

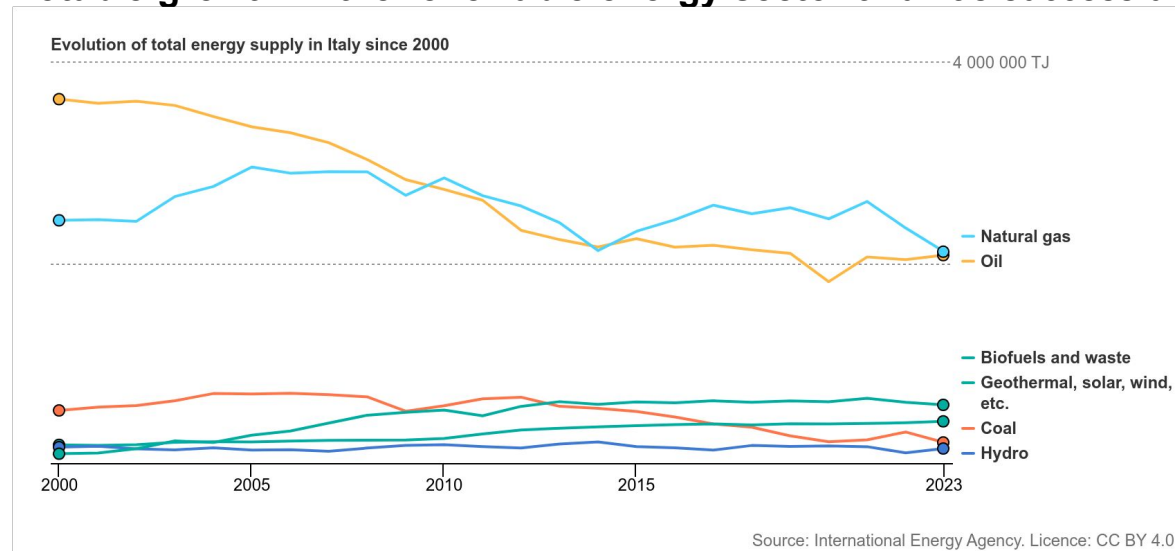
Energy situation in Italy

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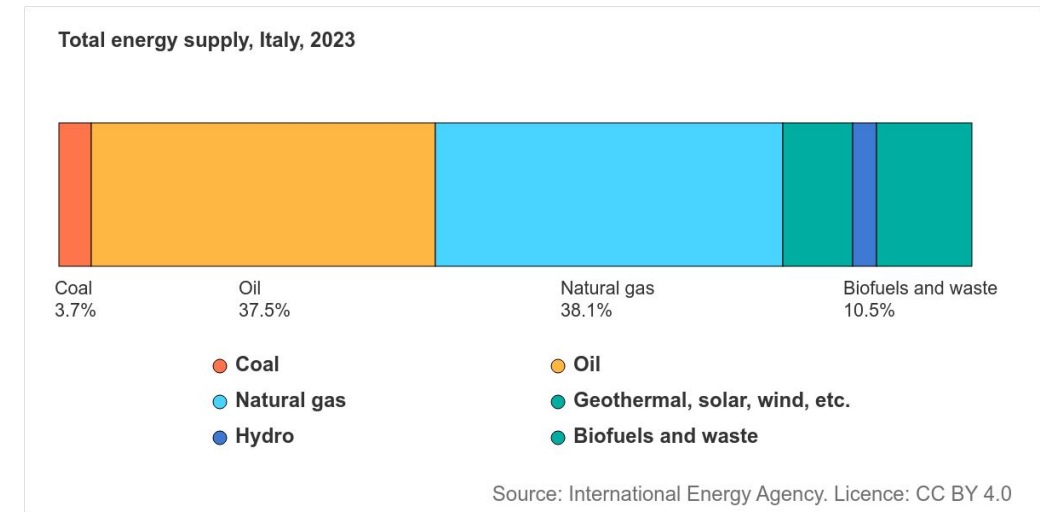
Energy system of Italy

- Italy aims for **carbon neutrality by 2050** and is on track to reach its 2030 targets for emissions reductions and energy efficiency.
- The country has experienced **notable growth in the renewable energy sector** and has successfully integrated large volumes of variable renewable generation.



Energy supply

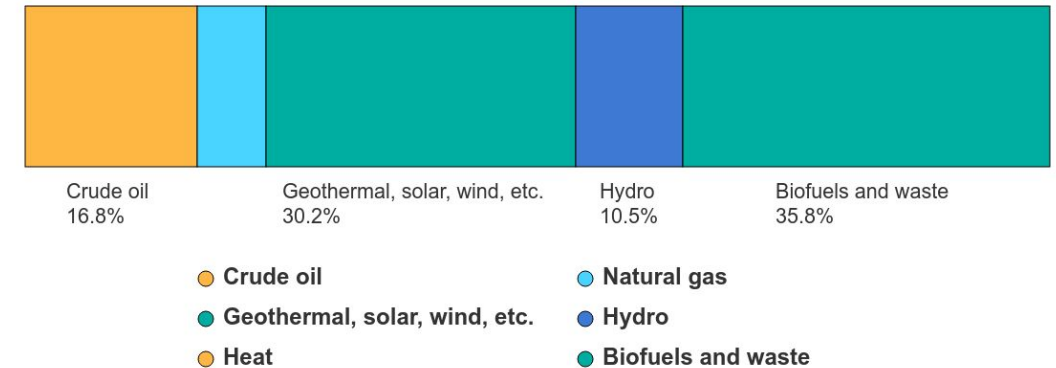
- **Total energy supply** includes all the energy produced in or imported to a country, minus that which is exported or stored.
- It represents **all the energy required** to supply end users in the country.
- Some of these energy sources are used directly while most are transformed into fuels or electricity for final consumption.



Domestic Energy production

- **Energy production** includes any **fossil fuels** drilled and mined, which can be burned to produce electricity or used as fuels, as well as **energy produced by nuclear fission and renewable power sources** such as hydro, wind and solar PV.

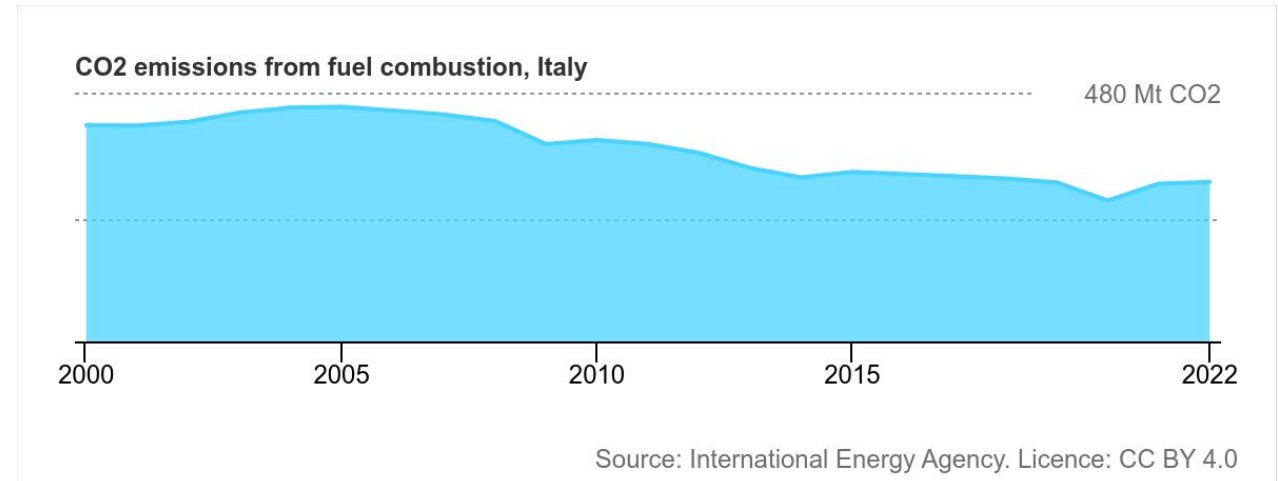
Domestic energy production, Italy, 2023



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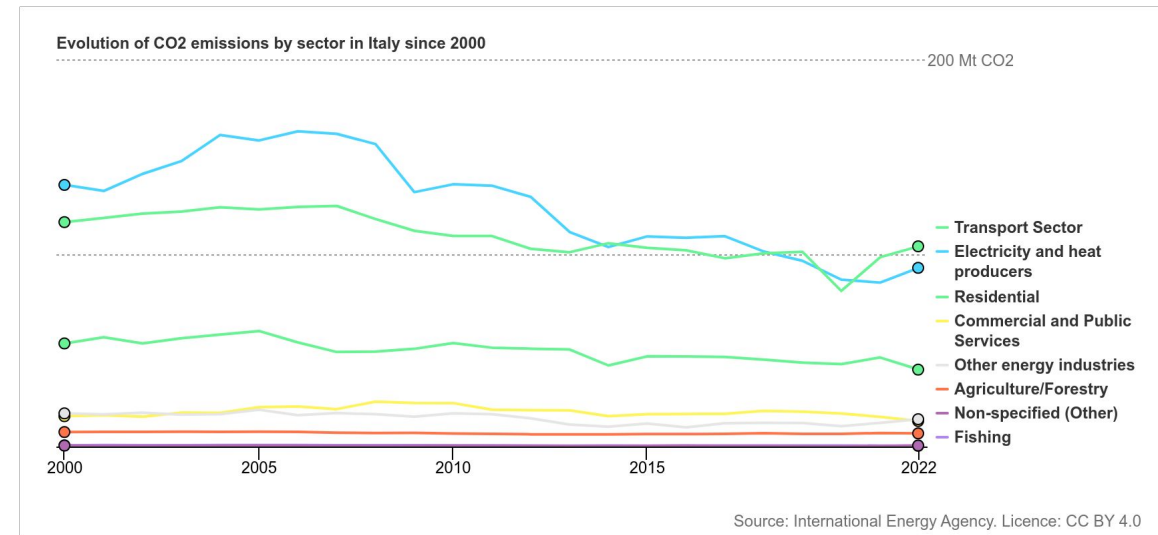
Emissions

- Energy is responsible for the majority of climate change-causing greenhouse gas emissions, mostly from the burning of fossil fuels.
- Despite efforts to reduce these emissions, the trajectory of CO2 emissions globally remains far higher than what is needed to avoid the worst effects of climate change.



CO₂ emissions by sector

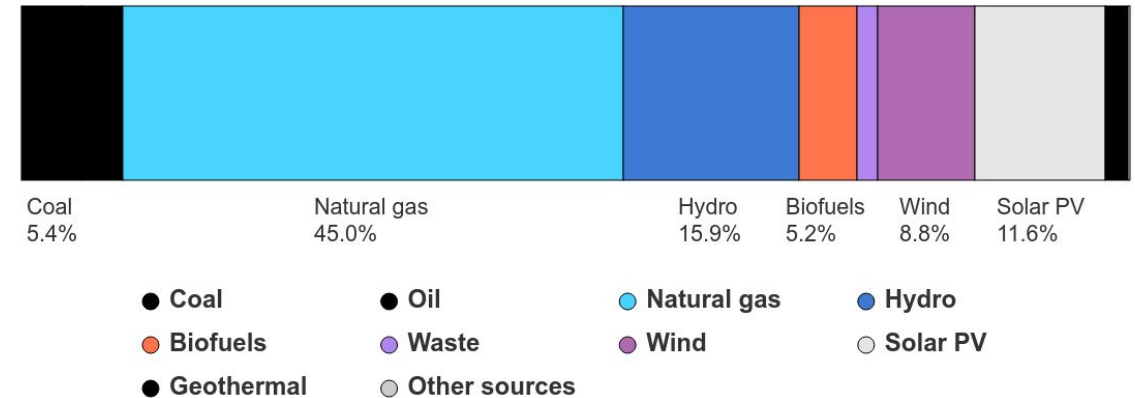
- The sectoral breakdown of energy-related CO₂ emissions depends on the structure of the economy and the energy system.
- In transport, the vast majority of emissions in most countries come from cars, which despite the rapid growth of EVs are still overwhelmingly reliant on oil-based fuels.
- In industry, emissions come primarily from burning fossil fuels to produce heat for industrial processes such as making paper or steel.



Electricity

- Electricity can be generated in two main ways:
 - by harnessing the heat from burning fuels or nuclear reactions in the form of steam (thermal power)
 - by capturing the energy of natural forces such as the sun, wind or moving water.

Electricity generation sources, Italy, 2023



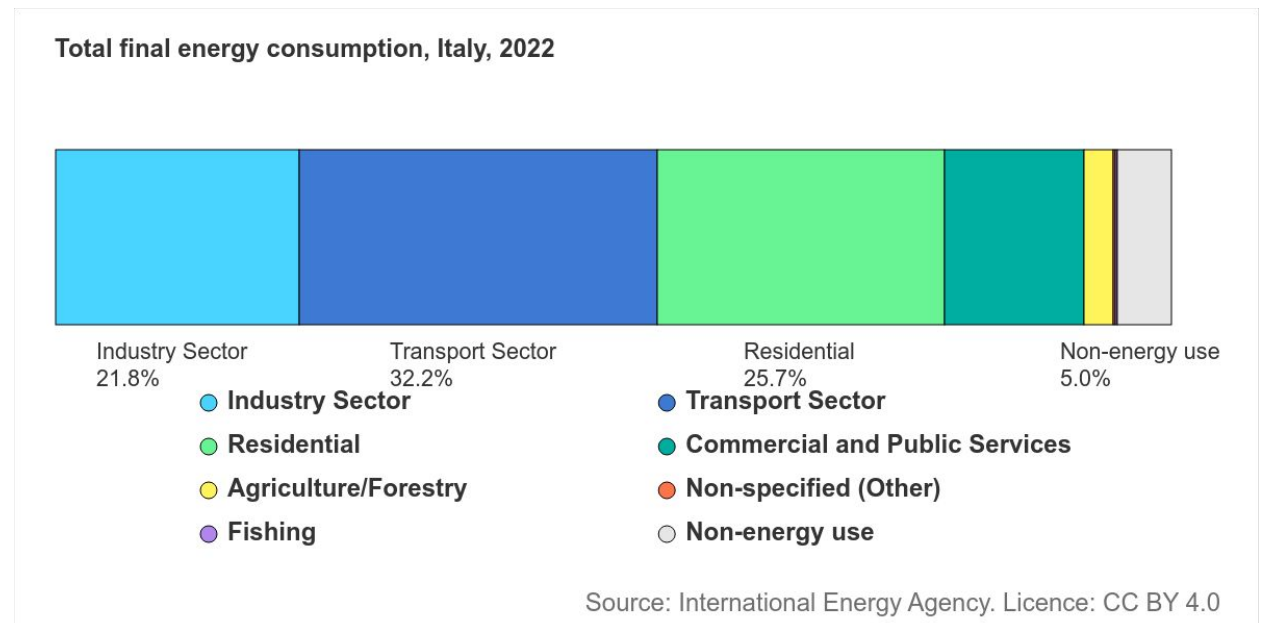
Source: International Energy Agency. Licence: CC BY 4.0

Electricity Maps

<https://app.electricitymaps.com/map/72h/hourly>

Understanding energy end uses

To get an accurate picture of energy efficiency in a country, it is important to first look at how and where energy is being used. Total final consumption is the energy consumed by end users such as individuals and businesses to heat and cool buildings, to run lights, devices, and appliances, and to power vehicles, machines and factories.





Thanks for your attention!

Q&As?



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Energy situation in your country

Working Groups Exercise

Modified Worksheets

Group Name: _____

Country/Region Chosen: _____



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ENERGY IN YOUR COUNTRY WORKSHEET

1. ELECTRICITY MAPS



<https://app.electricitymaps.com/map/72h/hourly>

2. ELECTRICITY PRICES



<https://tradingeconomics.com/germany/electricity-prices-medium-size-households-eurostat-data.html>

3. MEDIAN DISPOSABLE INCOME



<https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20231103-1>

4. IEA - ENERGY SYSTEM OF EUROPE



<https://www.iea.org/regions/europe>



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POWERING CITIZENS



ENERGY IN YOUR COUNTRY WORKSHEET

1. ELECTRICITY MAPS

2. ELECTRICITY PRICES

3. MEDIAN DISPOSABLE INCOME

4. IEA - ENERGY SYSTEM OF EUROPE



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