# Carbon Countdown: Market Disruption for a True Zero-Emission Future

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## Abstract

To comply with the temperature targets of the Paris Agreement, fossil fuels must be left in the ground. With this objective in mind, in the pursuit of achieving Sustainable Development Goal 13 (SDG13) - Climate Action, it is imperative to re-evaluate and disrupt existing market mechanisms that perpetuate the exploitation of fossil fuels. This brief advocates for a paradigm shift towards a just and inclusive energy transition by addressing the obstacles posed by current market dynamics and advancing the respective policy recommendations.

First, we advocate for the cessation of fossil fuel subsidies, which artificially inflate the market value of fossil fuels, thus impeding the transition to renewable energy sources. There is potential for a more efficient allocation of resources towards sustainable alternatives. Second, merely investing in renewables and focusing on emissions is insufficient without concurrently implementing supply-side measures targeting fossil fuel production. Policies must actively discourage the extraction and utilization of fossil fuels while incentivizing renewable energy production and consumption. Third, the concept of "True Zero" which foregoes emissions altogether is advocated, rejecting the current notion of Net Zero, based on offsetting emissions through carbon credits and creative accounting practices. Instead, a genuine commitment to achieving True Zero emissions is required, with tangible actions and policies. Fourth, countries are urged to withdraw from the Energy Charter Treaty to mitigate the risk of litigation and to discontinue the validation of fossil fuel projects. Finally, we call to halt the approval of new fossil fuel projects, challenging the prevailing focus on carbon pricing at the expense of addressing other negative externalities. By reframing the discourse to encompass broader environmental and social impacts, policymakers can foster a more holistic approach to climate action.

## 1. Phasing out fossil fuel subsidies

According to the IMF, governments subsidized fossil fuels by $7 trillion in 2022 (Black et al., 2023). In the Netherlands, initial estimations of fossil fuel subsidies were under-estimated by the national government: in 2020, they calculated the subsidies to be €4.5 billion; then, a 2023 report by Milieudefensie, SOMO and Oil Change International put the number at €37.5 billion (SOMO et al., 2023); following new investigations by the government, the final number turned out higher still, between €39.7 and €46.4 billion annually (NOS, 2023). Apart from being an underestimate, the subsidies are of an order of magnitude that forms an obstacle for phasing out fossil fuels, and has been found to lead to an increase in emissions of 11.4% in high-income countries (Arzaghi & Squalli, 2023), while subsidy phaseout has been stipulated to “be an effective mechanism for meeting NDC targets for an important subset of countries” (Chepeliev & van der Mensbrugghe, 2020, p. 6).

## 2. Investing in renewables does not automatically replace fossil fuels

Our present energy landscape is a “transition” not a “transformation”, considering that renewable energy sources (RES) have not supplanted fossil fuels (FF) but rather been incorporated alongside them in the existing energy mix. This trend may hinder a genuine FF phase-out (York and Bell, 2019) and a more radical transformation of energy systems. RES investments by FF companies are portrayed as key drivers of industry transition, but these investments remain trivial compared to their core business spendings, with FF companies typically allocating less than 1% of their capital expenditures (Li et al., 2022; Hartmann et al., 2021). The investor side does not look any better. In 2020, the leading 60 private banks invested $750 billion in fossil fuels, with JPMorgan Chase alone contributing $52 billion, while the global renewable energy debt market attracted only $122 billion, emphasizing a significant gap in banks' preferences for financing FF over RES (Banking on Climate Chaos, 2022; Climate Policy Initiative, 2021). Particularly in the Global South, financing RES is perceived as riskier than investing in FF. Developing countries, aiming to address energy poverty and security, risk being trapped in an unsustainable carbon economy due to biased risk perceptions favouring FF-based growth, despite having the opportunity to avoid the pitfalls experienced by developed nations in their transition to cleaner energy.

## 3. Closing loopholes in Net Zero policies

According to the IPCC (2018), meeting the 1.5°C objective will require reducing global emissions to Net Zero by 2050. With the introduction of this objective, many companies, cities, and countries have begun to adopt Net Zero goals as part of their commitment to mitigating climate change. However, using Net Zero as the main metric against which to assess the progress of a company or country leaves many loopholes open for ongoing emissions which threaten the success of the global target. Many oil and gas majors have adopted Net Zero targets, yet continue to expand their production, which is clearly noncompliant with global climate goals (IEA, 2021; Tong & Trout, 2022). We identify three key limitations of Net Zero as a strategy for true climate mitigation: a) the reliance on offsetting rather than emissions reductions (through promised future use of uncertain negative emissions technologies or through carbon credits, which are unreliable, unregulated, and often tied to land-grabbing and exploitation of local populations (Action Aid et al., 2020); b) the adoption of long-term targets without short-term emissions commitments, which risks delaying emissions reductions and undermining global progress (Fankhauser et al., 2022); and c) the application of Net Zero targets to Scope 1 and 2 emissions only, excluding consideration of Scope 3 emissions (Realff, 2022).[1] Adoption of Net Zero targets without addressing these loopholes may be considered a form of greenwashing. Moreover, this goal is for global emissions and the just allocation of this goal between rich and poor countries, for large and small companies is yet to take place.

## 4. Energy Charter Treaty hinders fossil fuel phase-out

The Energy Charter Treaty (ECT) (1994) is a multilateral investment treaty protecting investment in the energy sector. This Treaty has been used by fossil fuel investors to protect the future of their investments. It has two problems: a) under ECT rules in arbitration cases, arbitrators are required to apply ECT provisions and ignore other rules such as European law or private international law that could better balance the outcome, and b) investor-State cases with a high environmental damage component are resolved using the rule that grants legal protection to investors in the sector causing the environmental damage. Therefore, considering that the ECT creates and exacerbates the problems described above, it is reasonable to argue that it is in the interest of States that are party to it, to exit the ECT. In this way, the 20 years of application of the treaty after its exit (the sunset clause) would run as soon as possible. In addition, countries will be relieved of the burden of obligations imposed by the treaty for all new energy projects that arise after exit. Developing countries are advised to not become parties to this treaty, learning from the lessons of the developed countries.

## 5. Exclusion of new fossil fuel projects

Regulations like those banning new fossil fuel projects will be critical in the fight against climate change. Pricing carbon can be part of the new market tools and regulations, but it cannot be the only tool, as the fight against climate change is not only against carbon emissions. Hence, a focus on the price of carbon and neglecting other negative externalities of the fossil fuel industry (for example stranded assets) may hinder efforts to limit the supply of fossil fuels. The lack of regulations banning new fossil fuel projects delays the adoption of renewables as the main source of energy. Policies and regulations that focus on the supply side of fossil fuels are neglected (Pellegrini et al., 2021). Given that developed countries continue to use fossil fuels, and that about 70% of the remaining reserves are in the developing world, this will be seen as harming the prospects for development of the developing world and will require therefore attention to justice principles.

## Policy recommendations on institutional innovation

1 A comprehensive approach to transitioning away from fossil fuels necessitates a robust policy framework that goes beyond renewable energy development. This entails supply-side regulations, such as ending fossil fuel subsidies, discontinuing investments in new fossil fuel projects, addressing in parallel demand-side management in richer countries, and adopting equity principles between affluent and less developed nations based on common but differentiated responsibilities and respective capabilities (UNFCCC, 1992). Concretely, commitments to inventorying subsidies correctly

[1] 'Scope 1' refers to direct greenhouse gas (GHG) emissions originating from sources owned or controlled by the reporting company. 'Scope 2' represents indirect GHG emissions from the generation of electricity, heat, or steam purchased by the reporting company. 'Scope 3' refers to all other indirect emissions, i.e. emissions associated with the extraction and production of purchased materials, fuels, and services, such as transportation in vehicles not owned or controlled by the reporting entity, outsourced activities, waste disposal, etc. (WBCSD and WRI, 2004).

(see e.g. Gençsü et al., 2020), identifying international agreements underpricing emissions, and making the above a fixed COP agenda point can be a starting point.

2 Climate commitments should be targeted towards True Zero rather than Net Zero. Within the fossil fuel sector, commitments should be oriented around phasing out production, rather than an emissions-only focus.

3 Countries should rapidly exit the ECT or refuse to join if they are not yet members.

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