



7th AIEE Energy Symposium on Energy Security

Session “Energy industry challenges to a low-carbon economy, the RES and gas role in the transition ”

The 2030 Renewables Targets

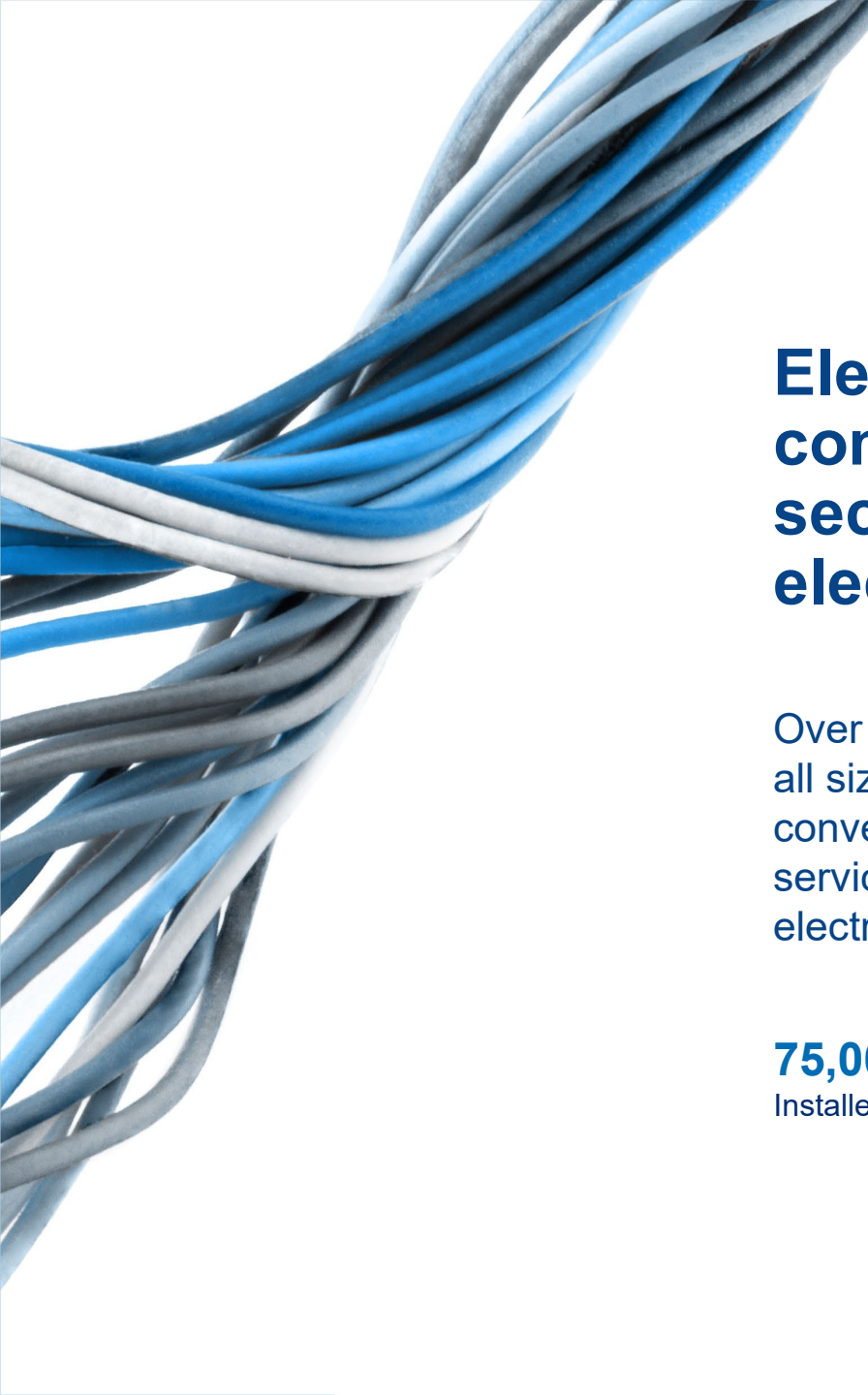
The Italian electricity sector 2030 Plan

15 December 2022, h 14.30 – 16.00

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Elettricità Futura is the leading association of companies operating in the Italian electricity sector, accounting for over 70% of the electricity produced and consumed in Italy.

Over 500 companies have chosen Elettricità Futura. Our members are of all sizes, active in the production and marketing of electricity from conventional and renewable sources, in distribution and in the supply of services to the sector. Our members account for 75,000 MW of installed electrical generation capacity and 1,150,000 km of distribution lines.

75,000 MW
Installed power

1,150,000 km
Distribution grid

40,000
Employees

We are in the depth of a climate crisis...

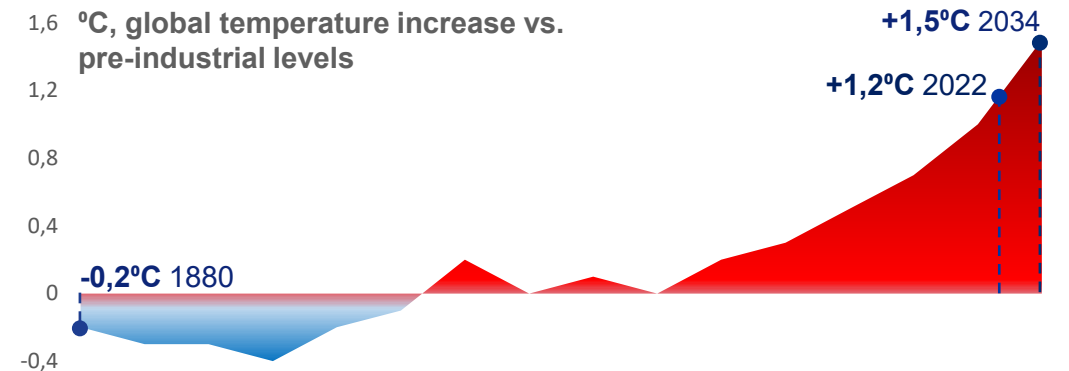
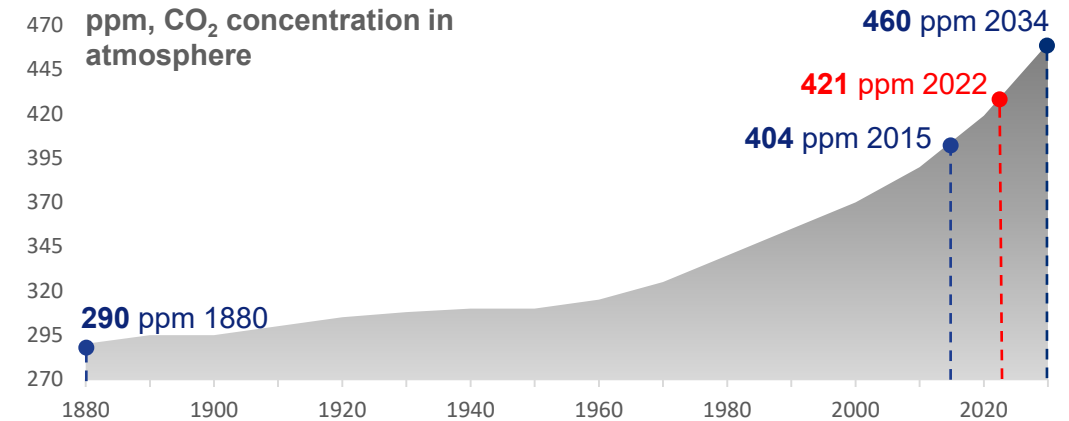
RECORD Average temperature increase.

RECORD CO₂ in atmosphere: 421 ppm in may 2022 (+50% vs. pre-industrial levels).

RECORD Sea level increase.

RECORD Ocean warming and acidification.

- Global temperature has increased already by + 1.2° C.
- We have a 50% chance of exceeding the + 1.5 ° C threshold in the next 5 years.
- In Europe, the damage amounted to almost € 50 bn. in 2021.
- Italy is the 2nd European country for damage related to climate change.
- We have experienced the worst drought of the last 70 years.



Sources: Mauna Loa Global Monitoring Observatory (<https://www.noaa.gov/news-release/carbon-dioxide-now-more-than-50-higher-than-pre-industrial-levels>), EEA, Economic losses from climate-related extremes in Europe <https://www.eea.europa.eu/data-and-maps/indicators/direct-losses-from-weather-disasters-4/assessment>; Legambiente, with the contribution of the Unipol Group and the scientific collaboration of Enel Foundation: Rapporto Città Clima 2021 (<https://cittaclima.it/>); Munich RE <https://forbes.it/2022/05/20/cambiamento-climatico-danni-record-2021/>. Copernicus: EU program for earth's observation: <https://climate.copernicus.eu/how-close-are-we-reaching-global-warming-15degc>. CMCC «Impatti, vulnerabilità, adattamento: Focus sull'Europa e sul Mediterraneo» (https://files.cmcc.it/ar6/wg2/ar6_wg2_lionello_ita.pdf).

Estimates for CO₂ concentration in 2034: it has been assumed a linear increase vs. the historical data of the last 10 yrs, in case the current trend is maintained.

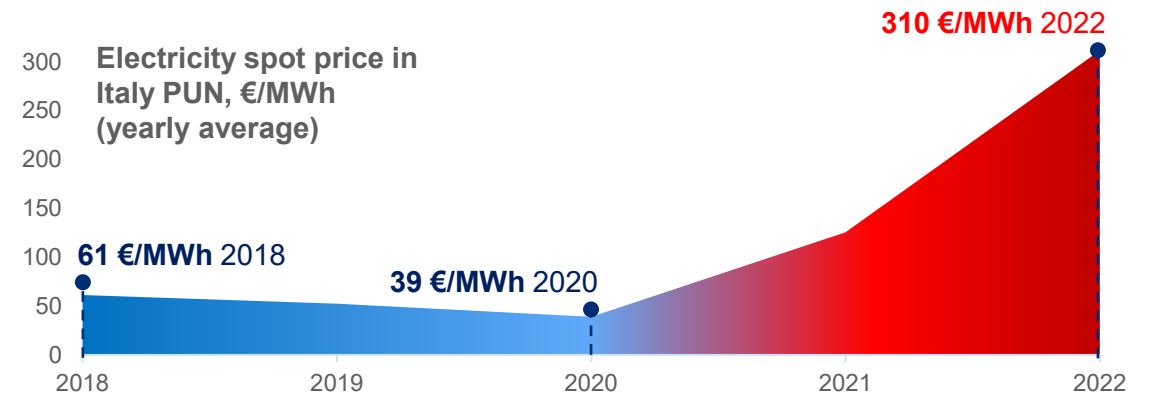
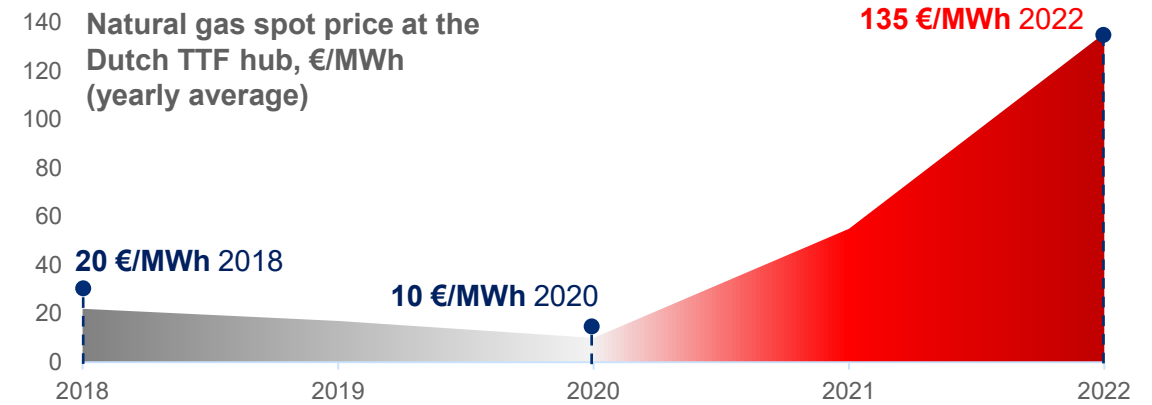
...and the energy crisis is in full swing

Gas price has increased almost sevenfold compared to the average price of the previous years.

...and spot electricity prices increased over sixfold because 60% of electricity production in Italy still relies on gas.

As of now, RES are national resources and the most convenient option, despite the increase in the overall cost of RES generation.

The energy transition is the best solution to achieve energy independence from Russia.



Renewables are the structural solution to the climate and energy crisis

Source: ICE, GSE, GME, Terna.

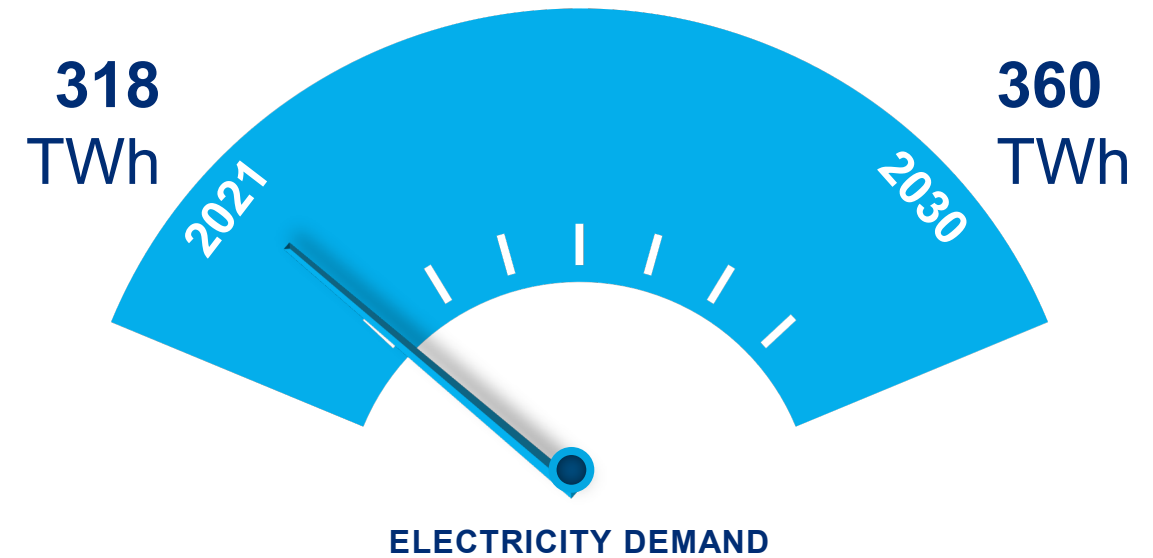
TTF and PUN 2022 data show the average price in the January-October '22 timeframe.

In some days of August 2022, the gas price at the TTF exceeded 300 € / MWh and the PUN exceeded 700 € / MWh

2030: we will need more electricity

Electrification of end-use consumption in Italy will increase thanks to the higher reliance on heat pumps and Evs.

Considering the role of energy efficiency, electricity demand will reach 360 TWh.



2030 Electricity Sector Plan for Italy

Relevant environmental, economic and social benefits in Italy by installing 85 GW of new renewable power and achieving 84% renewables share on the national electricity production.

309 Bn€

Overall investments until 2030 in the electricity sector and associated supply chain.

-64 Mn t CO_{2eq}

CO_{2eq} emissions reductions in the electricity sector (94 Mt CO_{2eq} avoided emissions in 2030 vs 1990, -75%, and 64 vs 2021, -67%).

345 Bn€

Overall economic benefits until 2030 in terms of added value along the electricity sector supply chain and increase of internal spending.

470.000

New jobs along the electricity sector supply chain in 2030 (in addition to the existing 120.000 jobs).

How to solve the energy crisis

By reaching the targets of the 2030 Electricity Sector Plan:

**85 GW of RES
Capacity**

would
substitute

**20 billion m³
of imported gas**

=

**Italy would save almost € 30 bn. per year worth of imported
gas
(at the average price of january-october 2022).**

Notes: almost € 30 billion of savings calculated taking as reference the average price on the TTF in the period January-October 2022 equal to 135 €/MWh. Applying a standard conversion factor of 0,0107, this is equivalent to €2,16 for each standard m3 of natural gas.

Economics and social benefits for Italy, across scenarios

	Investments needed 2022-30, € bn.	Economic impact, € bn.	Additional new jobs*
<ul style="list-style-type: none"> ■ NECP 2019 scenario + update with simulation based on current policies (+44 GW RES by 2030) 	247	289	370.000
<ul style="list-style-type: none"> ■ Fit for 55: with a boost on sustainable technologies (+65-70 GW RES by 2030) 	296	332 € 36,8 bn. yearly on average, 2,1% GDP 2021	450.000
<ul style="list-style-type: none"> ■ REPowerEU (+85 GW RES by 2030) 	309	345 € 38,3 bn. yearly on average, 2,2% GDP 2021	470.000

* New employees in 2030 in addition to the current 120,000, values rounded to 10,000

Just Transition and enhancement of people's skills

- The **Covid-19 pandemic** has profoundly influenced the activities of companies in the electricity sector, which have shown resilience and an ability to adapt quickly to a complex and unprecedented context. This had ensured the continuity of an essential service for our society.
- The challenges posed by the pandemic have often led to a **radical modification of companies' operating systems**, entailing also the acquisition of knowledge that will have to be capitalized.
- **Digitization and technological innovation** are producing a strong impact on the ways of working, also in the electricity sector, representing an enabling factor for growth and the deployment of investments.
- The trends described imply the **need for new skills and professional figures** that can respond proactively and flexibly to changes, in line with the new digital processes and being able to make use of advanced technological tools.
- The process must be supported through **lifelong training**, but also coupled with by the planning of adequate **generational turnover policies**.

The employment impact of the energy transition in the electricity sector

The following evidence emerges from several studies :

- the **creation of jobs in the entire supply chain** of the electricity sector, stemming from the production of electricity from renewable sources, is greater than the jobs lost by transitioning away from the production of electricity from conventional sources.
- It is extremely important to **constantly train all employees** to make them able to adapt technological evolution.
- Green job creation will depend on the **ability of Countries to build and strengthen national supply chains** and upgrade and digitize their own electricity grids
- The profound transformation process that is affecting the electricity sector and the strong impact of digitization and technological innovation highlight the clear **need for a review of some professional figures** with new skills and competences, to respond proactively and flexibly to the changes taking place.

The main actions in the short and medium term to solve the climate – energy crisis (1/2)

PROMOTE RES GROWTH TO REDUCE ENERGY COSTS AND DEPENDENCY FROM ABROAD

- Update the **National Energy And Climate Plan** consistently with the new EU targets.
- **Simplify bureaucracy** for RES authorization and reorder the regulatory provisions in a **consolidated act**
- Promote the urgent **implementation of suitable areas**, declaring as suitable all areas not interested by specific constraints.
- Make the Regions responsible for achieving the installation of 85 GW by implementing an **opportunity sharing** principle and **adapting regional laws to the principles of national regulations**.
- Promote the **electrification** of consumption, the development of **hydrogen** supply chain and innovative technologies.
- Implement new **support schemes** for renewables and energy communities.

The main actions in the short and medium term to solve the climate – energy crisis (2/2)

ALIGN NATIONAL PROVISIONS ON THE ALLEGED EXTRA-PROFITS WITH EU REGULATION 2022/1854 AND RATIONALIZE THE MEASURES TO CONTAIN THE HIGH ENERGY PRICE

- The regulatory framework that is emerging at national level is extremely critical as many operators in the electricity and renewables sectors could be hit by a **double or triple taxation, as early as 2022, openly in contrast with EU provisions.**
- **All the measures on *extra-profits* should be rationalized, while** avoiding applying contributions to support consumers affected by the energy crisis only to operators in the energy sector.
- It's also necessary to overcome the ban of “Aiuti-Bis” decree by **making possible to update the economic conditions of energy supply contracts** upon expiry of the same, in compliance with the contractually provided notice terms and without prejudice to the user's right of withdrawal.



Thank you for the attention

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