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NEO

New Energy Outlook 2026

Energy and climate scenarios that connect the dots.

Summary findings

How the world produces, delivers, consumes and ultimately pays for energy is the focus of much attention today, but not always for the right reasons. So far this decade, the world has suffered three substantial shocks to the energy system – the Covid-19 pandemic, the war in Ukraine and, most recently, the conflict in the Persian Gulf. Each shock has highlighted the inherent volatility and insecurity of our energy system. Meanwhile, the world has become increasingly unsettled, with longstanding friendships and alliances between nations shifting or at least being questioned.

This is the backdrop against which we proudly release the 2026 BloombergNEF New Energy Outlook, our collective view on credible pathways the energy world may be headed for over the next decade and then through 2050. The scenarios in this report are grounded in BNEF's assessment of current and future technologies and energy system costs, drawing on more than 20 years of primary research across new energy technologies, including wind, solar, batteries, nuclear power, and electric vehicles, alongside proprietary research of fossil-fuel production trends and costs. They reflect extensive bottom-up modeling and thousands of people-hours of economic analysis to construct internally consistent, plausible transition pathways.

Backed by expert insight and high-granularity data at a global, country and sectoral level, this work is designed to support companies, financial institutions and policymakers in their long-term planning. It provides the narratives needed to navigate energy security, economic development and climate mitigation challenges.

Understanding this report

- For this year's report, BloombergNEF updates its **Economic Transition Scenario (ETS)**, our base case for how the energy system is most likely to evolve over the next decade and through 2050. The ETS is technology-led and makes no major assumptions about new climate policy. Instead, it reflects a world where technologies compete on cost to meet rising energy demand, with the most efficient, least-cost technologies scaling and higher-cost, legacy options declining.
- Much has changed since last year's edition and this year's update explores the **energy security implications** of the transition in greater depth. Our analysis shows technologies that enable net fossil-fuel importing countries to decouple from geoeconomic uncertainty may gain added impulse.

- NEO 2026 also includes our first update in two years to the **Net Zero Scenario (NZS)**, a well-below 2C climate scenario that meets the goals of the Paris Agreement. The NZS explores how energy supply and demand would evolve if nations collectively adjusted policies to put us on a net-zero CO2 emissions pathway. While policy focus has shifted in some regions, climate risks are already material and growing. For long-term investors, such scenarios remain essential to understanding transition pathways and informing portfolio strategy.

High-level findings

High-level findings from NEO 2026 are below followed by more complete discussions of each:

The transition to new energy technologies improves resilience to fossil-fuel price shocks. As adoption of solar modules, batteries, heat pumps, electric vehicles (EVs), and other technologies accelerates, fossil-fuel dependent nations stand to improve their energy security under our base case. This can happen faster under the NZS.

Oil and gas part ways. Global demand growth for crude oil slows then declines as EV adoption rises under the ETS, while gas use rises to meet electricity demand. Oil and gas demand both drop if countries get serious about CO2 emissions in the NZS.

Coal's moment fades but never entirely disappears. Energy security concerns are prompting coal-rich nations to re-emphasize coal use, but the fuel cannot compete on cost over the long term. It slips to half of current levels of power generation use by 2050 (ETS).

Many, many things get electrified. Rising demand from EVs, data centers, buildings, industry, air conditioning units and heat pumps makes electricity the top supplier of final energy by 2047 (ETS). It comes a decade earlier under the NZS.

Solar becomes the power-generation leader by 2032. Propelled by manufacturers' massive over-capacity and collapsing prices, solar is the world's largest zero-carbon power source by the end of this decade and then becomes the largest generator overall by 2032 (ETS).

Batteries step into the breach. BNEF has substantially increased its outlook for battery deployment. Storage jumps 17-fold to 3.8 terawatts by 2050 from 223 gigawatts in 2025 but adoption rates vary, with China and the US poised to go slower than many other nations.

More flexibility comes to both supply and demand. A larger, more dynamic power system requires increased flexibility from both supply and demand. By 2035, some 11% of megawatt-hours generated are shifted, up from 3% today. This includes storage technologies such as batteries, but also flexible demand-side measures, such as smart electric-vehicle charging.

The current suite of technologies remains insufficient. Despite $0.5 trillion in corporate equity and billions in government support over five years for startups and other firms, the next great low-cost energy technology has yet to emerge. Hopes are high for new nuclear, geothermal or storage technologies, but none has been proven sufficiently at scale – yet.

Electrifying transport reduces gasoline demand, but the power sector still contributes most to CO2 emissions cuts. EVs are now denting demand for oil-based products, but the power sector – namely, switching from coal-fired power generation to renewables/batteries and gas – makes the single greatest contribution to curbing emissions under ETS.

China leads on emissions reductions starting from a very high base. The country, which emits twice as much annually as any other nation, by 2030 cuts its emissions 17% from their 2023 peak under the ETS (faster than the government has pledged). By 2050, China's emissions fall by 50% from their peak but still land well above where the US or Europe are today.

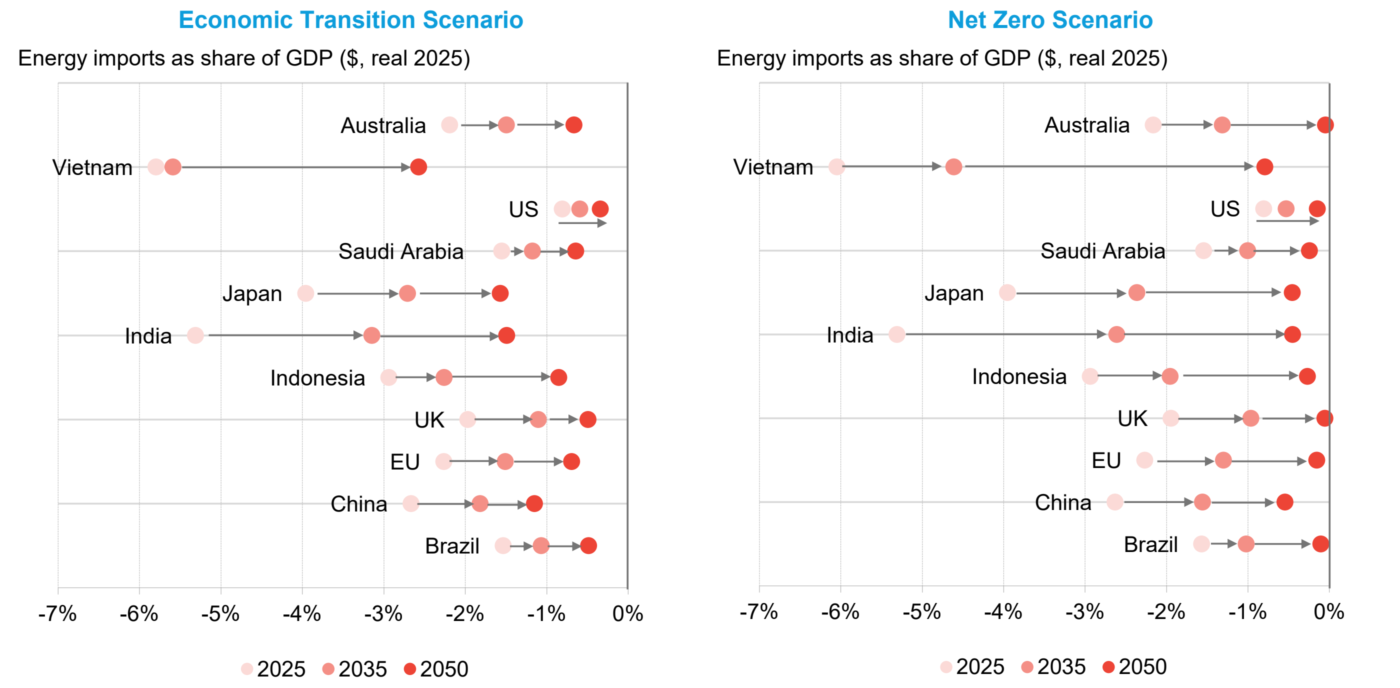
A well-below 2C climate scenario is still possible. While energy security has dominated headlines, climate change is not going away. The window for a 1.5C outcome has passed, but BNEF still sees a credible technology pathway to keep peak temperature rises at 1.81C.

Global energy-transition investment is tracking the ETS but addressing climate change will require much, much more. A record $2.3 trillion flowed to energy transition companies, projects and technologies in 2025, generally in line with the ETS. Addressing climate change as outlined under the NZS requires $4.8 trillion per year in clean energy investment for 2026-2030 and $7.7 trillion for 2031-2035.

The transition to new energy technologies improves resilience to fossil-fuel price shocks

- Whether the global economic order is fracturing or merely shuddering remains to be seen. That said, the fragility of today's fossil energy-delivery system is not in doubt. In March 2026, countries heavily reliant on Persian Gulf fuels saw energy costs surge and the risk of physical shortages rise, setting off energy security alarm bells in capitals across the globe.

Figure 1: Energy commodity import dependence for selected markets, 2025-2035-2050



Source: BloombergNEF Trade Transition Scenario Tool, Sinoimex Global Trade Flow (GTF), GCAM. Note: Energy commodity imports based on observed 2024 trade data from relevant custom codes for coal, lignite, crude, petroleum oil and gas products, and renewable fuels. Negative values indicate imports. Future imports scaled forward based on domestic demand for related products and services under different scenarios. This projection assumes relative trade patterns remain static and uses the same GDP projections under both scenarios.

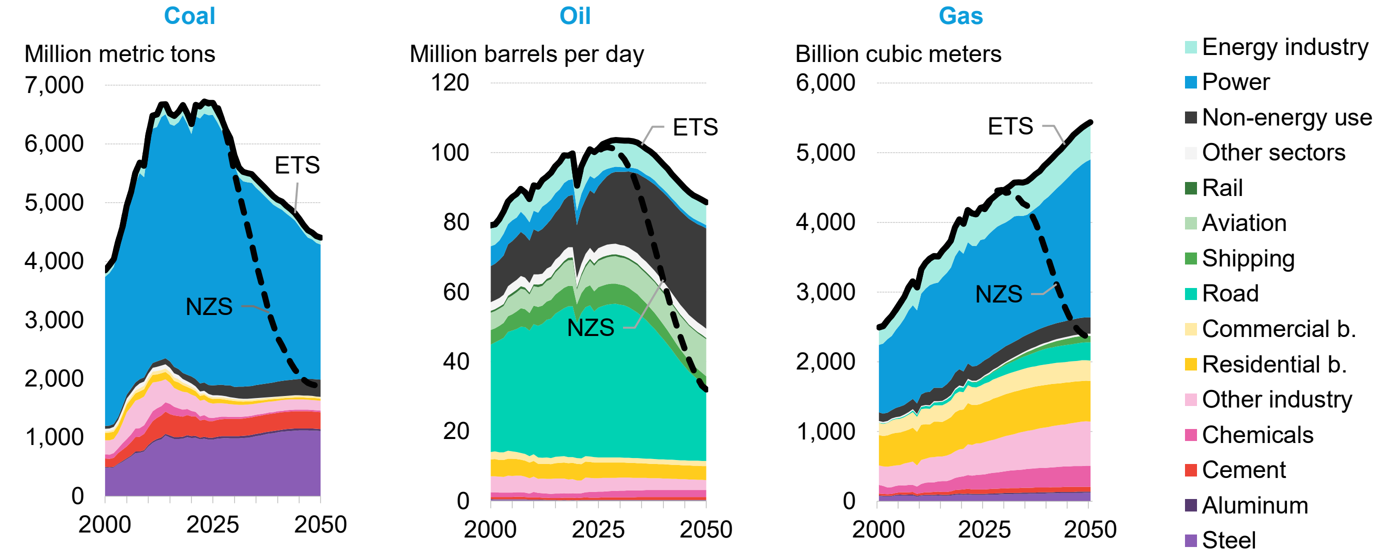
- Over the long term, the shift to new energy technologies can strengthen individual nations' resilience to future price shocks. Under both the ETS and NZS, most major markets reduce reliance on imported oil, coal, gas and energy products. Asian economies with high import liabilities stand to gain the most when looking at energy imports as a share of GDP. Vietnam, Japan, Indonesia and India – where energy imports accounted for between 3% and 6% of

GDP in 2025 – can reduce this exposure significantly by 2035 and further by 2050. Rapidly downshifting fossil fuel consumption would accelerate gains in energy resilience. Under the NZS, most nations have the potential to all but eliminate energy imports as a share of GDP. Some of this might be offset by imports of clean energy technologies such as solar modules and batteries. While China currently dominates the production of much of this equipment today, manufacturing could become more diversified. Crucially, clean-tech imports carry lower energy security risk; once the kit is on your soil, it's yours.

Oil and gas part ways under the ETS, head south together under the NZS

- Global oil demand and gas demand historically moved in tandem, with gas often a byproduct of oil extraction. However, the two fuels have arrived at a crossroads and part ways in the coming decade under the ETS.
- Recent headlines and concerns about price spikes notwithstanding, global oil demand plateaus into the mid-2030s, driven largely by electrification in road transport. By 2050, oil demand falls from its peak around 2029 to levels last seen in the early 2000s. EVs are already crimping gasoline demand in leading markets such as China and are set to expand their impact across Southeast Asia and Latin America.
- By contrast, gas becomes a go-to fuel in the ETS. Demand grows strongly, driven by power generation, including for rapidly rising data center load, as well as industry and transport. By the middle of the 2040s, gas surpasses oil as the largest share of primary energy. In geopolitical terms, this shift strengthens the strategic position of nations with large, low-cost gas reserves. It is already driving a "dash to gas", with an increasingly heterogeneous collection of nations expanding production – including Argentina, Brazil, Canada, Guyana, Israel, Mozambique and others. In the US, President Donald Trump has sought to encourage more gas (and oil) production to establish "energy dominance" as a low-cost producer.

Figure 2: Fossil-fuel demand by sector, Economic Transition Scenario and Net Zero Scenario



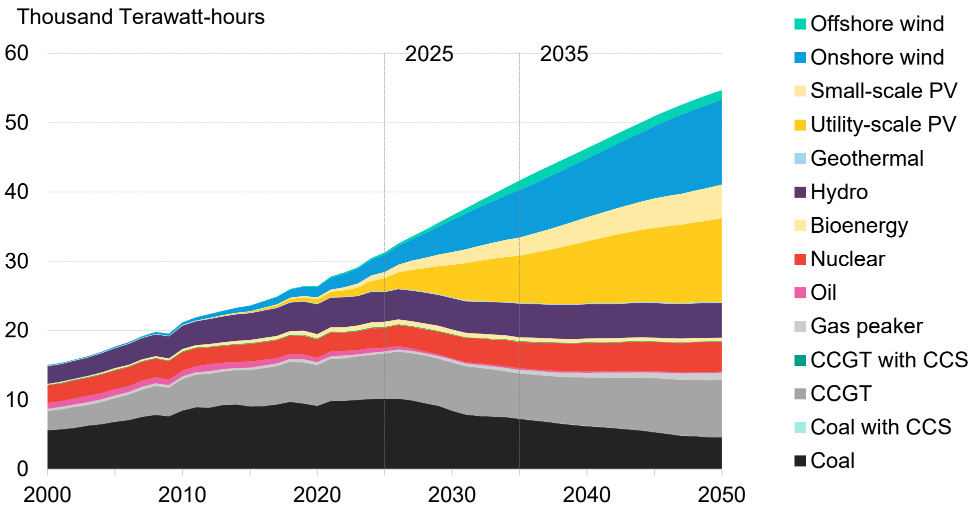
Source: BloombergNEF. Note: ETS is Economic Transition Scenario, NZS is Net Zero Scenario. Coal assumes a 6,000kcal/kilogram energy content. "b." refers to buildings.

- Under the NZS, the outlook for gas weakens significantly. Overall, oil demand plateaus then plummets, while gas peaks in the early 2030s, then quickly joins oil in structural decline through 2050.

Coal's moment fades but it never entirely disappears

- A renewed emphasis on energy security has seemingly put coal back in the spotlight, especially in Asian nations most affected by the latest crisis. In the US, the Trump administration has ordered existing, uneconomic coal-fired power plants to continue operating and there remains potential for gas-to-coal switching in some parts of Europe, if gas prices remain elevated. But coal is unlikely to stage a sustained comeback as it cannot compete with cheaper alternatives in most parts of the world.
- In power, coal's share in generation already peaked in 2011 at 41%. By 2050, coal generation accounts for around 8% of output. Rather than supplying baseload power, it is increasingly displaced by cheaper renewables and runs fewer hours, serving a more limited, residual role in systems where alternatives are constrained. Its persistence reflects existing asset bases and cost advantages in some markets, but its structural decline in the power sector is clear.
- Still, coal does not get easily squeezed out of the global energy system, given its importance in delivering around-the-clock power and its continued role as direct fuel in certain industrial processes and in non-energy applications. Under the NZS, unabated coal without carbon capture and storage in the power system disappears.

Figure 3: Electricity generation by technology, Economic Transition Scenario



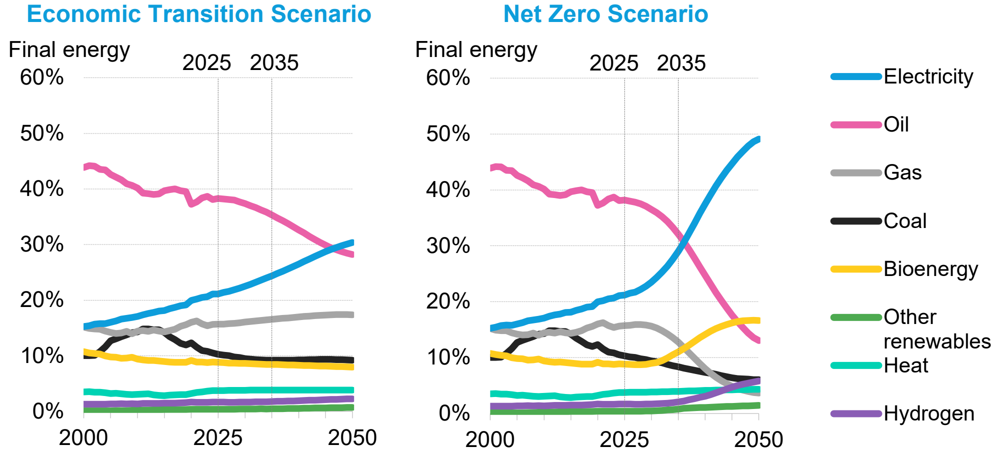
Source: BloombergNEF. Note: CCS is carbon capture and storage, CCGT is combined cycle gas turbine. See New Energy Outlook 2026: Data Viewer (web | terminal) for full results and about.bnef.com/new-energy-outlook for an abridged public benchmark dataset.

Many, many things get electrified

- Electricity demand is now rising almost everywhere, driven by population growth, rising incomes, new loads such as data centers, and the electrification of end-use sectors. This is good news for energy productivity, security and emissions reductions. Electrification improves system efficiency, reduces waste and shifts emissions into the power sector, where demand can increasingly be met by low-cost clean technologies. Electric technologies such as motors and heat pumps are more efficient than combustion-based alternatives, lowering primary energy use even as useful energy demand grows. Across transport, buildings and industry, electrification reduces reliance on oil, coal and gas while strengthening energy security.

- Electricity accounted for 21% of final energy – that is, the energy delivered to end users for consumption – in 2025, second only to oil products at 38%. In our base case, electricity becomes the dominant source of final energy by 2047. It all happens faster under the NZS, with the cross-over occurring as soon as 2037.

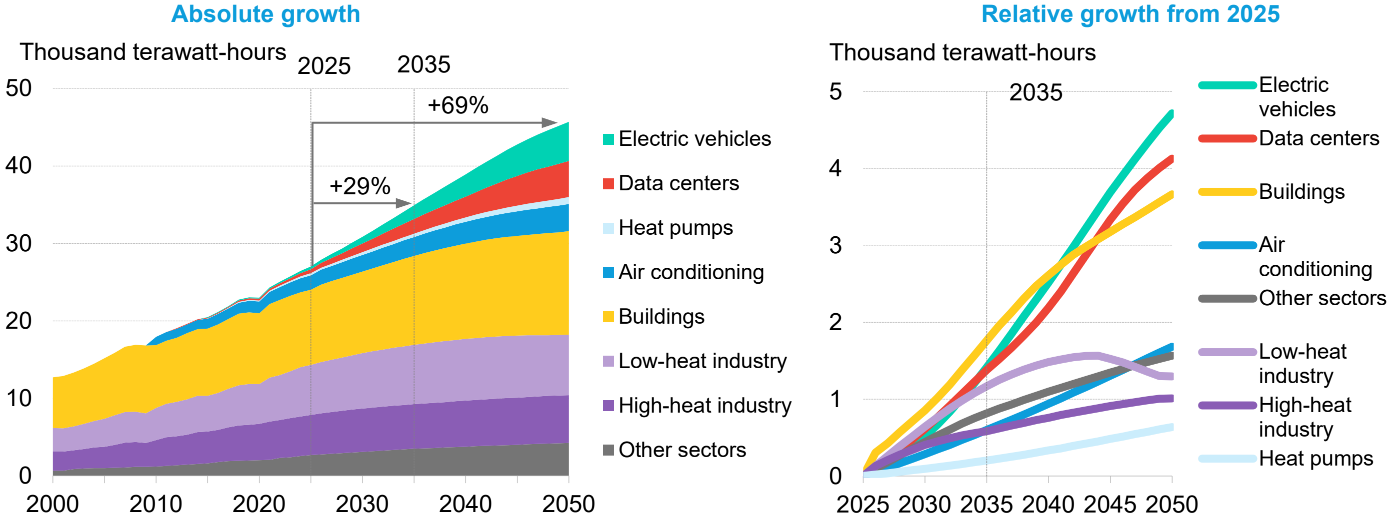
Figure 4: Global final energy consumption by fuel and scenario



Source: BloombergNEF. Note: "Other renewables" includes all other non-combustible renewable energy, such as hydro and geothermal.

- Global electricity demand has more than doubled since 2000, driven primarily by rising consumption in buildings and industry as populations grow and incomes increase. In the Economic Transition Scenario, demand rises a further 29% by 2035 and 69% by 2050. However, the composition of that growth is shifting.
- Electrification in road transport and a rapid expansion of data centers are emerging as major new drivers of load. At the same time, buildings remain a structural driver as rising incomes increase appliance ownership and cooling demand. Air-conditioning uptake is accelerating in warmer climates, while in temperate regions it is increasingly contributing to summer peak demand.
- Energy-intensive data centers supporting the rise of generative artificial intelligence (AI) are now a major and fast-growing driver of global power demand, with few signs of slowing. Their electricity use more than triples by 2035, reaching 5.4% of global demand. The share can be much greater in high-growth markets. We estimate that data center demand by 2035 makes up 23% in the US PJM market, 18% in Malaysia, and 15% in the UK.

Figure 5: Drivers of electricity demand growth, Economic Transition Scenario



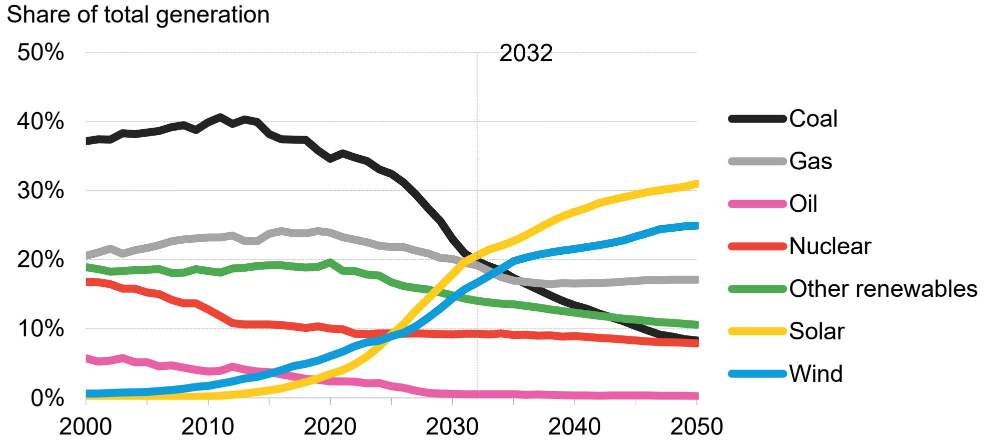
Source: BloombergNEF

- Our least-cost modeling suggests data-center demand could drive a major capacity expansion by 2050, requiring roughly 1,000GW of utility-scale solar, 400GW of batteries, 370GW of gas and 110GW of coal capacity. While thermal power plants collectively account for about 500GW (20%) of new capacity additions, they have a much higher share of generation. Some 51% of incremental generation to serve data centers by 2050 comes from new and existing fossil-fuel generators. This includes new-build gas plants, but also coal plants that delay economic closures compared to a world without this demand.
- While there are regional nuances, data centers are generally well matched with the high, around-the-clock load profile of fossil-fuel plants as opposed to variable renewables with back-up. Data-center growth raises global power-sector emissions by about 6% by 2035, relative to a scenario without this demand. Their build-out therefore carries major emissions risk if not accompanied by concerted clean energy efforts.

Solar becomes the power-generation leader by 2032

- The surge of solar deployment over the past decade has been nothing short of remarkable with annual capacity installations rising nearly ninefold from 75GW in 2016 to 655GW in 2025. Solar is now neck-and-neck with nuclear and wind as the world's second biggest source of zero-carbon power generation. It is also being deployed in ever widening applications, from micro-systems providing citizens in least-developed countries with their first energy access, to large-scale plants that power the world's most advanced AI data centers.
- BNEF anticipates solar build will stay at its current, record-high build rate but not grow dramatically for at least several years. By the end of this decade under ETS, solar becomes the largest zero-carbon source. By 2032 it emerges as the single largest source of power generation of any kind. China today is home to the vast majority of photovoltaic manufacturing, but other nations have begun to ramp up module assembly in recent years, including India, Southeast Asian countries, Egypt, Ethiopia and the US.

Figure 6: Share of global electricity generation by technology/fuel



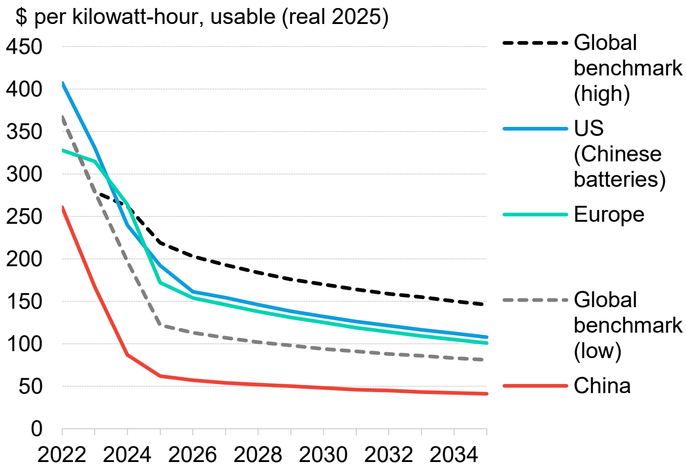
Source: BloombergNEF. Note: "Other renewables" includes all other non-combustible renewable energy, including hydro, bioenergy, geothermal and solar thermal.

Batteries step into the breach

- In markets where penetration has been highest to date, solar has already proven to be a disruptive force, creating "duck curves" of depressed power prices – and depressed incumbent power generators who see their revenues fall. This "missing money" problem has prompted dozens of white papers, symposia, and reform proposals aimed at ensuring all stakeholders are treated fairly, particularly ratepayers. But in many cases, power market reform is immensely complex, time consuming and might not produce optimal results.
- A far simpler potential option: use batteries at scale to shift midday generation to evening hours. Already, batteries are being deployed in a wide variety of shapes and sizes, in front of and behind the meter, to provide greater system flexibility to grids. The stationary battery industry in 2026 is roughly where the solar industry was in 2020, in gigawatts installed and in terms of being a highly fragmented manufacturing industry breaking free of dependence on subsidy. In China, the country's top 10 lithium iron phosphate (LFP) battery suppliers have a combined market share of just 47% in their domestic market. Battery products are increasingly commoditized, and this is driving down prices faster than BNEF previously expected.
- Projected lower costs have prompted BNEF to substantially increase its outlook for battery deployment over the next 10 and 25 years. Storage jumps 17-fold to 3.8 terawatts by 2050 from 223 gigawatts in 2025, but adoption rates vary substantially by country. In our modeling, China scales back its ambitions as pumped hydro and other system characteristics absorb part of the flexibility need. In the US, a new law makes it more challenging for utility-scale project developers to deploy the lowest-cost batteries (from China) while still qualifying for key tax-credit subsidies.
- Batteries have their limitations, and their deployment faces economic limits as renewable penetration rises. As solar and wind expand, battery utilization declines, particularly in seasonal systems, thus reducing project economics. Once storage is no longer fully cycled daily, returns weaken, constraining further scale without new flexibility solutions.
- New, longer-duration energy storage technologies are making important progress toward cost competitiveness and are attracting investment but they have yet to achieve sufficient scale for

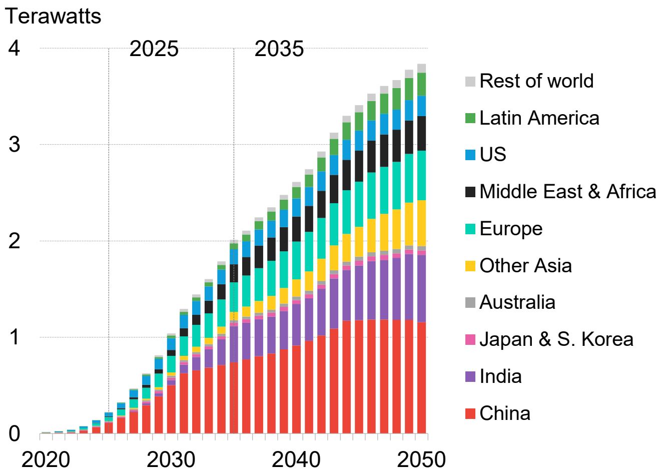
BNEF to model their impact on the grid over the next 10 to 25 years. We will continue to monitor these closely.

Figure 7: Forecast capex for a 4-hour turnkey energy storage system using LFP batteries, by region



Source: BloombergNEF. Note: "LFP" stands for lithium iron phosphate battery. Pricing based on usable capacity.

Figure 8: Battery stationary storage cumulative installed capacity, Economic Transition Scenario



Source: BloombergNEF. Note: Includes residential and utility-scale batteries.

More flexibility on both sides of the supply/demand equation

- How energy is being produced, stored, and consumed is becoming more heterogeneous and decentralized. In response to price shocks, Pakistan added 25GW of solar in just two years. In California, over 260,000 residential battery systems have been installed since 2020 to improve resilience. Globally, EV sales reached a record 20.7 million in 2025, bringing the fleet to more than 50 million vehicles.
- The diffusion of new technologies accelerates over the next 10 and 25 years, supported by a larger and more flexible grid that employs cutting-edge technology and human ingenuity to manage a more complex supply/demand balance. Power systems operate with higher shares of variable renewables and flexible assets, often larger than historical standards but optimized for reliability under a more dynamic load profile.
- Accepting curtailment – or megawatt-hours that go unused – as a feature of a high-renewables system may seem counterintuitive. But it is often more rational and technically easier than ramping down fossil fuel or nuclear plants to match fluctuations from more variable forms of generation. It can make sense to build solar plants in the face of curtailment risks – so long as output during shoulder hours is valuable enough to the system. In addition, the share of megawatt-hours that are shifted using energy storage solutions or flexible demand also rises.
- Different markets exploit flexible system resources to different degrees. Brazil today meets most of its generation and flexibility needs though large-scale hydro power. By 2035, some 4% of megawatt-hours generated are shifted via batteries, pumped hydro and smart EV charging, rising to 11% by 2050. Another 10% of energy produced goes unused in 2050.
- By contrast, the Iberian Peninsula, which already shifts 4% of its demand today via pumped hydro and battery storage, shifts 25% of its power generated and curtails 18% in 2050.

Figure 9: Power generation and power flexibility in Brazil, Economic Transition Scenario

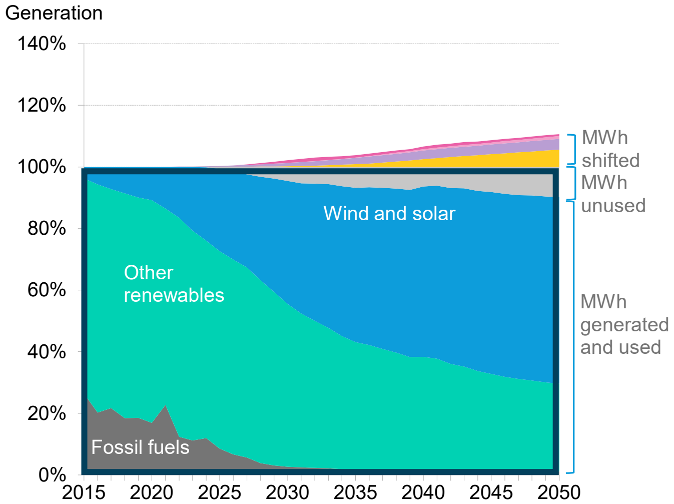
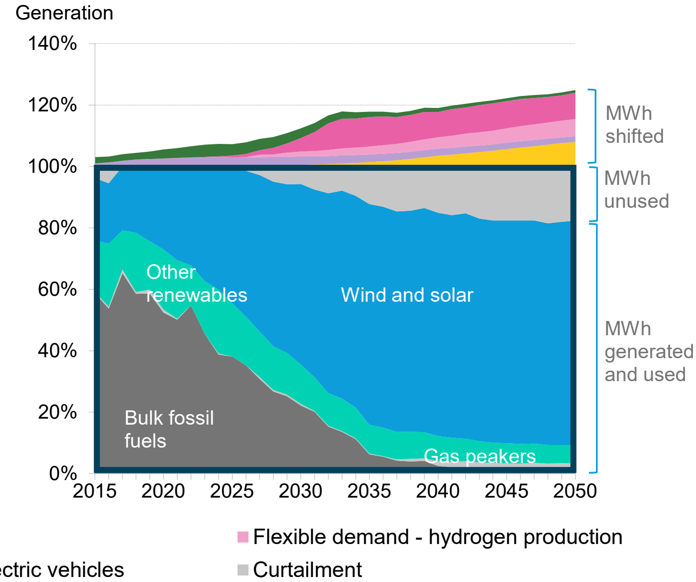


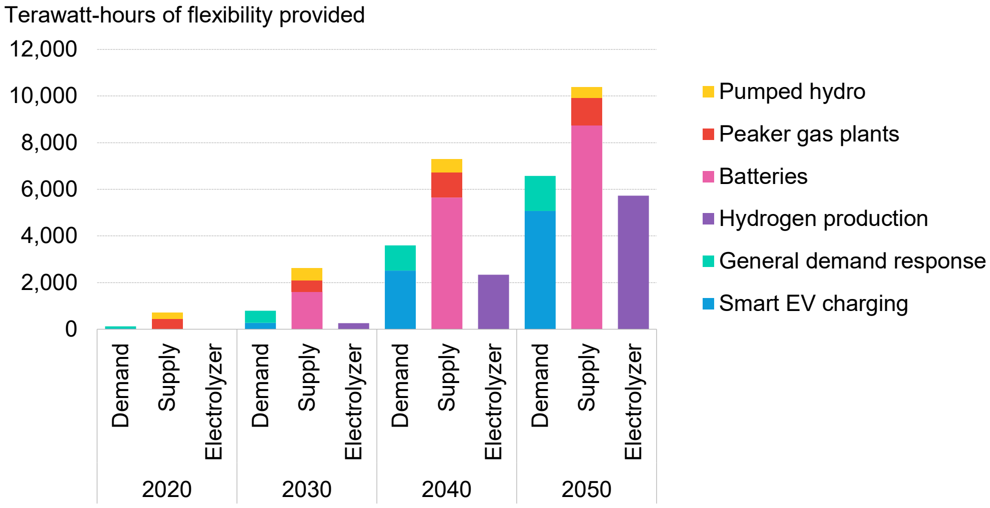
Figure 10: Power generation and power flexibility in Spain and Portugal, Economic Transition Scenario



Source: BloombergNEF. Note: "Other renewables" includes geothermal, hydro, bioenergy and marine. "MWh shifted" shows how many megawatt-hours were stored or deferred, as a share of total generation that year.

- In the NZS, grid flexibility requirements until 2030 resemble those under the ETS, but then increase sharply thereafter. By 2040, a larger electric vehicle fleet supplies 60% more flexibility than in ETS, while batteries deliver nearly twice as much shifted energy. Electrolyzer capacity is also higher, reaching 192GW by 2035 compared with 40GW in the ETS.

Figure 11: Global power system flexibility in the Net Zero Scenario

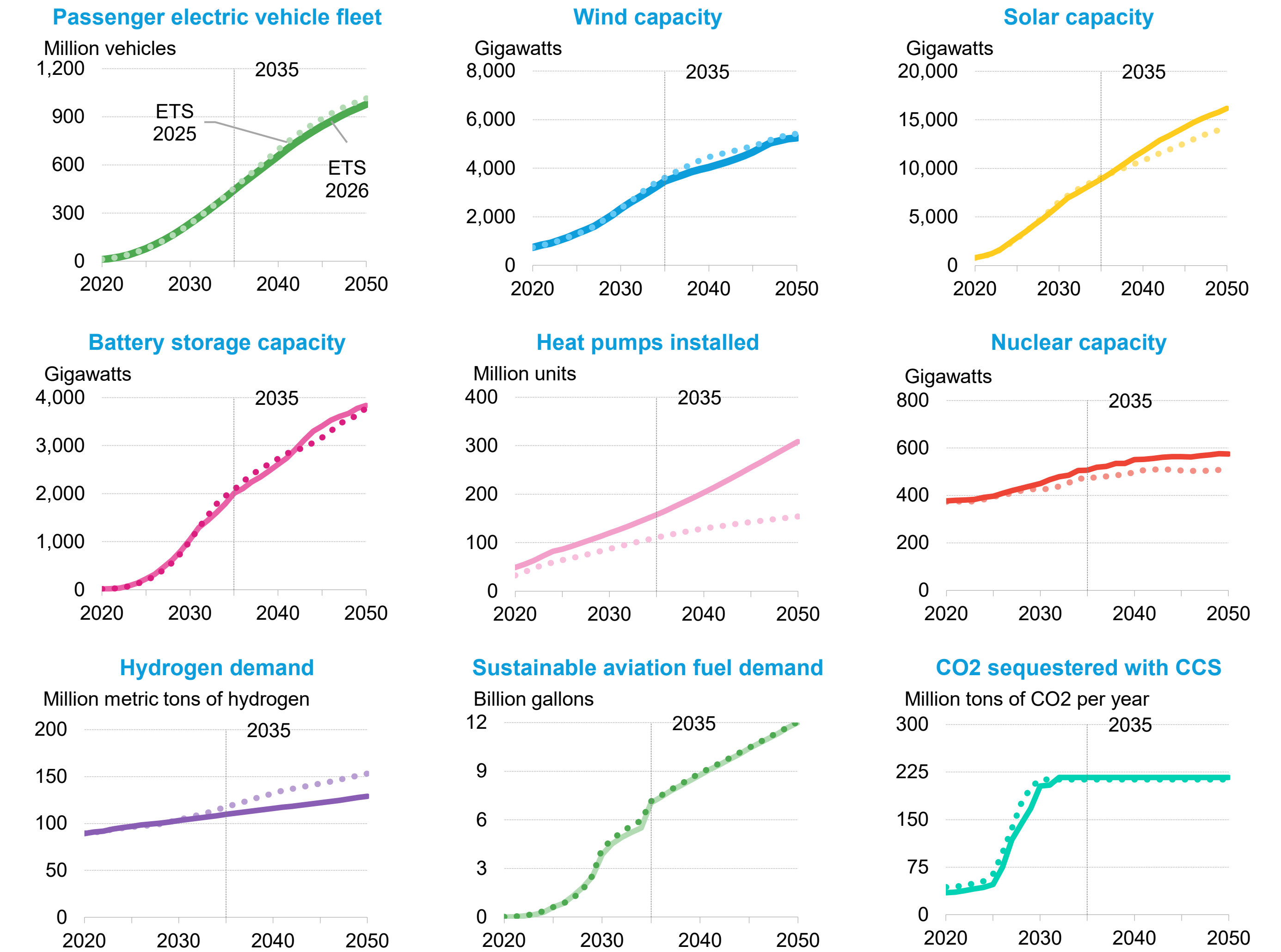


Source: BloombergNEF. Note: "EV" is electric vehicles.

The current suite of energy technologies remains insufficient to meet rising demand or address the climate challenge

- The best prospects for clean energy technology deployment continue to come from electric vehicles, wind, solar and batteries. Despite the current political headwinds, we broadly hold our outlook from the previous iteration.
- We now anticipate heat pumps to grow slightly faster and are also somewhat more positive about nuclear power – though this largely reflects a lower assumed closure rate for existing plants and not a major vote of confidence in small modular reactors or large new-build deployment outside the Asia Pacific region. We've also lowered our expectations for low-emissions hydrogen production as costs in key markets have gone up while policy support has waned.

Figure 12: Key technology drivers in the Economic Transition Scenario, 2020-2050



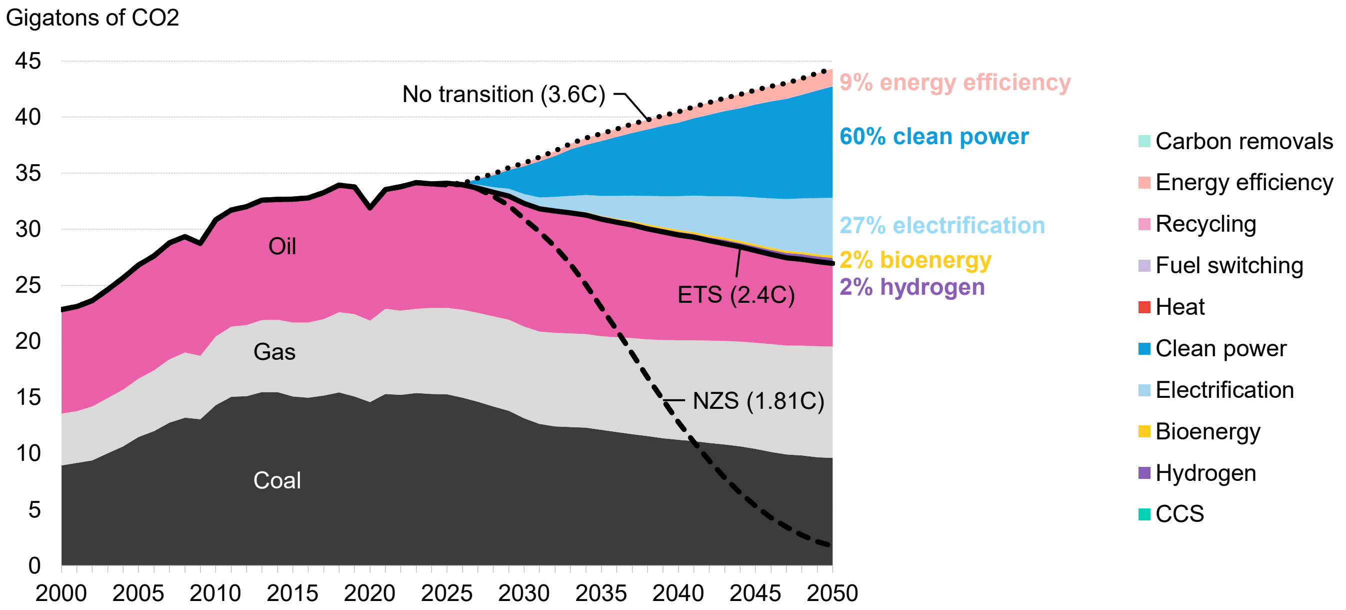
Source: BloombergNEF. Note: Wind includes offshore and onshore. Solar and storage include small-scale and utility-scale. CCS is carbon capture and storage, the ETS shows base case forecast as of November 2025.

- Beyond today's suite of mature clean technologies, the next generation of scalable solutions has yet to emerge. Since 2021, climate-tech firms have raised over $500 billion in new capital, including $225 billion in venture capital and private equity targeting early-stage innovation. Governments have chipped in with billions more through grants, loans, and direct equity. Recent attention has focused on next generation nuclear, including companies developing small modular reactors, and next-generation geothermal. While many show promise, none has yet demonstrated the cost competitiveness or scale required to play a material role in BNEF's modeling to 2050. The next several years could prove critical with new geothermal and nuclear companies planning to deploy their technologies at scale by the end of the decade.

Electrifying transport reduces CO2 emissions, but the power sector makes the deepest cuts

- If policy-makers pursue an energy transition based on historical efficiency trends and deploy economically-competitive, commercially at-scale technologies, our modeling shows global emissions fall by 21% between now and 2050, when they are about 40% below what they would have been in a counterfactual "no-transition" scenario. This trajectory is likely to limit global warming to 2.4C by 2100 (67th percentile). By contrast, the no-transition scenario assumes no further decarbonization progress while maintaining economic growth and energy demand, resulting in at least 3.6C of warming by 2100 – a highly detrimental outcome for the planet and humankind.

Figure 13: CO2 emissions reductions from fuel combustion by measures adopted, Economic Transition Scenario versus "no transition" scenario and Net Zero Scenario



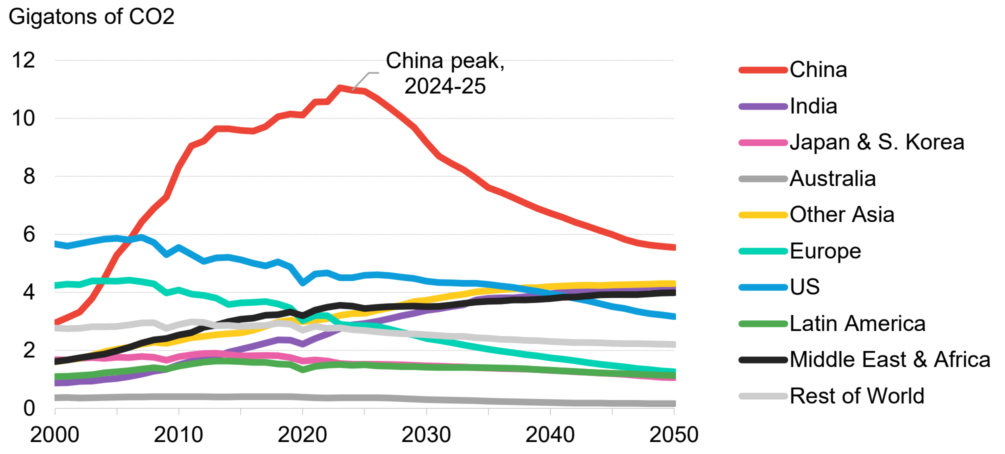
Source: BloombergNEF. Note: The "no transition" scenario is a hypothetical counterfactual that models no further improvement in decarbonization and energy efficiency. In this scenario, clean tech build for power is capped at historical limits, with costs fixed at 2026 levels and no further decline; in buildings and transport, the fuel mix remains unchanged from 2026; in industry, the uptake of recycling and alternative primary production processes is limited. "Clean power" includes renewables and nuclear, and excludes carbon capture and storage (CCS), hydrogen and bioenergy, which are accounted for separately. "Energy efficiency" covers demand-side efficiency improvements and reductions in demand. "NZS" is the Net Zero Scenario, "ETS" is Economic Transition Scenario.

- The power sector is the single largest driver of emissions reductions. The shift from coal to renewables, supported by storage and, to a lesser extent, gas, accounts for 60% of emissions abatement by 2050 versus a no-transition pathway.
- Electrification is the second major vector of decarbonization. Replacing direct fossil fuel use in transport, industry and buildings delivers 60% of emissions reductions by 2050. Energy efficiency contributes a further 9%, while hydrogen and bioenergy each account for around 2% of abatement.

China is poised to lead on emissions cuts from a very high base

- China remains the world's largest emitter, with annual CO_2 emissions roughly twice those of any other country. Having long resisted absolute reduction targets, it now aims to peak emissions before 2030 and reach carbon neutrality by 2060. Our modeling suggests its energy-related CO_2 emissions peaked in 2023-2024 at over 11 gigatons and plateaued or slipped slightly since. By 2030, China emissions drop to 9GtCO_2, or 17% below their peak, under the ETS. By 2050, they fall by nearly 50% from peak.

Figure 14: Energy-related CO2 emissions by region, Economic Transition Scenario



Source: BloombergNEF

- Europe and the US (the world's top emitter on a per-capita basis), which peaked their CO_2 emissions in 2006 and 2007, respectively, also see their emissions slide but not nearly as steeply. Notably, these reductions are collectively nowhere near sufficient to adequately address climate change.

A well-below 2C scenario is still possible

- The window to limit global warming to 1.5C by 2100 using currently available, credible technologies has effectively closed. However, BNEF has not anchored its long-term climate scenario to a specific temperature outcome, instead focusing on what is technically and economically feasible. This year's updated NZS therefore remains central to NEO as a normative, Paris-aligned benchmark against which real-world progress can be assessed. It is consistent with a peak temperature rise of 1.81C by 2049 and 1.73C by 2100 (67th percentile).
- For investors with longer time horizons, the NZS provides a decision-useful framework to navigate this complexity. It offers a consistent benchmark to assess transition risk, identify

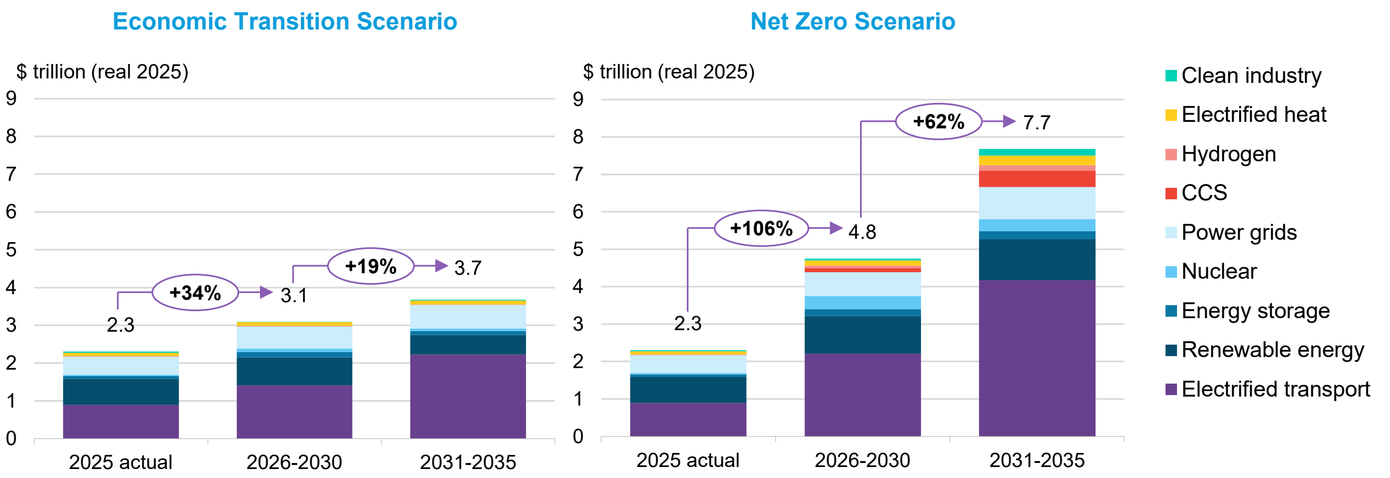
misalignment with net-zero pathways, and structure portfolios accordingly in an environment where short-term signals understate long-term climate exposure.

- The 2026 NZS reflects a material recalibration of carbon budgets and the role of key technologies. Carbon budgets are expanded and reprofiled, with the total allowance rising to around 500GtCO2 over 2024–2050 (up 44% versus 2024 NZS) and the power-sector budget more than doubling. This reflects delayed action and slower near-term decarbonization, with emissions trajectories tracking closer to the ETS through the early 2030s before declining more gradually thereafter.
- As a result, the NZS shifts toward a larger, more electrified energy system, where renewables and storage carry a greater share of abatement, compensating for slower progress in other technologies and a less stringent near-term carbon constraint.
- Compared to our last NZS, the role carbon capture and storage (CCS) plays in reducing emissions is lower in cumulative terms by around one-third, reflecting greater infrastructure and cost constraints. But the technology remains critical for hard-to-abate sectors and reaches around 7GtCO2 of annual capture by 2050. Hydrogen is also further rationalized in the new NZS, with demand reaching around 290Mt by 2050 (around one-third lower than previously) reflecting weaker economics, slower scale-up, and a more targeted role in hard-to-abate sectors.

Global energy-transition investment is tracking the ETS, but a major step-change is needed to address climate

- In 2025, a record $2.3 trillion went into energy transition investment – BNEF's term for money spent to deploy clean technologies such as clean energy, batteries EVs, heat pumps, hydrogen and carbon capture. That figure is largely consistent with the capital requirements under the ETS and not far short of the annual capital needs through the balance of this decade. Average annual 2026-2030 investment tracks at $3.1 trillion under the ETS, and energy transition investment expanded at a 12% compound annual growth rate in 2021-2025 (real terms). Extending this trajectory to 2030 yields an annual spend of around $3.3 trillion, broadly in line with the ETS.
- Energy transition investment rises a further 19% over 2031-2035, driven by electrified transport (+58%) and industry (+53%). Electrified transport becomes the dominant segment, approaching 61% of total low-carbon investment by 2035. Over the same period, renewable investment moderates, while grid spending rises 7% to support system integration.
- By contrast, getting on a path to address climate change in a meaningful manner requires a major step-change in investment. Under the NZS, annual low-carbon investment averages $4.8 trillion 2026-2030 – more than double 2025 levels – and rises to $7.7 trillion between 2031 and 2035. The largest absolute gap is in electrified transport, while early-stage technologies such as CCS enjoy the fastest relative growth.

Figure 15: Energy transition investment, 2025 actuals versus required annualized levels in NEO scenarios



Source: BloombergNEF. Note: 2025 actuals are from Energy Transition Investment Trends 2026 (web | terminal). "CCS" is carbon capture and storage.

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