

Environment for non-environmental CSOs

Webinar on mainstreaming green transition

30 November - 01 December 2023.

CASE STUDY: DECARBONISATION OF ENERGY SECTOR

Expert: Toni Vidan

Case study: decarbonisation of energy sector

Transformed energy system based on:

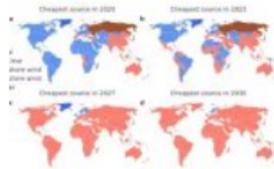
- efficiency
- renewables (solar, wind, biomass, hydro)
- flexibility and decentralisation
- electrification

In addition, community energy is also socially sustainable, due to:

- local ownership!

New Solar study: 50% of global power by 2050, even without more ambitious climate policies

November 17, 2023 by [Nadia Ameli](#), [Femke Nijse](#) and [Jean-Francois Mercure](#)



Nadia Ameli at UCL and Femke Nijse and Jean-Francois Mercure at the University of Exeter present their study that shows solar is on track to make up more than half of global electricity generation by 2050, even without more ambitious climate policies. This far exceeds any previous estimates: last year's IEA World Energy Outlook predicted that solar would account for only 25% by 2050. The authors'



*macroeconomic model takes the latest technological and economic data from 70 regions worldwide. Their projections suggest that **the average cost of solar power continues to decrease substantially, by 60% from 2020 to 2050.** That's off the back of around a 90% decrease in the last decade, with battery costs declining by a similar amount between 2008 and 2022. Furthermore, **solar will be the cheapest option in nearly all regions worldwide by 2030.** Barriers do remain, including balancing the high variability of solar, the supply of critical minerals for making the panels, and enabling solar's financing in developing economies. But the tipping point for solar has been crossed, say the authors. And, given that the risk of fossil power becoming stranded assets has risen even further, solar deployment could and should happen even faster.*



The momentum of the solar energy transition

Received: 25 August 2022

Accepted: 25 September 2023

Published online: 17 October 2023

Check for updates

Femke J. M. M. Nijse ¹ ✉, Jean-Francois Mercure ^{1,2,3}, Nadia Ameli ⁴,
Francesca Larosa ^{4,5}, Sumit Kothari ⁴, Jamie Rickman⁴, Pim Vercoulen ^{1,6} &
Hector Pollitt^{2,3}

Decarbonisation plans across the globe require zero-carbon energy sources to be widely deployed by 2050 or 2060. Solar energy is the most widely available energy resource on Earth, and its economic attractiveness is improving fast in a cycle of increasing investments. Here we use data-driven conditional technology and economic forecasting modelling to establish which zero carbon power sources could become dominant worldwide. We find that, due to technological trajectories set in motion by past policy, a global irreversible solar tipping point may have passed where solar energy gradually comes to dominate global electricity markets, without any further climate policies. Uncertainties arise, however, over grid stability in a renewables-dominated power system, the availability of sufficient finance in underdeveloped economies, the capacity of supply chains and political resistance from regions that lose employment. Policies resolving these barriers may be more effective than price instruments to accelerate the transition to clean energy.

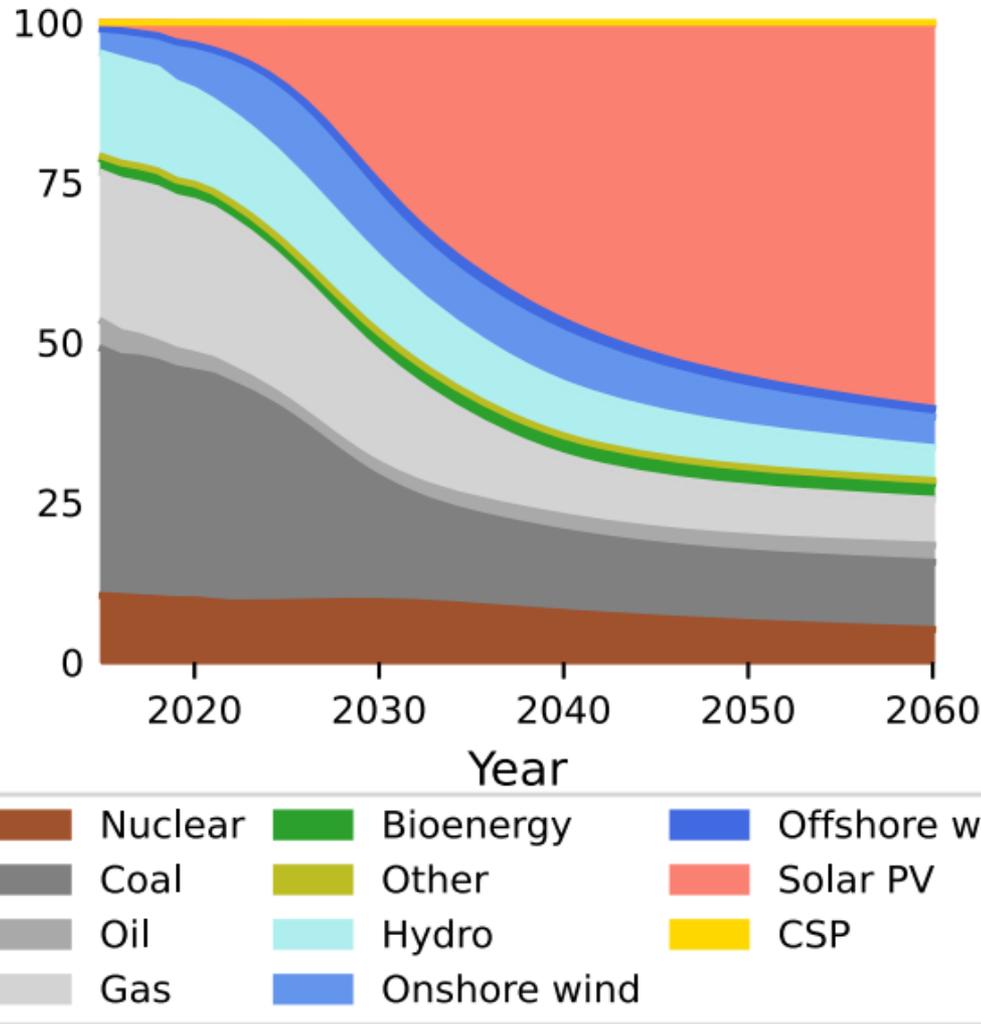


Fig. 1 | Worldwide share in electricity production of various technologies. In 2020, fossil fuels produce 62% of electricity. This percentage reduces to 21% in 2050, with solar responsible for 56% of production.

- *„We conclude that achieving zero-carbon power systems likely requires policies of a different kind than have traditionally been discussed by the energy modelling community.”*
- *“The carbon price required to achieve cost break-even between renewables and fossil fuels may soon be zero.”*
- *“Instead, it is policies that address the above barriers—grid resilience, access to finance, management of material supply chains and political opposition—that may enable success in reaching net-zero energy emissions.”*



[RESEARCH AND ANALYSIS](#) >> [STRATEGIC INSIGHTS](#) >> [PEAK FOSSIL FUEL DEMAND](#)

REPORT | 2023

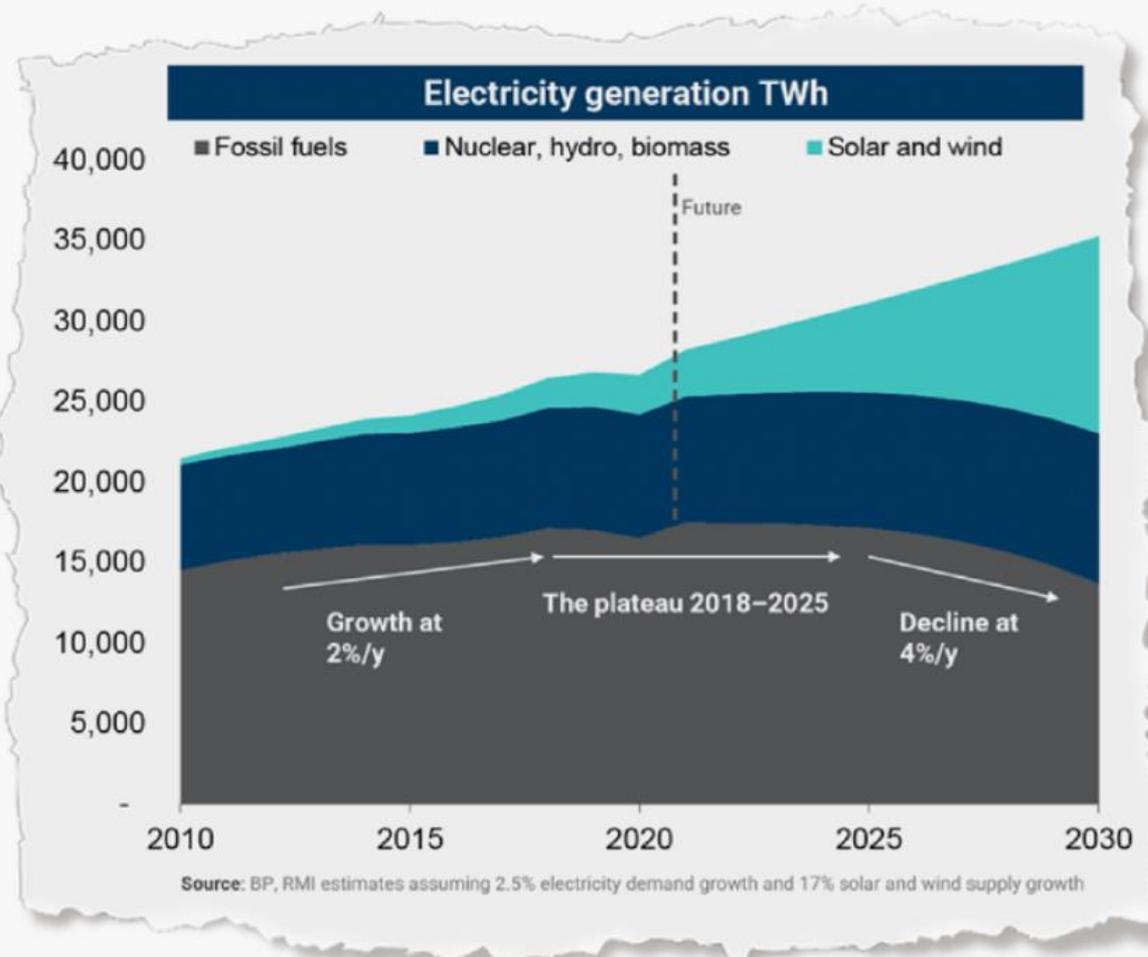
Peak Fossil Fuel Demand for Electricity

It's all over except the shouting

By Kingsmill Bond, Sam Butler-Sloss, Genevieve Lillis, Matt Sugihara

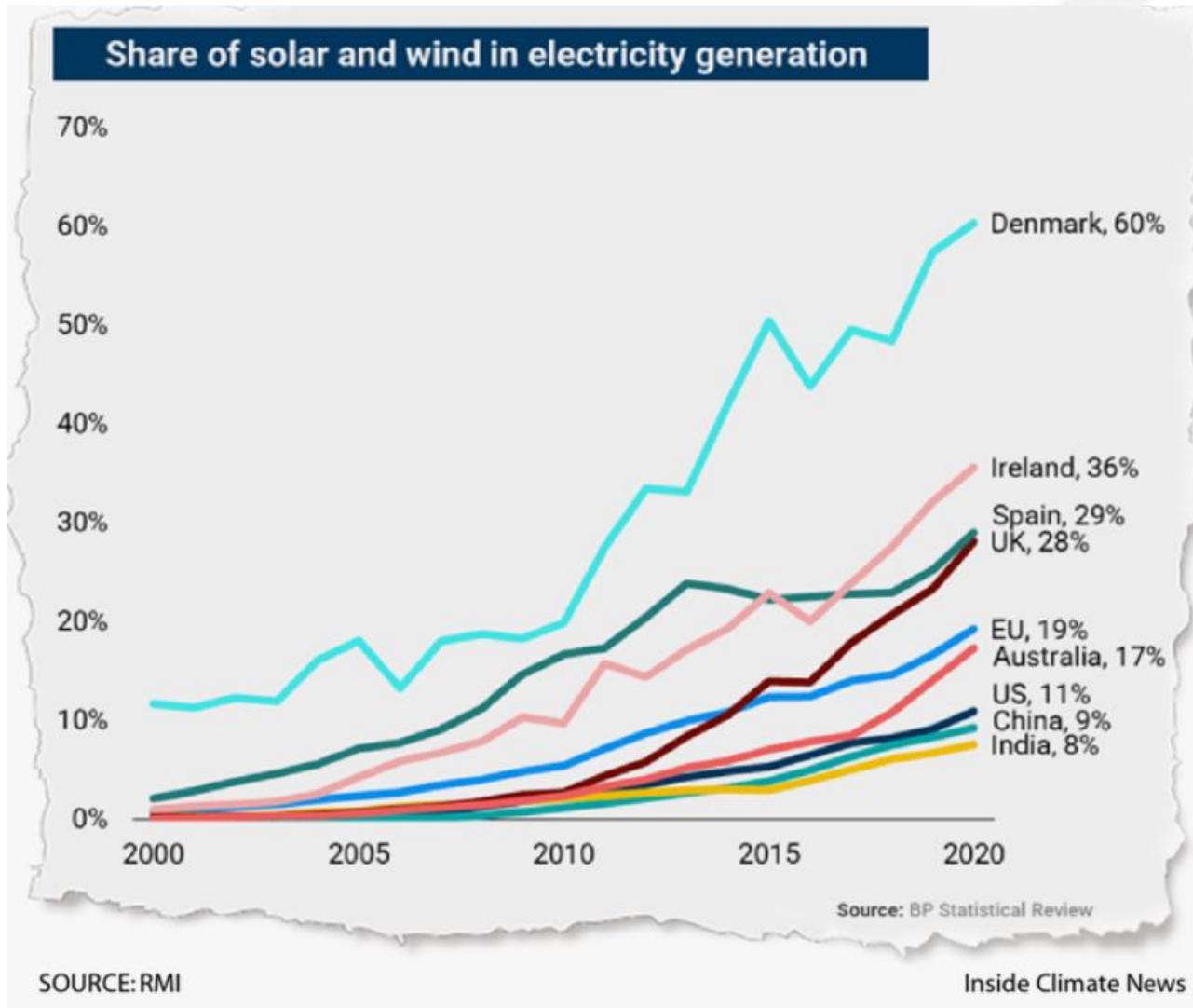
[DOWNLOAD THE REPORT BELOW](#) 

The report, "Peak Fossil Fuel Demand for Electricity," makes the case that fossil fuels have already peaked globally in their use for generating electricity and are heading toward a swift decline.



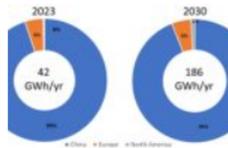
SOURCE: RMI

Inside Climate News



Sodium-ion batteries ready for commercialisation: for grids, homes, even compact EVs

September 11, 2023 by [Carlos Ruiz](#), [Martina Lyons](#), [Isaac Elizondo Garcia](#) and [Zhaoyu Wu](#)



Sodium-ion (Na-ion) batteries, a much more abundant and cheaper alternative to the standard Lithium-ion, are on the verge of commercialisation, explain [Carlos Ruiz](#), [Martina Lyons](#), [Isaac Elizondo Garcia](#) and [Zhaoyu Wu](#) at IRENA. Though there's enough Lithium in the world to support global electrification targets, tightening demand and supply chain constraints point at the urgent need for an



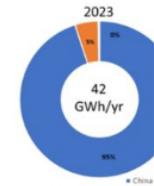
alternative. The cost of a Na-ion battery cell is expected to be around \$40-80/kWh compared to an average of \$120/kWh for a Li-ion cell. Na-ion batteries are safer (operating temperature range, stability), and have faster charging times and longer cycle lives. Their energy density is lower, making them bulkier and heavier. But at 160 Wh/kg (which should improve) it is still good enough for city-range EVs and Chinese manufacturers have already announced Na-ion compact EVs with a 250 km range. Production capacity is forecast to grow from 42 GWh/year in 2023 to 186 GWh/year by 2030: enough to power 4.6m EVs manufactured per year. And for stationary grid and home storage, size is not a problem. It's a story not only of Na-ion, but of the importance of the global energy transition to innovate the alternatives to the mainstream answers, ensuring supply chain diversity and affordable prices, say the authors.

With renewables at its core, the global energy transition towards net-zero will require changes in both the production and the consumption of energy. One of these changes will be the eventual electrification (direct and indirect) of energy end-use sectors (including buildings, transport and industry) which will result in the **tripling of global electricity demand by 2050**, according to IRENA's [World Energy Transitions Outlook \(WETO\)](#).

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Headlines / Economy / EU ban on sale of new petrol and diesel cars from 2035 explained

EU ban on the sale of new petrol and diesel cars from 2035 explained

Economy Updated: 30-06-2023 - 13:11

Created: 03-11-2022 - 09:57

All new cars and vans sold in the EU as of 2035 should not produce any CO2 emissions. What does this mean in practice? Check out our FAQ to find out.



Home > News > World

Under pressure from Berlin, the EU relaxes its ban on combustion engines after 2035



By AP

Published on 25/03/2023 - 21:31

- **Berlin and the EU have reached an agreement in their dispute over the future of cars with combustion engines.**
- Germany and the European Union announced Saturday that they have reached an agreement in their dispute over the future of cars with combustion engines, allowing the registration of new vehicles with such engines even after 2035 provided they use climate-neutral fuel only.
- EU Commission Vice-President Frans Timmermans tweeted that “we have found an agreement with Germany on the future use of e-fuels in cars.”
- German Transport Minister Volker Wissing tweeted that the way had been cleared for vehicles with internal combustion engines that only use climate-neutral fuels to be newly registered even after 2035.
- “We secure opportunities for Europe by preserving important options for climate-neutral and affordable mobility,” Wissing wrote.



Fossil-fuel fever: EU building law loophole risks keeping gas boilers in our homes

Due to go to vote on 14 March, the Energy Performance of Buildings Directive risks being a gift to the fossil fuel industry at the cost of Europe's independence, urgent climate goals, and citizens' energy security. From sourcing materials to everyday heating, our built environment has a significant impact on our CO2 emissions and energy use, and a huge potential to contribute to a climate neutral EU: in Europe, buildings account for around 40% of energy consumption and 36% of CO2 ... [Continue reading](#)

M META

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elementenergy

*The Consumer Costs of
Decarbonised Heat*

Executive summary

for

BEUC

February 2022

Element Energy Limited
Suite 1, Bishop Bateman Court
Thompson's Lane
Cambridge
CB5 8AQ

Tel: 01223 852499

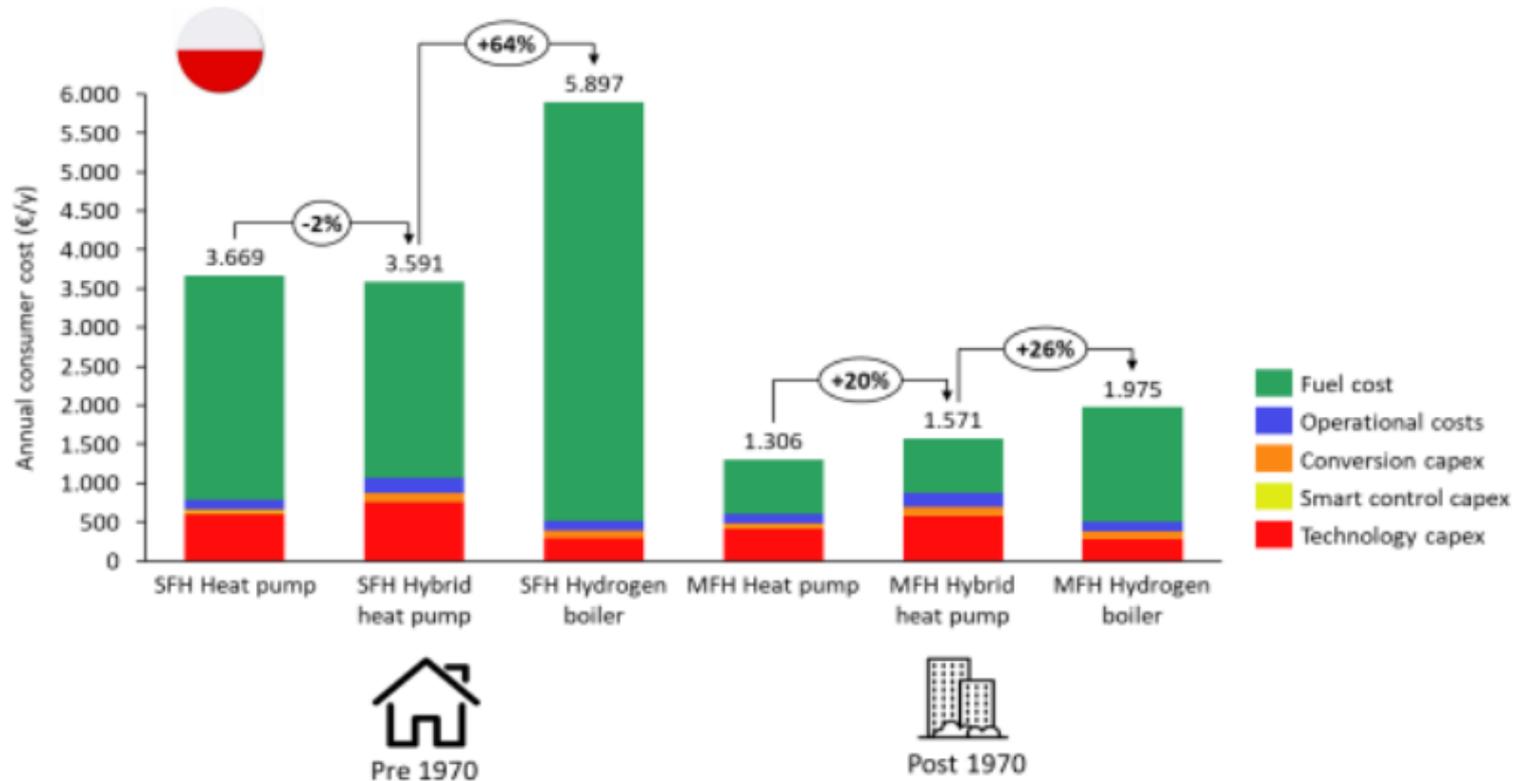


Figure 18 - Annual consumer cost of heat with the main technology in each scenario in Poland.

Introduction

- This study analyses the cost to consumers of low carbon heating options in the year 2040 in four European countries: Spain, Italy, Czechia, and Poland.
- We have investigated four archetypal homes in each country and present detailed results for two of these archetypes, typical older (pre-1970) single-family homes and more modern (post-1970) flats in multi-family homes
- We have examined four low carbon heating options within these archetypes: heat pumps, hybrid heat pumps, green hydrogen boilers, and low carbon district heat networks.

Low carbon heating

- Heat pumps provide the most cost-effective route to the decarbonisation of home heating across the countries and dwelling archetypes analysed.
- Across the four countries investigated, using hydrogen boilers for heating in single-family homes is estimated to be 60-120% more costly than using heat pumps and 50-80% more costly in multi-family homes.

FINANCIAL TIMES

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Climate change

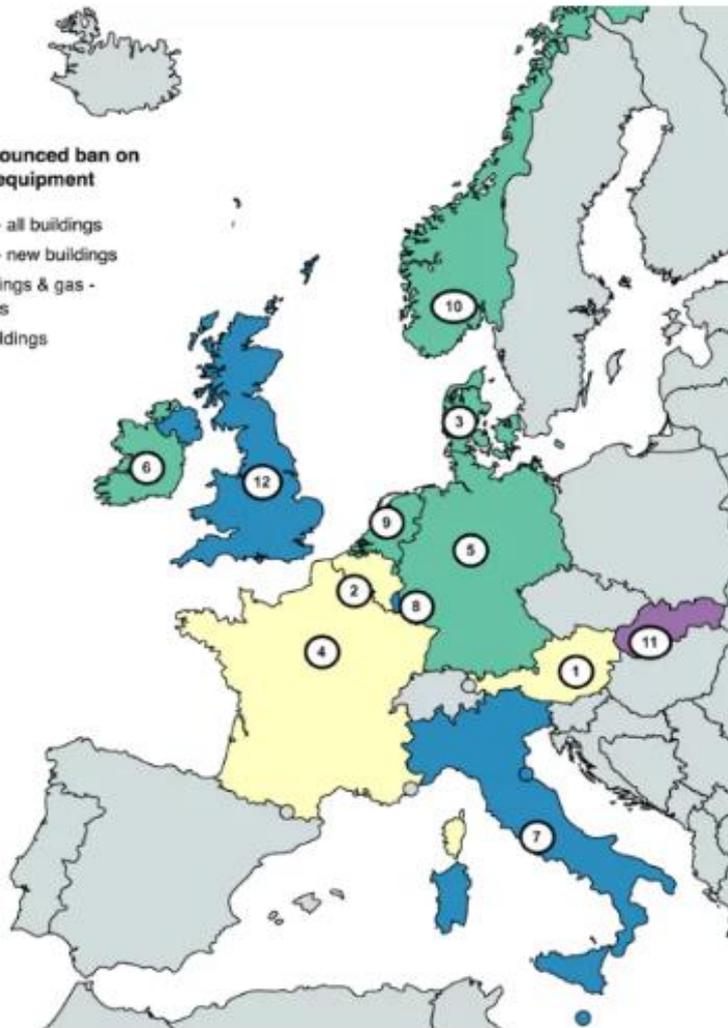
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Germany passes watered-down 'boiler ban' law after months of infighting

Bundestag approves amended version of plan following public backlash and bruising political row

Current or announced ban on fossil heating equipment

- Oil and gas - all buildings
- Oil and gas - new buildings
- Oil - all buildings & gas - new buildings
- Oil - new buildings



1. AUSTRIA

Ban of oil/coal boilers installation from 2020 in new homes. Plans on banning oil and gas heaters from 2023 in new buildings and on banning oil/coal boilers in existing buildings.

2. BELGIUM

Regional ban in Flanders on the installation of oil boilers in new buildings and renovated ones from 2022. Gas connection ban for large new building projects in Flanders from 2021 and gas connection ban for all new buildings in Flanders from 2023. For Wallonia, no bans have been announced.

3. DENMARK

Use obligation for renewable heating and different zones with exemption regulations. Plans to convert all 400 000 remaining gas boilers. About 50% of buildings will be heated by district heating by 2028 and the rest by heat pumps by 2029.

4. FRANCE

From 1/7/2022 oil boilers banned in all buildings. From 2023 ban on gas boilers in new buildings.

5. GERMANY

Ban on installations of mono-fuel oil/coal boilers from 2026 (new and existing buildings) and regional use of obligations for renewable heating. From 2024, a share of 65% RE in heating in new and existing building – which means a real ban on stand-alone fossil fuel boilers.

6. IRELAND

Oil and gas boilers are to be banned from being installed in both new and existing homes. The ban would apply to newly built homes from 2023 and to installations in existing houses possibly from as early as 2025.

7. ITALY

Share of 60% renewable energies in new buildings from 1/6/2022.

8. LUXEMBOURG

Building requirements that make oil and gas impossible from 1.1.2023.

9. NETHERLANDS

Ban of connection to the gas grid for new buildings from 2018. From 2026, hybrid heat pumps will be the mandatory minimum standard.

10. NORWAY

Ban on the use of oil and gas for heating in new and existing homes.

11. SLOVAKIA

Plans on banning sales and installation of new fuel and oil boilers by 2023.

12. U.K.

Ban on gas and oil boilers in new buildings from 2025. In Scotland, the new buildings ban will take place in 2024, and existing commitment to legislation prohibiting fossil fuel heating systems in existing buildings at various trigger points from 2025 onwards.

OPINION

Mounting discontent augurs badly for EU Green Deal

Recent climate regulations are triggering an unintended backlash that risks undermining Europe's very own climate agenda from within.



Since 2019, European Commission President Ursula von der Leyen has presided over the greenest Commission in history | John Thys/AFP via Getty Images

BY RASMUS GRAND BERTHELSEN

SEPTEMBER 26, 2023 | 4:02 AM CET | 6 MINUTES READ

- French president Emmanuel Macron called for a “regulatory pause” in European environmental measures, May 2023
- the European People’s Party voted against a nature restoration law in the European Parliament, July 2023

- The European Parliament on Nov 22 rejected a plan to cut back reliance on pesticides in agriculture in „another setback in Europe-wide efforts to protect the environment” (REUTERS).
- The conservative European People's Party (EPP) said the rejection was a positive outcome: "Today, the European Parliament rejected the extremist approach of the Greens and Socialists to impose more and more bans and excessive regulations that would reduce food production in Europe," EPP said in a statement.

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Parliament trashes EU hopes to reduce packaging waste, siding with throwaway industry

22 11 2023

Brussels, 22 November 2023

For immediate distribution

Brussels, 22 November 2023**For immediate distribution**

Today, the European Parliament voted on the Packaging and Packaging Waste Regulation proposal issued by the European Commission in November 2022. The proposal sought to reduce [record levels of packaging waste](#) in Europe. Intimidated by [unprecedented lobbying](#), parliament voted to

European Parliament unravels net-zero industrial policy with costly giveaways and a new attack on nature

🕒 21 November 2023

The European Parliament today voted on a Net Zero Industry Act (NZIA) that supports the interests of a long list of industries rather than prioritising climate front-runners. Civil society laments that reduced environmental standards and an expanded list of strategic technologies, with controversial additions, will ultimately undermine the effectiveness of the law.

The European Commission tabled the NZIA as tool to support domestic manufacturing of green technologies helping the EU meet its 2030 climate targets. The position approved today by the European Parliament not only does not account for such goals, but also raises several concerns about stretching NZIA resources, disregarding public participation, and attacking biodiversity and nature.

Parliament's proposal to include expensive experiments, such as Carbon Capture and Storage (CCS) or nuclear power, in the list of strategic technologies deviate EU resources and efforts from readily available and proven solutions to costly distractions.

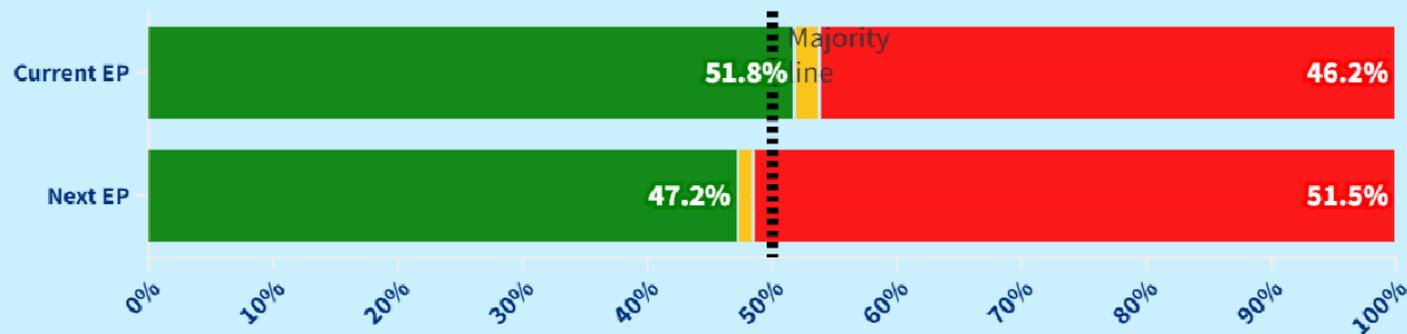
Specifically, an overemphasis on CCS as a panacea for all industrial emissions is misguided. Given its cost, unproven results, and extended deployment timeline, it should only be considered for emissions that cannot be directly avoided. Similarly, the inclusion of nuclear energy and small modular reactors, as costly and unproven solutions, threatens to waste taxpayer money without offering strategic support to EU industry. In essence, if everything is deemed important, nothing truly is.

Is the Green Deal at risk?

Vote: Commission proposal on "Nature restoration"



■ For
 ■ Abstain
 ■ Against





But everything is not lost...

- Citizens' support for increased environmental action remains high, despite crises
- Increasing dialogue and collaboration between environmental and social actors allows for integrated solutions to environmental and social concerns
- Businesses are embracing the European Green Deal more than ever before (with the primary sector as notable exception?)
- Global green “race to the top” starts taking off: Inflation Reduction Act vs. Sovereignty Fund
- Interest among the public and policy makers in upcoming EU elections is high already
- Green Deal is hard to stop: A lot of legislation still needs to be implemented and some pieces (e.g. climate law) create opportunities in 2024 and beyond for ratcheting up.

EEB COMMENT (23.11.2023.):

- **This week**, new unfounded attacks on the green agenda cast a dark shadow over Brussels.
- The European Parliament, following conservatives' lead, has mutilated crucial bills for a sustainable future: pesticides, packaging waste and the net-zero industry act.
- This confirms a worrying trend that has been **emerging in the run up to the EU elections**: a culture war against science. Short-sighted electoral calculus and vested interests are pushing EU policymakers to trade with our health and our ecosystems.
- A few profit, we all lose.
- The rise of anti-science forces and their poisoning narratives — especially worrying after the Dutch elections - is a general call to redouble advocacy for a transformative green transition.
- **The Green Deal is badly wounded, but we must fight to keep it alive as we call for a renewed social and green pact ahead of the next EU mandate.**



The European Environmental Bureau's vision for
European Green Deal 2



Patrick ten Brink, Secretary General, EEB
On behalf of the wider EEB team
EEB Annual Conference
8 May 2023, Stockholm

Links to major sources:

- <https://www.bruegel.org/policy-brief/new-governance-framework-safeguard-european-green-deal>
- <https://eeb.org/wp-content/uploads/2023/06/Final-Report-Gap-Analysis.pdf>
- https://eeb.org/wp-content/uploads/2023/05/EEB-working-thoughts-on-the-EGD-2.pdf?mc_cid=12738420a4&mc_eid=cdf5f4d314



EU TECHNICAL ASSISTANCE
TO CIVIL SOCIETY ORGANISATIONS
IN THE WESTERN BALKANS AND TURKEY

Q&A



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**Thank you for the
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