

Towards an accelerated energy transition in Mediterranean region

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At the half-way point between COP21 in Paris and COP22 in Marrakesh, and two months from MedCOP Climate in Tangiers, the 4th MEDENER Conference held in Algiers on 25th May, 2016, marked out the route to be followed for the Mediterranean to engage in energy transition.

This resource-rich region suffers however from a poor integration of its energy facilities and is facing a rise in demand for electricity.

Three hundred participants listened to the debates on the theme "Accelerating energy transition in the Mediterranean – Towards a new sustainable energy mix", an update on the urgency for energy transition and a reminder of how energy transition and energy efficiency complement each other.



Ahmed Messili,
secretary general
of the Ministry of
Energy (Algeria)



Bruno Lechevin
chairman of the
ADEME



Hassen El Agrebi
of the secretarial
department of the
presidency MEDENER



Houda Ben-Jannet
Allal, DG of the OME



Tudor Constantinescu
Managing director to
the head office (EC)



Chems Eddine Chitour
of the Polytechnic
School of Algiers

"Only efficient, balanced, regional cooperation can bring sustainable regional development." In opening the 4th MEDENER International Conference, held in Algiers on 25th May, 2016, **Ahmed Messili** called energy transition "an economic challenge the Southern Mediterranean countries have to overcome." For the secretary general of the Algerian Ministry of Energy, *"They must acquire clean technologies through knowledge and technology transfers."*

Tudor Constantinescu, principal adviser to the Director General for Energy in the European Commission, also wants Mediterranean countries to *"better promote new technologies, a key factor in the renewable energy sector and in energy efficiency."* All this requires exchanges and collaboration between universities and research centres in the Mediterranean Basin. *"It is a win-win partnership. Our success in seeing this huge project through relies on us communicating and bringing all the stakeholders into play, including civil society,"* points out Ahmed Messili.

The members of the MEDENER, an association bringing together national agencies for energy efficiency and renewable energies from the Mediterranean region, and the co-organizer, the Algerian Agency for the Promotion and Reorganization of Energy Use (APRUE), put the accent on the urgent need to provide answers at a time when $\frac{3}{4}$ of the energy used in Mediterranean countries comes from hydrocarbon fuels.

Specific answers required for the Mediterranean

"A common and visionary policy is needed. The energy transition scenario for the Mediterranean Basin must be implemented," underlines **Hassen El Agrebi**, of the secretarial department of the presidency MEDENER. His call is echoed by **Bruno Lechevin**, chairman of the French Environment and Energy Management Agency (ADEME) who adds, *"Energy transition is under way, but we need to speed it up, act quickly and in concert through close regional cooperation."* He also calls for the *"development of tools to assess what needs to be done"*, mentioning in particular the **2040 scenario** for energy transition in the Mediterranean published by the MEDENER (see p.4) and the Mediterranean Observatory for Energy (OME), with the support of the ADEME.

For **Jorge Borrego** (see p.6), secretary general in charge of energy and climate action at

the Union for the Mediterranean (UfM), *"The Mediterranean is an ecosystem. It requires specific solutions. It still faces numerous challenges but it provides huge opportunities."*

"Northern countries must support the southern countries"

"Energy efficiency and renewable energies are the two pillars supporting energy transition," says Ahmed Messili, for whom *"the time now is for action. Algeria has begun the energy transition process, which is no passing fad. Energy resource diversification is a strategic option and a major concern."* By 2030, Algeria expects to see a 10 % reduction in the demand for energy and an output of 22 GW, of which 60 % will be solar.

For **Prof. Chems Eddin Chitour** of the École Nationale Polytechnique d'Alger, *"The fall in the price of oil is a blessing. We must now consume less and consume better. The northern countries must support the southern countries. The South has the potential, the North the know-how."*

"Energy efficiency is an opportunity more than a constraint. The cheapest electricity is the electricity we don't use!" remarks **Kawther Lahidheb**, expert at MED-ENEC (a regional project funded by the European Union aimed at increasing energy efficiency and the use of renewable energies in buildings in southern and eastern Mediterranean countries). She maintains that the measures required are just plain common sense: reducing thermal loads, optimizing "natural" energy savings (orientation and type of renewable energies), encouraging the use of energy-efficient equipment, minimizing the impact of buildings on the urban environment and stepping up controls using automation technologies in buildings.

Houda Ben-Jannet Allal, director-general of the Mediterranean Observatory for Energy (OME), notes that, presently, *"the Mediterranean is not the most dynamic region when it comes to renewable energy. Most of the growth can be seen on the northern rim of the Mediterranean and in Turkey,"* while recognizing that there are *"encouraging signs that could herald a better future."* Indeed, one piece of data does stand out : in 2016, for the first time, renewable energies are expected to overtake gas as the main energy source for electricity production.



Nadia Chioukh
representative of
the Aprue

The Algiers Declaration

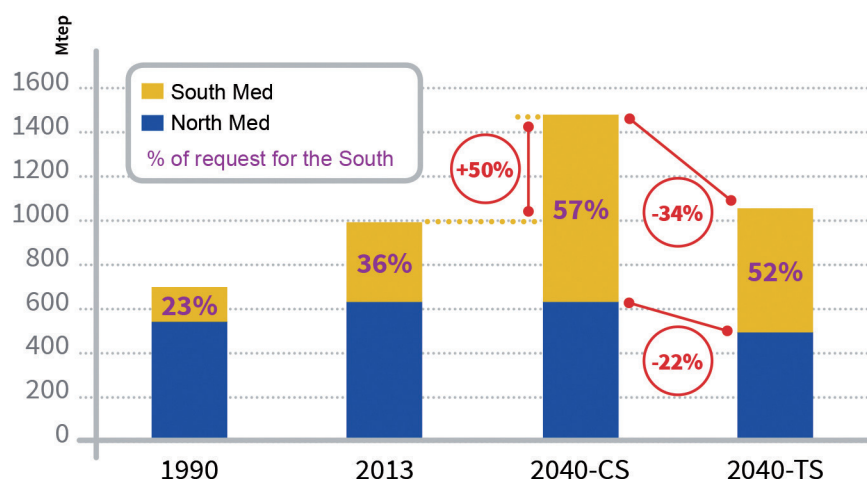
At the close of the 4th MEDENER International Conference in Algiers, the participants issued a declaration in which they :

- Recognize the urgent need to accelerate energy efficiency policy moves and the promotion of renewable energy sources in the Mediterranean countries' energy mix in order to speed up the energy transition process in the region ;
- Acknowledge the role of local authorities on the path towards energy transition, recognized in the Covenant of Mayors, and their close cooperation with energy agencies in responding to the latter's' needs for strategic and technical support, expertise and exchange of best practices at the regional level ;
- Underline the urgency of moving forward quickly on the official launch of the Mediterranean Platform for Renewable Energy and Energy Efficiency and urge the Union for the Mediterranean's secretariat to assemble a group of energy experts to oversee the harmonization and coordination of the three themed platforms' work ;
- Invite countries who are members of the Union for the Mediterranean process to contribute to drawing up action plans for each of the three themed platforms, with a view to identifying concrete partnership projects, and to monitoring their progress ;
- Underline the need for better coordination in regional technical assistance projects to capitalize upon their results and foster the transfer of skills and the dissemination of best practices and to create an environment that will boost investment in energy transition ;
- Insist on the importance of national contributions at COP21 in achieving the goals for energy transition, the implementation of which is due to be reiterated at COP22, for which MEDCOP22 will be a key milestone for the Euro-Mediterranean region.

The ideal 2040 scenario would see a 30 % reduction in demand for primary energy

The report on energy transition in the Mediterranean in 2040, published by the MEDENER and the OME with support from the ADEME, highlights the gap between the inertia and transition scenarios. A combination of energy efficiency and energy transition would increase the share of renewable energies in the region's energy mix to 27 %.

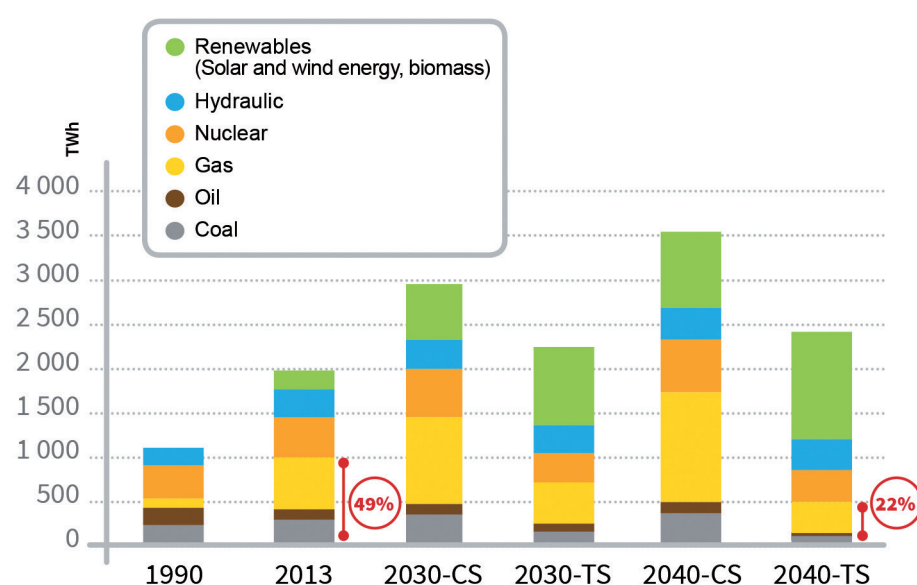
FIGURE-1 MEDITERRANEAN PRIMARY ENERGY DEMAND BY REGION



Note: CS = Conservative Scenario; TS = Energy Transition Scenario

Source: MEDENER/OME, 2015.

FIGURE-2 ENERGY CONSUMPTION BY FUEL AND BY REGION



Note: CS = Conservative Scenario; TS = Energy Transition Scenario

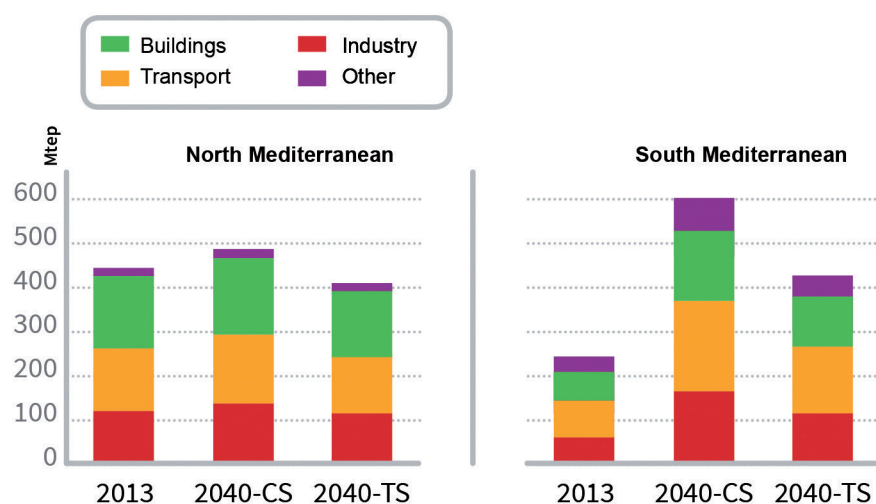
Source: MEDENER/OME, 2015.

By 2040, the Mediterranean region will need to have overcome challenges in three key areas : demographics, with at least a doubling of its urban population; energy, with a 60 % rise in demand and climate change, with greenhouse gas emissions increasing by around 50 %.

In its report "Energy Transition in the Mediterranean – 2040 Scenario" published in May, 2016, the Mediterranean Association of National Agencies for Energy Conservation (MEDENER), Mediterranean Observatory for Energy (OME) and the French Environment and Energy Management Agency (ADEME) presented two scenarios : the inertia or "do-nothing" scenario and the energy transition scenario. The latter is based on the premise that all the official programmes and schemes announced by governments relating to sustainable energy policy development, in the form of plans or projects, are indeed put in place.

The gulf between the two scenarios (fig.1 and 2) is huge, with a 50 % rise in demand for primary energy in the former and only 7 % in the latter. By 2040, the ideal scenario would translate into a 30 % reduction in primary energy demand and a 23 % drop in final consumption. It also forecasts a 27 % increase in the share of renewable energies in the region's energy mix, making renewables the main energy source for electricity production. This scenario also obviates additional infrastructure to produce 200 GW from fossil fuels and provides for a 38 % reduction in CO₂ emissions.

FIGURE-3 ENERGY CONSUMPTION BY SECTOR AND BY REGION



Note: CS = Conservative Scenario; TS = Energy Transition Scenario
Source: MEDENER/OME, 2015.

Construction – A key factor in accelerating energy transition in the Mediterranean

The disparities between north and south remain significant however. Thus, in 2040, the **share of renewable energies** in the energy mix in the Northern and Southern Mediterranean would reach 23 % and 7 % respectively in the “do-nothing” scenario and 39 % and 16 % in the energy transition scenario.

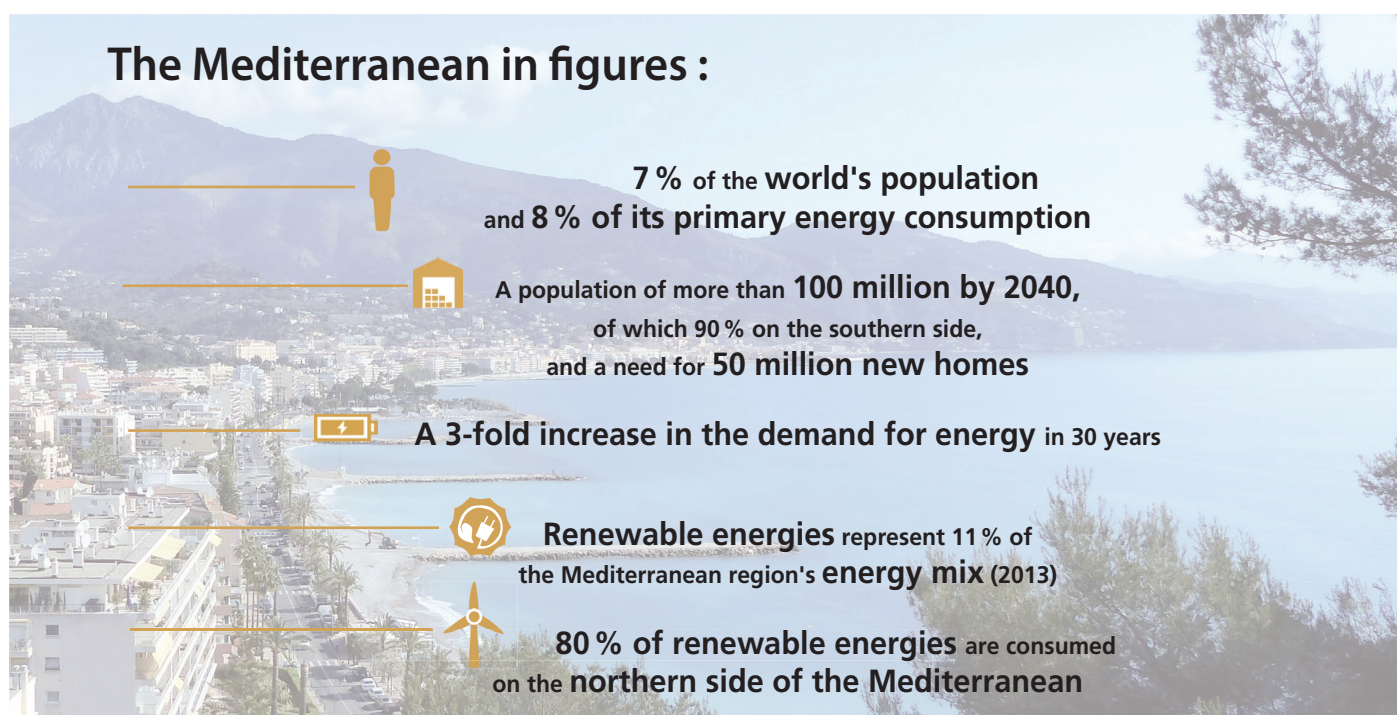
In the energy transition scenario, renewable energy development will need to go hand-in-hand with **energy efficiency** (fig.3). In the Mediterranean today, the construction industry represents 35 % of final consumption (24 % for residential construction alone) and thus a vital lever. According to projections, and with a forecast need for 50 million additional buildings in the Mediterranean between now and 2040, there is a potential energy saving of 40 % in new buildings. Electricity saving is a major challenge in the region. Air

conditioning, although sparsely used, is nonetheless responsible for the surge in electricity demand. The most suitable solution calls for a limit on buildings' thermal needs coupled with the installation of efficient air conditioning equipment. Furthermore, renewable energies could cover almost $\frac{2}{3}$ of electricity generation by 2040 and 80 % of installed capacity. Already, in 2015, investment in renewable energies overtook investment in gas.

Energy savings are also to be made in the **transport and industrial sectors**. Representing one third of final energy consumption, the transport sector today is 95 % fuelled by petroleum products. Renewing vehicles (especially in the south), applying stricter energy efficiency norms, increasing the share of hybrid and electric vehicles and promoting modal switches for freight and public transport would all contribute to significant energy savings.

Industry, for its part, accounts for 25 % of final consumption. Replacing industrial equipment with more efficient models, ensuring regular maintenance, reducing waste and loss and developing methods to produce energy from waste and renewable sources are all avenues to be explored. Implementing these measures could result in a 15 % saving in electricity consumption by 2030.

The Mediterranean in figures :



“Concerted efforts are still required”

JORGE BORREGO, deputy secretary-general for energy and climate action at the Secretariat of the Union for the Mediterranean (UfM)

How is the idea of energy transition making its way in the Mediterranean Basin ?

Jorge Borrego : We are at a crossroads. A regional posture is beginning to emerge on the question. The Mediterranean countries now recognize that they have to work together on energy management. They understand that efforts -if not joint, then at least concerted- are still required alongside national strategies. This is also true for increasing energy security, which requires networks to be interconnected across the Mediterranean region.

What role does the UfM play in this domain ?

J.B. : The UfM's role is firstly an institutional one. To enhance dialogue and encourage partnerships among the UfM's forty-three member countries, in 2015 we launched **three platforms covering gas, the regional electricity markets and renewable energies and energy efficiency** (see box).

The UfM also identifies and certifies certain projects and initiatives that have a regional impact, enabling them to obtain funds from international financiers more easily. It provides them with a boost by encouraging experience sharing and by providing analysis on these projects that go beyond the field of energy transition, since they impact social matters, employment and economic development.



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Platforms to boost Euro-Mediterranean energy-sector cooperation

The co-presidents (European Union and Jordan) of the Union for the Mediterranean (UfM) have provided for the setting up of three platforms (Gas, Regional Electricity Market (MRE) and Renewable Energy and Energy Efficiency (EREE)) that will facilitate partnerships between the main energy-sector stakeholders concerned and boost cooperation between UfM member states in these fields.

The purpose of the EREE platform, which participants at the 4th MEDENER International Conference want officially launched as quickly as possible, is to promote the progressive deployment of renewable energies and energy efficiency measures. The MEDENER, supported by all the partners, has reiterated its role in the promotion of RE and EE in the Mediterranean region.

The aim is to support economic development in the Mediterranean Basin, while ensuring that its inhabitants and professional sector are provided with secure access to modern, reliable energy services at a reasonable price. The EREE also fits in with the UfM's drive to support the alleviation of and adaptation to the effects of climate change.


Natural gas – An ally in energy transition

“With gas, our energy transition will be a success. Without it, we will fail!” warns **Abdelmajid Attar**, vice-president of the Algerian Gas Industry Association (AIG). Natural gas, which featured at the 4th international conference organized by the MEDENER, does have a case. According to Attar, “Energy transition will be a boon for natural gas and renewable energies will demonstrate its worth. Natural gas will be the renewable energies’ greatest ally in the years to come.” It seems clear that the Mediterranean region will not be swapping hydrocarbon-based fuels for wind turbines and solar panels overnight. “Energy transition cannot be carried out in one go. We will do it in stages,” underlines **Dario Chello**, head of the ENEA (Italian National Agency for New Technologies, Energy and Sustainable Economic Development) office in Brussels.

Of course, in energy transition, there is the word ‘transition’. The Union for the Mediterranean (UfM) has taken this into account by creating three hubs, including one for gas (see box).

The cleanest of non-renewable energy sources

In 2015 already, investment in renewable energies outstripped that in fossil fuels (\$329bn against \$321bn). “This trend will continue,” assures the

 **GAS + OIL + COAL**
25 %
of primary energy production

AIG vice-president. “Consumption of fuel oil will rise, but fossil fuels’ share will stabilize due to the increasing use of renewable energies and, above all, energy saving schemes,” he adds. By 2035, gas + oil + coal will each only represent 25 % of primary energy production.

“Natural gas is the cleanest of the non-renewable energy sources,” insists Abdelmajid Attar. “Gas can compete alongside renewable energies or be used to assist gradual energy transition over a period of several decades. We will not suddenly switch from 80% fossil fuels to a new nuclear or renewable energy model.” For **Abel Enriquez**, EU regulatory affairs manager at ENAGAS (Spain), “Gas is a useful addition to both wind and solar energies, especially when compensating for a lack of wind or sun.”

Moreover, gas pipelines can also be used to transport biogas. “A 48" pipeline can carry as much energy as eight high-voltage power lines at less cost and with less visual impact on the environment,” points out Abel Enriquez.



Abdelmajid Attar,
vice-president of
the AIG

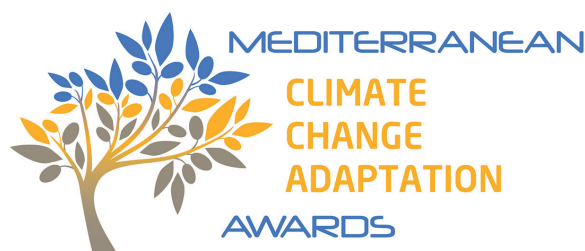


Dario Chello,
head of the ENEA
office in Brussels



Abel Enriquez,
EU regulatory affairs
manager at ENAGAS





ADEME and partners showcase best Mediterranean initiatives for adapting to climate change

The French Environment and Energy Management Agency (ADEME), together with its Mediterranean partners, has launched a **competition to find the best initiatives in the Mediterranean Basin*** for adapting to climate change.

Aimed at local authorities, national energy agencies, NGOs partnering local stakeholders and universities, the competition will reward three projects in one of the chosen fields :

- planning, infrastructure and facilities ;
- ecosystems and natural resources ;
- and methods of design and implementation of government policies.

The application deadline is **16th September, 2016**, with the awards ceremony scheduled two months later at COP 22 in Marrakesh, to which the award-winners will be invited free-of-charge.

The awards partners are :

- the Mediterranean Association of National Agencies for Energy Efficiency and Renewable Energy (MEDENER),
- the Union for the Mediterranean (UfM),
- the Mediterranean Commission of United Cities and Local Governments (CGLU Med),
- Plan Bleu,
- and the Mediterranean Experts on Climate and Environmental Change (MedECC).

** Albania, Algeria, Palestinian Authority, Bosnia-Herzegovina, Cyprus, Croatia, Egypt, Spain, France, Greece, Israel, Italy, Jordan, Lebanon, Libya, Macedonia, Malta, Morocco, Mauritania, Portugal, Slovenia, Syria, Tunisia, Turkey.*

Further information, please contact : trophees.med2016@ademe.fr

On the site : www.ademe.fr/en/mediterranean-climate-change-adaptation-awards

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