

77°F / 25°C

86°F / 30°C

93°F / 34°C



90°F / 32°C

Adrar

95°F / 35°C

Tamanrasset

91°F / 33°C

97°F / 36°C

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Altitude 1865.77 km

27°32'22.03"N 1°28'31.05"E

The solar energy potential of Algeria

And this project

- The solar energy potential in figures:
 - Thermal solar energy of Algeria = 10 times the world's annual energy consumption
- This project envisions development of concentrated solar power on very large scale: 26 000 MW
- Potential exports to the Europe Union by 2025:
 - 24 000 MW, equivalent to:
 - 50 billion cubic meters of gas or
 - 15 nuclear EPR reactors
- A contribution to the renewable energy goals of the European Union?



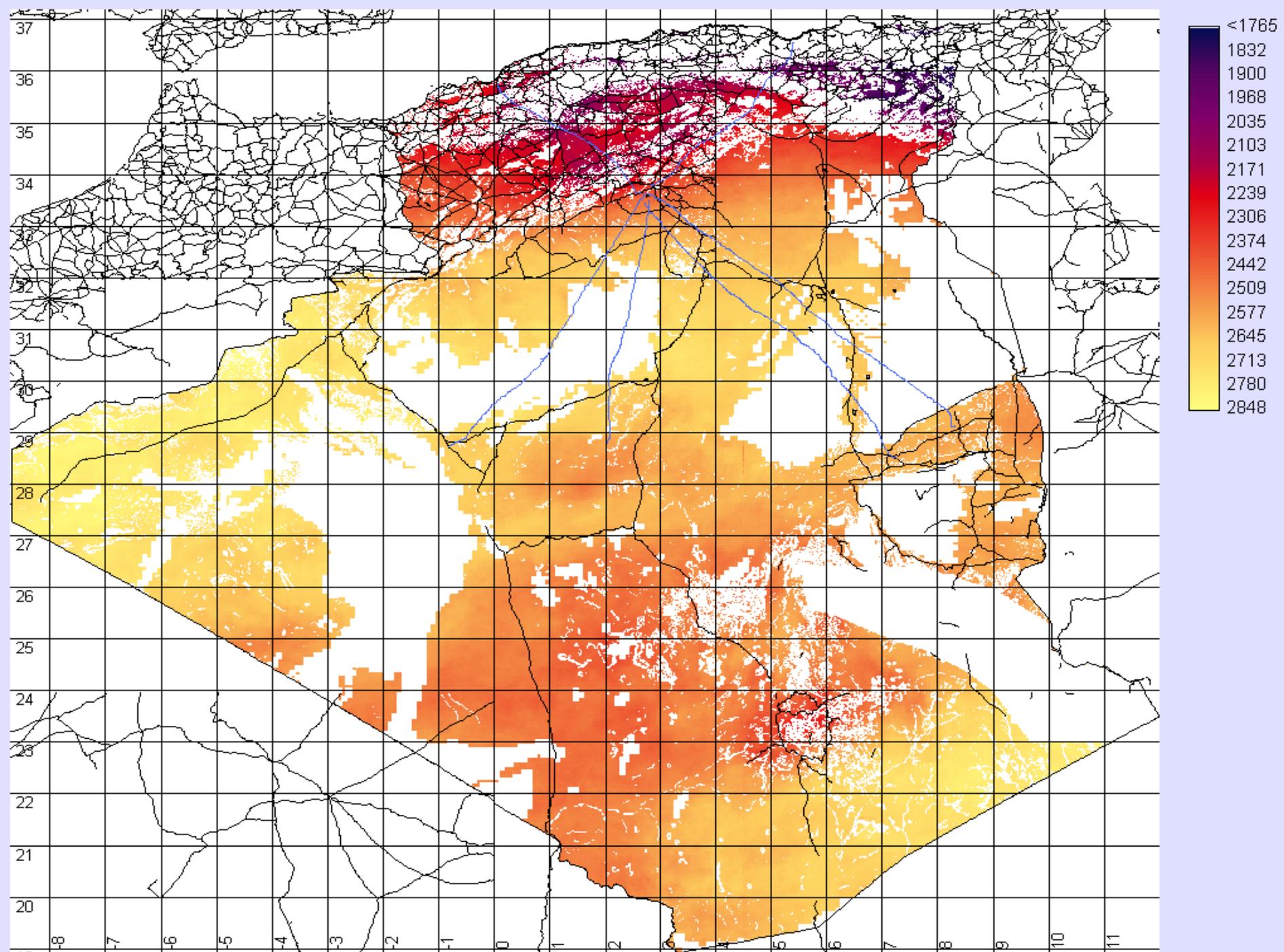
- Ultimate goal: transform 1800 Km of a desert band into an oasis, with the integrated development of:
 - Energy resources / solar industry / solar technology research and development centers
 - Water supply (desalination)
 - Agriculture
 - Tourism

The New Numedia project

- The project foresees the realization of the necessary infrastructures to transform the region of Souff, following a Californian model.
- First phase:
 - Electricity produced by a solar power station (800 MW), complemented by natural gas (80%/20%)
- Aiming for 6000 MW of solar power
- Two water sources, including project of desalination of 500 000m³/day from a sea water line of 350 Km

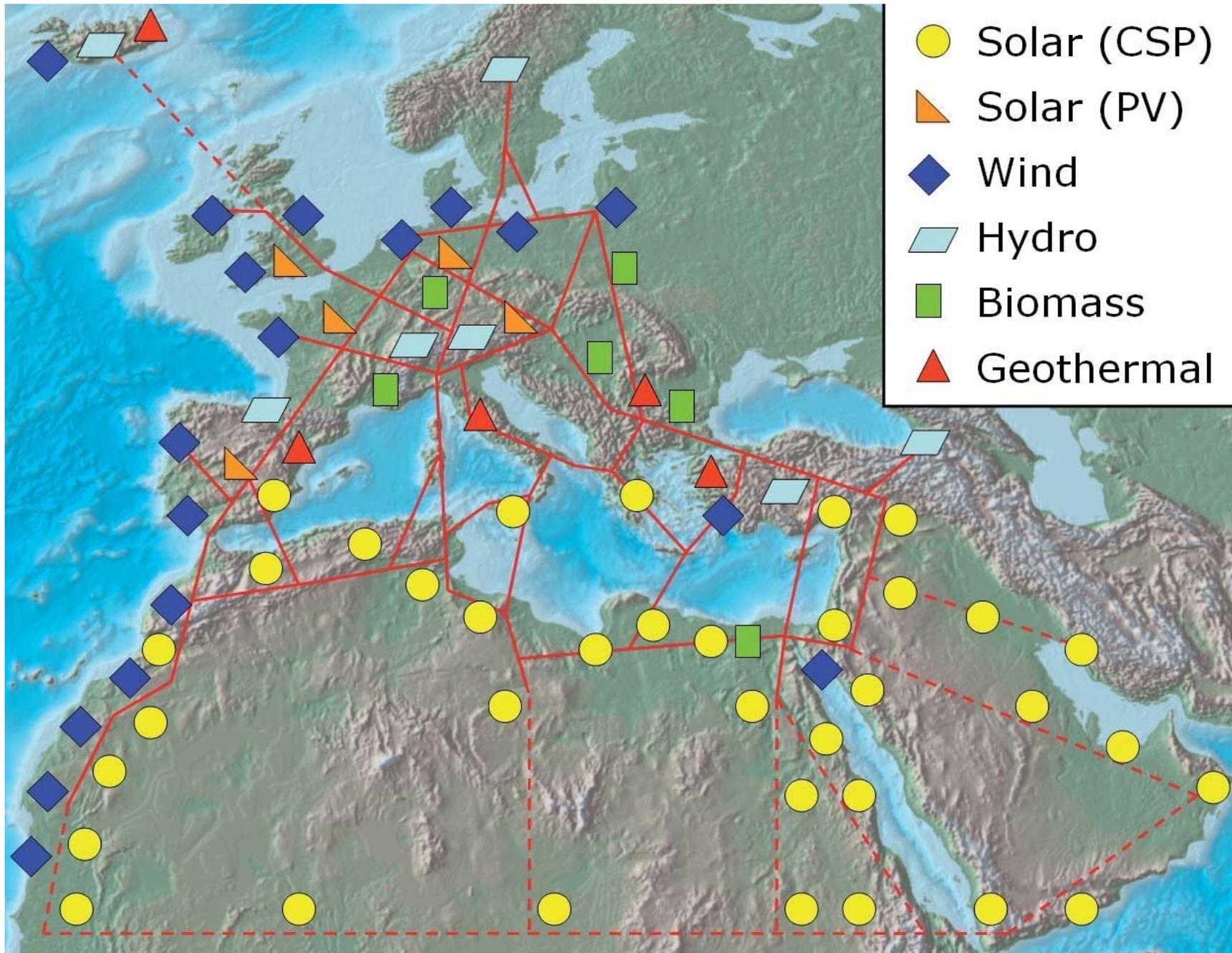
Necessary resources

- The required resources to move this programme forward are:
 - Human resources
 - Need to train professionals, which could be achieved through international cooperation
 - Finance for major infrastructures
 - Including: solar power capacity, transmission lines
 - Mobilising financial resources has just become more complex, including in Algeria



Financing

- The financing remains the major constraint, and will require tapping in several potentials:
 - Necessary to support small and medium enterprises that must be engaged in the project development
 - Venture capital to leverage finance, could be shared by national Treasuries of host countries and European Investment Bank, to minimise financial costs.
 - Project finance following a BOOT model (Build-Own-Operate-Transfer)
 - Major infrastructure development
 - EIB and Treasuries with zero interest rate
- Revenues
 - European support schemes for renewable energy – for exports
 - Export sales
 - International carbon market: 50 million tCO₂ avoided per year
 - Eligible for CDM or broader sectoral trading mechanism?
- Feasibility study to be financed by the UpM programme



Benefits to Europe:

A source of sustainable energy supply

- The high voltage direct current transmission network to Europe would offer:
 - Security of supply and enhanced reliability of the European network with a potential of 24 000 MW of additional capacity
 - A steady source of supply from thermal solar energy, superior to intermittent renewable sources
 - A resource with a stable supply price

Challenges ahead

- Support measures to renewable energy imports:
 - the European Union should confirm the incentive measures granted to the production of renewable electricity for the solar power imported by the Maghreb case by case.
- Provide access to the European market for the solar power produced in Maghreb.
- Financing (see above)
 - Role of the carbon market in a new climate change regime
 - Could portions of this project be eligible to carbon finance?

Conclusion: a sectoral approach to solar power development in Maghreb

- This project aims to pave the way for a new economic profile for the Maghreb region, based on a domestic, widely available and sustainable resource: solar.
- At scale, it could represent a significant reduction in the CO₂ footprint of the region – and of Europe.
- It envisions broad international cooperation to succeed, including via UpM
- It could rely on Clean Development Mechanism or other carbon market options
- But it will also rely on support to renewable energy in Europe, for exports
- Needs to address a number of challenges:
 - Finance
 - Securing access to European's electricity grid
 - Ensuring financing through Europe's renewable energy incentives – which vary country by country...
 - Capacity building (human resources)
- This project will allow to translate in the facts the political wills of fair partnership between the two banks of the Mediterranean