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The State of Europe's Climate Investment - 2026 Edition

Accelerating investment for an energy-independent and low-carbon future

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Introductory remarks

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I4CE INSTITUTE FOR CLIMATE ECONOMICS

Presentation of the State of Europe’s Climate Investment, 2026 edition report

Accelerating investment for an energy-independent and low–carbon future

- The EU faces its **second major fossil fuel price spike this decade**, in the wake of what the International Energy Agency's Executive Director describes as ***"the greatest threat to global energy security in history***
- As this new energy crisis may prove persistent, and such disruptions may become more frequent, a fossil-free economy is no longer solely an environmental objective, **but also a strategic economic imperative.**
- The current geopolitical and energy context could similarly **accelerate EU decarbonised investment policies** and further consolidate the European Commission as an *Investment Commission*, in line with the orientation set out by its presidency.
- **The timing of investment is crucial:** acquiring new assets today shape the EU27's future economy, future dependencies, and future GHG emissions.
- In this context, this report offers an **independent analysis of current and future investments,** and clarity on the state of play on investments in the sectors central to the EU's prosperity.
- The report builds on **3-years** of experience in tracking climate investment **in Europe** and **12-years in France.**

Scope of the report: what does this report look at ?

Scope of the study

This report estimates **gross public & private investments:**

- Physical capital
- Durable goods

In 4 sectors:

- Energy
- Transport
- Buildings
- Cleantech manufacturing

In several sub-sectors required for the transition:

- Renewables
- Nuclear energy
- Power grids
- Buildings energy renovation
- Heat pumps
- Energy efficiency of new buildings
- Rails infrastructures
- Electric vehicles
- Batteries, electrolysers, solar panels, wind turbines, heat pumps

Out of scope

- R&D, software, patents, databases
- Consumer products, services
- Heavy industry
- Agriculture & forestry
- Waste
- Climate change adaptation

Several sectors have not been included due to data gap or the absence of EU-level climate targets:

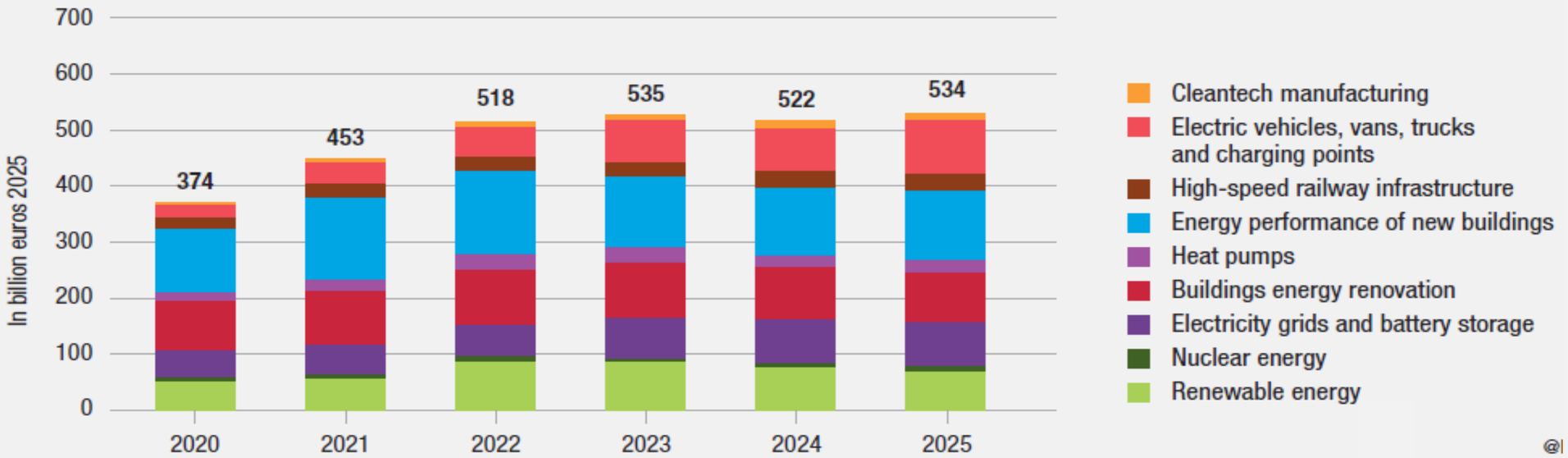
- Solar heat
- Hydrogen
- District heating
- Aviation/maritime
- Urban public transport

Scope of the study and EU 2030 sectoral targets

Sectors	Sub-sectors	Investment covered	2030 targets used
Energy	Renewable electricity	Wind power, Solar PV, Biomethane, Hydropower, Marine energy.	RED, REPowerEU, EU reference scenario
	Nuclear electricity	Maintenance of current fleet and installation of new nuclear plants	Member States' NECPs
	Power grids and battery storage (flexibility)	Transmission & distribution grids (automation, reliability of fluctuation supply, increased capacity, refurbishment, smart grids) Utility scale, commercial and industrial, and residential battery storage	ENTSOE-E, ERAA (grids); DG ENER scoping of investment needs (link to report)
Buildings	Energy renovation of buildings	Medium and deep renovation (building envelop renovation only)	EPBD 2024
	Energy performance of new construction	Building envelop isolation of new NZEB	EPBD 2018
	Heating devices	Heat pumps in existing buildings Heat pumps in new buildings	REPowerEU
Transport	Road transport	BEV for passenger cars, light commercial vehicles, trucks Public charging points	Monitoring CO2 emissions for passenger cars and heavy-duty vehicles Regulation; Alternative Fuel Infrastructure Regulation
	Railways infrastructures	Long-distance trans-European Railways infrastructures	Trans-European Transport Network regulation (TEN-T)
Cleantech manufacturing	Production capacity of clean technologies	Investment in plants producing wind turbines, solar panels, electrolysers, batteries, and heat pumps	The Net Zero Industry act (NZIA)

Three years of stagnation: clean investment fails to gain momentum since 2022

- After a sharp rise in 2022, **climate investment has stagnated to reach €534 bn in 2025,** reflecting a broader **lack of long-term investment planning.**
- The modest rebound in 2025 is mainly driven by **electric vehicles (+23%),** supported by higher public subsidies, notably in Germany.
- **In contrast, investment in renewables and nuclear energy fell by 9%**, continuing the post-2022 decline due to permitting delays, grid constraints, and weak electricity demand.
- **Early 2026 signals suggest a potential rebound in climate investment, driven by renewed pressure from the energy price crisis and a rise of policy support.**



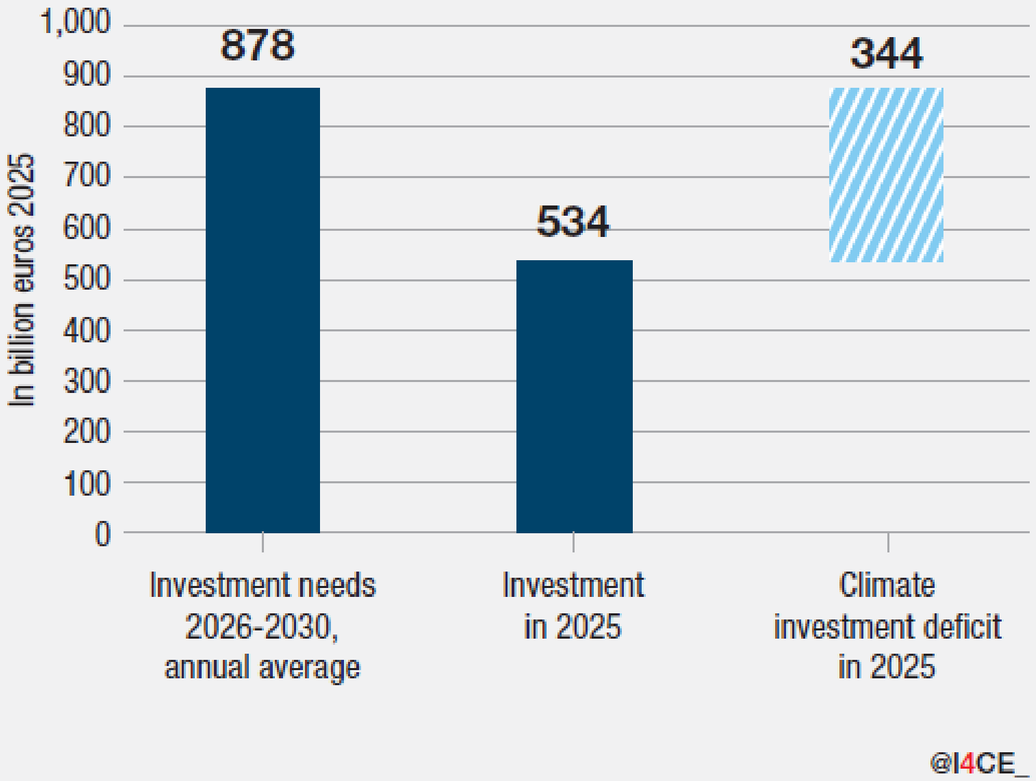
The 2025 investment level is still far from sufficient to meet the investment needs required to achieve EU's 2030 targets

- **Current investment only covers 61% of the €878 bn needed annually to meet EU 2030 targets, leaving a €344 bn gap in 2025.**

- A sectoral analysis shows a mixed picture:

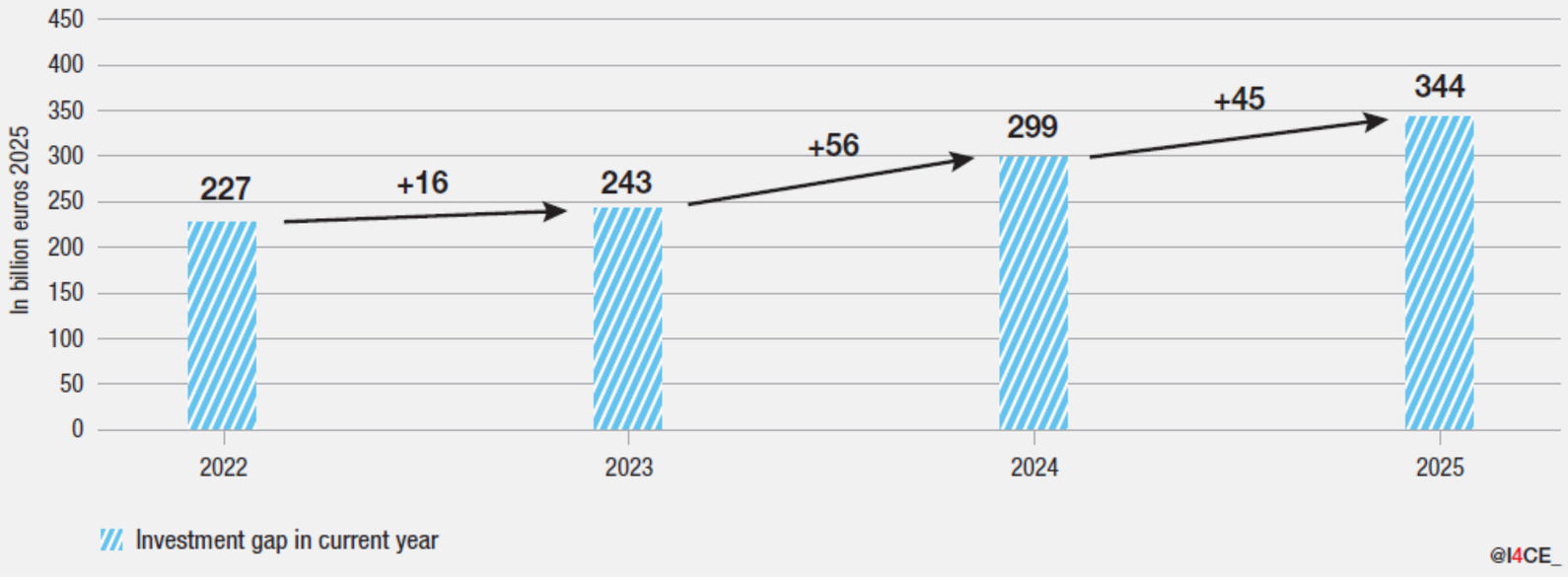
  - Several sectors **are progressing well toward their 2030 objectives**, driven by effective policies and strong demand (solar PV, battery storage, EV charging infrastructure, clean tech manufacturing)

  - By contrast, others remain significantly underinvested, with persistent and uneven gaps across sectors:
    - **Wind investment** covers only 25% of identified needs
    - **Grid Investment** reached 78% of requirements but remains a **bottleneck** that constrains progress in other sectors, including deployment of renewables.



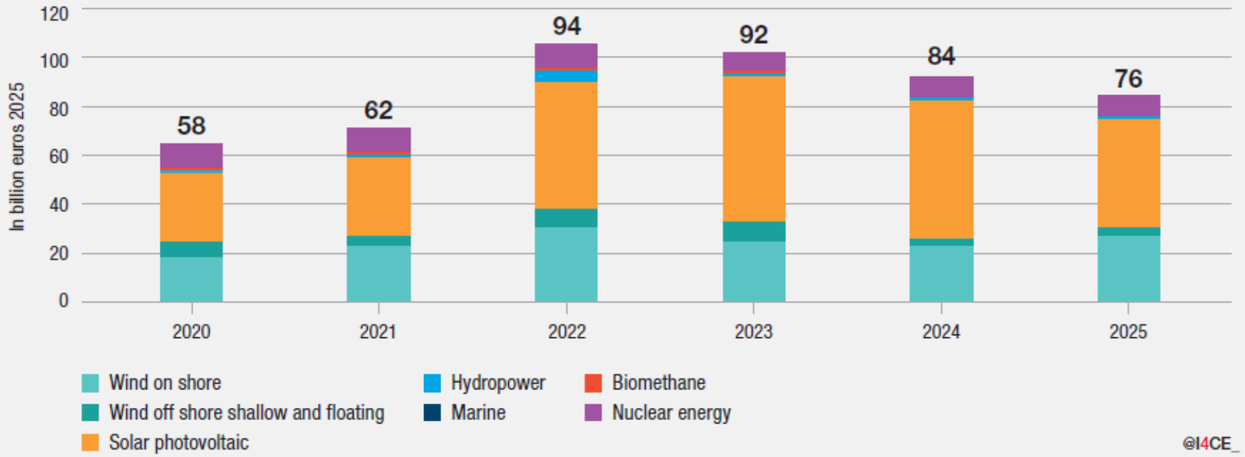
Evolution of the climate investment deficit between 2022 and 2025

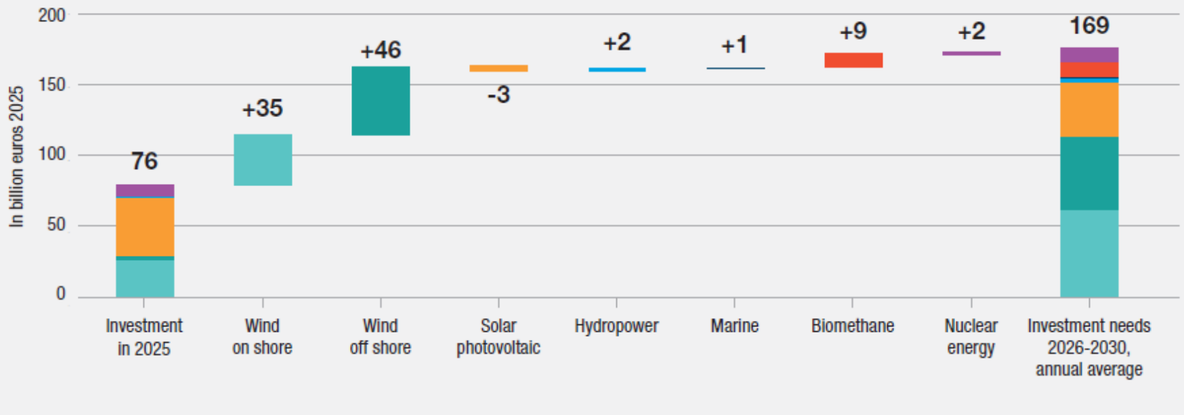
- **At constant estimation methodology, the climate investment deficit increased by €45 bn compared to 2024.**
- While investment has slightly grown in 2025 compared to 2024, it has consistently fallen short of what is needed, **creating a moving target effect.**
- **Every year of underinvestment adds to future investment needs,** widening the deficit and making the challenge progressively harder as 2030 approaches.



1. Renewable and nuclear energy generation: falling investment pushes the EU's sectoral targets further out of reach

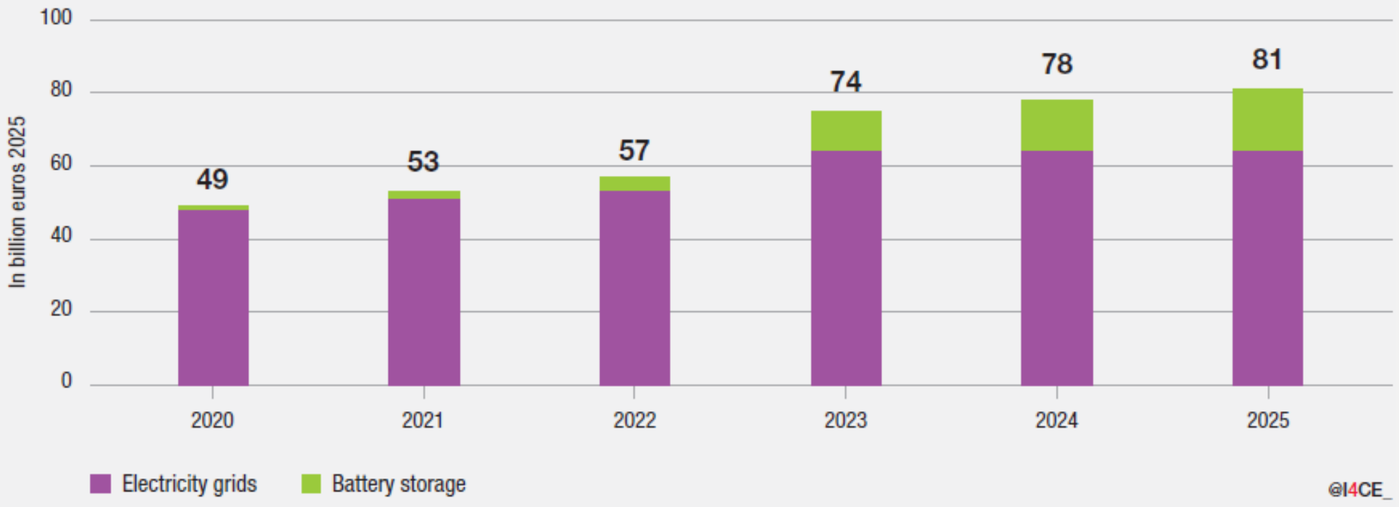
- **Investment in the renewables and nuclear has declined since 2022,** falling by 9% in 2025, driven by lower investment in solar PV, nuclear, and biomethane, and despite gains in wind and hydropower.
- To meet 2030 targets, annual investment must more than double.
- **Solar PV present an investment surplus,** but deployment must be sustained through 2030 to stay on track. Volume of installed capacity decline year on year for the first time in 2025.
- **Wind power shows the largest investment gap**, making current 2030 targets unlikely to be met on time. Investment remain limited due to delays in permitting processes, slower-than-expected growth in electricity demand, and limited grid capacity.

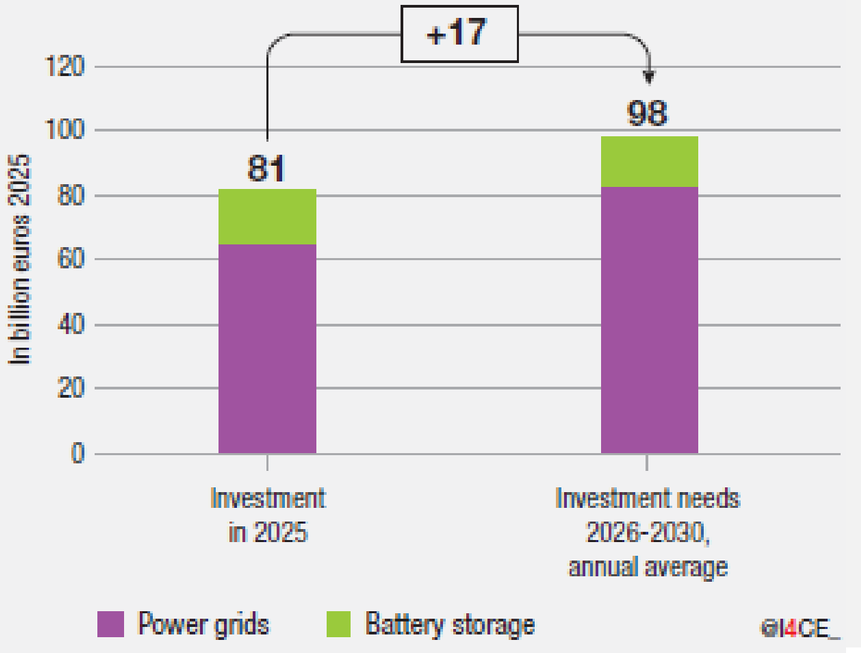




2. Electricity grids and battery storage: additional investment required to integrate new renewable energy capacity and support increased electrification

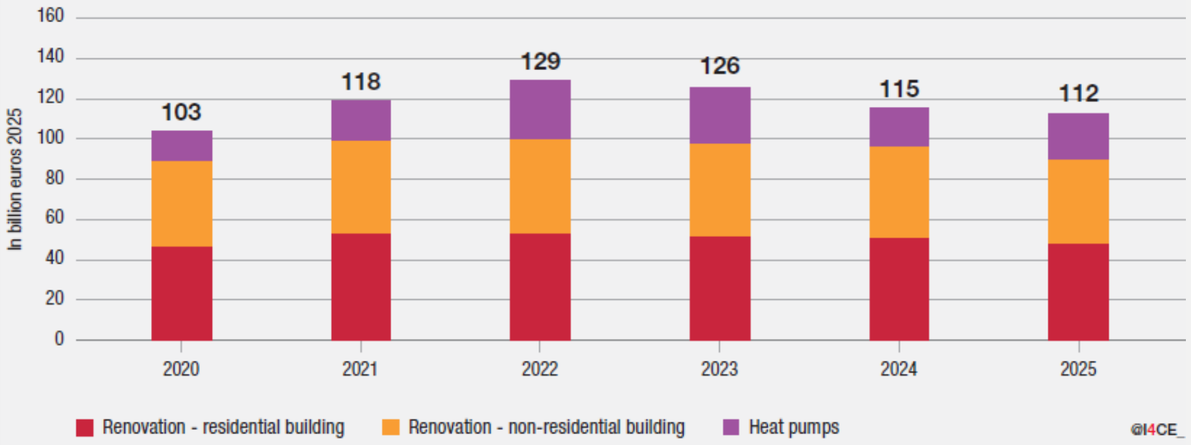
- **Grid investment has stagnated** at €64 bn since 2023, well below the €**82 bn** annually needed by 2030.
- As electrification and renewables expand, grid investment and permitting **must accelerate** across the EU as it constitutes real **bottlenecks** to their development.
- **Battery storage grew strongly since 2020**, reaching €17 bn in 2025 (+20%), slightly above estimated investment needs for 2026-2030.

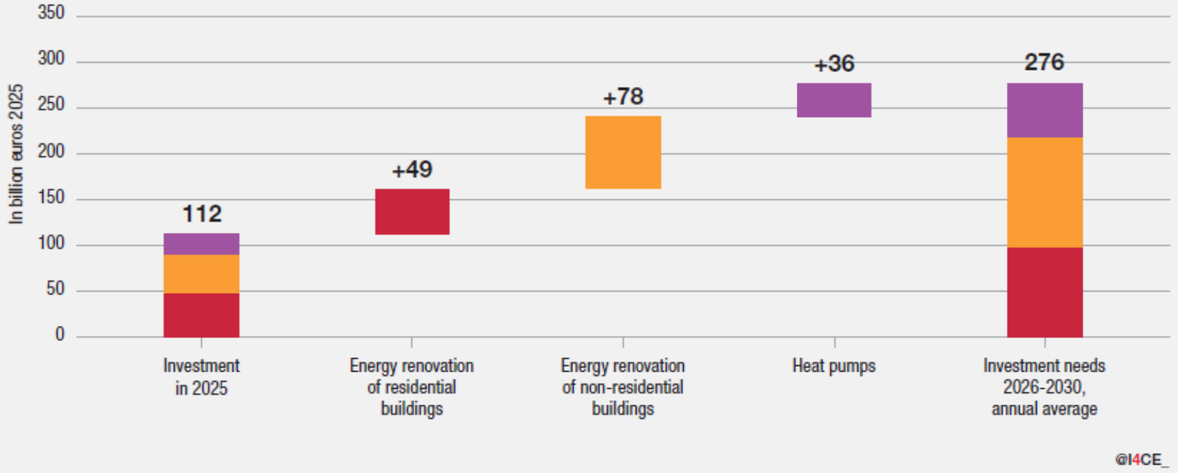




3. Building energy renovation and the deployment of more efficient heating systems: Accelerate investment to cope with rising energy prices

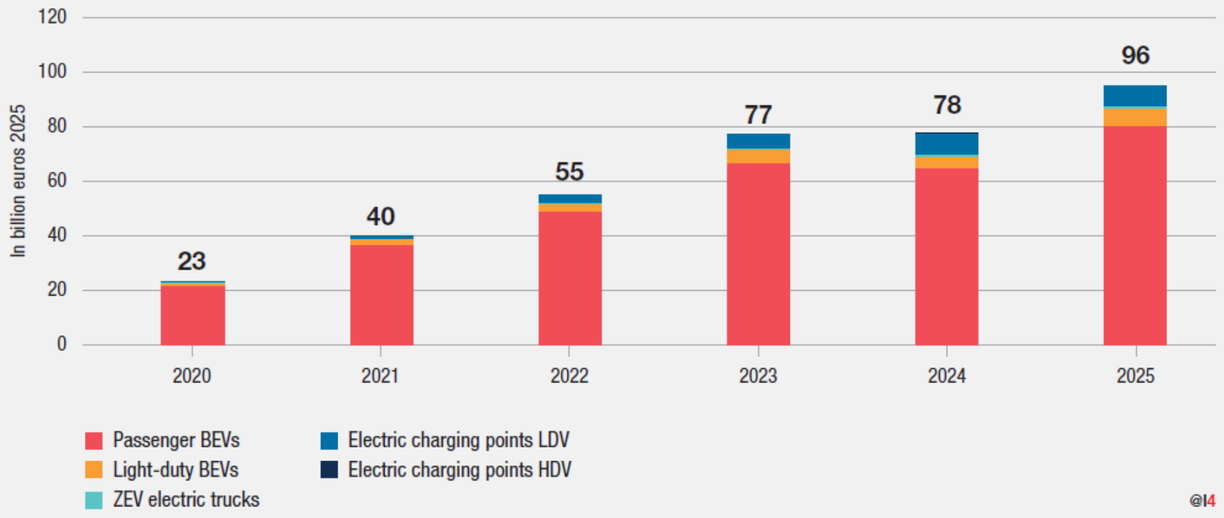
- **Post-Covid investment momentum has faded, with energy renovation activity and heat pump deployment declining since 2022.** The 2025 drop is mainly driven by weaker renovation activity, while the increase in heat pump deployment in 2025 remains insufficient to reverse the trend.
- Due to limited updated public data, renovation investment figures should be treated with caution & seen as an order of magnitude.
- **Meeting the EU's 2030 renovation and heat pump deployment objectives will require more than doubling current annual investment.**
- Higher fossil-fuel prices could accelerate heat pump deployment, as early 2026, **sales rose by 25% in France, Germany, and Poland** compared to the previous year. The upcoming **EU electrification plan** could further support this trend.

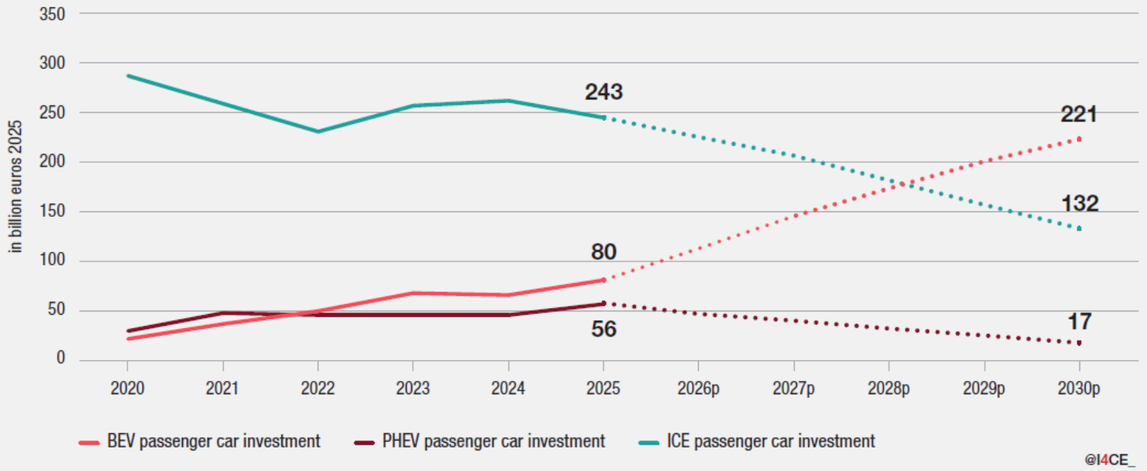




4. The electrification of road transport: Switching to electric vehicles to keep cars affordable for households

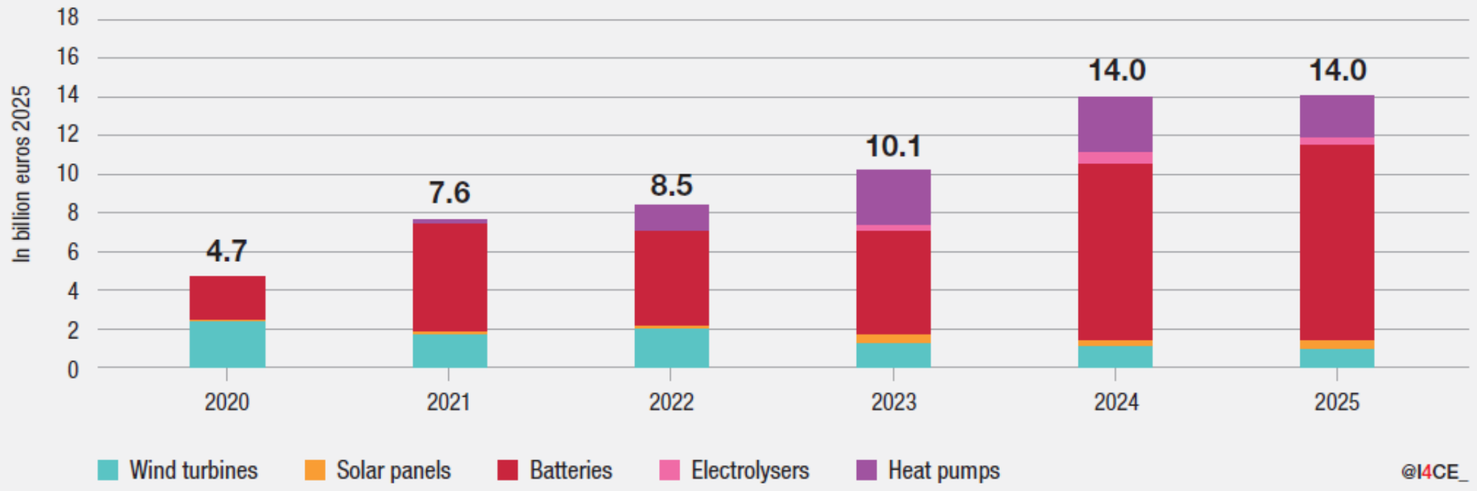
- **Investment in clean road transport rebounded strongly in 2025**, and early 2026 data confirm this momentum.
- Switching to an electric vehicle is increasingly a matter of purchasing power, EVs now cost less over their lifetime than combustion engine vehicles.
- Meeting the EU's 2030 road transport targets : investment reallocation from fossil-fuels vehicles to EVs
- **The pace of charging point investment** has been very strong in recent years and putting the EU **on track to reach its 2030 target for this sector**.

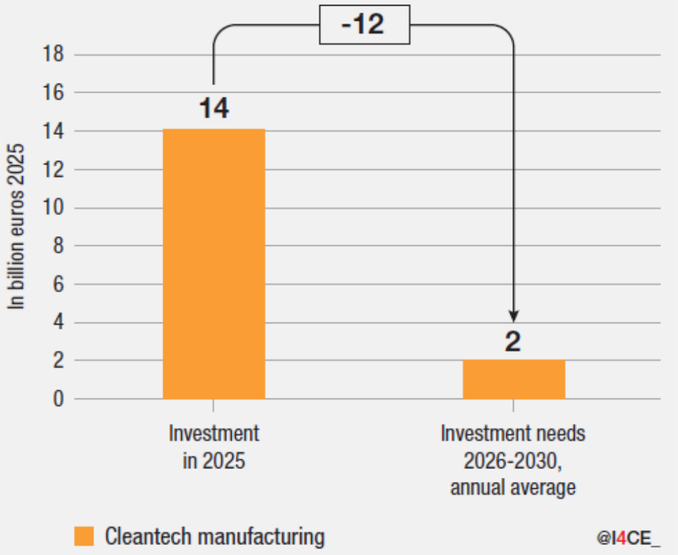




5. Clean technologies manufacturing: The EU is on track to meet its 2030 targets, provided it strengthens actual production capacity and upholds CO2 standards

- The EU has already met its NZIA manufacturing capacity targets for heat pumps, wind, and batteries, but **gigafactories are still struggling to reach full production capacity**
- The stagnation of investment in the EU is set within a context of a **global decline in cleantech manufacturing investment.**
- **Relaxing CO2 standards for cars and vans would put at serious risk the investments already made in European battery manufacturing**, a sector that remains fragile and cannot afford further uncertainty.





Strengthening Europe's long-term policy frameworks to accelerate climate investment and reduce exposure to future energy crises

- The current situation calls for both immediate measures to protect households and businesses from rising energy prices, but also for structural initiatives to mitigate the impact of future crises.
- The EU and its Member States have a range of **concrete policy levers to accelerate climate investment:**
  - **Regulation**: the revision of CO2 standards for cars and vans must preserve its ambition to sustain fossil-free mobility, ensure affordability, and protect investments in European battery manufacturing
  - **Governance**: the revision of the Energy Union Governance regulation is an opportunity to turn the NECPs into genuine national climate investment roadmaps
  - **Planning**: EU and national electrification plans could be decisive in scaling up renewable and nuclear capacity, modernising grids, and driving electrification
  - **Budget**: the next EU budget (2028-2034) should ensure that National and Regional Partnership Plans must be informed about the current investment gaps and take into account the need to turbo-charge investments in the sectors that are critical for the transition

The EU and its Member States **must move beyond crisis-driven investment and commit to long-term investment strategies** that provide clear and stable signals to investors, businesses, and citizens.

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Thank you!

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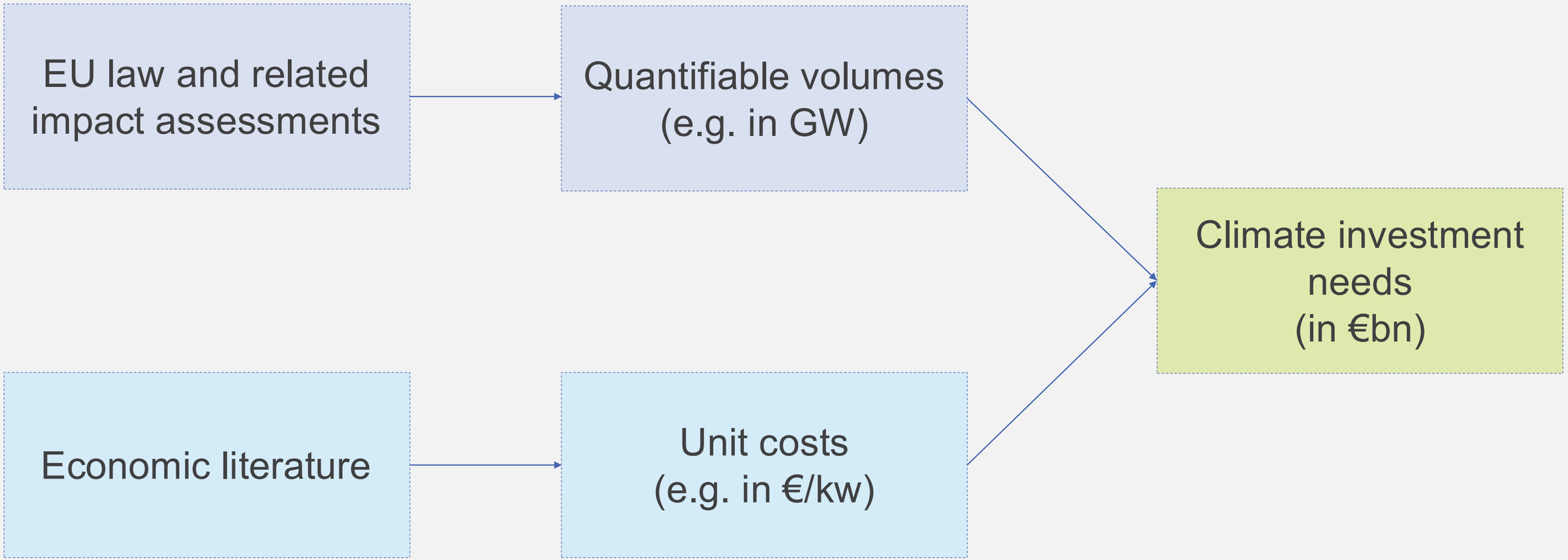
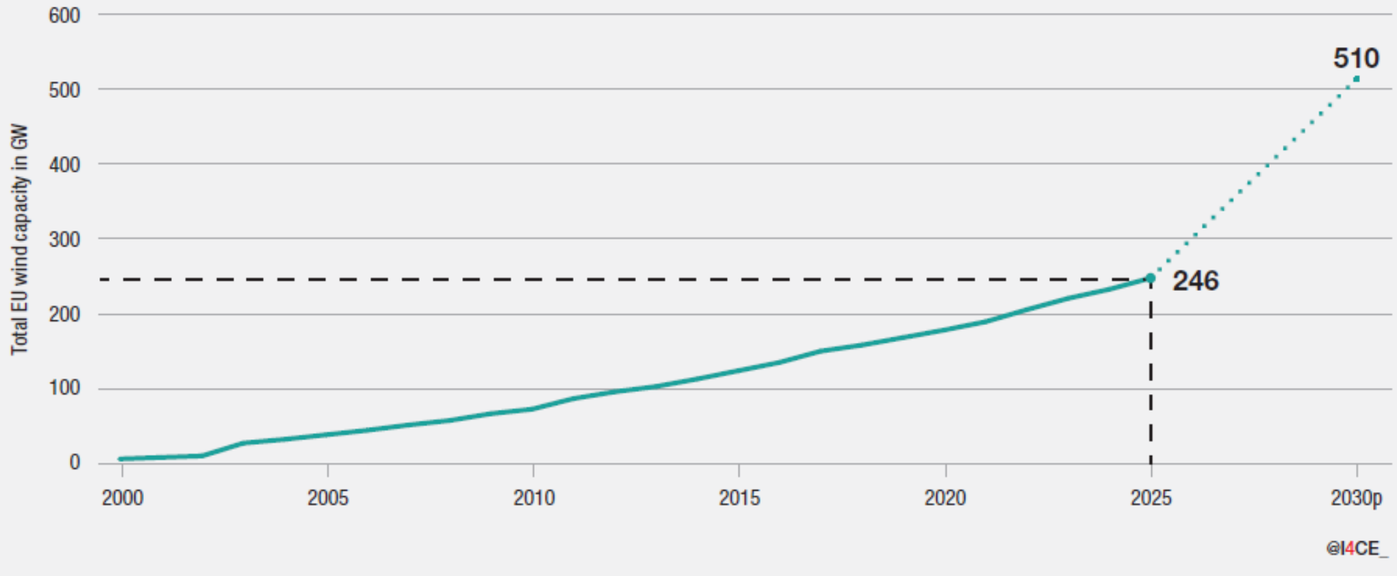
Annex

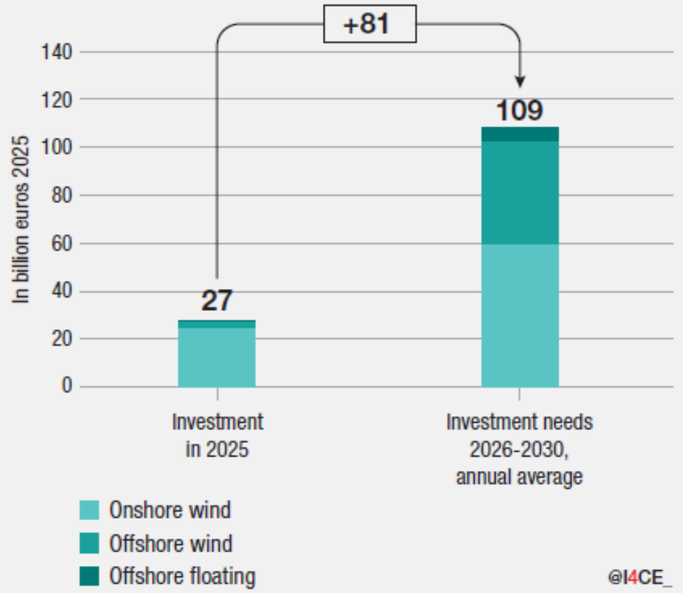
Methodology to measure climate investment needs



Wind Power: investment on the rise but remains well below the levels needed

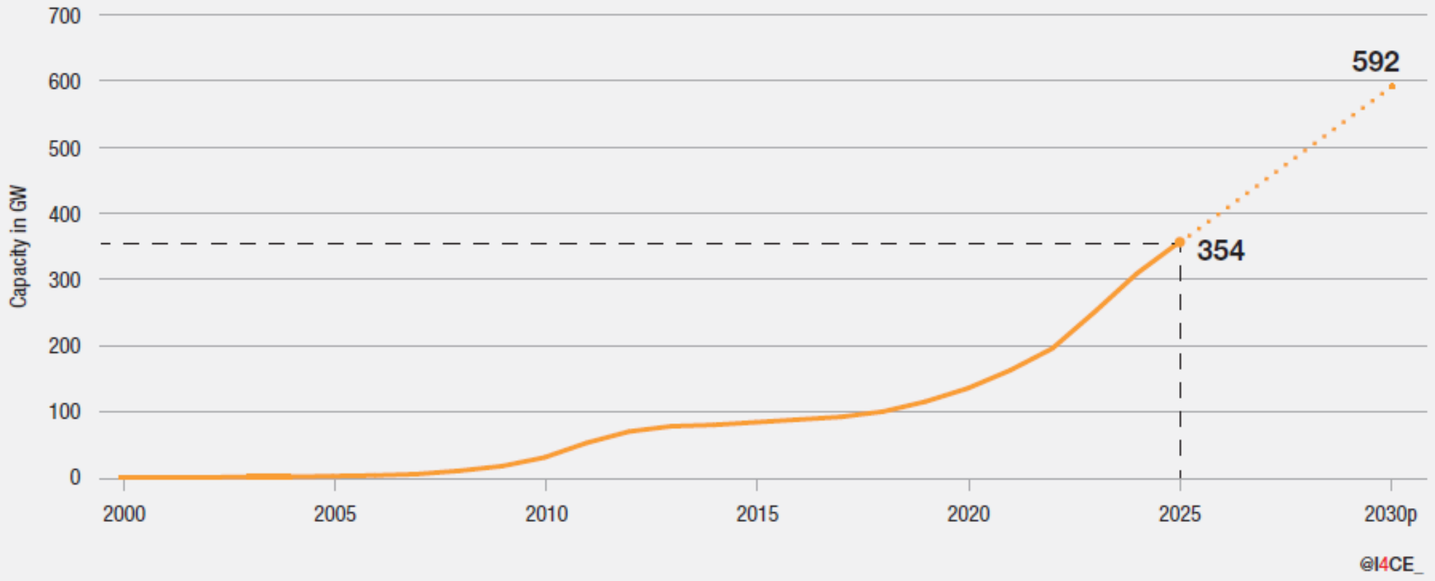
- **Wind power investment amounted to 27 billion euros in 2025**, a 16% increase compared with 2024. After two years of contraction, this modest recovery is driven by an 18% increase in onshore investment. Offshore investment recorded only a marginal 4% growth.
- Yet, the European Commission, in its **RepowerEU Plan and Wind Power Action Plan** aims to achieve a **total capacity installed of 510 GW by 2030** for both onshore and offshore wind, which require quadrupling annual current investment.
- Many barriers to investment persist and prevent investment from taking off, including limited grid capacity, persistent delays in permitting processes, and the slower-than-expected growth in electricity deman.

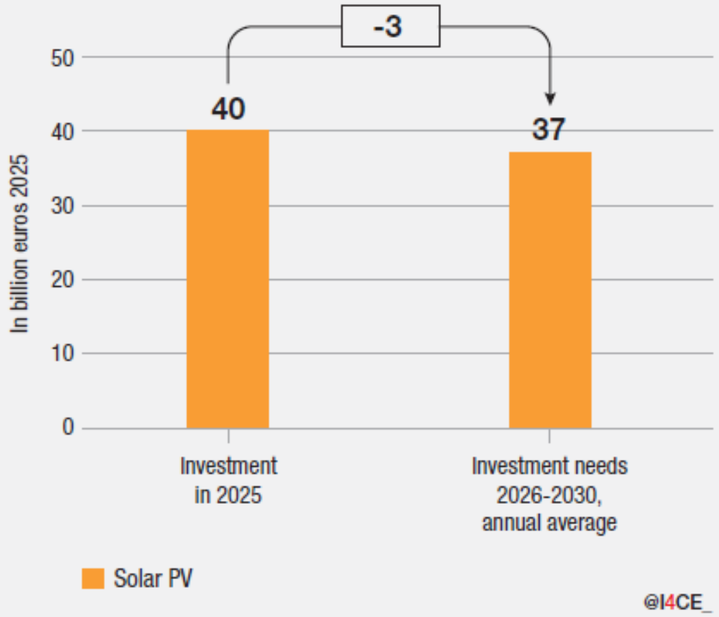




Solar Power: investment should not reduce further to remain on track for 2030

- After reaching its peak in 2023, **investment in the solar PV sector declined for the second consecutive year in 2025**, down by 22% to 40 billion euros. Annual capacity additions decreased by 7GW in 2025, marking the first annual contraction since 2020.
- Yet, to achieving the the European Commission's 2030 solar installed **capacity of 592 GW by 2030 will require 37 billion euros** annual investment between 2026 and 2030.
- To remain on track to meet the 2030 target, both investment levels and annual installation rates must be maintained in the coming years, as the lead gained in the early 2020s is narrowing.





Scaling up investment to deliver a high-speed rail network across the EU

- Investment in high-speed rail infrastructure **reached 31 billion euros in 2025**, a 6% growth compared to 2024.
- Estimated investment in the rail sector is far from sufficient to meet the 2030 EU targets, **as 50 billion euros would need to be invested annually between 2026 and 2030.**
- Reinforcing the Connecting Europe Facility (CEF) in the next EU 2028-2034 budget will be essential as well to bridge the investment gap in rail infrastructure.