Roma – 23 febbraio 2017

Il ruolo del Mediterraneo nell'Unione dell'energia: quale strategia UE a misura d'Italia

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Mediterranean Region

MED REGION* in 2014

- **6.9% of World population**
- **11.6% of World GDP**
- **6.6% of World TPES**
- **7.8% of World electricity consumptions**
- **5.7% of World CO_2 emissions**

(*) 21 Countries

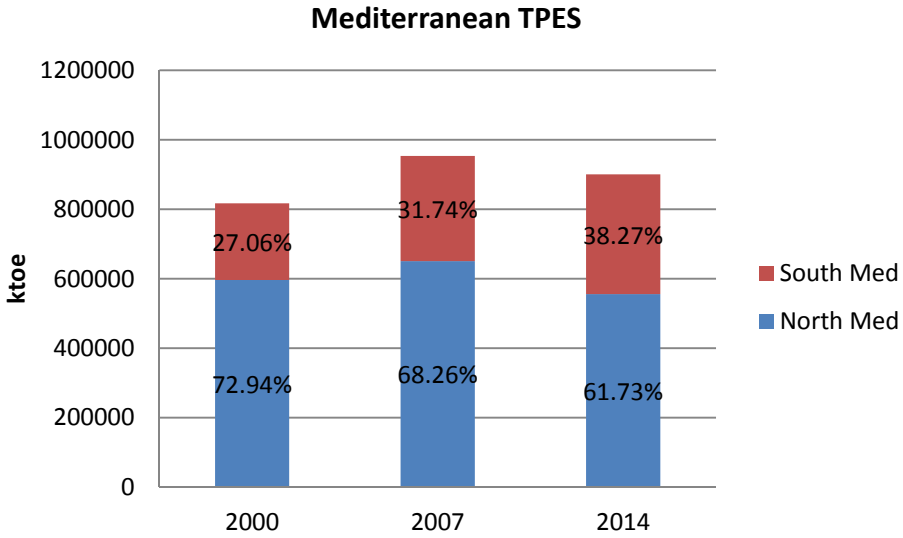
Global parallel - 2014

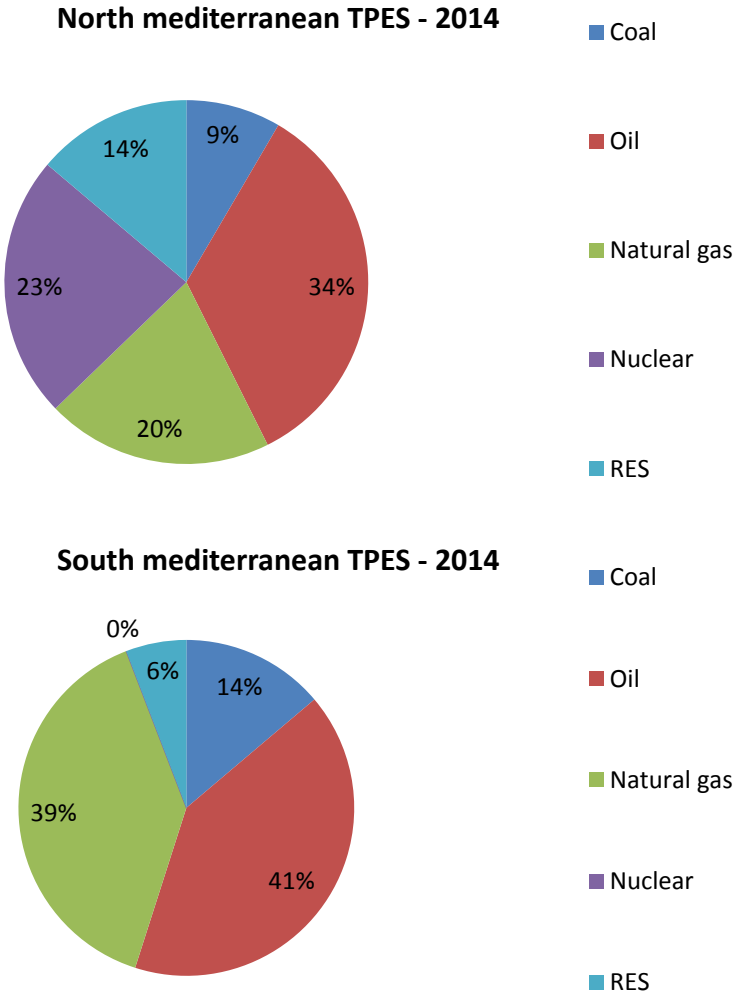
	Mediterranean countries	USA	China	Russia	Japan
Population (millions)	497.12 (**6.86%** of World population)	319.17 (**4.4%** of World population)	1371.51 (**18.92%** of World population)	143.82 (**1.98%** of World population)	127.12 (**1.75%** of World population)
GDP (billion 2010 USD)	8434.69 (**11.57%** of World GDP)	16156.62 (**22.16%** of World GDP)	8487.61 (**11.64%** of World GDP)	1676.8 (**2.30%** of World GDP)	5642.89 (**7.74%** of World GDP)
Electricity consumption	1714.84 (**7.81%** of World electricity consumptions)	4137.10 (**18.84%** of World electricity consumptions)	5401.53 (**24.59%** of World electricity consumptions)	949.59 (**4.32%** of World electricity consumptions)	995.59 (**4.53%** of World electricity consumptions)
CO2 emissions	1835.29 (**5.67%** of World emissions)	5176.21 (**15.99%** of World emissions)	9134.90 (**28.21%** of World emissions)	1467.55 (**4.53%** of World emissions)	1188.63 (**3.67%** of World emissions)

Source: I-Com on IEA

Mediterranean TPES and primary energy supply mix

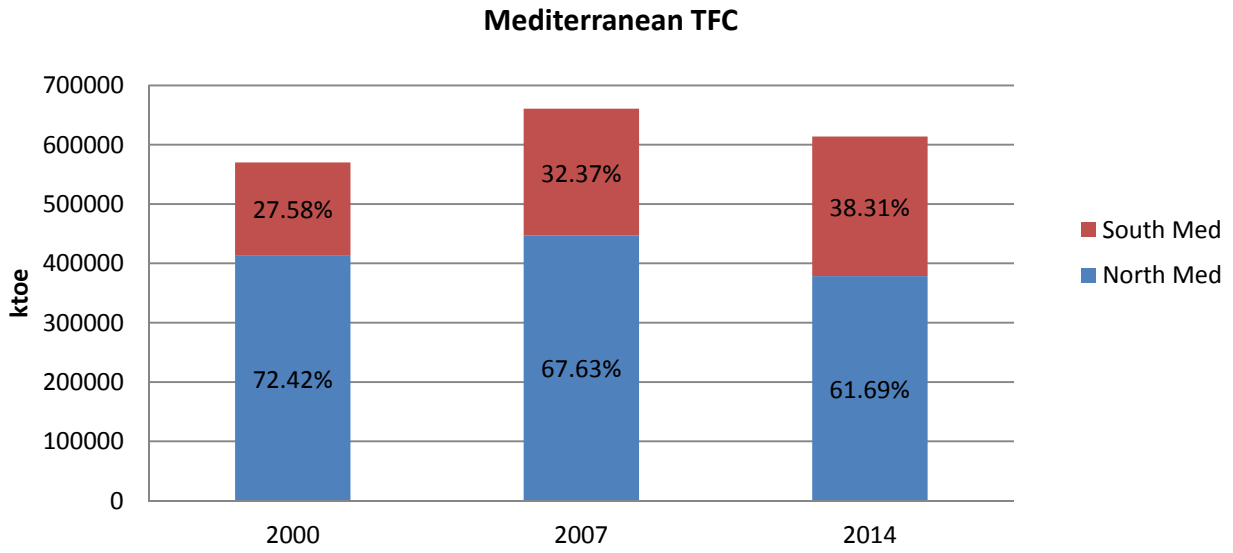
Population in 2014:
- **North Med 199,280,000 (40%)**
- **South Med 297,840,000 (60%)**

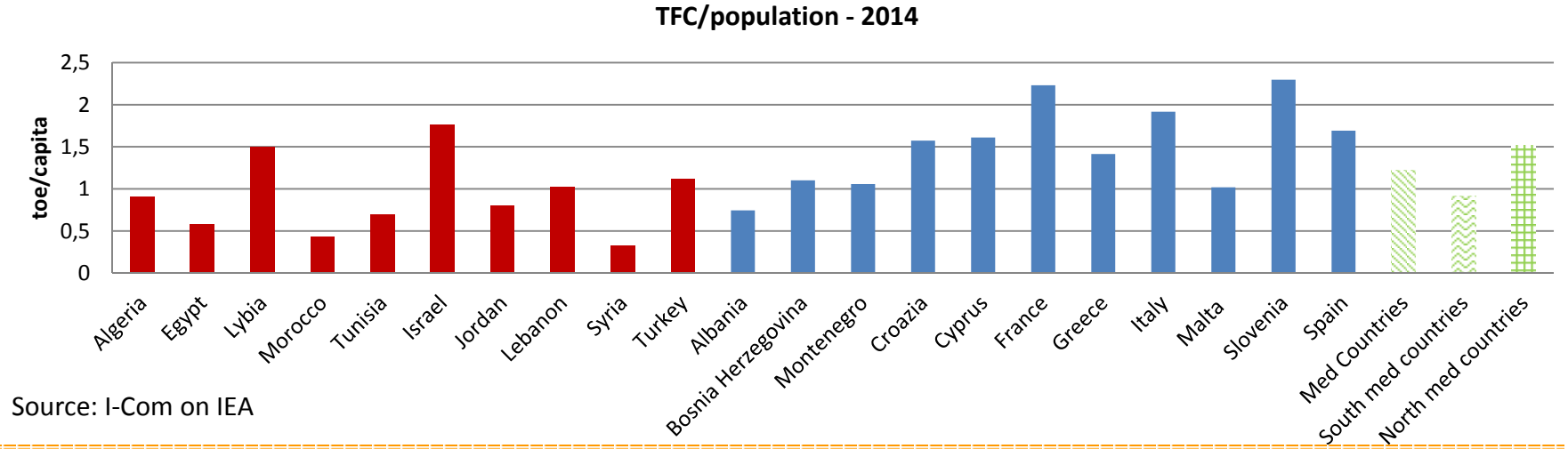




Source: I-Com on IEA

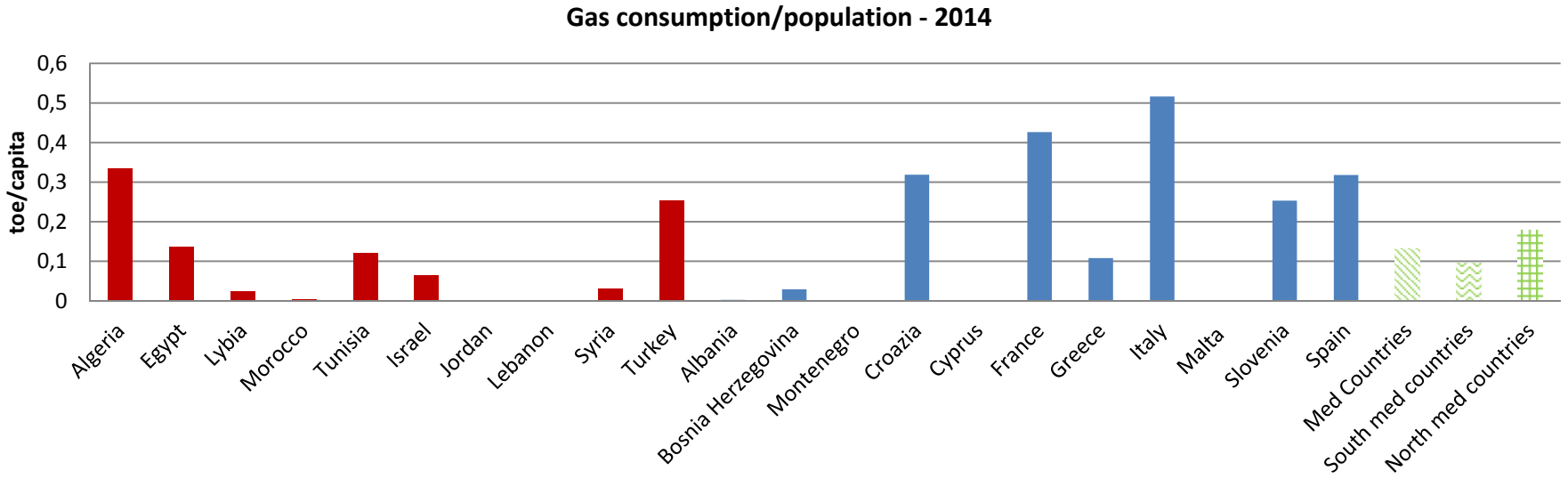
Mediterranean consumptions /1

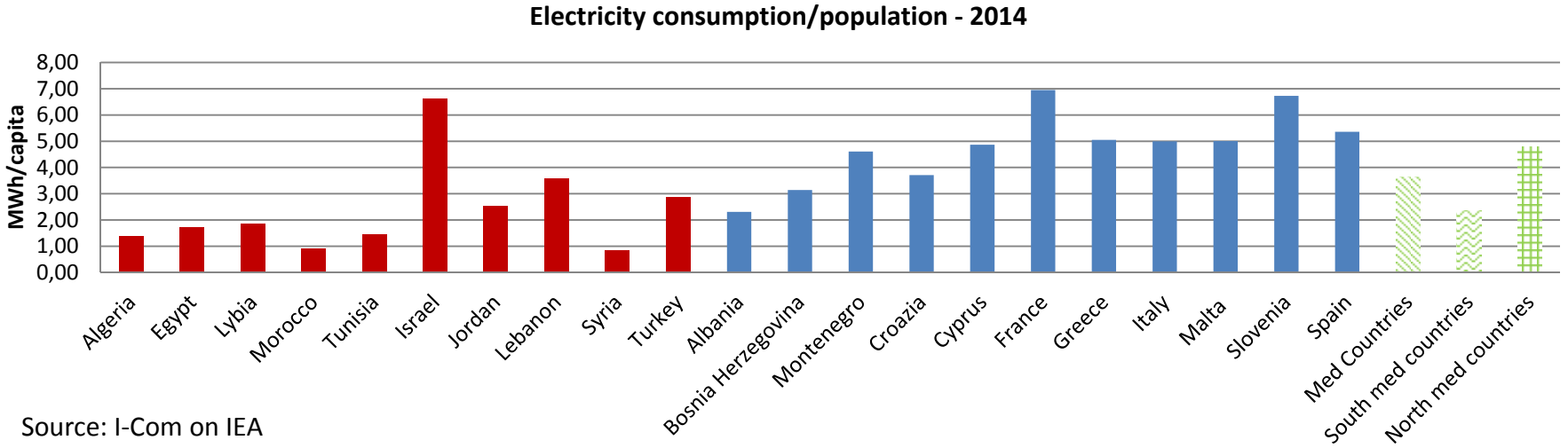




Source: I-Com on IEA

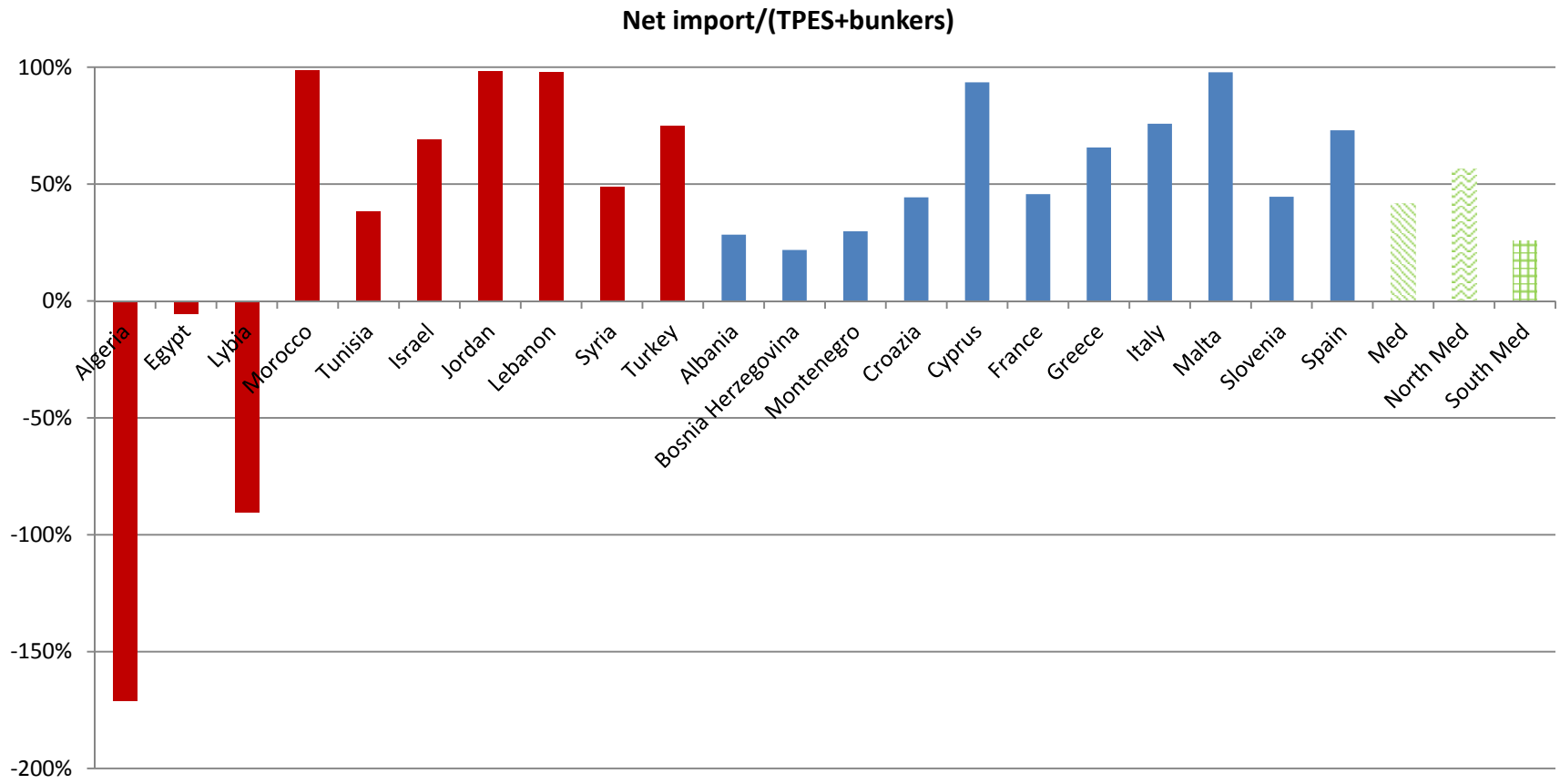
Mediterranean consumptions /2





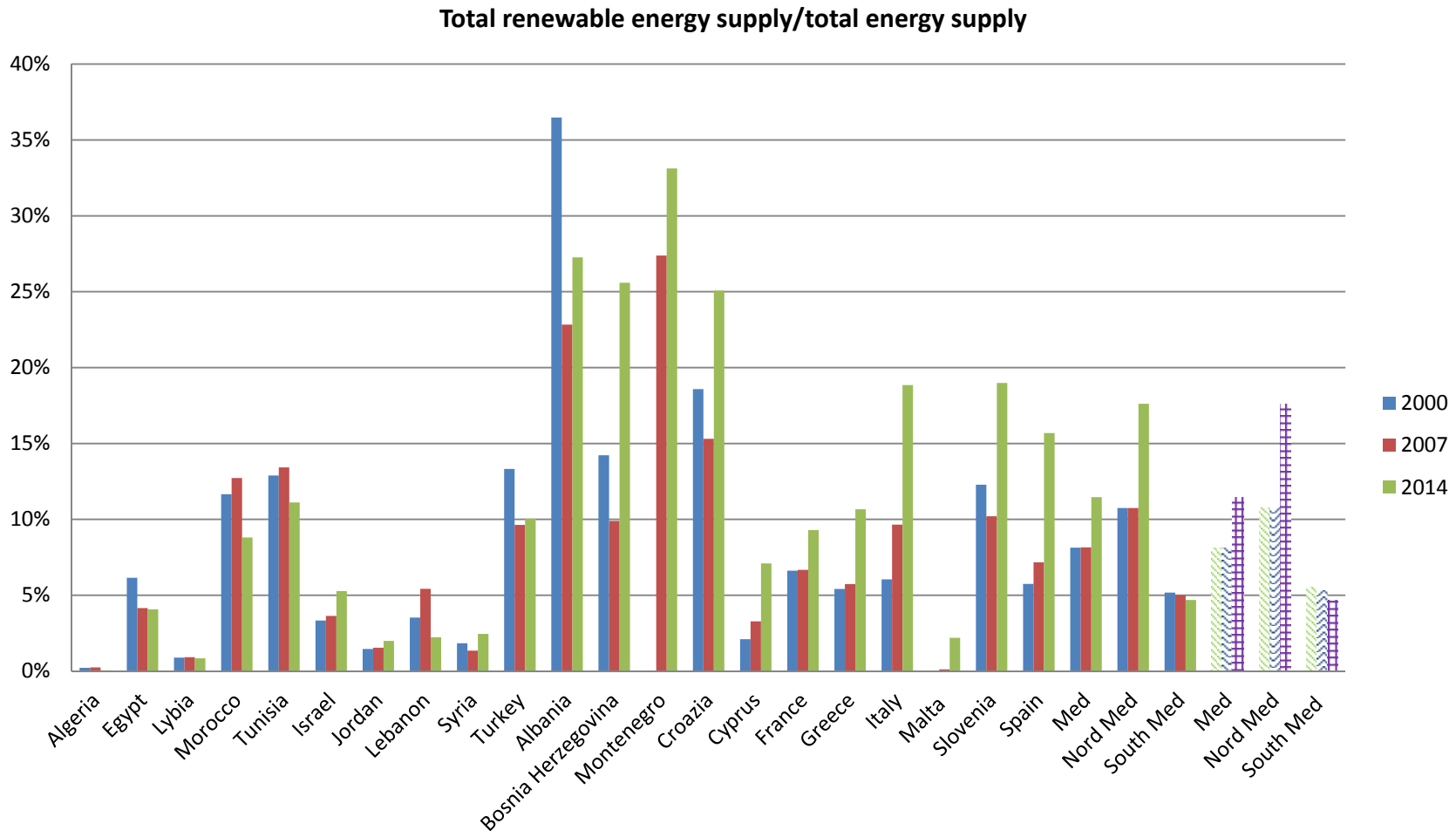
Source: I-Com on IEA

Mediterranean imports (2014)



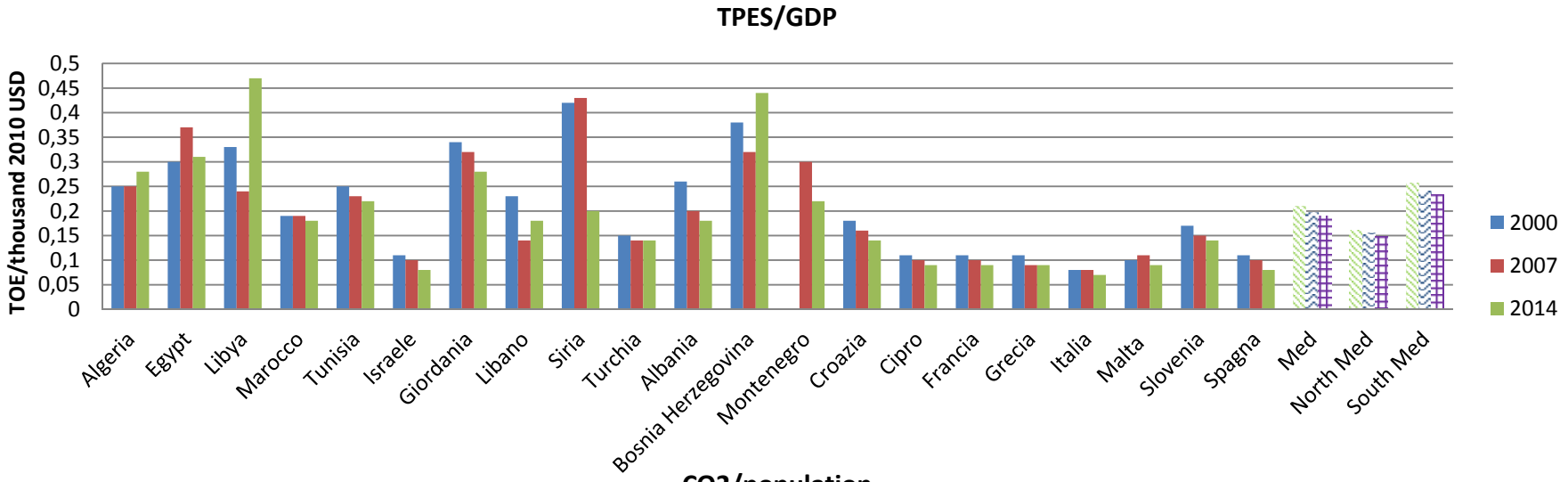
Source: I-Com on IEA

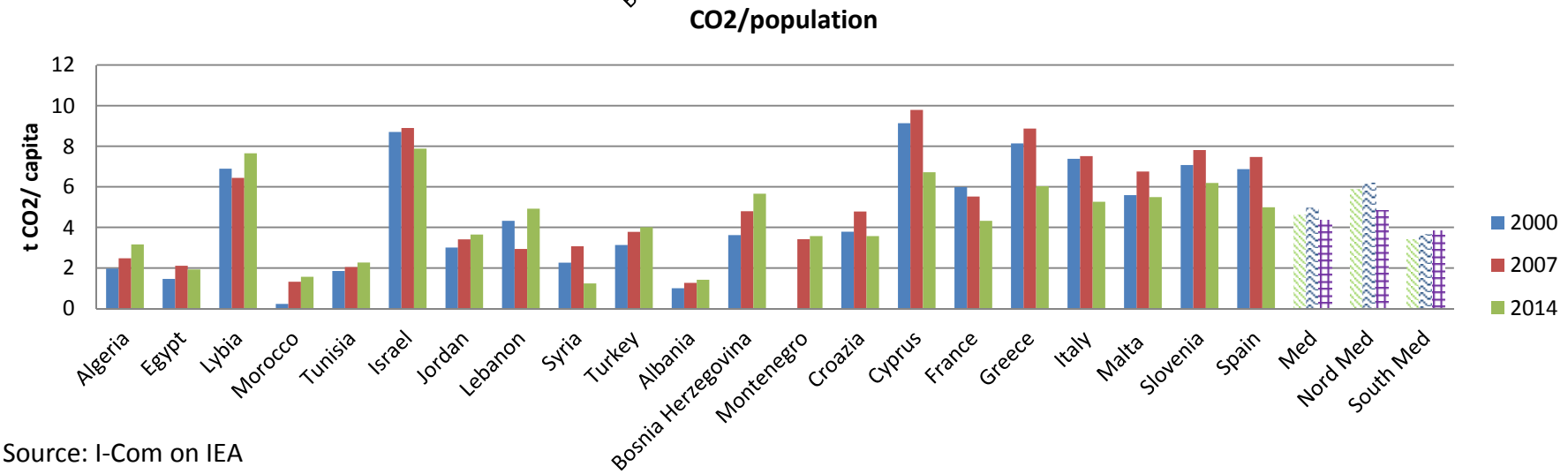
Renewables



Source: I-Com on IEA

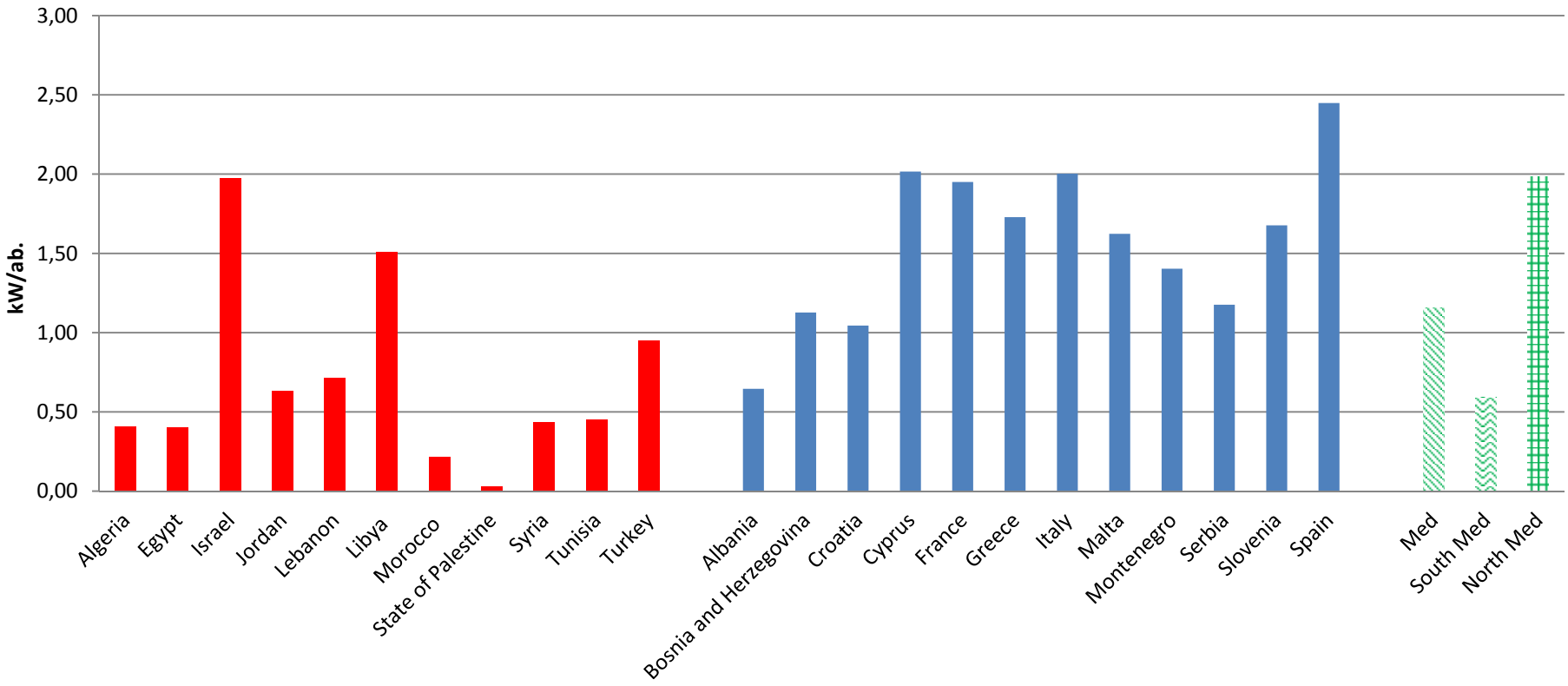
Energy Efficiency and Emissions





Source: I-Com on IEA

Energy infrastructures: generation capacity (2014)



Source: I-Com on UN data

Electricity interconnections within Mediterranean Region

Source: ENTSO-E e MEDREG (2016)

Planned electricity interconnections

From country	Year	Project type	To country	Voltage and capacity line (nominal)
Algeria			Morocco/Tunisia	Morocco and Tunisia: 400 kV; 1200 MW
Bosnia Herzegovina	2017/2020	New	Serbia/Montenegro/Croatia	Serbia: 400 kV; 300 MW Montenegro and Croatia: 400 MW
Croatia	2016/2020	New	Bosnia Herzegovina (1 and 2) /Slovenia	Bosnia Herzegovina 1: 220kV; 600 MW Bosnia Herzegovina 2 and Slovenia: 400kV; 1100 MW
Cyprus		New	Greece/Israel	Greece and Israel: 600 kV; 2000 MW
Egypt	Deferred due to the political situation	Upgrade	Libya	Libya: 400 kV; 500 MW
France	2014/2018/post 2020	New	Spain 1/Italy/Spain 2	Spain 1 and Italy: 320 kV; 1200 MW Spain 2: 1200 MW
Greece		New	Israel/Cyprus	Israel and Cyprus: 600kV; 2000 MW
Italy	From 2017 up to 10 years	New	Montenegro/Tunisia/Algeria 1/France/Albania/Algeria 2	Montenegro: 500kV; 1000 MW Tunisia: 400 kV; up to 1200 MW Algeria 1: 220 kV; up to 2000 MW Algeria 2: 400 kV; 1000 MW France: 320 kV; 1200 MW Albania: 400 kV; 1000 MW
Jordan		Upgrade	Egypt	Egypt: 400 kV; 1200 MVA
Libya	2017	New	Tunisia/Egypt	Egypt and Tunisia: 400kV; 500 MW
Malta	2011-2014		Italy	Italy: 220 kV; 200 MW
Montenegro	2014	Upgrade	Bosnia Herzegovina	Bosnia Herzegovina: 400 kV; 1330 MVA
Morocco			Algeria/Spain	Algeria: 400 kV; 1200 MW Spain: 50 MVA
Spain	2015/2016/2018	New	France (1 and 2)/Morocco/Portugal	Morocco: 50 MVA Portugal: 400 kV; 1400 MW France 1: 1990 MVA France 2: 2000 MW
Slovenia	2016	New	Italy	Italy: 300 HVDC; 1000 MW
Tunisia	2017		Libya	Libya: 400kV; 500 MW

Source: MedReg (2015), University of Oxford (2016)

Prefeseability/feasebility phase; Permitting Phase; Construction phase; Others

Existing and planned gas infrastructures

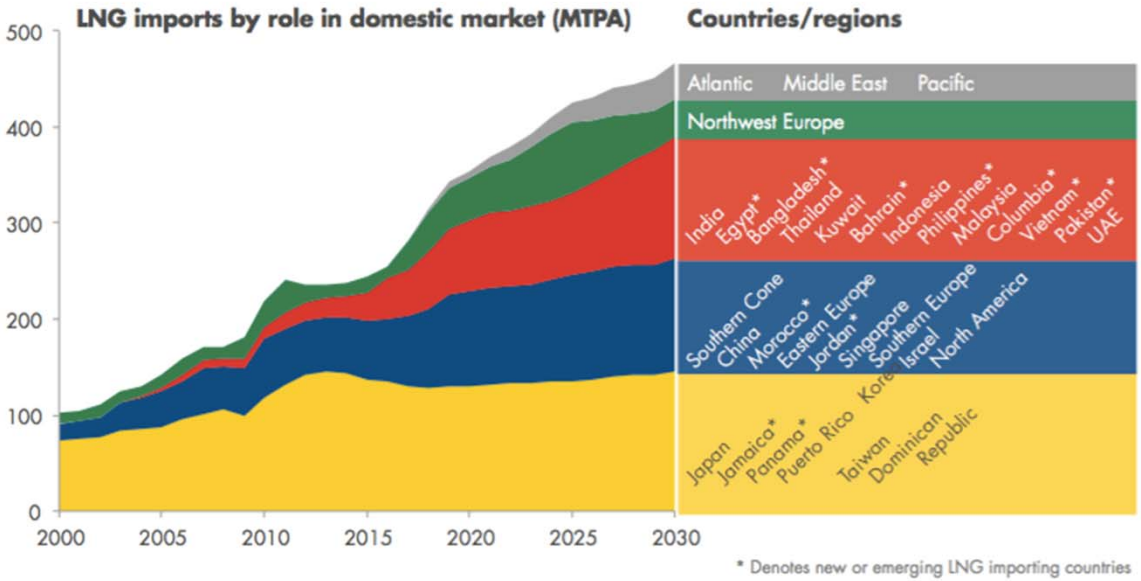
Source: ENTSO-G MedReg (2016)

Planned gas infrastructures

	Project	Type	Estimated operation year
Albania	TAP	Interconnection	2020
	IAP	Interconnection	
Albania	Fier	LNG Regassification	
Algeria	Galsi	Interconnection	2019
Croatia	IAP	Interconnection	
	Adria	LNG Regassification	2020
Greece	TAP	Interconnection	2019
	ITGI	Interconnection	2020
	EastMed	Interconnection	2020
	South Kavala	Underground storage	2018
France	Oltingue	Interconnection	2017
	Obergailbach	Interconnection	2020
	Midcat	Interconnection	2020
	Increase of exit capacity to Switzerland	Interconnection	2018
	Increase of exit capacity to Luxemburg	Interconnection	2022
	Fos Faster	LNG Regassification	2019
	Cavaou (upgrade)	LNG Regassification	2021
Italy	Galsi	Interconnection	2019
	TAP	Interconnection	2020
	Poseidon	Interconnection	
	Rosignano	LNG Regassification	2019
	Recanati	LNG Regassification	
	Brindisi	LNG Regassification	
	Empedocle	LNG Regassification	
	Medgas	LNG Regassification	
	Taranto	LNG Regassification	
Jordan	Jordan LNG Regassification	LNG Regassification	
Montenegro	IAP	Interconnection	
Spain	Midcat	Interconnection	2020
	Braganca	Interconnection	
	Grand Canaria	LNG Regassification	
Turkey	Azerbaijan	Interconnection	2018
	Syria	Interconnection	
	Tuz Golu	Underground storage	2019
	Silivri	Underground storage	2018

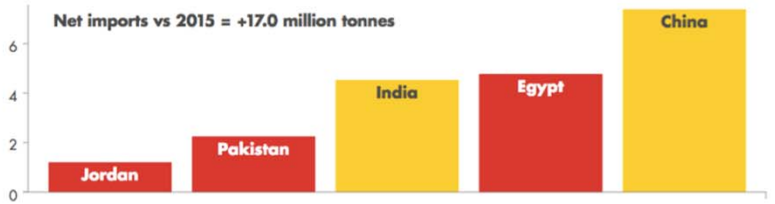
Source: MedReg (2015)

The growing role of LNG in the Region



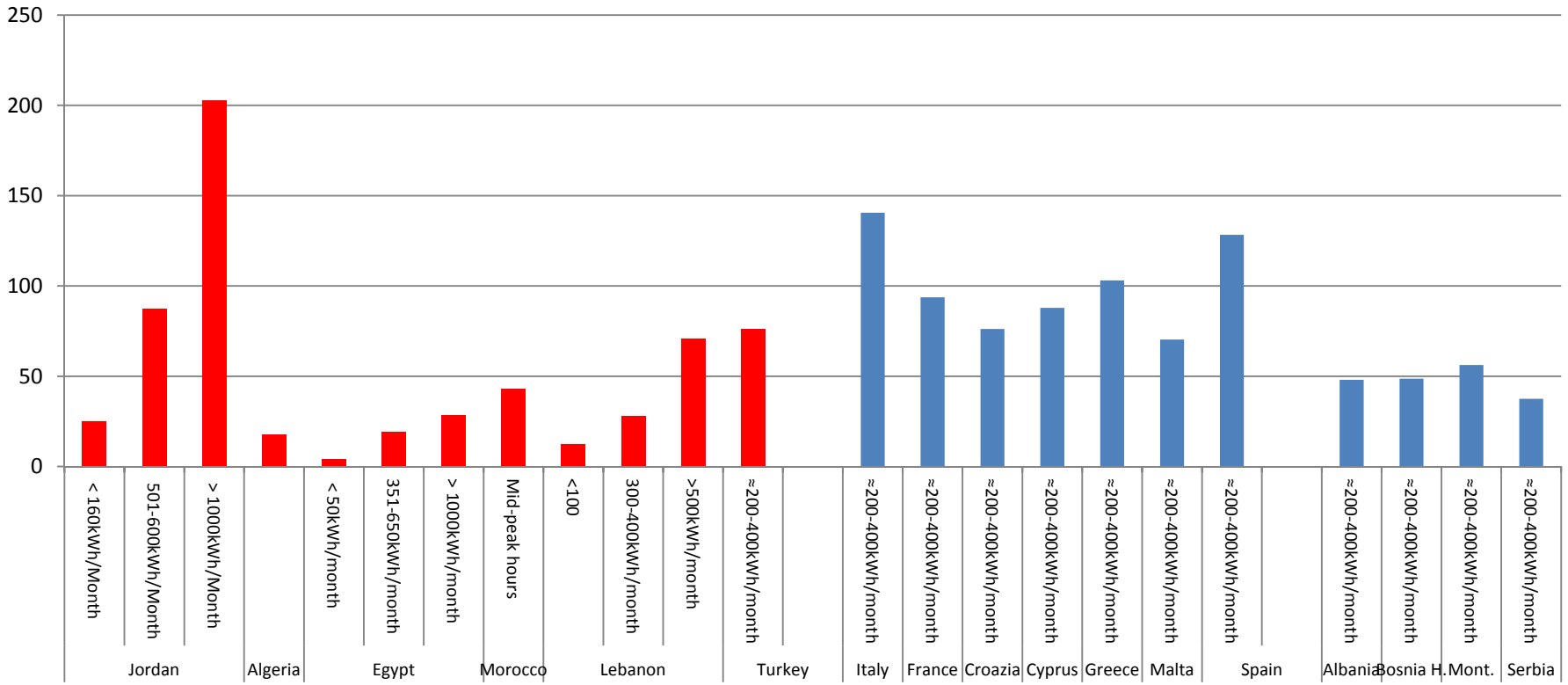
Gas market type

- Bunker Fuel
- LNG replaces declining domestic production into existing demand
- Soley dependent on LNG
- Balances LNG
- LNG compliments domestic and pipeline complements



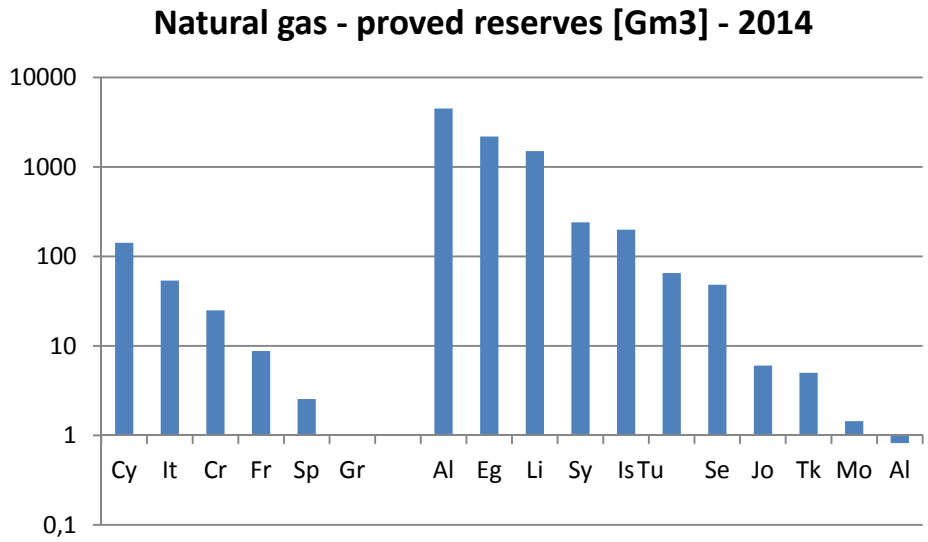
Source: Shell LNG Outlook 2017

Energy tariffs in the electricity domestic sector (2016; <MED-EU>=100)



Source: I-Com on Eurostat and different national sources data

A look to the future - Natural Gas potential



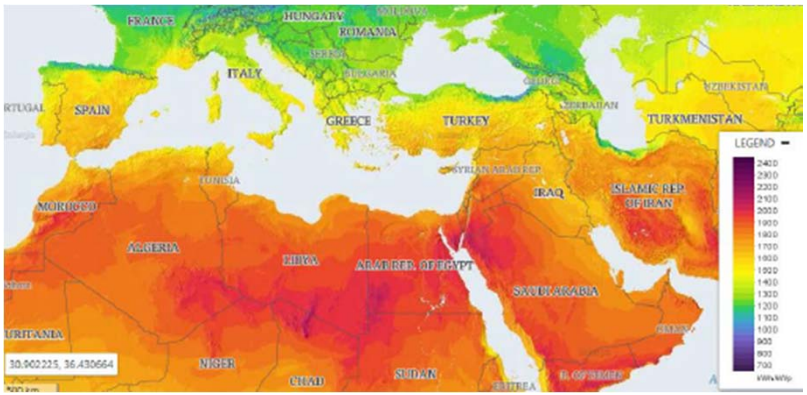
4,6% of total reserves

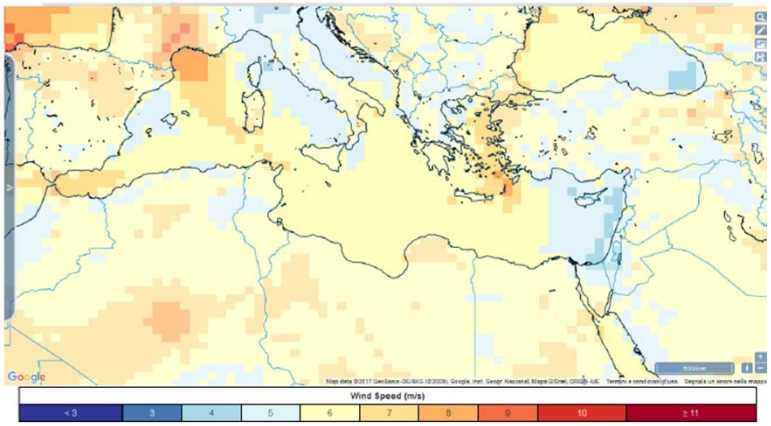
Eastern Mediterranean recent off-shore gas discoveries

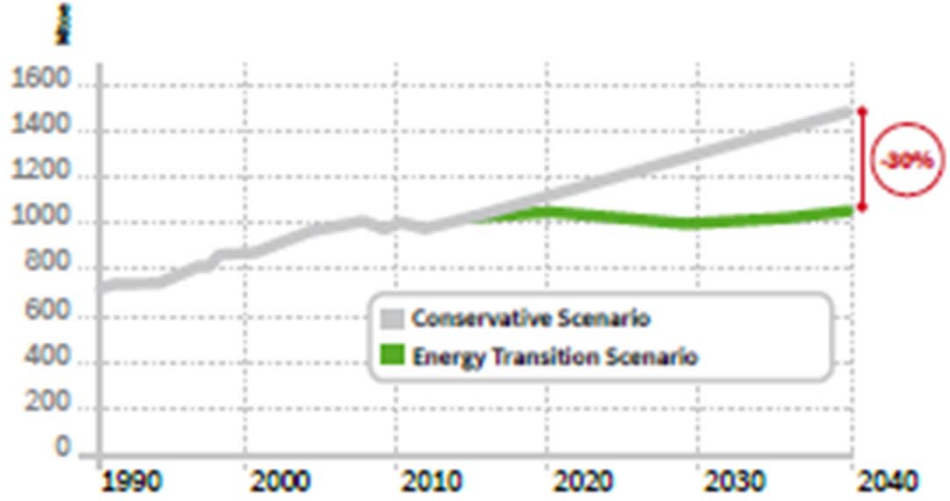
Cyprus: Aphrodite
Egypt: Zohr
Israel: Tamar, Dalit, Leviathan

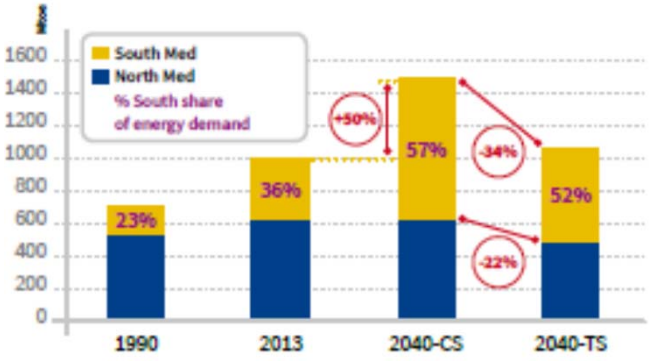
Source: I-Com on CIA, US Dep. of State

A look to the future – RES and EE potential





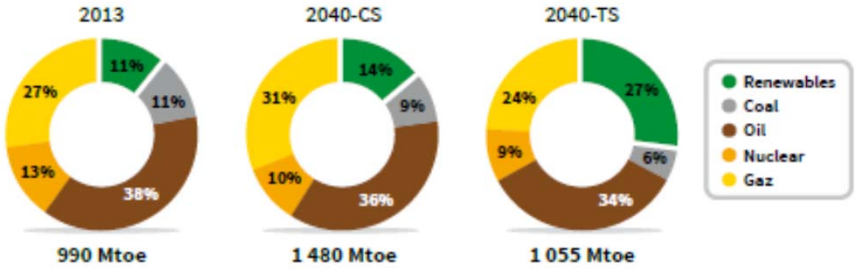




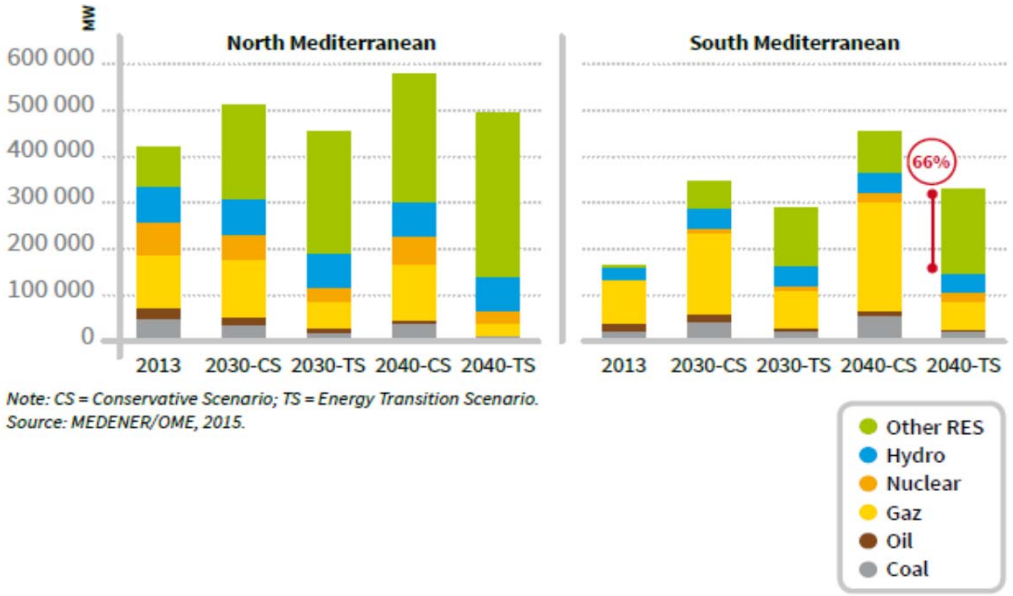
Source: Global Solar Wind Atlas, OME

RES+EE vs. GAS competition?

Primary energy demand and mix (MED Region)



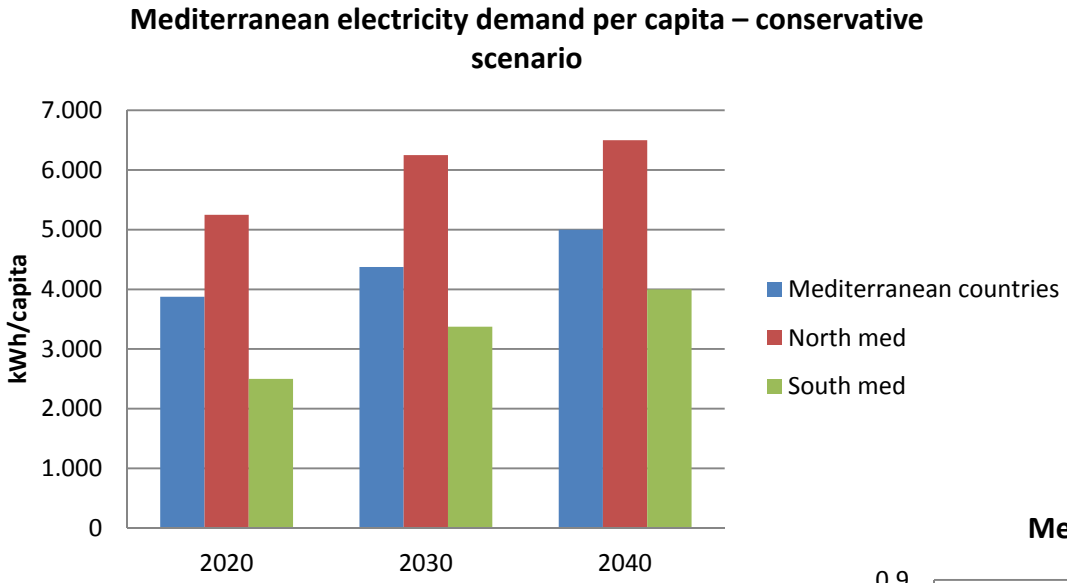
Installed generation capacity by fuel

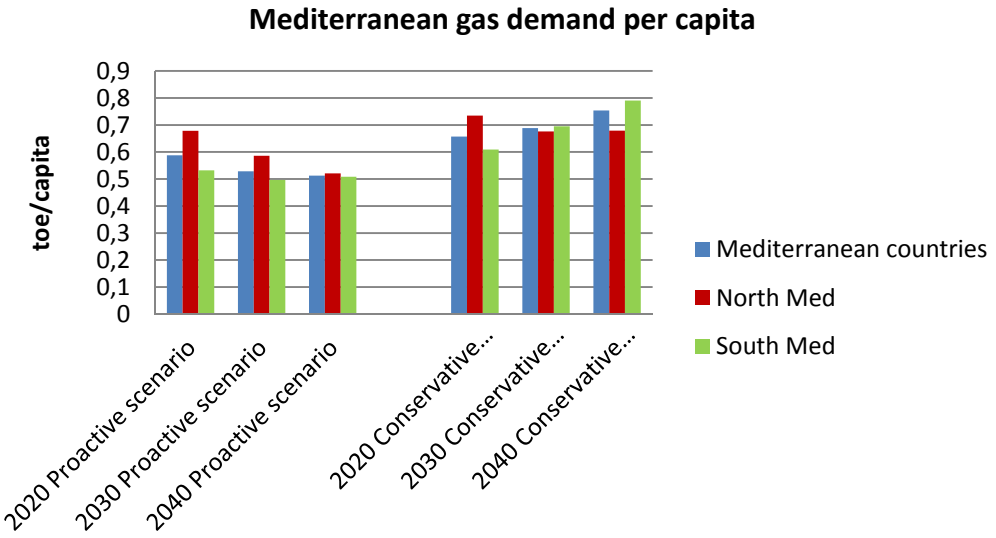


Note: CS = Conservative Scenario; TS = Energy Transition Scenario.
Source: MEDENER/OME, 2015.

Source: OME

A look to the future – Potential consumption evolution





Source: I-Com on IEA, OME, World Bank

Key Questions

A. MERCATO, RINNOVABILI ED EFFICIENZA ENERGETICA

Come accelerare i processi di liberalizzazione dei mercati energetici dei Paesi sponda Sud? E' pensabile un ulteriore rafforzamento e istituzionalizzazione dei rapporti tra regolatori nazionali e tra TSO? Quale roadmap per questa possibile integrazione?
Quali le principali barriere all'integrazione delle rinnovabili in tali mercati? Quali lezioni si possono trarre dall'esperienza europea rispetto ai sistemi di incentivazione, e più in generale di sostegno, alle rinnovabili?
Come promuovere la diffusione di tecnologie energeticamente efficienti? Quale il ruolo della standardizzazione?

B. INFRASTRUTTURE

Quali barriere allo sviluppo di un sistema elettrico mediterraneo fortemente interconnesso? Come promuovere lo sviluppo di infrastrutture transfrontaliere sia tra Paesi sponda Sud, che tra le due sponde del Mediterraneo?
Quali i possibili sviluppi infrastrutturali per il sistema gas mediterraneo? Quali i possibili modelli di finanziamento?
Quali impatti in termini di prezzo e sicurezza possono derivare dalle scoperte di gas degli ultimi anni per i Paesi direttamente interessati e per l'Unione Europea?

C. RUOLO DELL'ITALIA

Come rafforzare il ruolo dell'Italia quale naturale ponte tra sponda nord e sponda sud del mediterraneo? E' ancora attuabile la visione dell'Italia come hub del gas, eventualmente estendibile anche al settore elettrico? Possono trovare spazio nella SEN in fase di stesura specifiche misure dedicate alla promozione dell'Unione Mediterranea dell'Energia o comunque a una maggiore cooperazione euromediterranea?

GRAZIE!

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