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# ENERGY OF THE MEDITERRANEAN

## OPPORTUNITIES TO RESPOND TO THE NEW INTERNATIONAL RELATIONS TRENDS

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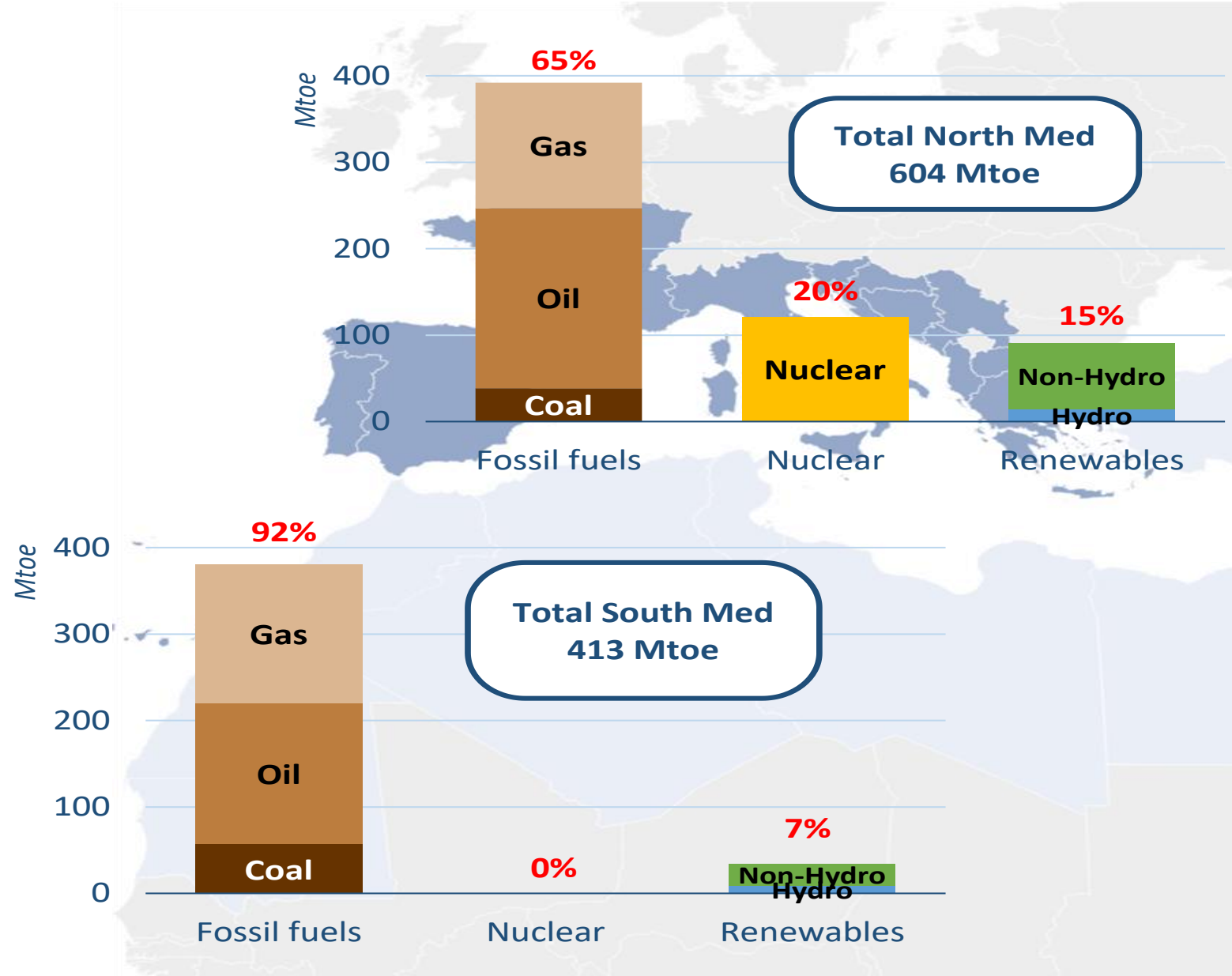
Observatoire Méditerranéen de l'Energie

**Houda Ben Jannet**
**OME**

**22 June 2022**

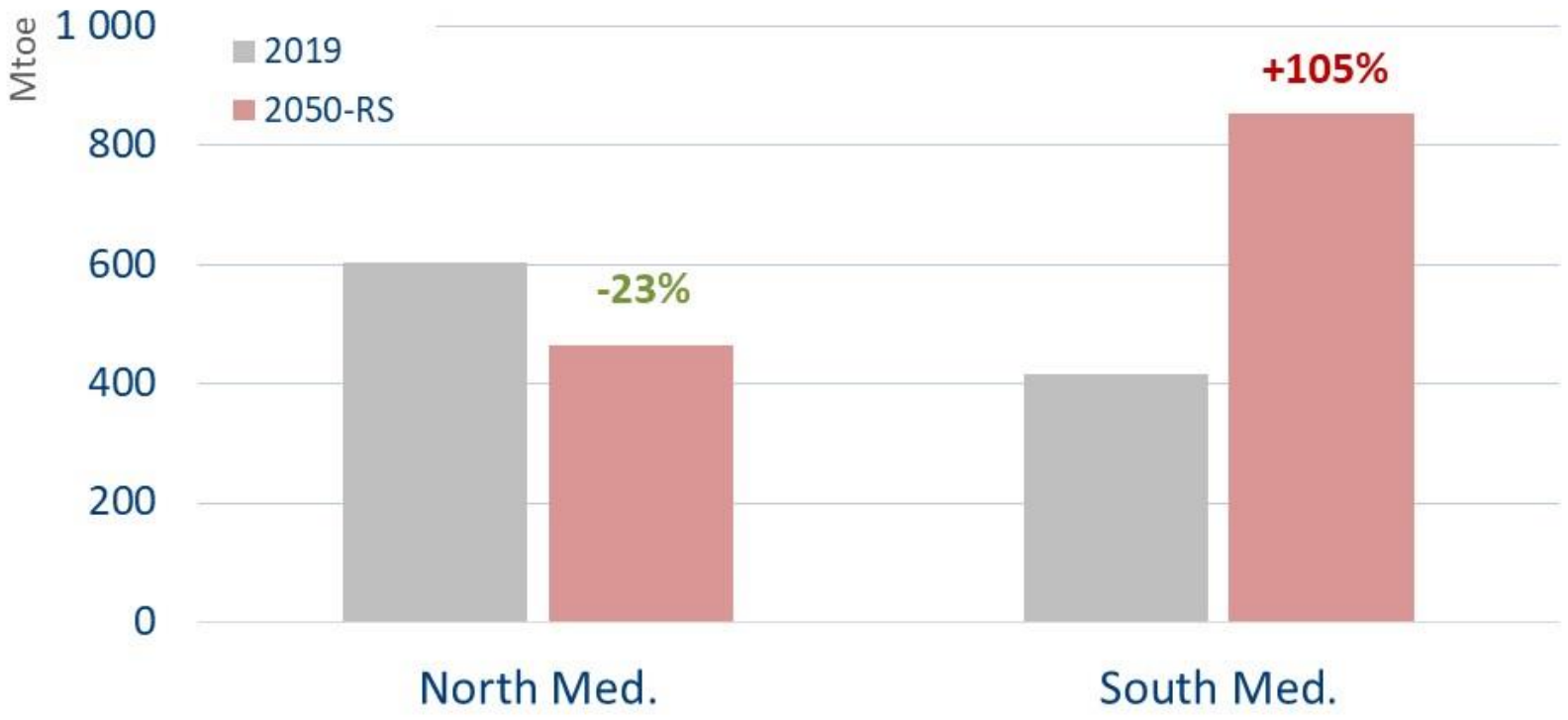
# THE CURRENT MED ENERGY MIX





# ENERGY DEMAND BY REGION






***Despite NDCs in full in the North, demand would increase to over 1300Mtoe by 2050 in the Reference Scenario if the Net-zero carbon targets are not implemented in full.***

***And energy demand would more than double in the South compared to current levels.***

MEP to2050

# THE MEDITERRANEAN AT RISK

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**+20%**
increase in emissions in 2050

$CO_2$

**+20%**
increase in Fossil Fuel Imports by 2050

**+4 trillion**
Investment in energy to 2050

Already
**0.4°C**
increase in seawater temperature (up to +3.5°C by 2100)

**+1.54°C**
**increase in air temperature: above the global average**
(projection in 2040: +2.2°C versus +1.5°C global level)

Low-lying coastal cultural heritage sites are threatened by flooding and erosion

A decrease of
**-0.1**
in the pH of the ocean since the pre-industrial period, and a forecast of -0.4 by 2100

pH

Warming
**20%**
faster than global average

**-30%**
of rainfall in spring/summer by 2080 and +10/20% of heavy rainfall events outside of summer

Increased fire risk through a longer fire season,increasing heatwaves and drought

## Sea level rise

between 0.43 and 2.5 m by 2100, depending on scenarios and projections. Increased risk for the 20 million people living below 5m of current sea level

### Consequences

- heat waves
- coastal erosion
- fires
- invasive species
- acidification of the sea
- floods
- modification of migrations and risk of extinction of certain species
- quality aquaculture fishing
- agriculture production

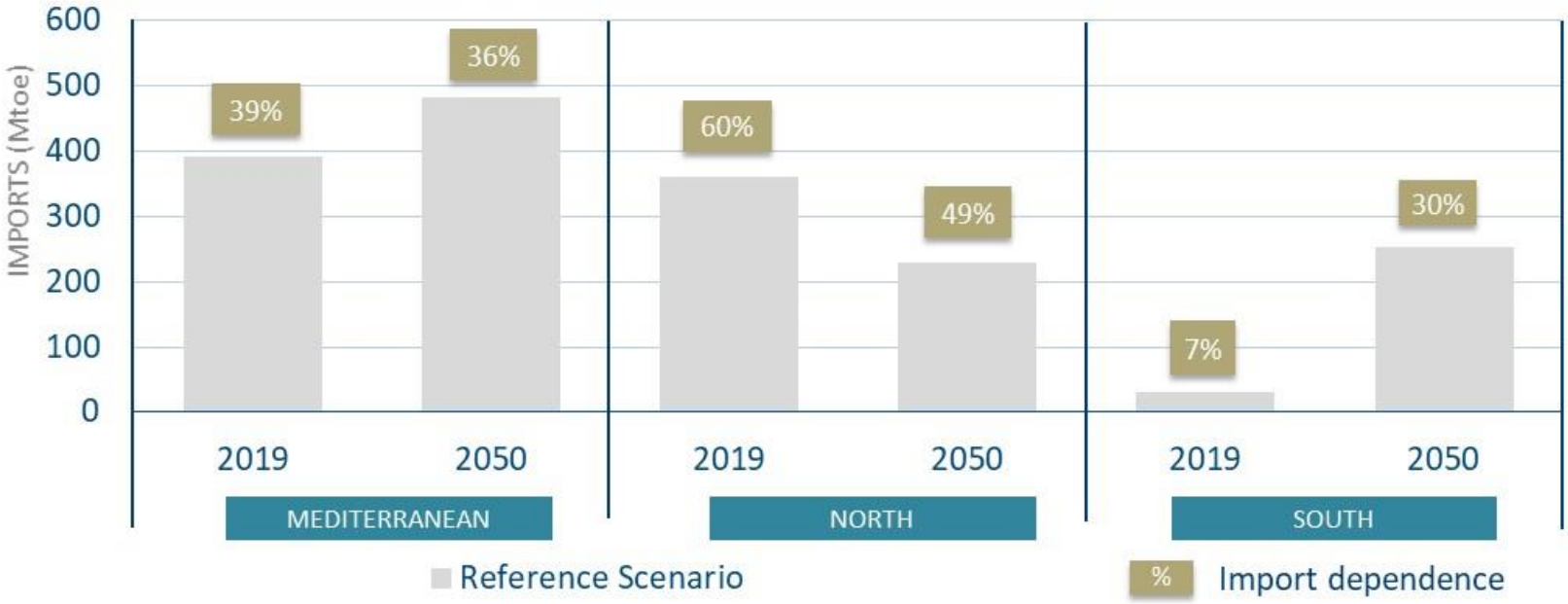
Plan Bleu

Observatoire Méditerranéen de l'Energie

To consult the full report on the State of the Environment and Development in the Mediterranean and its information sources : www.planbleu.org/sced

# ENERGY SECURITY






***It is not only climate change that is at stake but the energy dependence and the strains it already currently poses to the region.***

***While the ratio will remain overall the same in the region the volume of fossil fuel imports will increase. The North will improve its dependence while the South will see it rise at alarming levels.***

MEP to2050

# PATH TO A SUSTAINABLE, SECURE AND AFFORDABLE FUTURE

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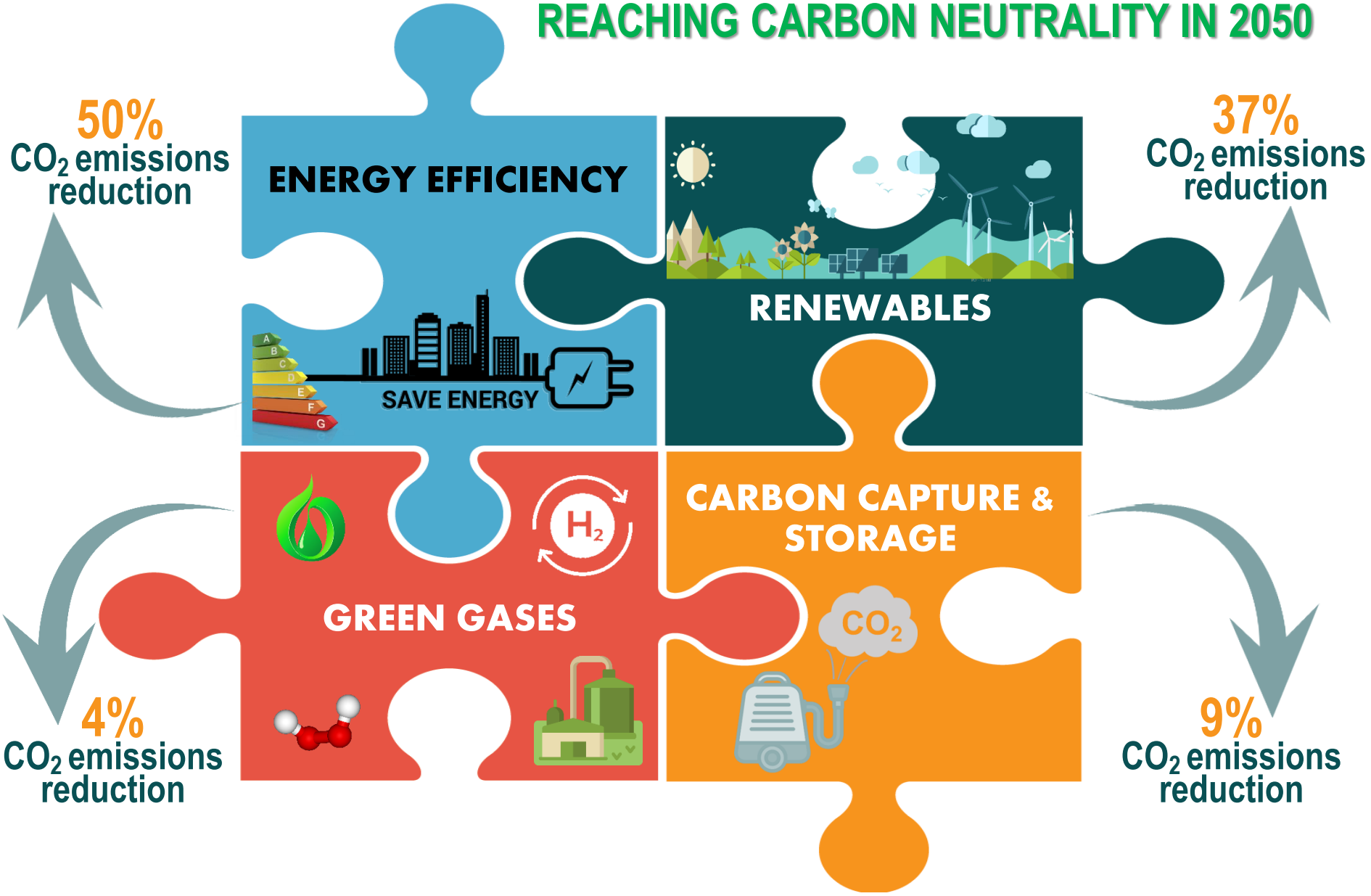
## REACHING CARBON NEUTRALITY IN 2050



MEP to2050

# ELECTRICITY CAPACITY EVOLUTION IN THE MEDITERRANEAN

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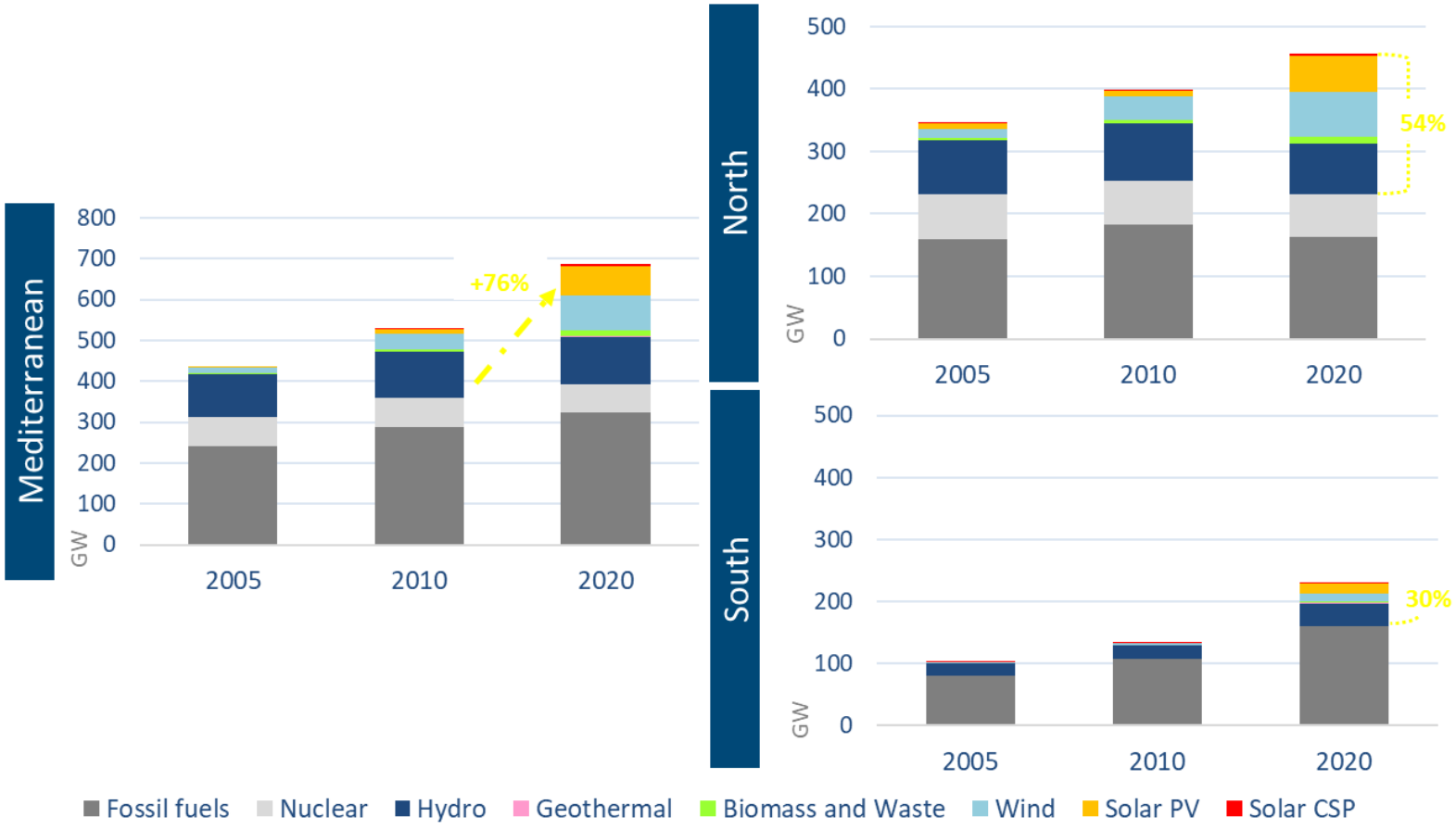
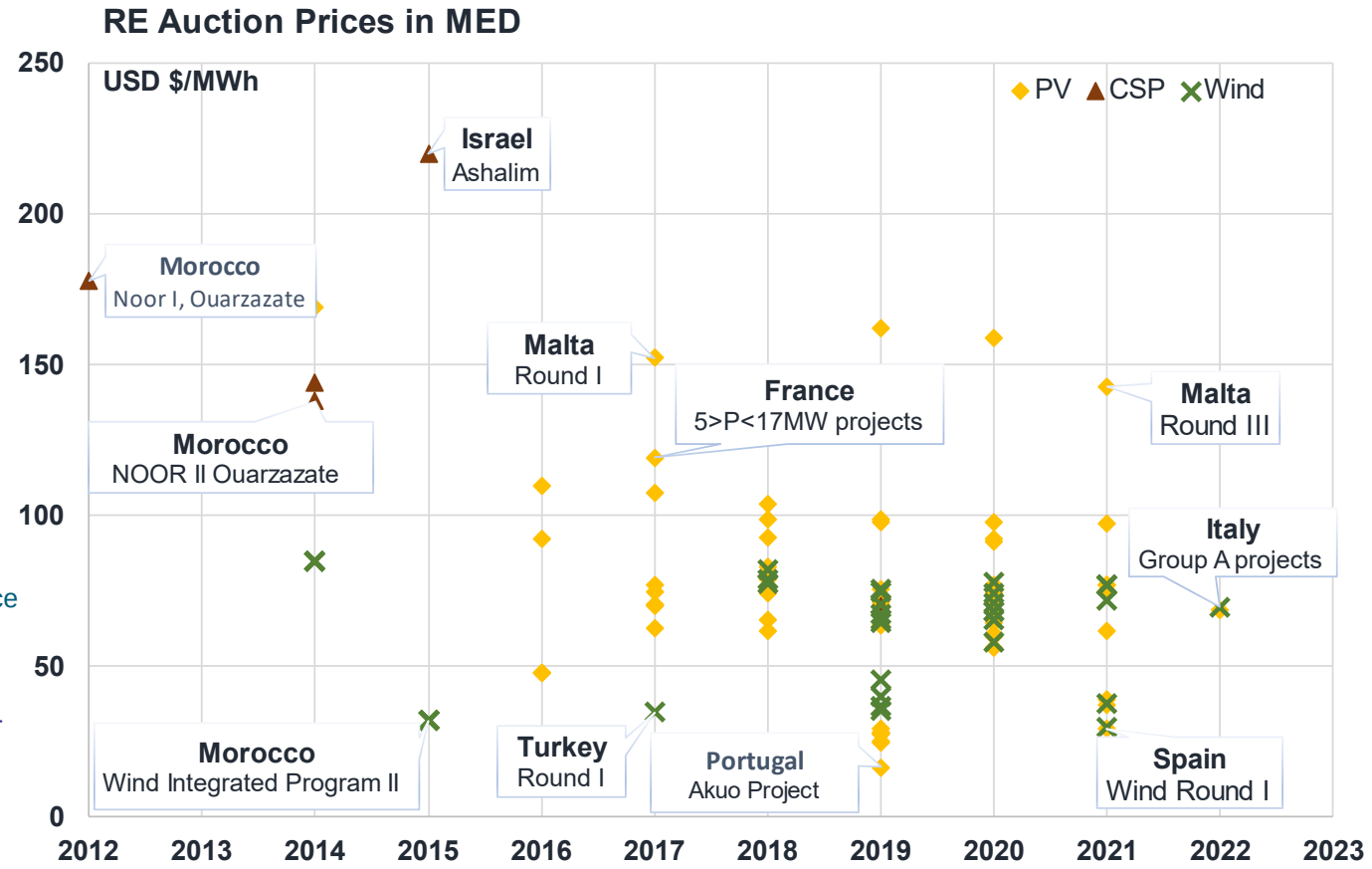



***Renewable Electricity capacity development has significantly increased in the last 10 years in the Mediterranean, with more than 80 GW added in the North and almost 50 GW in the South***

# RENEWABLE ELECTRICITY AWARDED PRICES IN THE MEDITERRANEAN




The PV-CSP project Midelt Phase I in Morocco is not included in the graph, as price of USD 70/MWh is not disclosed by technology

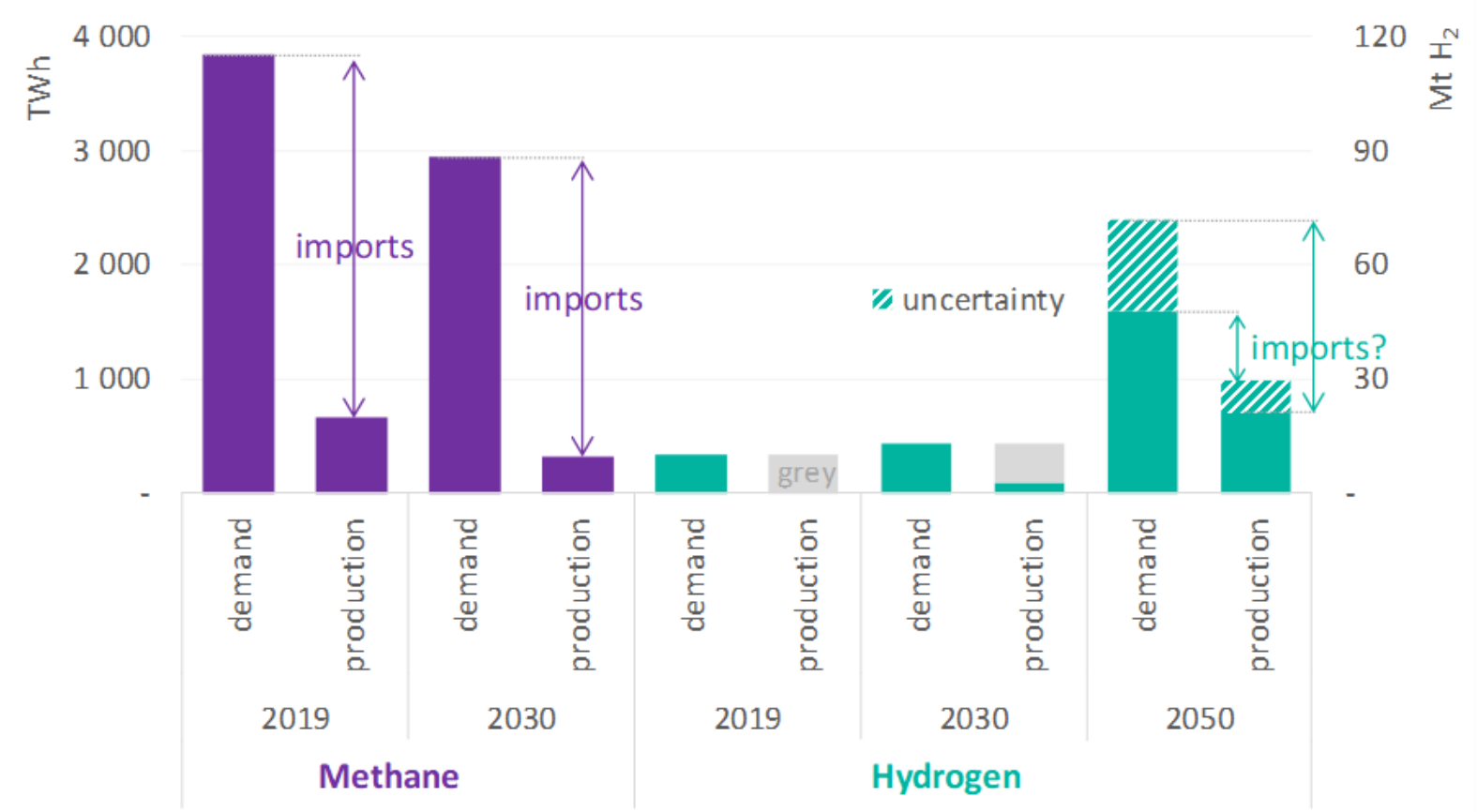
The prices (USD/MWh) refer to the year an auction is awarded.

***Auctions are a key driver for competition – world record bid prices have been observed in the Mediterranean, especially for wind and solar PV***

***CSP has been on a stand-by during the last ten years, except projects in Israel and Morocco***

# METHANE AND HYDROGEN DEMAND AND PRODUCTION IN THE EUROPEAN UNION

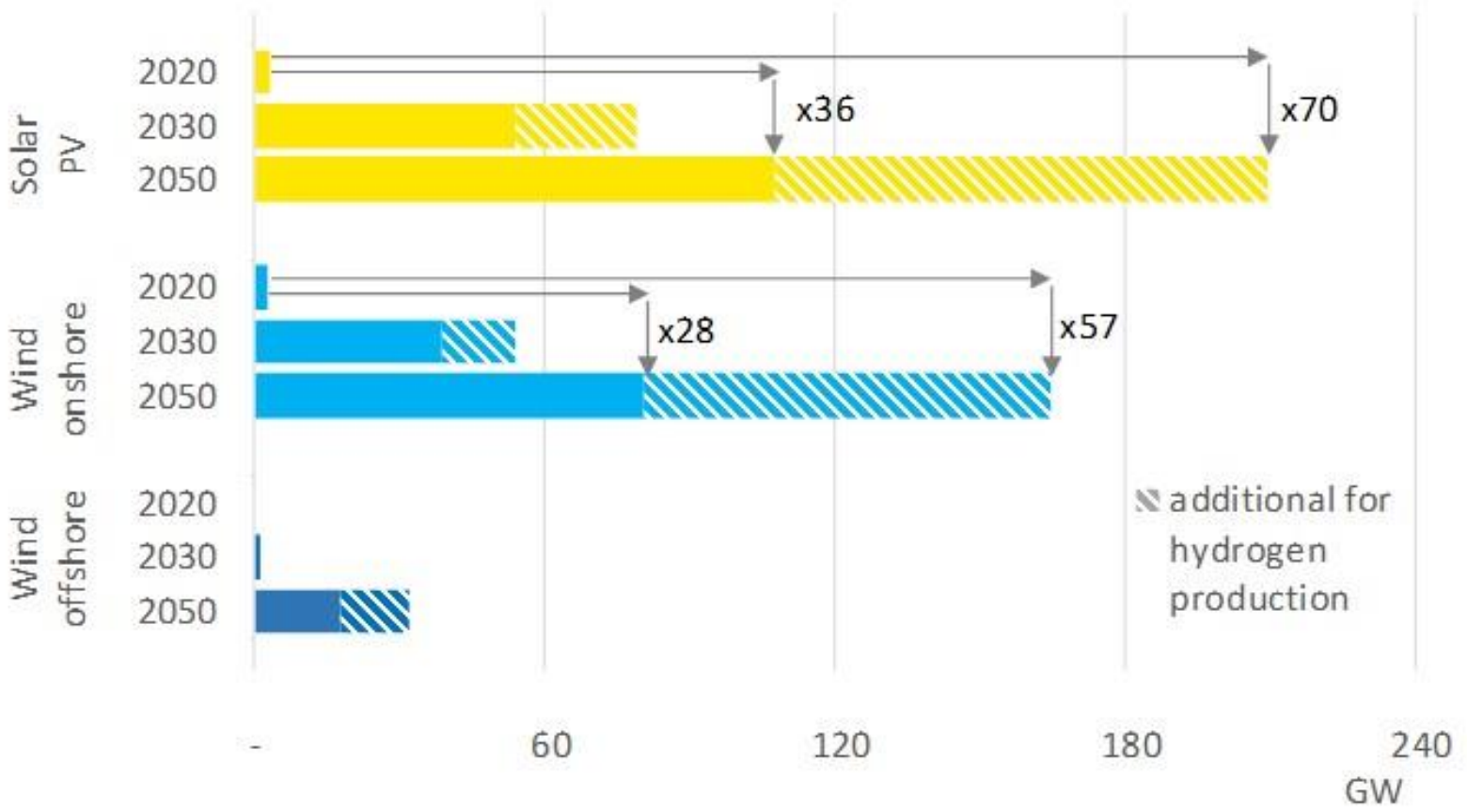





***Huge demand expected but half of the demand needs to be covered by imports***

# INSTALLED CAPACITY FOR SOLAR PV AND WIND POWER IN NORTH AFRICA, 2020-2050






***To cater for domestic needs of RES in the South will be a challenge that could be doubled or tripled if exports are factored in***

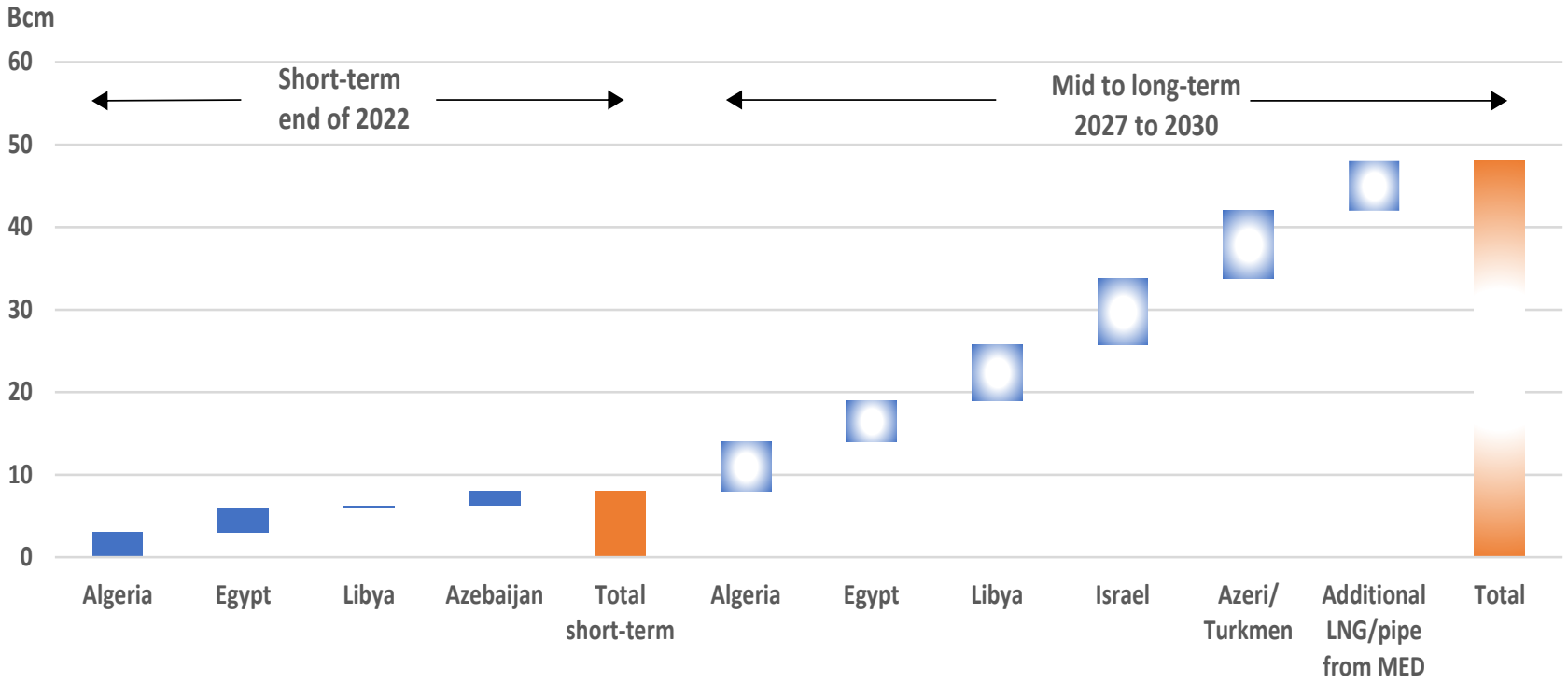
# HOW TO END EU'S DEPENDENCY ON RUSSIAN FOSSIL FUEL IMPORTS?

- REPowerEU (8 Mar 2022, 15 May 2022)
  - to end of dependency on Russian fossil fuel imports
- Diversifying gas supplies,
  - via imports from non-Russian suppliers

(LNG: +50 bcm; pipeline gas: +10 bcm or more

- Substitution with renewables, low carbon energy sources
- Energy efficiency and savings
- Financing

# Substantial additional export potential from South & East MED plus Azerbaijan




Source: OME

**Short term: at least 6 bcm**
**Mid to Long term: up to 50 bcm**

Observatoire Méditerranéen de l'Energie

32 bis boulevard Haussmann
75009 Paris - France
Tel.: + 33 (0) 170 169 120
Fax: + 33 (0) 170 169 119
Email: ome@ome.org
www.ome.org

# Thank you.