POLICY BRIEF
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FEPS
FOUNDATION FOR EUROPEAN PROGRESSIVE STUDIES

A EUROPEAN CLEAN GROWTH MINDSET

ABSTRACT

"Clean growth" versus "degrowth" is a highly contentious political debate. It ought not to be. The seeming clash of worldviews is more about rhetoric than actual policy. First and foremost, it is a distraction from focusing on the actual policies needed to cut greenhouse gas emissions - quickly - and doing so while keeping competing priorities in mind.

Making the green transition work for people and for the planet is key to achieving sustainable emissions cuts without stirring political resentment and policy retrenchment. Doing so means finding a balance between energy efficiency measures on the one hand, and research, development, and the rapid deployment of new, cleaner technologies on the other - between demand-side policies that guide behaviour and energy use in the right direction, and the clean (re)industrialisation of Europe and the world.

This mirrors a pledge made by 118 governments at the United Nations Climate Change Conference, COP28, to both double the annual rate of energy efficiency improvements and to triple global renewable energy capacity by 2030.[1] In combination with the explicit identification of fossil fuels as the cause of massive environmental degradation, this means that some polluting sectors and industries will necessarily shrink, while others will thrive.

It also means that policies must focus on guiding the transition and channelling market forces in the right direction, towards a high-efficiency, low-carbon economy and world.

The global clean energy race is on. Europe must take advantage of its policy environment and structural advantages, unique among advanced economies, while minimising some of the potential disadvantages. This requires finding the right balance between decarbonising Europe's economy domestically and leading the rest of the world to do so. By balancing the demands of domestic consumers, producers, and citizens with their global counterparts, while helping stabilise the global climate in the process, Europe can square the circle of green growth.

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The United States is a late entrant into the global clean energy race, but there is no denying that it has entered with full force. It is not just the Inflation Reduction Act of 2022 that has pushed US climate investments into overdrive.[2] Since 2021, the 117th Congress passed and President Joe Biden signed two other important climate bills into law: the bipartisan Infrastructure Investment and Jobs Act,[3] and the CHIPS and Science Act,[4] which invest an estimated $23 and $13 billion per year, respectively, into low-carbon infrastructure and energy deployment.

Estimates of total federal climate spending from all three laws differ widely, but they typically range from anywhere between $800 billion over ten years[5] to as much as $2 trillion.[6] The reason for the wide range: in addition to grants and money for technical assistance and other direct measures, the Inflation Reduction Act includes significant uncapped tax credits, for everything from investments in renewables deployment to clean hydrogen and carbon capture.

The latter, for example, includes subsidies of $85 for each tonne of carbon dioxide (CO2) captured and stored at point sources and $180 per tonne of CO2 collected via direct air capture.[7] These subsidies raise their own sets of questions around the moral hazard of focusing on taking CO2 out of smokestacks and thin air, rather than avoiding burning fossil fuels in the first place.[8] Indeed, the subsidies for CO2 removal especially may be too much too soon.[9] But there is no question that they present a significant investment on part of the federal government and US taxpayers.

Indeed, for the bipartisan infrastructure bill, the estimated $23 billion per year spent on clean energy initiatives might be close to the actual total.[10] Federal infrastructure dollars are often supplemented by state and local government investments, and better infrastructure ultimately increases private investments. However, that private spending is rather indirect, via productivity increases and other macroeconomic effects.

The Inflation Reduction Act, meanwhile, leverages significantly more private investments than the total federal outlay. Exact projections are anyone's guess, but it would not be far off to double federal moneys to arrive at the total. That could imply as much as another $1 or perhaps $2 trillion in private investments, if not more.[11]

This is particularly true as many of the subsidised technologies have steep learning curves ahead of them, implying that companies would use the tax credits to help climb these learning curves and to slide down the respective cost curves. Some estimates of direct air capture technologies, for example, put eventual levelised prices at around $100 to $250 per tonne of CO2, spanning the $180-per-tonne subsidy.[12] Current costs, though, might more realistically be as high as $400, $600 or above.[13]

The main point is simply this: the US federal investment in grants, tax credits and other climate policy provisions represents only a small part of the overall expected spending jumpstarted by the three laws, especially the Inflation Reduction Act. Indeed, first analyses of the Inflation Reduction Act show how the Act raises economic activity to such an extent that it easily pays for itself, generating good value for US taxpayer money.[14]

Moreover, the US law does not just increase US economic growth in that first decade when the law is in effect, nor are its positive effects limited to the United States in the form of increased productivity that will continue to raise US GDP after the ten-year period enshrined in the 2022 bill.

"Improvements in manufacturing processes and broader scale effects also extend well beyond US shores to the EU and elsewhere"

Lastly, and contrary to common political narratives, the same macroeconomic analysis shows how the US Inflation Reduction Act does not just increase US GDP but also increases GDP in Europe and elsewhere around the world. The mechanism goes via productivity increases that are not confined to any one country but propagate globally. Improvements in

manufacturing processes and broader scale effects do not just accrue domestically. They also extend well beyond US shores to the EU and elsewhere, raising productivity and, thus, GDP globally.

That does not mean that every sector in every country, and certainly not every individual company emerges as a winner. It is, of course, precisely any one individual company deciding to relocate their one locally important manufacturing plant that makes local and often also national headlines. But a detailed analysis of positive sector- and industry-wide learning-by-doing spillovers shows how the overall effects are indeed globally positive, in a study appropriately titled "Clean Growth".[15]

One significant part of the positive effect of the US climate policy push was the element of surprise. Hardly anyone expected the enactment of the Inflation Reduction Act, even a month before its successful passage. Typically well-informed, progressive political scientist Leah Stokes lamented that climate policy was dead in Congress in a *New York Times* opinion essay on 16 July 2022. She began the final paragraph by admonishing readers to "hold your children close tonight".[16] Indeed, a news article in the same paper the day before stated "Biden concedes defeat on climate bill as Manchin and inflation upend agenda".[17] The common thread in both pieces: West Virginia Senator Joe Manchin as the sole holdout who reportedly did not support the Democrats' broad climate agenda.

"Within the course of a single month, the United States went from 'no climate deal' to passing the most ambitious climate legislation in its history."

Little did any of these writers know that Senator Manchin did, in fact, continue to negotiate with the Senate majority leader, New York Senator Chuck Schumer, to hammer out a climate deal that would lead to the passage of the Inflation Reduction Act in August of 2022.[18] Within the course of a single month, the United States went from 'no climate deal' to passing the most ambitious climate legislation in its history.

It was this element of surprise that sent business leaders and policymakers around the world into a frenzy. For businesses, it meant that the race was on, and that the centre of action had just moved from Europe, with its traditionally strong climate policy support, to the United States, traditionally with a lack thereof at the federal level. For policymakers, especially in Europe, it meant that having had a significant head start on national and EU-wide policies was no longer a guarantee to stay in a global clean energy leadership position. The first mover seemed to be losing out against a late entrant with deeper pockets.

That was especially true because China had long been building up its manufacturing base, and now dominated key parts of global clean energy supply chains. *The Economist* heralded, and cautioned about, the shift from "petrostate" to "electrostate" on its cover in 2020, citing the country's "dominance in making key components and developing new technologies".[19] The statistics at the time: China produced 72% of all solar modules, 69% of lithium-ion batteries and 45% of wind turbines.

China has become only more dominant since. By now, it produces 75% of all solar modules, 75% of lithium-ion batteries, and well over 50% of all wind turbines sold globally. It also dominates the global electric vehicle market, with a market share of over 50%.[20] These summary statistics mask an even larger dominance in some key components. For example, while Europe manufactures some 40% of offshore wind towers, compared to China's 53%, China manufactures 84% of all offshore wind turbine blades. Similarly, China "only" produces 75% of solar modules but produces 96% of solar wafers and 85% of solar cells, two key components in solar modules. It similarly produces 86% of all anodes and 68% of cathodes, key components of the global electric vehicle supply chain. And by now, China has also entered the global market for heat pumps (with a 39% market share) and electrolysers (41%).

In the United States, China's dominance in these key clean energy markets has sparked national security concerns on top of economic and environmental ones.[21] That was particularly true in the immediate

aftermath of Russian President Vladimir Putin's invasion of Ukraine on 24 February 2022.

To be clear, there is a key difference between, for example, Europe's dependence on Russian gas and the world's dependence on China's solar panels. Russia can use others' dependence on its gas as a strategic weapon - and has indeed done so, including in its current war of aggression against Ukraine. European energy security depends directly on Russia's continued willingness to supply it with gas, and Russia's economic and military fortunes are directly tied to Europe's willingness to continue to pay for gas even after the invasion.

"If supplies of clean energy technologies were to be suddenly cut, already installed panels, or existing electric vehicles, would continue to operate."

The world's dependence on Chinese clean energy technologies is decidedly different, for the same reason that clean energy technologies differ from commodities like oil, coal and gas. If supplies of Chinese-made clean energy technologies were to be suddenly cut, already installed panels, or existing electric vehicles, would continue to operate. There would still be enormous economic, environmental and security implications of a sudden rupture in global clean energy supply chains, but an immediate failure of Western electric grids or furnaces is not one of them.

Regardless of the reason for the US push to build onshore clean energy supply chains and invest heavily in low-carbon industrial policies, there is no denying that this policy push is here, and here to stay.[22] The question then for policymakers in Europe and beyond is how to respond.

2. The EU's policy landscape

Europe has long held a global climate policy leadership position. Indeed, northern European countries were well ahead of the rest of the world in establishing carbon taxes in the early 1990s, and the EU was first in adopting a comprehensive emissions trading system for CO2, even though it was the US delegation calling for just that as part of the Kyoto Protocol negotiations in 1997. The broad idea was top-down CO2 emissions reduction targets and timetables, and allowance trading across - and possibly within - countries to minimise costs of compliance.

Emissions trading had long been an "American" idea, after the success of the US emissions trading system for sulphur dioxide (SO2) and nitrous oxides (NOx), implemented as part of the 1990 Amendments of the Clean Air Act of 1970.[23] The EU had chosen a more direct regulatory approach to rein in its acid rain pollution. But it was the EU that pursued CO2 trading in earnest and turned it into the cornerstone of the continent's climate policy framework.

The European Commission designed and implemented the world's first comprehensive emissions trading system for CO2, beginning with a three-year trial phase in 2005, and the first compliance phase commencing in 2008.[24] The system was panned by many progressives and environmentalists at the time because of its low prices, while plenty of those wishing for weaker climate action seemed to like it for just that reason. That assessment was wrong then - emissions trading reduced the EU's CO2 emissions from day one, despite initial low prices.[25] It is certainly wrong now - with prices hovering around €100 per tonne of CO2, up from below €50 only two years prior.

The lesson: it is worth getting the policy design right from the start, and the European Commission certainly seems to have done so.[26] Indeed, emissions trading is tailor-made for the EU's bureaucratic and political structure, with the combination of top-down design and bottom-up implementation.[27] It is much harder politically to go from zero to €10 per tonne of CO2, than from €10 to €100; with the right policy design, the latter might - quite literally - happen automatically.[28] That goes for a carbon tax, like Germany and Austria's, rising at a rate of €5 per year by law. It also goes for emissions trading, where the price increase might happen much faster, sending all the right policy signals in the process. It is the anticipation of stronger climate policy - and the

resulting higher (explicit or implicit) carbon prices in the future - that might accomplish at least as much as the actual prevailing prices.

Meanwhile, the European Commission has worked on, and indeed successfully implemented, significant reforms that have further strengthened its emissions trading system along the way. The latest includes a significant expansion of the system to cover road transport and buildings by 2027, and a border tariff to level the playing field for companies producing abroad and wanting to sell into the EU known as "Carbon Border Adjustment Mechanism" (CBAM), coming fully into effect by 2026.

CBAM is the kind of system where the EU uses its market power and position as climate policy leader to expand the reach of its domestic climate policy well beyond its own borders, while earning the support of both climate champions and traditional free trade enthusiasts.[29] Take POSCO and Hyundai, the two large South Korean steel producers, as an example. Only around 5% of South Korea's steel production gets sold in Europe, yet Europe's carbon price ranks highly in both POSCO and Hyundai's investments in lower-carbon steel production - much like both consider US supply-side subsidies a direct impetus to call for further direct Korean policy support for domestic steel production.

"The EU has some real structural advantages in having focused on demand-side pricing policies."

Therein lies the EU's climate policy challenge. It has some real structural advantages in having focused on demand-side pricing policies all along. It similarly has real structural disadvantages - especially vis-à-vis the United States - due to unique geographic challenges and its demand-side climate policy focus.

One challenge for the EU has become painfully clear in the immediate aftermath of Putin's invasion of Ukraine. The United States could declare a stop to Russian oil and gas imports much more easily than Europe, something especially true for gas. The case for Europe to get off Russian gas *now* was strong on 25 February 2022, the day after the invasion, and it is stronger today.[30] But there are some clear trade-offs. Europe, and especially Germany, had become wilfully dependent on cheap Russian gas for a significant portion of its industry, home heating and power generation. Energy and electricity prices almost everywhere on the continent, thus, have been tied to current geopolitical vagaries driving global and regional gas markets.

German economist and member of the European Central Bank's Executive Board Isabel Schnabel pointed to "the new age of energy inflation" in March 2022 for good reason.[31] She coined three terms: *"climateflation"*, the inflation stemming from unmitigated climate change and the resulting climate emergencies driving up the cost of living; *"fossilflation"* driven by a rise in fossil fuel prices; and *"greenflation"* driven by higher prices of low-carbon fuels due to increased demand. *Climateflation* and *fossilflation* go hand in hand, with dependency on fossil fuels chiefly responsible for climate change in the first place.

The task for policymakers then is to tackle *climateflation* and *fossilflation* on the one hand, while minimising any potential fallout from *greenflation* in the process. Doing so requires a balance of demand-side climate policies that internalise the negative externalities of CO2 and other greenhouse-gas emissions, and supply-side policies that focus on building the low-carbon, high-efficiency supply chains. It takes carbon pricing, regulations, and other demand-side measures, plus subsidies and a general focus on the green supply side.

Despite its head start on demand-side policies - or perhaps because of it - the EU is decidedly late on the supply side. The Net-Zero Industry Act and the Critical Raw Materials Act, both proposed in March 2023 and slated to enter into force in 2024, are two attempts to address these supply-side concerns. They are potentially an important start, but they are indeed just a start.

3. An EU focus on cheap, abundant low-carbon electricity

A comprehensive and coherent EU response to the US climate policy push and focus on clean industrial policy needs to go beyond demand-side policies and set targets for the domestic production of low-carbon technologies and critical minerals. The EU should focus on its structural, comparative advantages provided by its demand-side policies.

The EU should similarly address its structural disadvantages, primarily, high and highly uncertain energy and electricity prices. That begins with the most important climate policy intervention: a focus on providing ample cheap low-carbon electricity, for industry and households. The former helps address fears of a further deindustrialisation of Europe; the latter creates public support for the clean transition.

"Cheap low-carbon electricity is a foundation for the EU's clean reindustrialisation"

Indeed, cheap low-carbon electricity is a foundation for the EU's clean *re*industrialisation. It also helps decarbonise buildings, transport and the economy more broadly.

One avenue lies in the continuing, precipitous decline in global solar prices. Solar photovoltaic, after all, is "the cheapest source of electricity in history" for locations with high solar capacity and low cost of financing, as the International Energy Agency declared in 2020.[32] And solar wafer and module technologies have only gotten better and cheaper since, led by a 70% drop in polysilicon prices just in the past 18 months.[33]

The levelised cost of electricity generated from solar has since trended up slightly because of the higher cost of financing, but in relative terms, solar price drops are continuing to beat even some of the most optimistic projections. Overall, solar electricity costs can be expected to drop a further 10% a year through 2030.[34] That leads to expectations of prices below €0.10 per installed watt of capacity by 2025, and a quadrupling of annual solar installations in the EU alone to 80 gigawatt per year by the end of the decade.

Taking advantage of these low and falling solar electricity costs takes more than cheering the continuing declines in the cost of installing new solar panels. The savings also need to be passed down to consumers in industry and households.

Meanwhile, the EU's "merit order" electricity pricing system all but guarantees that high and fluctuating gas prices will continue to set the price of electricity, as long as gas plants exist on the grid. There are some notable exceptions.

Swedish start-up *H2 Green Steel*, for example, is pressing ahead with the world's first commercial-size, clean-hydrogen steel plant, with a multi-billion Euro investment in Boden in northern Sweden. The EU's emissions trading system and resulting carbon price is one ingredient in making such investments a success. The others are large existing hydropower plants and newly built wind farms that have allowed Norwegian Statkraft to enter into a power purchasing agreement for electricity at below €0.03 per kilowatt-hour.[35]

Clean electricity deserves predictable support beyond one-off power purchasing agreements for heavy industry. That might imply creative ideas for electricity sector pricing reforms more broadly, with industry and especially also households as beneficiaries at the expense of (state- or investor-owned) utilities. Ongoing attempts to reform European electricity pricing generate justifiably heated debates, with bringing ownership of utilities back into the public domain but one possible answer.

It is, for example, important to strike a balance between enabling everyone (including every household with solar panels on their roof) to be fairly compensated for selling excess electricity to the grid, while ensuring overall grid stability and reliability. Households and companies, thus, should similarly be compensated for helping provide grid stability, for example with bidirectional chargers for their electric vehicles or smart appliances that allow

for targeted energy efficiency or demand response measures.

Any such reform must also leave room for true innovation. Electrowinning, for example, can turn iron ore into iron with electricity rather than using fossil fuels to strip oxygen from iron ore. A key feature is that the resulting iron is essentially a solid-state battery. When the sun shines and the wind blows, electricity is used to produce iron; when electricity demand is up and renewables supply down, the process can be reversed to turn iron back into iron ore and generate electricity.[36] Electricity pricing reform must allow for this possibility and perhaps even actively support it.

The pricing model will need to balance the three ultimate sources of money in the electricity sector: ratepayers, taxpayers and shareholders. If the goal is to lower electricity prices to ratepayers, subsidies to households means taxpayers or shareholders pay more. If the goal is to lower prices for companies, ratepayers or taxpayers pay the bill.

One way to soften the trade-offs among the three is clean electricity abundance, enabled by low renewables prices. Rapid solar deployment might take more direct interventions at the state or local level, beginning with targeted deployment directives that mandate, for example, that each roof be blanketed with solar panels, while not ignoring utility-scale solar deployment.

The traditional EU focus on demand-side climate policies, internalizing the negative carbon externality, has been a superb application of basic economic principles. Subsidising low-carbon, high-efficiency technologies, meanwhile, helps internalise the positive learning-by-doing and R&D externalities. Comprehensive climate policy takes both.[37] This supply-side focus has another key benefit: putting the clean reindustrialisation of Europe front and centre, and with it, the jobs, investments and broader economic benefits it entails, while balancing them against broader social and environmental priorities from job protection to land-use measures.

4. Conclusions: European clean growth that works for people and the planet

Unbridled economic growth, at the exclusion of any other priority, is bad for lots of reasons. "No poverty" and "zero hunger" are the first United Nations Sustainable Development Goals for good reason. But they are only two of 17 goals. Among the others are "affordable and clean energy" (goal 7) and "climate action" (goal 13).[38] There, too, is a reason for two separate climate-related goals. Deploying ample affordable and clean energy is key, but it alone is not sufficient as a climate solution.

Another key aspect is instituting the kind of energy-efficiency measures that have made German-style building codes the envy of climate experts and activists around the world. The earliest German laws aimed at thermal insulation stem from 1977. Former chancellor Angela Merkel famously pointed to "airtight windows" in an answer to a question of what she liked best about her country.[39]

"Efficiency means doing more with less, a key ingredient into economic growth."

It would be tempting to juxtapose clean energy growth with energy efficiency as a microcosm of the wider "clean growth" versus "degrowth" debates. That would be a mistake. Indeed, efficiency means doing more with less, akin to the most standard of definitions of economic productivity, a key ingredient into economic growth.[40] The logic is akin to the energy-efficiency rebound effect.[41] None of that means efficiency is in any way, shape, or form bad. It isn't. *In*efficiency clearly is not good. It simply means that the newly found efficiency gains must be channelled in a productive direction.

One clear outcome of a focus on energy efficiency and investment in clean energy is good, low- carbon economic growth as a means to achieve broader social priorities.[42] Doing so requires a balance between economic and societal objectives, between labour and capital, between shrinking undesirable economic activities and growing desirable ones.

Endnotes

1 Wagner, G. (2023) "How to Assess the Outcome of COP28". *Project Syndicate*, 13 December. gwagner.com/cop28

2 117th United States Congress. H.R.5376 - Inflation Reduction Act of 2022. https://www.congress.gov/bill/117th-congress/house-bill/3684/text (2022).

3 117th United States Congress. H.R.3684 - Infrastructure Investment and Jobs Act. https://www.congress.gov/bill/117th-congress/house-bill/3684/text (2021).

4 117th United States Congress. H.R.4346 - Chips and Science Act. https://www.congress.gov/bill/117th-congress/house-bill/4346 (2022).

5 Burgess, M.G., L. Van Boven, G. Wagner, G. Wong-Parodi et al. (2024) "Supply, demand, and polarization challenges facing US climate policies". *Nature Climate Change* 14: 134–142.

6 Badlam, J., J. Cox, A. Kumar et al. (2022) "The Inflation Reduction Act: Here's what's in it". *McKinsey & Co*, 24 October. https://www.mckinsey.com/industries/public-sector/our-insights/the-inflation-reduction-act-heres-whats-in-it.

7 117th United States Congress. H.R.5376 - Inflation Reduction Act of 2022. https://www.congress.gov/bill/117th-congress/house-bill/3684/text (2022).

8 Wagner, G. (2023) "Carbon Capture and Delay". *Project Syndicate*, 10 August. gwagner.com/ccs-delay

9 Grubert, E. and S. Talati. (2024) "The distortionary effects of unconstrained for-profit carbon dioxide removal and the need for early governance intervention". Carbon Management 15, no. 1: 2292111.

10 Burgess, M.G., L. Van Boven, G. Wagner, G. Wong-Parodi et al. (2024) "Supply, demand, and polarization challenges facing US climate policies". Nature Climate Change.

11 See e.g. McKinsey (2022).

12 Keith, D. W., G. Holmes, D. St Angelo et al. (2018) "A process for capturing CO2 from the atmosphere". *Joule* 2, no. 8: 1573-1594.

13 See e.g. frontierclimate.com, "an advance market commitment to accelerate carbon removal".

14 Arkolakis, C., and C. Walsh. (2023) "Clean Growth". No. w31615. National Bureau of Economic Research. nber.org/papers/w31615

15 Arkolakis, C., and C. Walsh. (2023) "Clean Growth".

16 Stokes, L. (2022) "What Joe Manchin Cost Us". *The New York Times*, 16 July. nytimes.com/2022/07/16/opinion/environment/joe-manchin-climate-change-clean-energy.html

17 Tankersley, J., L. Friedman and C. Davenport. (2022) "Biden Concedes Defeat on Climate Bill as Manchin and Inflation Upend Agenda". *The New York Times*, 15 July. nytimes.com/2022/07/15/climate/biden-inflation-climate-manchin.html

18 Cochrane, E. and L. Friedman. (2022) "How Manchin went from a holdout to the deal maker on climate". *The New York Times* live, 7 August, 3:55 p.m. Eastern Time; nytimes.com/live/2022/08/07/us/climate-tax-deal-vote?searchResultPosition=8#manchin-deal-maker-on-climate

19 "Is it the end of the oil age?" (2020). *The Economist Leader*, 17 September. economist.com/leaders/2020/09/17/is-it-the-end-of-the-oil-age

20 International Energy Agency. (2023) *Energy Technology Perspectives 2023*, January. iea.org/reports/energy-technology-perspectives-2023

21 "Brian Deese, John Podesta and Jake Sullivan on the Inflation Reduction Act". *The Economist* By Invitation, 24 January 2023. economist.com/by-invitation/2023/01/24/brian-deese-john-podesta-and-jake-sullivan-on-the-inflation-reduction-act

22 J. Réka, N. J. Lane, and D. Rodrik. (2023) “The new economics of industrial policy”. No. w31538. National Bureau of Economic Research. nber.org/papers/w31538
23 Aldy, J. E., M. Auffhammer, M. Cropper, A. Fraas, and R. Morgenstern. (2022) “Looking back at 50 years of the Clean Air Act”. *Journal of Economic Literature* 60, no. 1: 179-232.
24 D. Jos, and P. Vis (Eds.). 2015) *EU climate policy explained*. Routledge.
25 Bayer, P. and M. Aklin. (2020) “The European Union emissions trading system reduced CO2 emissions despite low prices”. *Proceedings of the National Academy of Sciences* 117, no. 16: 8804-8812.
26 Kerr, S., R. Lubowski, J. Ward et al. (2016) “Emissions Trading in Practice: A Handbook on Design and Implementation”. *World Bank*. Washington, DC. openknowledge.worldbank.org/handle/10986/23874
27 Green, J. F., T. Sterner, and G. Wagner. (2014) “A balance of bottom-up and top-down in linking climate policies”. *Nature climate change* 4, no. 12: 1064-1067. gwagner.com/linking
28 Wagner, G. (2021) “For Effective Climate Policy, the First Step is the Hardest”. *Bloomberg Green* Risky Climate, 9 October. gwagner.com/risky-climate-austria
29 “How carbon prices are taking over the world”. (2023) *The Economist*, 1 October. economist.com/finance-and-economics/2023/10/01/how-carbon-prices-are-taking-over-the-world
30 Wagner, G. (2022) “The Case for the EU Cutting Off Its Russian Gas Supply Now”. *Bloomberg Green* Risky Climate, 25 February. gwagner.com/risky-climate-ukraine
31 Schnabel, I. (2022) “A new age of energy inflation: climateflation, fossilflation and greenflation”, 17 March. ecb.europa.eu/press/key/date/2022/html/ecb.sp220317_2~dbb3582f0a.en.html
32 International Energy Agency. (2020) *World Energy Outlook 2020*, October. iea.org/reports/world-energy-outlook-2020
33 Buckley, T. and X. Dong. (2023) “Solar pivot: A massive global solar boom is disrupting energy markets and speeding the transition”. *Climate Energy Finance*, 14 June. climateenergyfinance.org/wp-content/uploads/2023/06/updated_-SolarMfg_CEF_14June2023.pdf
34 Buckley, T. and X. Dong. (2023) “Solar pivot: A massive global solar boom is disrupting energy markets and speeding the transition”. *Climate Energy Finance,* 14 June. climateenergyfinance.org/wp-content/uploads/2023/06/updated_-SolarMfg_CEF_14June2023.pdf
35 Bataille, C. and G. Wagner. (2023) “What Steel Decarbonization Needs”. *Project Syndicate*, 21 November. gwagner.com/steel-policy
36 Wagner, G. (2024) “Electra: Decarbonizing steelmaking through carbon-free iron”. *Columbia CaseWorks*, 13 February. gwagner.com/electra
37 Acemoglu, D., P. Aghion, L. Bursztyn, and D. Hemous (2012) “The environment and directed technical change”. *American economic review 102*(1), pp.131-166. aeaweb.org/articles?id=10.1257/aer.102.1.131
38 sdgs.un.org/goals
39 Original quote: “Ich denke an dichte Fenster! Kein anderes Land kann so dichte und so schöne Fenster bauen”. (*BILD*, 29 November 2004)
40 Wagner, G. (2023) “The Green Growth Mindset”. *Project Syndicate*, 29 September. gwagner.com/green-growth-mindset
41 Gillingham, K., D. Rapson, and G. Wagner. (2016) “The Rebound Effect and Energy Efficiency Policy”. *Review of Environmental Economics and Policy*, Winter. gwagner.com/rebound
42 Terzi, A. (2022) “Growth for Good: Reshaping Capitalism to Save Humanity from Climate Catastrophe”. Harvard University Press.

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February 2023

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FROM THE GREEN DEAL TO REPOWER EU

WHAT ABOUT THE EU'S SOUTHERN FOSSIL GAS SUPPLIERS?

ABSTRACT

The external dimension of the European Green Deal, published at the start of 2021, focuses on a just green transition, calls for the phasing out of harmful fossil fuel subsidies and discourages further investments into fossil fuel-based energy infrastructure projects in third countries. However, since the 2022 Russian invasion of Ukraine, the European Union has been faced with a pressing need to find alternatives for Russian gas. The attention of EU member states and of the European Commission turned towards fossil fuel exporters in its southern neighbourhood - namely, Algeria and Egypt, with energy diplomacy doing overtime. The focus of the EU has been on concluding middle-to-long-term fossil gas contracts with partners and importing green hydrogen. The shift towards middle-to-long-term fossil gas contracts coincides with a crucial moment, the COP27 in Egypt, which has been a disappointment to many. The EU's actorness, including in its neighbourhood is vital to achieving its claimed climate leadership. Nevertheless, the focus on green hydrogen could jeopardise the EU's trustworthiness. Prioritizing the export of green hydrogen to fulfil the EU's needs without considering those of its Southern Neighbourhood partners seems like a repetition of the mistakes the EU made during the 2000s. The EU had been previously accused by its Southern Neighbourhood of green colonialism when investing in renewable energy projects with the aim to export to EU countries, such as Desertec. Instead, the EU should focus on 'no-regret' options such as investing in an enabling framework that meets the needs of its partners for more energy efficiency, renewable energy, and technical assistance to tackle methane leaks and to address venting and flaring. This paradigm change could liberate more fossil gas for export in the shorter term, and prevent fossil fuel lock-in for its partners while being in line with the EU's climate leadership aspirations.

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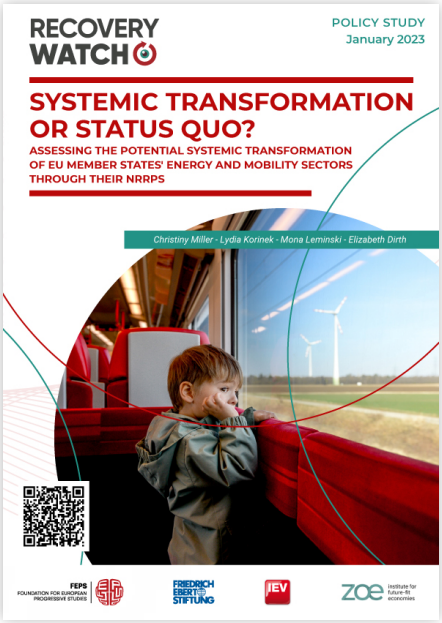
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January 2023

SYSTEMIC TRANSFORMATION OR STATUS QUO?

ASSESSING THE POTENTIAL SYSTEMIC TRANSFORMATION OF EU MEMBER STATES' ENERGY AND MOBILITY SECTORS THROUGH THEIR NRRPS

Christiny Miller - Lydia Korinek - Mona Leminski - Elizabeth Dirth

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POLICY BRIEF
April 2023

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THE ROAD TO A JUST TRANSITION

A COMPARATIVE ANALYSIS OF TERRITORIAL JUST TRANSITION PLANS

ABSTRACT

This policy brief analyses the Territorial Just Transition Plans (TJTPs) of seven countries, with the aim of understanding the envisioned just transition in these regions. The brief scrutinises and evaluates the economic, environmental and social aspects of the plans to map the kind of justice to be expected from their implementation. It finds that the TJTPs primarily direct funding towards economic policies, with the aim of supporting SMEs and large corporations to decarbonise and generate or maintain employment opportunities in the regions. There are lesser investments in environmental policies, mainly focused on the decontamination of polluted land, and social policies, such as elderly and childcare.

The TJTPs can be grouped into three categories. The first group has a relatively balanced approach in dividing investments among economic, social and environmental policies. The second group focuses mostly on economic policies and decarbonising large corporations and SMEs. The last group mostly focuses on environmental policies.

The envisioned justice in the TJTPs is primarily directed towards employment opportunities; this poses the risk of benefitting people and organisations that already receive support from the European Commission. A different kind of justice, one focused on improving social conditions, could be better positioned to help those who are typically left behind.

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POLICY BRIEF
JUNE 2022

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TALKING GREEN IN EUROPE

LESSONS ON RE-FRAMING THE PUBLIC DEBATE ON THE CLIMATE CRISIS FROM THREE SURVEYS

SUMMARY

This policy brief asks how progressive actors can communicate about the climate crisis in a way that resonates with people from different backgrounds. The brief argues that policy proposals for a just transition do not automatically garner public support, but instead must be accompanied by a re-framing of the public discourse. Drawing on the results of three surveys carried out by FEPS and its partner organisations in the UK, Ireland and Hungary in 2021 as part of the Talking Green project, this policy brief argues that an effective and inclusive framing of climate actions needs to fulfil two conditions. The first condition is that a progressive narrative should emphasise the links between climate change and climate policies, and the lived experiences of people. Linking climate change and climate policies to more immediate concerns like healthcare, housing or energy, and improvements in quality of life more generally, emerges as a promising communication strategy. The second condition is that a progressive narrative must dispel fears that the costs of climate action will be imposed on vulnerable groups. Messages about the 'just transition' or 'green jobs' are already addressing those concerns. Progressives, however, need to ensure that those messages remain concrete and relatable.

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POLICY BRIEF
April 2022

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HOW TO ADDRESS EUROPE'S GREEN INVESTMENT GAP

SUMMARY

This policy brief discusses the European Union's investment needs to limit global warming to 1.5°C above pre-industrial levels as well as two funding options to raise the revenues for the direct provision of green infrastructure. The policy brief finds that the European Commission's modelling of required investment needs is overly optimistic as the EU faces an investment gap of €11,670 to €16,320 billion between 2020 and 2050.

A progressive European wealth tax and the issuing of government bonds for a public investment initiative are two policy options to close this gap. A progressive European wealth tax has the potential to raise revenues of between €164 billion and €357 billion annually, while not increasing inflationary and Covid-related pressures on low- and middle-income households. A wealth tax can also reduce extreme levels of wealth inequality and build administrative capacities to fight corruption and organised crime. The second policy option of issuing bonds can raise revenues instantly and will generate a significant economic impulse. This policy brief estimates a long-run investment multiplier of 5 for a co-ordinated fiscal expansion at the EU level. The magnitude of the multiplier also means that public finances will improve in the long term.

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POLICY BRIEF
NOVEMBER 2021

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RETHINKING SCENARIO ANALYSIS FROM A GREEN AND SOCIAL PERSPECTIVE

SUMMARY

To transition towards a green economy, information about the climate impacts of state economic policies and company transition plans is a prerequisite.

Ahead of COP 26, assessment methodologies that compare government plans with possible climate scenarios conclude that targets and action remain far apart, thus arguing for increased ambition and rapid fundamental changes.

While these messages are important, this policy brief takes a closer look at the methodologies that underlie such assessments – so-called scenario analyses – and explores how they are already being used in a legally binding way in financial regulation.

Against the increasing importance of scenario analysis, this brief outlines that the methodologies need to remain science based on the environmental side and incorporate the social dimension of the just transition to remain useful and legitimate policy instruments. In the medium term, scenarios also need to become more inclusive and be integrated with other fields such as green investment policy as there are significant overlaps with regard to data and methodology.

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