

# ***CARBON DIVESTMENT AS RATIONAL CLIMATE POLICY MEASURE?***

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## **Overview**

The growing fossil fuel divestment campaign, supported by the recent announcement of the world's largest sovereign wealth fund – Norway's oil fund – to consider selling its global oil, gas and coal assets, and by Stanford University to announce divestment from coal, as well as an influential committee of MPs warning the Bank of England from potentially disastrous consequences of a carbon bubble, puts forward a moral call for carbon divestment: individuals, but especially institutions, ought to divest from carbon-intensive assets, mainly from fossil fuel mining companies and their assets. The movement can count on a strong intuitive basis for its call to abandon investments into climate threatening assets: First, the carbon content of the fuel reserves contributing to the financial value of their owners listed on stock exchanges is large enough to warm the climate by many degrees, with likely disastrous consequences for mankind if the carbon is released into the atmosphere. Second, the significant financial value of these reserves is difficult to explain unless there are prospects for their future use as energy source generally implying the emission of the contained carbon. Derived claims that public investors should abstain from investments in these resources, and that policies should discourage them (also via taxes on investments in environmentally dangerous fuel assets), are met by opponents with the answer that reduced investment by a few would be offset by increased investment by others, leaving the balance of fuels ready to be burned unchanged.

The problem is, however, less trivial and we provide a more detailed analysis of the case for carbon divestment in the name of climate protection. The picture becomes more diversified: the fact that a huge amount of fuels is financially valued as assets does not necessarily imply a large chance of most of the carbon contained in the fuels to be burned with near-certainty. Nevertheless, carbon divestment could, if performed within the different regions of the world simultaneously, theoretically have a limited, but not necessarily a costly, impact on global carbon emissions in the longer run. Nevertheless, results from a political economy model cast doubt about the desirability of the divestment from a climate perspective in reality, as it could backfire and strengthen the reluctance of parties to join global climate agreements, without which there is little hope to significantly contain climate change in the medium-term.

## **Method**

We model the divestment decisions in an economic and financial general equilibrium framework accounting for diversification as a strategy to hedge against financial risks, and modeling key stochastic effects to account for main uncertainties about the short-, medium- and long-term future market framework within which fossil fuels are traded. We identify three major points that are underappreciated, or even absent, in the current debate about the relevance of carbon divestment, and that can be decisive for the environmental effect of divestment choices. We extend the equilibrium model to take into account geopolitically shaped negotiations for global agreements, with mainly OECD member states being proponents of carbon reduction measures, opposed by a more hesitant remainder of the world, especially the large fuel exporters. Carbon asset holders within the regions have implicit and explicit power to influence the political agenda, influencing the representatives directly or indirectly via several channels of information dispersion and opinion formation.

## **Results**

The analysis shows that the hitherto held academic discourse and the political discussions do not do justice to the economic and political complexity of the question. First, the present value of listed carbon assets represents an average of resource rents from different possible futures. Climate change may either be contained, due to future political mitigation strategies such as carbon taxes, or due to technological developments such as carbon capture and storage, or it may continue unabated due to lack of stringent political or technological developments in the medium-term future. The dynamic probabilistic asset valuation model shows that present carbon asset values can be explained even in a world with restricted future climate change. But as a second observation, in a simple world, an environmental investment tax, supporting emission reductions through an incentive to divest from carbon assets, may be more cost-effective than appreciated by opponents of divestment. Not only the climate benefits of

institutions' divestments from the assets, but also the financial costs to the institutions can be of low magnitude. This leaves scope for positive cost-benefit balances for divestment policies (relative to more standard climate policies), even if only few institutions divest. Nevertheless, as a third – and in a welfare analysis dominant – observation, we find that in a geopolitically divided world, where current leaders in climate mitigation try to convince climate mitigation laggards to join future climate agreements, regional divestment policies can aggravate climate change. They shift carbon assets to the laggard regions, disincentivizing them further from joining climate agreements: holding more carbon intense assets, they have more to lose when climate policy threatens to cut fossil fuel resource rents.

## **Conclusions**

Recent developments suggest that carbon divestment is more than a mere political and public hype. Calls for political and institutional divestment action will doubtlessly increase over the coming years. More efficient means to tackle climate change would exist, notably in the form of globally coordinated climate action. Nevertheless, per se, the efficiency losses arising from the lack of global coordination are large not only for divestment which is naturally subject to an investment leakage of close to 100%, but even so for unilateral carbon taxes when fuel spared in one region may be consumed in other regions or time-periods. Nevertheless, taking into account that future political climate action agreements are endogenously determined and influenced by regional interest, carbon divestment may backfire as it bears the (geo)political risk of increasing further the concentration of assets in the hands of regionally powerful players, increasing the risk of them to undermine efforts towards a global coordination of climate policies in general.