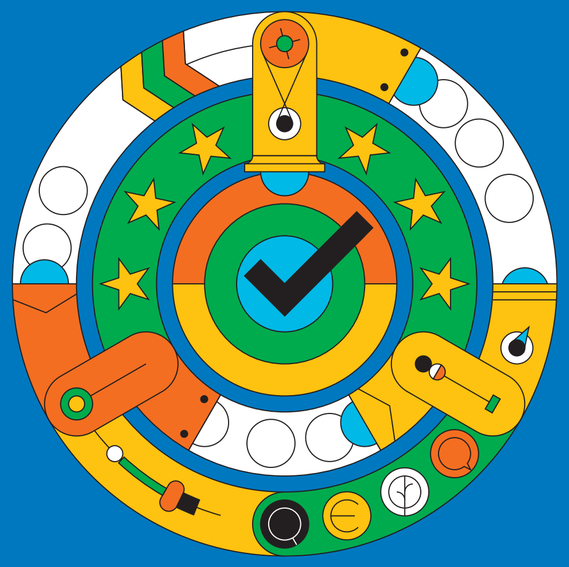
European Governance of the Energy Transition

Enabling Investment



The European House – Ambrosetti

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Conceptual Map

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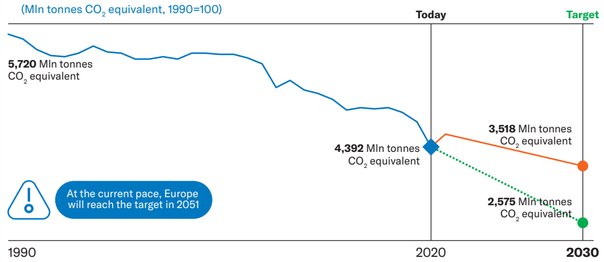
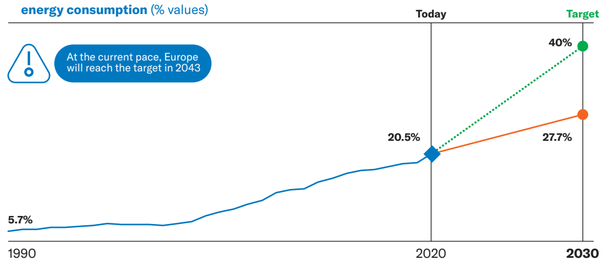
↓ EU and Italy are not on track to achieve the policy targets

Europe, 1990-2030 — "Fit for 55" targets — EU

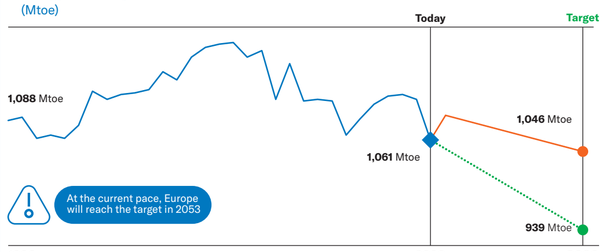
↓ GHG emissions
(Mln tonnes CO_2 equivalent, 1990=100)



↓ Share of renewables (RES) in final energy consumption (% values)



↓ Energy efficiency
(Mtoe)



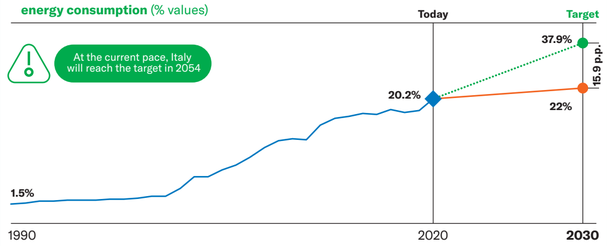
Historical data — Inertial trend*

Trend needed to reach policy targets related to the "Fit for 55" package at 2030

- On July 14th, 2021, the European Commission published the **"Fit for 55" package with revised targets**, setting net greenhouse gas emissions reduction target of at least **55% compared to 1990 by 2030**
- At the current rate, Europe will reach the -55% GHG target for 2030 only in **2051**
- As regards renewables, Europe will fall short of the 2030 target of **40%** by more than 12 percentage points, only achieving it in **2043**
- Considering energy efficiency, at the current level of improvement, Europe will reach the **+36% 2030 target** only in **2053**

Italy, 1990-2030 — Estimated target starting from the National Plan for Energy and Climate and from the "Fit for 55" package — IT

↓ Share of renewables (RES) in final energy consumption (% values)



Historical data — Inertial trend*

Trend needed to reach the estimated policy target related to the -55% GHG target at 2030

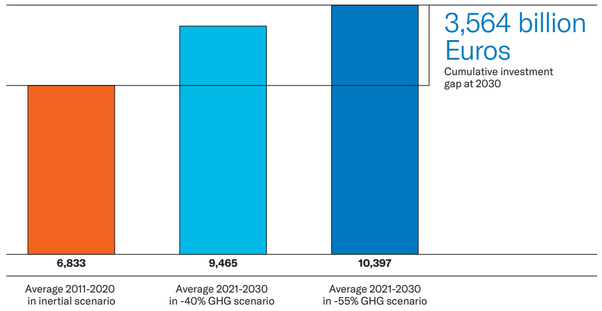
- In Italy, the Integrated National Plan for Energy and Climate (PNIEC) 2030 still needs to be revised according to the new "Fit for 55" package. By estimating the new targets that Italy could set in the new release of the PNIEC, the following targets can be considered for the country: **-43%** of GHG emissions, **37.9%** of renewables and **46.4%** of energy efficiency analysis improvements
- However, assessing Italy's current performance in achieving these targets, a delay of **29 years** on average emerges compared to 19 years in Europe, with a delay of **24 years for RES**

*Inertial trends have been calculated by projecting the CAGR (Compound Annual Growth Rate) of different time spans according to the indicator considered: from 2005 to 2018 in the GHG emissions analysis in order to consider the industrial evolution of each country; from 2015 to 2019 in the renewable energy analysis, in order to take into account the market maturity of renewable products; from 2006 to 2019 in the energy efficiency in Europe and from 2015 to 2019 in Italy.

Source → The European House – Ambrosetti and Enel Foundation elaboration on European Environment Agency and Eurostat data, 2021.

↓ What are the investments needed to reach the targets?

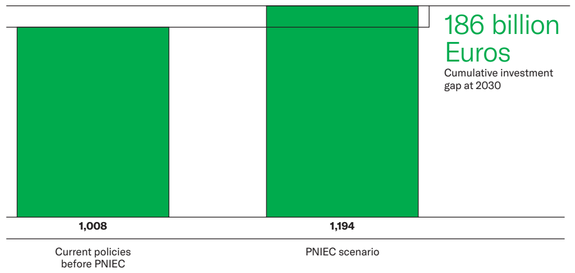
Cumulative total energy system public and private investments needed in different scenarios in EU27, 2021-2030E (billion Euros) — EU



- If Europe continues to invest at the same rate as in the past, by 2030 it will accumulate a **3,564 billion Euros** investment gap with respect to the inertial scenario, >3 times the EU 2021-2027 budget (1,074 billion Euros) and ~5 times the NextGeneration EU (750 billion Euros)
- The power grid sector presents the highest percentage increase of average annual 2021-2030 investments, going from 24 billion Euros to 58 billion Euros (+141.7%). Although the transport sector invested the largest amount on average each year over the 2011-2020 period (492 billion Euros), it still requires a 26.4% increase in annual investments in the next 10 years according to the -55% GHG scenario

Source → The European House – Ambrosetti and Enel Foundation on European Commission data, 2021.

Cumulative energy investments in different scenarios in Italy according to the current PNIEC targets, 2017-2030 (billion Euros) — IT



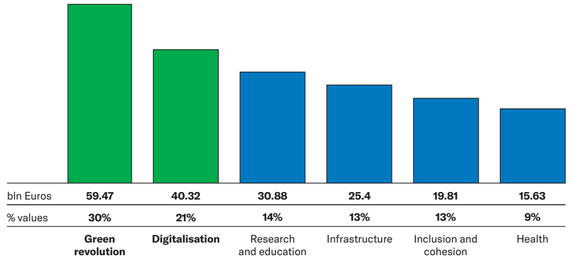
- In Italy, the energy transition requires **186 billion Euros** additional investments with the buildings and renewables sectors requiring the largest amount of additional investments to reach the 2030 PNIEC policy targets, **99 and 38 billion Euros** respectively

Source → The European House – Ambrosetti and Enel Foundation on PNIEC data, 2021.

↓ The investment opportunity and the expected benefits of the energy transition

Composition of the PNRR by funding, 2021 (billion Euros and % values)

Composition of the PNRR by Mission (billion Euros and % values)



	Green revolution	Digitalisation	Research and education	Infrastructure	Inclusion and cohesion	Health
bln Euros	59.47	40.32	30.88	25.4	19.81	15.63
% values	30%	21%	14%	13%	13%	9%

* Complementary fund consists of resources that the Italian government allocates to projects that are not covered by European funds.

N.B. → The financial allocations from the Supplementary Fund and React EU are excluded.

- The Next Generation EU represents an **unprecedented investment opportunity** for recovery and energy transition. Italy will receive the largest share (21%) of subsidies among EU Member States
- The Italian Italian Recovery and Resilience Plan (PNRR) amounts to a total of **235.12 billion Euros**, with **30%** of the resources earmarked for the "green revolution" mission, which is the energy transition pillar of the plan. The investments foreseen in the "digitalisation" mission will also indirectly have a positive impact on Italy's energy transition

Source → The European House – Ambrosetti and Enel Foundation on PNIEC data, 2021.

The deployment of investments in energy transition would generate huge economic benefits both in Europe and in Italy: for each Euro of GDP generated in the electricity sector, the total impact on the economy is **2.28 Euros of GDP**

The EU needs to bridge the current **3,564 billion Euros** investment gap in the energy transition in the next 10 years — EU

Multiplier effect **2.28** → **8,126 billion Euros in the EU GDP** (cumulative values from 2021 to 2030)

Italy needs to bridge the **186 billion Euros** investment gap in the energy transition in the next 10 years — IT

Multiplier effect **2.28** → **424 billion Euros in the Italian GDP** (cumulative values from 2021 to 2030)

Source → The European House – Ambrosetti and Enel Foundation elaboration on "Empowering Europe's Investability" study and Eurostat data, 2021.

→
What are the energy transition governance issues and their consequences on the analysed sectors?

↓ Main issues of European energy governance: (EU)

1. Shared competences on energy
2. Need to implement a new "indirect" enforcement
3. Need to strengthen the new mechanism for managing policy targets

↓ Main issues of Italian energy governance: (IT)

1. Fragmentation of competences
2. Territorial discrepancies
3. Involvement and commitment by local authorities and communities
4. Role of the public technical-administrative bodies
5. Fragmentation in sectoral policy design

		Effects on...	Effects on...
Supply side	Renewable energy sources	• The RES policy targets are not binding for individual Member States, but only for the EU collectively and, as a consequence, EU objectives are not adequately addressed by all Member States, the result being very uneven (and unsuccessful) efforts	• Inefficiency of national permitting procedures (territorial differences, different competences, non-uniformity of application of laws at the local level, veto power of the Ministry of Cultural Heritage) also causes a progressive decline in participation to bids' schemes • There is a high number of disputes by local stakeholders, even when a plant has already been authorised
Transmission and distribution	Grids	• The "European Clean Energy Package" does not recognise the current and future importance of the role of Distribution System Operators (DSOs) • Regulatory uncertainty on interconnectors prevents investments: 8 Member States have not yet met the 2020 interconnection target	• Bureaucratic delays in local permits or environmental authorisations related to grid investments must be addressed to facilitate the transition
Demand side	Buildings	• EU energy efficiency objectives are not adequately addressed by all Member States • Member States are free to choose the metrics to assess energy efficiency target performance, resulting in a lack of homogeneity at the European level • There is a huge variety in calculation methods for the Energy Performance Certificates in Europe, since Member States are free to design them nationally • There are huge varieties of different energy label scales (from A to G, A+++ to D, etc.)	• Italian energy efficiency objectives are not adequately addressed with policies and measures in the National Energy and Climate Plan • The incentivising mechanism of *Certificati Bianchi* is inefficient • There is a lack of awareness of the local stakeholders and final consumers about the opportunities of renewable energy investment
	Transport	• Across EU there are no minimum requirements for harmonised payment systems and user information and there are no clear and coherent charging infrastructure targets	• A revision of PNire is needed to respond to the recent evolution of the market • The collaboration mechanism between local authorities (municipalities and regions) on the one hand, and DSOs (Distribution System Operators) and CPOs (Charge Point Operators) on the other, for identification of recharging point sites and charging needs should be enhanced and made homogeneous at national level
	Industry	• The ETS entails the risk of carbon leakage and on average free allowances still cover around 50% of the GHG emissions • Industry is not incentivised to carry out energy efficiency measures, also due to a lack of harmonisation of the fiscal and para-fiscal components of energy carrier prices	• The incentivising mechanism of *Certificati Bianchi* is inefficient as the establishment of a more complex calculation procedure for energy savings leads to an increase in the prices of certificates on the market • The Italian legislative framework could be improved for the full deployment of the ESCOs

↓ **7 Proposals** to improve the governance of the energy transition

European level – Internal dimension (EU)

1. Implementing a **stronger form of cooperation** in the governance of the energy transition, officially recognising its critical role
2. Adopting a **regional approach** to enhance EU market integration

European level – External dimension (EU)

3. Encouraging internationally the **Carbon Border Adjustment Mechanism (CBAM)**
4. Promoting more effective mechanisms to ensure that **Nationally Determined Contributions** are **consistent** with the objectives of the **Paris Agreement**

National level (focus on Italy) (IT)

5. Simplifying the **authorisation procedures for RES plants** and favouring energy efficiency interventions
6. Creating a **homogeneous and standardized mechanism of interaction** between local authorities on the one hand, and Distribution System Operators and Charge Point Operators on the other
7. Promoting a full integration of **districts** and **clusters of companies** at local level, **ecosystems of innovation** and **energy communities** with the national distribution grid