How Banks' Tasks Regarding Their Financed Carbon Footprint Is Misunderstood by EU Regulation*

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Regulation in the EU makes banks responsible for the greenhouse gas (GHG) emissions of their borrowers and thus tries to use them as leverage to nudge polluting industries into the carbon-free transition. For lack of better alternatives, this occurs based on metrics that are neither reliable nor robust. While welcomed by the industry, the European Commission's recent omnibus packages aimed at simplifying sustainability legislation will also probably not change that situation materially. Although it is perhaps well-intended, this approach assigns banks a task which they are not qualified for. It is unsurprising that the entire initiative has resulted in bureaucratic formalities in banks' reports rather than substantive progress. It is not the best way to get credit institutions engaged in the green transition. Instead, banks should focus on what they are best at: lending, and more specifically, on lending for projects that advance the carbon-neutral transformation of the economy.

Journal of Economic Literature (JEL) codes: G21, O13, P18, Q50

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1. Introduction

For some time now, EU policymakers have targeted the banking system through its credit decisions, in order to enforce the transition towards a greener, more sustainable economy. This may have seemed a good idea: use the banking system as an efficient lever to combat powerful lobbies of polluting industries (such as oil), according to the motto: "just cut their access to finance, and then you do not have to bother with complex, politically costly direct restrictions on them."

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Regardless of how appealing this may appear at first sight, in this article, it is argued that a) there are deep-rooted conceptual problems with this approach; and b) it is based on metrics which are inherently flawed and inappropriate for practical decision-making.

2. What exactly does EU regulation request from banks regarding their carbon footprint?

There are many regulatory and supervisory initiatives in the EU that try to push banks into a role of policing the green transition of the economy.

First, the Corporate Sustainability Reporting Directive[1] (CSRD) and its underlying supplementary regulations, such as the European Sustainability Reporting Standards (ESRS), request significant (large and/or listed) banks to report the current value of their *financed* greenhouse gas (GHG) emissions and set reduction targets for such, along with a corresponding action plan[2] to reach those targets. The word "financed" is important here: a bank's *financed* GHG emissions refer to the emissions released by the *borrowers* of the bank (as opposed to the bank's *own direct* GHG emissions, which are in the scope of the regulation as well, but these are so small compared to *financed* emissions that they hardly matter[3]). How those financed emissions must be calculated – which is, as we will see, in itself problematic – is defined by the PCAF (Partnership for Carbon Accounting Financials) Standard (*PCAF 2022*),[4] which used to be a voluntary standard, but which was basically turned into an official technical guidance within the EU by the CSRD.

To make it clear: CSRD/ESRS are not bank-specific regulations, as they cover other large, non-financial companies as well. In fact, for banks, the biggest challenge with CSRD/ESRS is that these regulations take an approach which is designed for the characteristics of typical non-financial corporations: they implicitly assume that enterprises control the bulk of their GHG emissions (whereas banks – as we will see later – do not) and can thus take concrete actions with sizeable costs/investments and predictable results (whereas for banks, reducing their financed carbon footprint does not require large investments, only business-as-usual credit decisions, but with unpredictable results). Also, CSRD/ESRS is "only" a reporting requirement: thus, banks could theoretically choose not to report any financed GHG reducing

[1] Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting.
[2] In CSRD terminology: "transition plan for climate change mitigation".
[3] As *Angelico – Bernardini* (*2025*) states for a sample of large, publicly traded euro area banks: "Scope 3 emissions (…) account for the largest share of the overall emissions (…), with an average share of 86% in 2022, which is even higher for most of the banks (…), although there are a few exceptions for which data are arguably misreported or poorly estimated."
[4] While there is a new version of the PCAF Standard (Part A – Financed Emissions 3rd edition (2025)), the effective EU legislation still refers to the previous version, the 2nd edition from 2022.

plans and actions. However, combined with pressure from supervisory authorities and the public, this is not really an option for them.[5]

There are also bank-specific regulations. The EU's Capital Requirements Directive (CRD) requests banks to prepare a transition plan to manage their ESG risks. Based on the CRD, the European Banking Authority (EBA) issued its guidelines[6] on the same topic. Although the CRD/EBA focus mostly on how banks should protect *themselves* from risks related to climate change, it also imposes tasks on them such as assessing large borrowers' "transition plans" (to a carbon-free economy), and "engaging" with them, so they reduce *their* greenhouse gas emissions.

Additionally, we have the activist approach taken by some financial supervisory authorities in the EU. Some use the "carrot", such as the central bank of Hungary, which provides capital requirement relief for green loans (*Bethlendi – Holczinger 2024*), while others, such as the European Central Bank (ECB), take the "stick" approach and push European banks to put pressure on the rest of the economy to progress with the green transition. As ECB board member Frank Elderson said at an ECB Industry Outreach event in 2023 (*ECB 2023*), "we insist that continued non-green lending without incorporating in [banks'] assessments and decisions clients' credible and science-based Paris-aligned transition plans is no longer compatible with sound risk management." This statement clearly suggests that – according to the supervisor – banks should assess not only borrowers' riskiness, but also the credibility of their plans to reduce their GHG emissions and switch to green(er) technologies in line with the Paris Agreement.

3. Banks should thus do their part to combat climate change. What is wrong with that?

Naturally, it is completely welcome that banks should do *what they can* to contribute to the green transition. But the emphasis here is on "what they can", because banks have very limited capabilities to do what regulation expects of them: to assess which greenhouse gas (GHG) emissions of their borrowers are justified and aligned with the Paris Agreement and which emissions are not. After all, the targets of the Paris Agreement have not been broken down to the company or household level. Even worse: global alignment with the Paris Agreement can be ensured by an endless number of combinations of different actors' different GHG-reductions. Thus, in strictly technical terms, for an individual company or household, there is no such

[5] What would have gone over reporting obligations, was the Corporate Sustainability Due Diligence Directive (CSDDD). However, as at the time of closing this manuscript (15 December 2025), it seems that the European Commission's recent omnibus package will abandon the obligation of large companies to not only *report*, but also mandatorily *prepare* a transition plan focusing among other on reduction of GHG emissions. This keeps the CSRD-regulation in its current *soft* form, as companies will still only be requested to report what they plan and do, but they will not be told what to plan and do.

[6] EBA/GL/2025/01: Guidelines on the management of environmental, social and governance (ESG) risks.

thing as “alignment with Paris”, because alignment always depends on the efforts of the others as well.

Which production technologies with material GHG emissions can be abandoned or replaced by green alternatives and when, is an enormously complex question. While it is easy to point the finger at carbon-intensive sectors, in reality, we also need many of the products from those sectors, even for progress in the green transition. For example, the production of steel is clearly very carbon-intensive, but we need steel to build wind turbines. It is no coincidence that even net-zero scenarios – such as that of the International Energy Agency (*IEA 2024*) – do not project a decline in steel production by 2050 (and also do not even foresee absolute zero GHG emissions from steel production, meaning that some producers will still be “allowed” to emit GHG even after 2050).

Furthermore, there is a disturbing characteristic of net-zero scenarios: they expect the reduction of global GHG emissions after 2030 to a large extent by means of technologies that are not yet commercially mature (*McKinsey 2023*). In fact, mankind does not have a clear plan for net zero. Even when there are promising alternatives to polluting technologies, the application of those may come with costs and trade-offs.

Decisions on costs and trade-offs, on accepting or refusing the risks resulting from new technologies, and on accepting the redistributional effects of them, etc. are typically those that are best delegated to policymakers ideally with industry insights, who have (again ideally) both the necessary knowledge and political mandates to take them. Banks do not have those skills, and therefore they should not be pushed into the roles of such decision-makers.

To illustrate the absurdness of the idea that banks should pave the decarbonisation pathway of their borrowers through targets in their loan portfolios’ financed GHG emissions, take the example of the ozone-killing gases of freon. When the international community realised that freon damages the Earth’s ozone layer, they simply banned freon by the Montreal Protocol – instead of mandating banks to calculate their *financed freon emissions*, to publish relevant reduction targets and to push borrowers to use their refrigerators less. Obviously, this was possible only because freon-based technologies were easier to replace than GHG-based ones – so yes, this time is different and the decisions are tougher. However, outsourcing them to hundreds of banks – to institutions without any competitive advantage on such matters – will not make those decisions easier.

4. Do risks justify financed GHG emission targets of banks directly?

The pressure on banks to push their clients' decarbonisation is often justified by the argument that this is also in banks' own interest: as the green transition progresses, polluting industries will become a source of financial risk. This is called "transition risk": the risk that the "losers" of the green transition, i.e. companies with obsolete, polluting technologies will face declining sales, reduced profitability or even regulatory prohibitions and thus will not be able to pay back their loans, which remain in banks' balance sheet as "stranded assets". Sometimes references are also made to a more indirect chain of risks: if banks do not push enough their polluting clients towards net zero, then the doomsday scenarios of climate change wiping out civilisation – together with the banks themselves – will become more probable. However, this argument is so general and could be applied to a number of other end-of-the-world type risk factors that the focus is more often on the above-mentioned transition risks, which are of direct and short-term nature.

Some financial supervisory authorities (such as the ECB or the EBA) must refer to risks if they want to impose environment-related requirements on banks, because their legal mandate does not allow otherwise. However, even supervisors that received an explicit legal mandate on sustainability-related matters – such as the Bank of England or the Magyar Nemzeti Bank (the central bank of Hungary) – must reconcile that with their more traditional risk-focused goals, especially that of financial stability. Whether it is a good idea to extend financial authorities' mandate to environmental sustainability was discussed when those decisions were made in the relevant countries (*Deák – Sárvári 2023*). Some banking experts tend to oppose the dilution of prudential regulation with climate-related objectives, as demonstrated by two experts at the EBA (*Castren – Russo 2024*), but there is political pressure on supervisory institutions that is hard to resist. Either way, supervisors take up arguments referring to risks, in order to address banks' financed GHG emissions.

This is also supported in academia. As *Kiss et al.* (*2025*) showed, there has been a flood of scientific articles focusing on the relationship between companies' ESG performance[7] (although this is a wider concept than the matter of GHG emissions) and their credit risk, with the number of articles almost doubling each year since 2020. It seems there is a wide consensus in these papers that corporations with better ESG performance are somehow also better in financial and risk terms (cf. a good literature review by *Galeone et al. 2025*), though it seems to be less clear whether this is causality or just correlation. Without taking a stand, we would merely point out that the latter would also not be unsurprising: attitude research

[7] ESG – environmental, social and governance factors of corporate behaviour. What the ESG performance actually measures is not straightforward, but we will not go into discussion of this particular topic.

(e.g. *Guzmán – Kóczán 2025*) shows that people with more future-oriented attitudes proved to be more willing to pay for costs of environmental policies.[8]

The climate change stress testing models of central banks also make the explicit assumption that more carbon-intensive industries are exposed to more transition risks (for a summary of the international practice, see *Várgedő 2022*). In this approach, any regulatory punishment of the GHG emissions of banks' borrowers have an impact on them like a carbon tax: the more a company uses the taxed factor (in this case, emitted GHG), the more its profits come under pressure and turn into a risk for the bank. Unless it can pass on burdens to end users.

The key point here is that many carbon-intensive technologies are currently irreplaceable, as there are no viable green alternatives, but their products are still needed by the economy. That is exactly the reason why regulators cannot simply ban them and solve the climate crisis. For those products, demand-elasticity is low: end users will buy them even if the price increases (due to a higher carbon tax or any other reason), leaving the production company with more buffers to compensate against transition risk.

Therefore, when assessing the transition risk of a carbon-intensive borrower, one should distinguish among carbon-intensive companies based on the substitutability of their products: if you have a borrower (e.g. a cement factory) whose products are currently irreplaceable and demanded by the market, with no green alternative on the horizon, then lending to this company is not particularly risky (at least: not yet). On the other hand, a low-carbon profile will not necessarily protect a borrower from transition-related risk: take the example of a hairdresser in a small town where the largest employer, a coal-fuelled power plant, will soon be closed.

Clearly, it is in the banks' best interests to keep an eye on their carbon-intensive clients and avoid those who face the risk of obsoletion of their non-green technologies. Nevertheless, there is nothing really new in this: managing risks from technological transitions has always been part of the banking business, with or without regulatory pressure. Technology and industries are changing constantly: a paper found that the majority of industries in the USA saw either their core assets or their core activities threatened by obsoletion in the past 20 years (*McGahan 2004*), and this paper was published 20 years ago! Just take the example of digitalisation: it has destroyed whole industries since then. Nevertheless, banks were able to avoid systemic losses from it, and in fact, systemic banking crises do not tend to be rooted in technological changes in the real economy.

[8] Although this research focused on individuals rather than companies, its conclusions can be applied to companies as well.

Thus, banks' risk management must certainly cover transition risks – as all other risks resulting from climate change – appropriately, but managing real-word risk is not the same as assessing the appropriateness of borrowers' GHG-reduction plans and technological choices, or deciding on which borrower emits just too much GHG compared to its economic benefits from a point of view of the common good. The former is a business-as-usual function of banks, the latter is much closer to that of an environmental authority. However, EU regulation tends to also request the latter from banks.

5. Banks' financed carbon footprint is based on troublesome metrics

In addition to the above, the figures based on which banks measure their financed carbon footprint are anything but reliable. This is well-known within the industry, while public talk about it is rather rare, although not unprecedented: e.g. two authors at the Bank of Italy (*Angelico – Bernardini 2025*) thoroughly documented empirical inconsistencies in large euro area banks' financed GHG emission data.

To understand why these metrics are troublesome, we have to look at the details of how banks calculate their financed GHG emissions according to the PCAF Standard.

First of all, banks must quantify the GHG emissions of their borrowers. Three types of emissions must be included:

- direct – so-called Scope 1 – GHG emissions (from fossil fuels burnt directly by the borrower);
- indirect – so-called Scope 2 – GHG emissions (related to the electricity consumption of the borrower); and
- value chain – so-called Scope 3 – GHG emissions (emitted in the value chain of the borrower).

Let's take the example of your favourite restaurant as a borrower: the natural gas it burns for heating the place translates into a Scope 1 emission; the coal that was burnt by the local power plant selling electricity to the restaurant is Scope 2; and all of the GHG emissions that were necessary to produce, deliver and finally put a glass of soda in front of you on the table are Scope 3 emissions.

How do banks know those GHG emissions of their borrowers? Well, for most of them, they don't. While there are a few big companies that measure and report their GHG emissions (mostly based on the requirements of the CSRD regulation), for most borrowers, GHG emission figures are rough estimations based on the industry classification or other characteristics of the loan/borrower.

Taking the example of your restaurant: the bank would see that its statistical activity classification code (NACE code) is I56 ("Food and beverage servicing activities"). It would then take, for example, some revenue-related carbon-intensity factors showing how much the Scope 1, 2 and 3 emissions were for companies with a similar NACE code in your country per EUR 1 million of revenue and multiply that intensity factor by the reported revenue of the restaurant. Where do banks get these revenue-related carbon intensity factors from? They are estimates based on high-level (sectoral-level) macroeconomic statistics, mostly on the so-called input-output matrices and they suffer from a number of weaknesses: global input-output matrices that capture international supply chains are available with a huge time delay (depending on type, 5–10 years) and they are vulnerable to a series of reporting uncertainties (just to name one: correct mapping and breakdown of companies' actual activities into statistical categories of the activity codes).

Thus, the estimation uncertainties in banks' overall financed carbon footprint will inevitably be large, which makes those figures not very ideal for setting targets. After all, if you have a metric with a confidence interval of say +/–50 per cent, then setting a reduction target of –25 per cent or so for it is not very reasonable.

6. Metrics will also not improve over time

One common justification for this practice is that metrics will become better and more reliable with time, as more and more companies and borrowers measure and report their GHG emissions. The omnibus packages of the European Commission to simplify the requirements of the CSRD / CSDDD also address this aspect: how many (more) companies will (or will not) have to measure and report their carbon footprint and when.

However, these are false hopes. Surely, at some point, we will be able to measure the Scope 1 (direct) emissions and to estimate (but still not measure!) the Scope 2 emissions of borrowers (from electricity consumption) more precisely. But estimating comprehensive Scope 3 (value chain) emissions is an extremely complicated controlling exercise with an unlimited number of combinations of potential solutions and thus will *never* provide robust results.

To understand this, let us take again the example of your favourite restaurant with your soda on the table: that soda was delivered to the restaurant by a truck operated by a transportation company. The gasoline consumed by the truck is included in the Scope 3 (value chain) emissions of your restaurant (among a series of other emissions, of course). Now imagine that the truck delivered goods not only to your place, but to other places as well. How would one divide the GHG emissions of the truck among them? Based on cargo weights? Based on the monetary value of the cargo? What about accounting for different distances travelled? You can

surely come up with a lot of solutions, and none of them will be bad, only different, based on different assumptions – and so, none of them will be comparable. And we can complicate this even further: if the truck was run by your restaurant, then its fuel consumption would classify as its Scope 1 (direct) emission, not Scope 3. Accordingly, the emission figures of your restaurant and other ones that do not have their own trucks would not be comparable. To put this in more professional terms: vertical fragmentation of the value chain distorts GHG emission estimations.

Moreover, there is the issue of double-counting: if a bank finances both your restaurant and the transportation company delivering the beverages, then the GHG emissions of the truck will be counted at least two times in the financed carbon footprint of the bank: once, as a financed Scope 3 (supply-chain) emission of your place, and once again, as a financed Scope 1 emissions of the transportation company. Nonetheless, if the restaurant merges with the transportation company, then the same GHG emissions will be counted again only once (as a Scope 1 emission of the merged company). The point is: the double-counting issue might not even be constant over time and is definitely not independent of the vertical structures of the value chains.

We could go on and on with examples of why this type of GHG accounting of supply chain (Scope 3) emissions is just not able to provide robust and reliable estimations. Not even for a simple restaurant – now imagine this for thousands of companies with a hugely complex network of supply chain relationships.[9]

To circumvent these well-known weaknesses of financed GHG emissions, the banking industry and supervisors tried to introduce some more reliable, alternative target indicators that capture borrowers' emissions by some physical activity-based indicators capturing only selected fractions of the value chain. These are often called "alignment metrics" (based on a mandatory EBA reporting template[10]) and they show borrowers' pollution as a ratio of GHG emissions per some production metric (e.g. kg CO_2e emitted / MWh of electricity generated or tons of CO_2e emitted / tons of cement produced). These are applied mostly for the pollutive industries with usually large companies, which are obliged to report those metrics anyway, at least if they operate in the EU (because, for example, they are part of the ETS system). These alignment metrics tend to focus only on certain, more controllable parts of companies' GHG emissions (usually parts of Scope 1 or 2), not on everything. While these metrics are more reliable and robust at the borrower level, they have some disadvantages as well: as they are industry-specific, they create clusters with often

[9] To be fair: in some cases, value chain emissions can be useful for limited and special sections – but not the whole! – of the value chain in particular industries, such as car manufacturing, where it is completely reasonable to account for the fuel consumption of cars produced. But those are the exception rather than the rule.

[10] "Template 3: Banking book – Climate change transition risk: Alignment metrics" of the prudential disclosure (Pillar 3) requirements on ESG risk.

just a small number of borrowers; the indicators for different industries cannot be added up; they can cover only a fraction of banks' loan portfolios; and technically, they are not in line with requirements of the CSRD, which requests banks to cover the financed GHG emissions of *all* of their loan portfolios. In addition, they are just as exposed as the basic financed GHG emission metrics to the next big problem. which is discussed below.

7. Banks are not able to control key variables of their financed carbon footprint

Once the bank has provided a loan to a borrower, it has no strong levers to influence the borrower's GHG emissions. Thus, it is quite possible that a banker approves a loan to a company with "good" GHG profile, but a few months later, this company buys a more polluting plant or merges with a more polluting company. Cancelling such loan contracts is not an option, not only because such developments can occur even without bad intentions of the borrowers, but that would also not be very prudential: cancelling a loan contract can cause a borrower to go bankrupt, which imposes risk of financial losses for the bank as well.

There is also the issue of allocating borrowers' GHG emissions to banks. According to the relevant PCAF Standard, banks allocate a share of the borrower's total GHG emissions to themselves in proportion to the financing ratio (called the "attribution factor" in the terms of PCAF). Consider this example: if the bank's borrower emits 10 tons of CO_2 a year, and the bank finances 20 per cent of the total assets of this company, then the bank's "share" of the company's GHG emissions is 2 tons of CO_2 (=10 * 20%). Now, it is important to see here, that the bank does not fully control its share of responsibility: if the borrower's total assets decrease, then the bank's share of responsibility goes up and vice versa, despite the bank doing nothing.

It becomes even more complicated if we take the portfolio view: if a "green" borrower of a bank decides to make an early redemption on its loan, then the bank's average financed emissions (measured as per loan volume) will increase, despite the bank not doing anything wrong. Constant, unpredictable changes in portfolio composition make portfolio-level target setting for banks' financed GHG emissions (or any other type of "alignment metric") very difficult, and this would still be a problem, even if the perfect indicators for borrowers' emissions were found (which we have not, as illustrated by the previous chapter).

More practical examples could be presented, but perhaps the ones above suffice to show that the financed GHG emissions of banks rely on metrics that are neither reliable nor (fully) controllable by the financial institutions. Therefore, they cannot serve as the basis for serious decarbonisation planning.

8. Practical examples do not defy theoretical objections

One could ask whether banks did not turn out to be creative enough to fill the above-described regulatory framework with meaningful content – and prove the critics wrong. After all, since end-2024, large banks in the EU have been obliged to publish their decarbonisation targets according to the CSRD regulation.

First, while the relevant banks did in fact publish decarbonisation targets for their loan portfolio at least for 2030, upon closer examination one sees that they do not state that they can ensure achieving those targets. Most of them do not address this openly, and they add a series of disclaimers. Furthermore, there is also a typical pattern for at least a part of those decarbonisation targets: the bank takes a base year value, let's say 100 from the relatively distant past, e.g. 2019. They then set a targeted reduction rate for 2030 compared to this base year, e.g. –20 per cent, so from 100 to 80. Then they report a fact figure of 79 or 81 for 2024, so that the 2030 targets have basically been met already.

Furthermore, upon checking what concrete measures banks promise to take to reach their decarbonisation targets, one mostly sees very general, sometimes even surprising statements. For example, one bank states that it will "*engage with* [oil&gas] *clients to educate them about transition*" or "*help clients to address sector challenges*". Without questioning anyone's good intentions, one might ask whether bankers can really tell anything new to a client in oil about the transition of his/her own industry.

It is doubtful whether such targets and "action plans" promote the cause of the green transition or if they are just "cheap talk" enforced by regulation (while producing this content in banks' reports is – of course – anything but cheap). You can blame banks' reluctance "to do good" or their greed for not elaborating meaningful decarbonisation plans related to the emissions of *their clients*. Still, it is also possible that they were just simply mandated to do a job that is beyond their competence. With green-washing charges looming, the best they can do is not to promise anything concrete based on indicators they do not fully control.

The omnibus packages of the European Commission to simplify sustainability legislation – while they were welcomed by the banking industry as in fact, they bring some simplification in the sustainability reporting obligations of the EU – do not address the specific issues enumerated in the previous sections of this article: the lack of banks' competence to assess the justification of their borrowers' GHG emissions and the flawed metrics. This leaves large EU banks with heavy, difficult compliance burdens, while rigid decarbonisation commitments are pushed back in the international banking system (as US and Canadian banks leave voluntary net zero alliances).

9. What banks could really do for the climate: providing finance to green transition

It is important to emphasise that European banks should do their part in combatting climate change. However, their part should be tailored to their capabilities. According to banking textbooks, the main function of the banking system is to transform short-term savings into long-term investments by taking and managing related risks successfully (maturity transformation and risk-taking). In short, lending is banks' core competence.

There is an – often undervalued – benefit of everyone doing what their duties are. We can group people into those who actively work on solutions to climate change (climate scientists, mechanics at a solar power farm, etc.), and those who just do an average job (like the ones operating the basic infrastructure of our economy, such as food production, transportation, waste management). You might praise the heroic efforts of the former group as great fighters of climate change, but they could not thrive without the efficient work of the latter.

It should be completely acceptable, if banks' main contribution to mitigating climate change is providing loans to the green transition and all that it takes, i.e. assessing returns and risks (also, transition risks and physical risks related to climate change), defining financial conditions, etc., while keeping their depositors' money safe. It is not the job of bankers to plan companies' and households' GHG carbon footprint pathways through financed emission targets, all based on junk statistics, to decide on what technological alternatives and which emissions should be acceptable and which should not, and to actually orchestrate a complex socio-economic and technological transformation process. Giving someone an assignment which they are not capable of performing is just a waste of resources. It is not very sustainable.

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