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#### **General Assembly**

Rome, 16<sup>th</sup> November 2023 elettricitafutura.it

# The Energy of Regions and Municipalities for the Security of Italy

Agostino Re Rebaudengo

President of Elettricità Futura





# Elettricità Futura represents over **70%** of the Italian electricity sector

With **50 new companies** that joined Future Electricity this year, **we have even more energy**.



## SPEED UP THE ENERGY TRANSITION!

This is the joint call for action addressed to European Governments by :

- **IEA** International Energy Agency
- **ECB** European Central Bank
- **EIB** European Investment Bank



Insightful dialogue with Ministers, business leaders, central bankers, civil society & other stakeholders at the @IEA-@ECB-@EIB Conference, co-hosted by @Lagarde, @WernerHoyer & me

Delivering a clean energy transition in Europe is vital for it to remain a global industrial power Traductionet



FATIH BIROL EXECUTIVE DIRECTOR IEA

Achieving the energy transition is vital for Europe to remain a global industrial power.



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#### Christine Lagarde 🐲 @Lagarde

It was good to join colleagues from the @IEA and @EIB today in Paris to discuss the importance of a faster clean energy transition for Europe's industrial competitiveness and financial stability. Read my speech ecb.europa.eu/press/key/date... Traduci post

#### Onal Agency Linternationa Energy Agen University Agen Linternationa Energy Agen University Agen University Agen

#### CHRISTINE LAGARDE PRESIDENT ECB

Procrastinating the transition and climate goals will increase the bill to be paid.



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Werner Hoyer @wernerhoyer

The transition to **#cleanenergy** is not only a moral imperative to protect the life of future generations on our planet. It also has become a necessity in safeguarding the competitiveness of our industry and Europe's economic prosperity: not tomorrow but today. Traduci post



### WERNER HOYER PRESIDENT EIB

Until we fully achieve the energy transition, Europe will remain an easy hostage.



# Freedom, Peace & Energy Independence.

### YOU ARE EUROPE.

The European Commission's "<u>You are EU</u>" campaign also calls on everyone to turn the challenges we face into a better future through clean energy produced in Europe.





### Climate change is faster than we thought!

#### FATIH BIROL EXECUTIVE DIRECTOR IEA

Today compared to 2021, the **window of opportunities** to keep the temperature rise within 1.5°C has narrowed. If this window still remains open it is only because of the growth of renewables and electrification.





# To achieve the +1.5°C target, we need to triple new RES annual installations!

According to IRENA, it is technically feasible and economically viable to increase from the **current 300 GW/year** of new renewable installations worldwide **to 1,000 GW/year by 2030**.



World Energy Transitions Outlook 2023



# Renewable energy reduces costs and secures supplies

According to IRENA, in 2022, renewable electricity allowed to save:

### **\$521 bn W**orldwide

### \$176 bn in Europe

**\$25 bn in Italy** (EF estimates)

This is why more than 80 % of new electric power power built worldwide in 2022 is renewable (300 GW out of 360 GW).

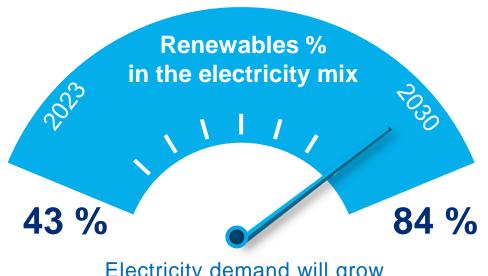


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# 2030 Electricity Plan, consistent with REPowerEU:84% renewables in the electricity mix

## 143 GW of installed renewable capacity are needed!

To ensure the safety and adequacy of the system, it is also necessary to **make the capacity mechanism structural** and to **develop the grid**.



Electricity demand will grow from 305 TWh in 2023 to 360 TWh in 2030



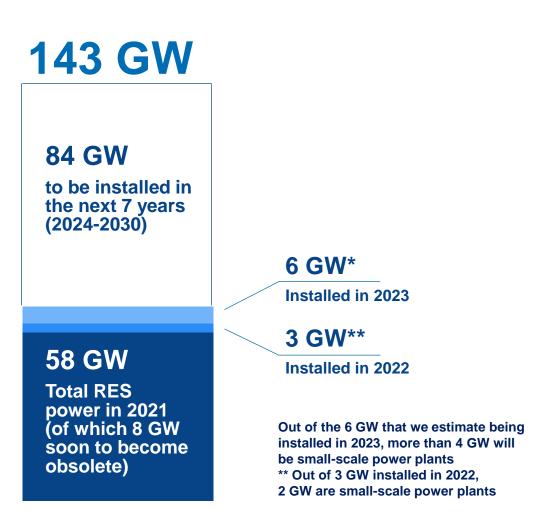
# To achieve **143 GW** installed...

### ...we need to build **12 GW** of **new renewable power** per year in Italy.

Hence, over the period 2024-2030, we have to install at least 84 GW, of which:

56 GW Solar PV26 GW Wind2 GW Hydro, Bioenergies, Geothermal

...we need also to build **80 GWh** of **large-scale storage**.





# Benefits for Italy of the 2030 Electricity Plan



**Investments** of the electricity sector and its industrial supply chain.



**Economic benefits** in terms of value added for the supply chain and related industries, and growth in domestic consumption. -270mln t CO<sub>2</sub>

**Lower emissions** of  $CO_{2eq}$  of the electricity sector over the 2030 Plan period.



**New jobs** in the electricity sector and its industrial supply chain, additional to the current 120,000.

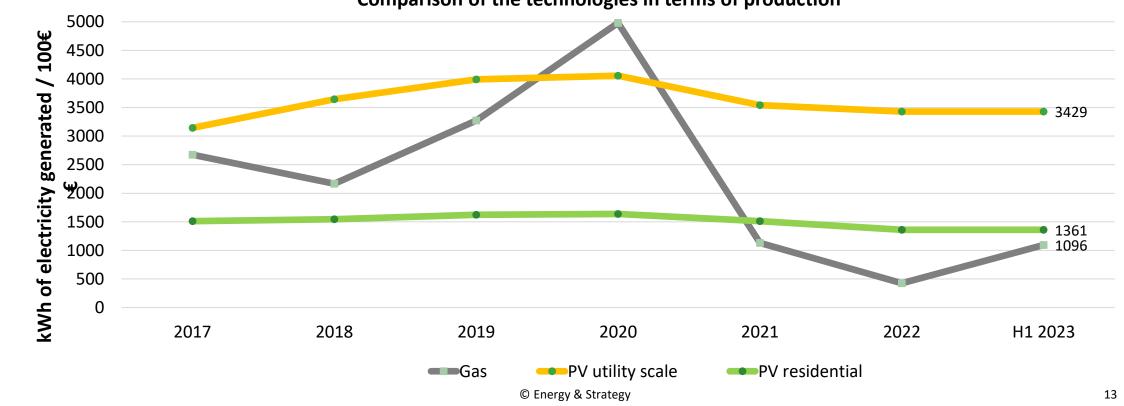
General Assembly Agostino Re Rebaudengo President of Elettricità Futura

Sources | Enel Foundation study carried out with Althesys and Elettricità Futura "La filiera italiana delle tecnologie per le energie rinnovabili e smart verso il 2030" for economic and social benefits. Accenture study "REPowerEU for Italy: 2030 scenarios for the electricity system" for emissions reduction. By reaching the target set out in the 2030 Plan, CO2eq emissions from the Italian electricity sector will be cut by 75% in 2030 compared to 1990 (which means that 94 Mln t CO2eq will be avoided in 2030 compared to 1990, when 125 Mln t CO2eq were emitted).

# There is a difference between importing PV technologies and importing gas



- Considering an input budget of €100, the graph shows the kWh output achievable for the three types of technologies analyzed.
- Excluding the anomalous trend in 2020 (COVID year), the higher economic efficiency of electricity generation from a utility scale PV plant, compared to the generation from a gas plant, is evident. Also the values for residential PV systems resulted to be higher than gas plants' from 2021 onward, i.e. with the new fuel price level.



Comparison of the technologies in terms of production



## Are roofs enough to meet the 2030 target? Let's provide clarity.



Rooftop PV plants show a power generation cost that is more than double of the cost related to ground-mounted plants. The 2030 Plan scenario shows savings of over € 20 bn on the electricity generation's side (2024-2030) compared to a 100% rooftop-mounted scenario.

General Assembly Agostino Re Rebaudengo President of Elettricità Futura Sources | Elettricità Futura's estimates based on Elemens's data.

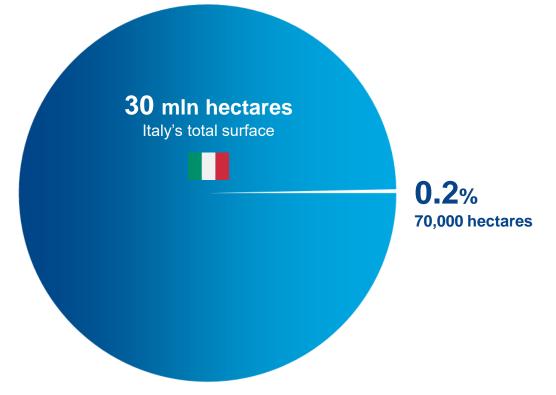
LCOE (Levelized Cost of Electricity) refers to the average net discounted cost of generating electricity, for an electricity producer over its lifetime. Savings calculation methodology: the difference (70  $\in$ /MWh) between the two LCOEs (180  $\in$ /MWh of the 100%-rooftop scenario vs. 110  $\in$ /MWh of the 2030 Plan scenario) was multiplied by ~300 TWh produced by new PV plants over the 2024-2030 period.



# Renewables do **NOT** take land away from agriculture and do **NOT** damage the soil

# Reaching the targets of the 2030 Plan requires only 0.2 % of land.

- Moreover, PV plants do not entail soil waterproofing and/or permanent artificial coverings (unlike concrete of buildings and asphalt on roads).
- Once the useful life of the PV plant is over, the area used by the plant can be reverted to its previous use: companies are obliged to revert areas to their original condition.





## "Landscape is a molded shape that evolves only by living" J.W.Goethe

Since their origins, humans have modified territories **to meet evolutionary needs**, changing the landscape to cultivate, work, move, and inhabit. Along with the landscape, the sense of aesthetics has evolved as well.

#### Railways

Even for railways there has always been opposition. Instead, today we are witnessing a valorization of historic trains, such as the one in the Valley of the Temples in Sicily and those that run through Campania, Basilicata and Puglia, attracting tourists.



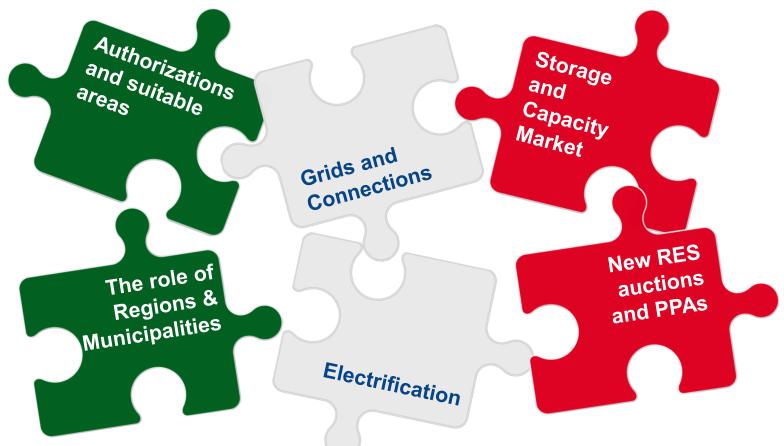


#### The Eiffel Tower

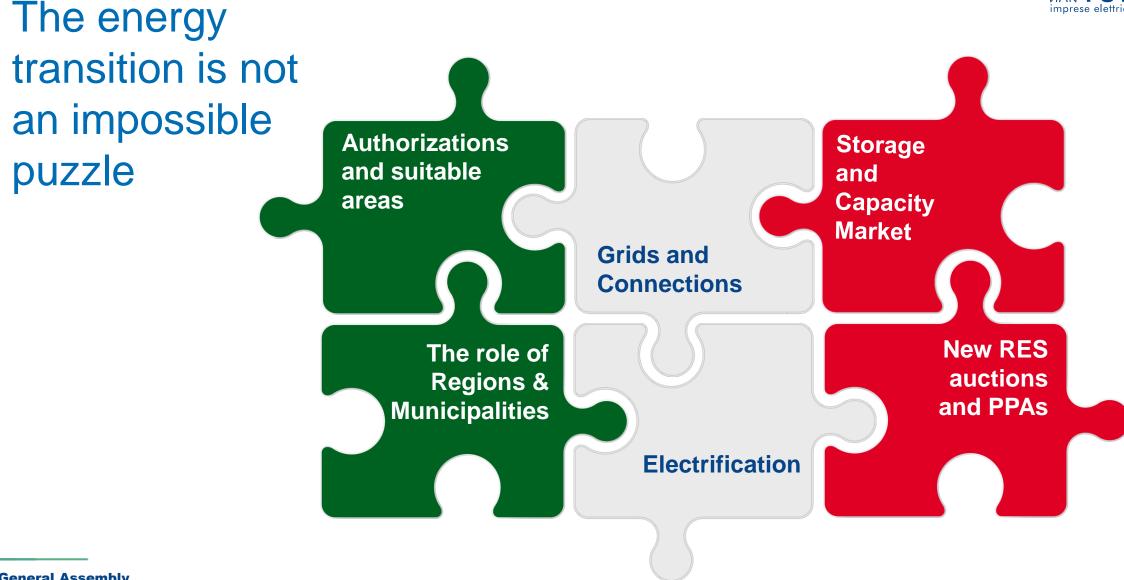
If in the late 19<sup>th</sup> century, the resistance of the many who saw the Eiffel Tower project as a disfigurement to the city's skyline had won, a blight on the landscape, we would not have one of the most famous monuments in the world today!



## The energy transition is not an impossible puzzle







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## Thank you for the attention

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