



## ***ERG – A Renewable History Case***

Italian – Norwegian Energy Dialogue - *Solutions For The Future*

8 April 2016 - Venue: Principe di Savoia (Milan)



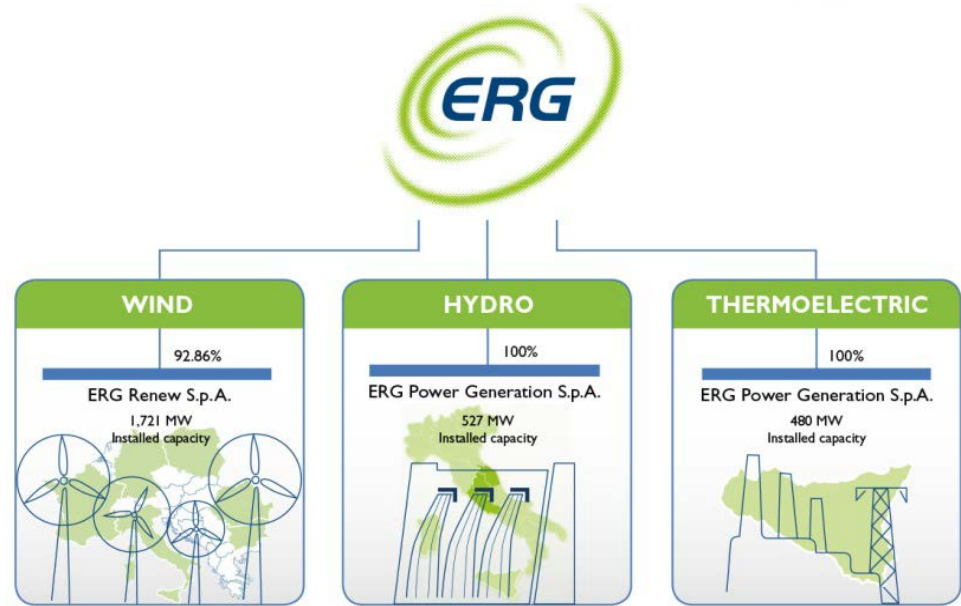


# ERG Group Today



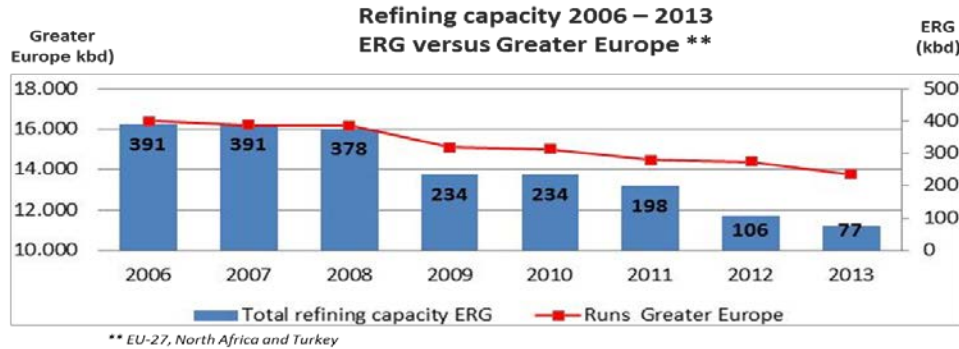
## ERG Group

- In the energy sector for nearly **80 years**
- **Leading wind power operator in Italy**, amongst the main windplayers in Europe
- Active in the production of **electricity** from **water** and **thermal sources**
- Listed on the **Milan Stock Exchange**



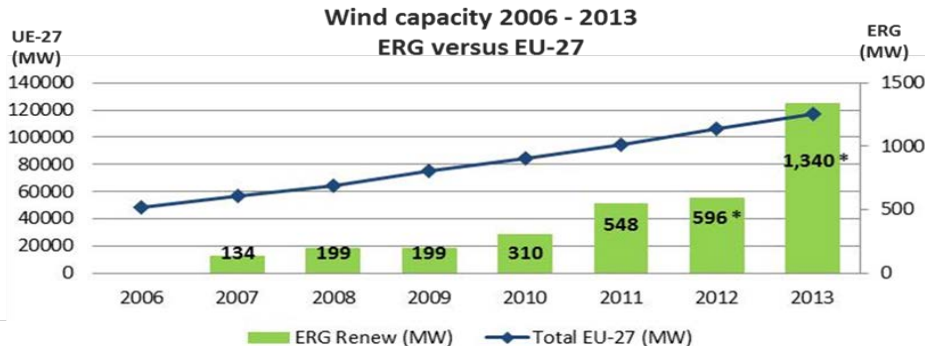


# ERG versus Europe



ERG refining capacity  
**2014: 0 kbd**

Between 2006 -2013 ERG promptly reacted to the decline of refining margins entering the wind energy sector and anticipating future trends



ERG Wind capacity  
**2014: 1,341 MW**  
**2015: 1,721 MW**

50% LUKERG Renew share included



# Our History 1938 – 2016



Start of production at the Genoa San Quirico Refinery



1938

1947

1975

2006

2013

2015



ERG founded



Production at the ISAB Refinery (Priolo, Sicily) begins

2008 - 2014: refining divestment

ERG starts investing in Wind



ERG becomes the leading Wind operator in Italy



Acquisition of approx. 530 MW Hydro facilities in Italy

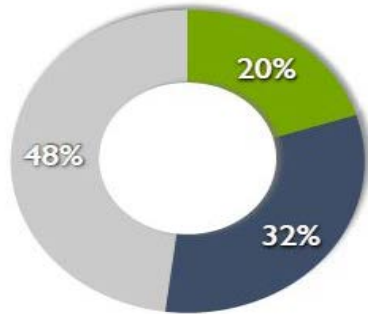
Growth in Europe: Installed wind capacity at year-end **1,721 MW**



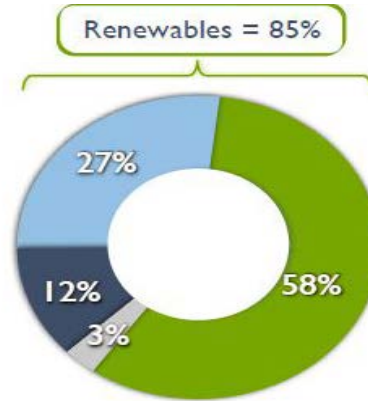
# Invested Capital - Evolution



2008 (€2.2 bn)



2015 FCST (€3.6 bn)









● OIL    ● THERMO    ● HYDRO    ● WIND

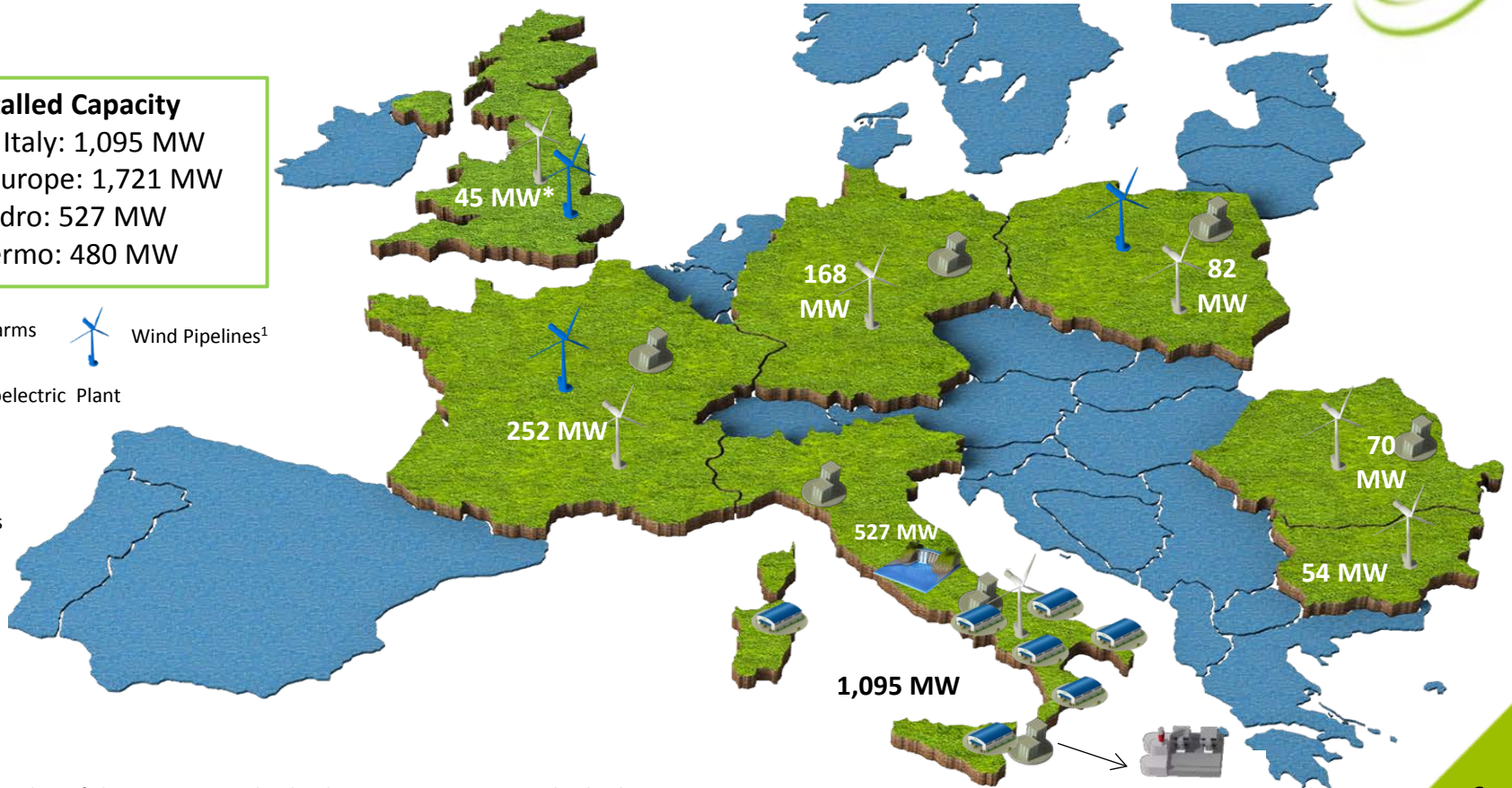




# Where we are today

**Installed Capacity**  
 Wind Italy: 1,095 MW  
 Wind Europe: 1,721 MW  
 Hydro: 527 MW  
 Thermo: 480 MW

-  Wind Farms
-  Wind Pipelines<sup>1</sup>
-  Hydroelectric Plant
-  CCGT
-  Offices
-  O&M Warehouses



<sup>1</sup> Current pipeline of about 300 MW under development in UK, France and Poland

\* Under construction



# ERG Power Generation – Hydroelectric 1/2



By end of 2015 acquisition of the **Terni Hydroelectric Complex**



**16**

Power plants



7 dams, 3 reservoirs  
and a pumping station



**527**

MW  
Overall capacity



Around  
**1,4**

TWh  
estimated overall average annual output



More than  
**100**

People  
including technicians specialised in  
plant operations management,  
energy management specialists and  
supporting staff.



Marmore Falls, the highest falls in Europe  
(165 m) are in the Terni  
Hydroelectric Complex



# ERG Power Generation – Hydroelectric 2/2



## Hydro

Hydro Production in Italy (TWh/y)



Source: last available public information related to 2014

<sup>1)</sup> Forecast for hydro production in the plan period equal to 1.4 TWh/y



This acquisition offers the opportunity to **diversify our production sources** by entering the hydroelectric sector with notable dimensions and is in keeping with our **growth strategy in Renewables** via investments in high quality assets



# ERG Power Generation - Thermoelectric

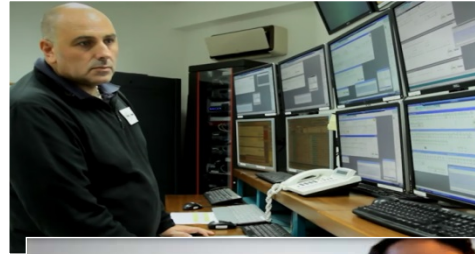


- **high efficiency** power plant in Priolo Gargallo (Syracuse, Sicily)
- cogenerative **480 MW Combined Cycle Gas Turbine**
- **best available technologies** in terms of efficiency and air emissions control



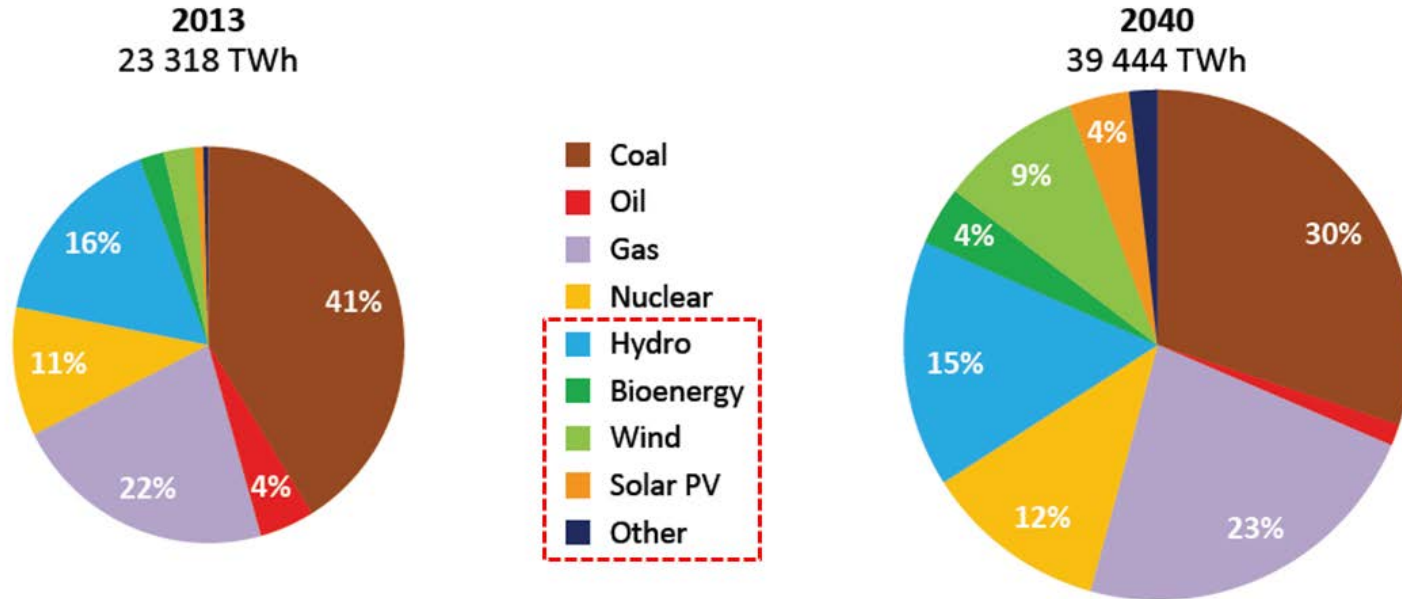


- In 2013 ERG launches a gradual insourcing of **Operation & Maintenance activities** for our Italian wind farms
- As of 2015 **ERG Renew O&M** is fully responsible for the **direct operation and maintenance of wind farms in Italy**
- New O&M concept to be extended to foreign Units





# RES future - World



Note: Other includes geothermal, concentrating solar power and marine.

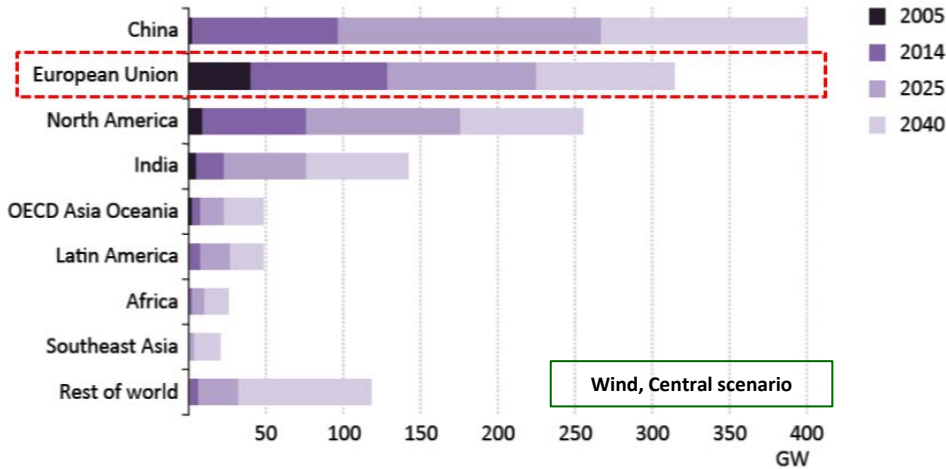
Reputable forecasts confirm the growing penetration of RES with a share in power generation of 35% in 2040, versus an almost equal reduction in use of oil and coal



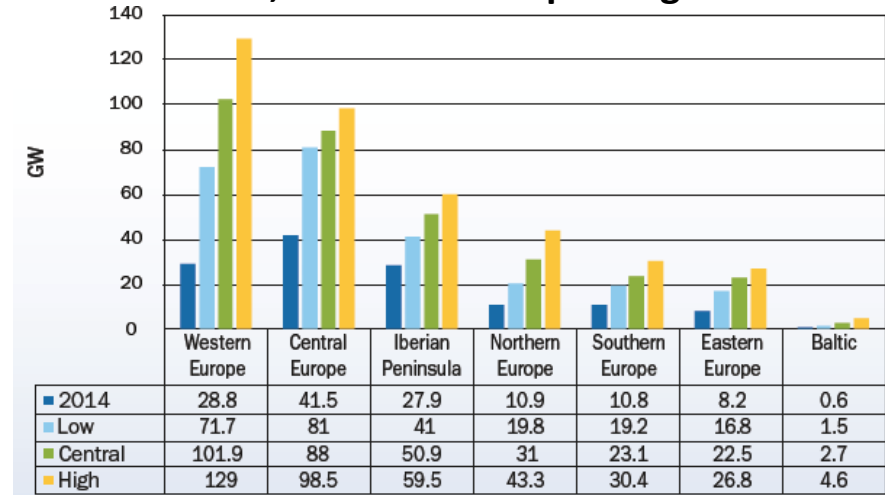
# RES future, focus Wind – Europe and Italy



## Wind Power installed capacity - World



## Wind, 2030 scenario per Regions



*Scenario depends on efficiency of future EU governance system to achieve the 27% RES target*

# 2015 – 2018 Plan: Strategic Guidelines



**600 MW growth in installed wind power capacity  
outside of Italy**



**insourcing of wind operations management activities in  
Italy and abroad**



**integration of 527 MW pertaining to the newly acquired Terni  
hydroelectric integrated system**



**Energy Management: integrated management of portfolio  
comprising over 8 TWh of electricity**



**Continuous improvement of the efficiency of the ERG Power  
CCGT plant**





# Our Mission - Keywords



**Ethics**  
Talent  
of our People  
Challenges  
Efficiency  
Experience  
Credibility  
Dynamism  
Value  
of our Partners  
Sustainable  
Development





# Be Renewable, Be Sustainable



We are winning  
our global challenge  
thanks to a Sustainable Development  
model

"Sustainable Development is a development which meets the needs of current generations without compromising the ability of future generations to meet their own needs"

(Brundtland Commission's Report, 1987)