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HOW TO CONVERT FOSSIL FUEL STRANDED ASSETS INTO RENEWABLE ENERGY INVESTMENTS

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The ‘Climate Bailout’

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Framing the problem

It is estimated that more than 80% of the known coal deposits, 50% of gas, and one third of the oil reserves cannot be used for energy production if global warming is to be kept below 2°C.¹

To comply with the 1.5°C limit agreed in Paris, these estimates become significantly higher. This would mean that the complete fossil infrastructure like power plants and oil refineries and a large part of the raw material reserves in the balance sheets of energy companies become worthless. The "fossil" part of the business model of energy companies is obsolete and their shares will depreciate accordingly. Many institutional investors who have invested "conservatively" in energy stocks are threatened with significant value adjustments, which will cause considerable uncertainty and instability on the financial markets.

At the same time, energy companies must invest in the construction of renewable energy generation and storage systems in order to participate in an energy supply business model compatible with the 1.5°C target. This unavoidable transformation will be even harder when they are weakened by the accelerated depreciation of their fossil fuel assets. The abrupt end of the diverse fossil business models of energy companies will have a similar systemic impact on the economic stability of the entire economy as the banking crisis.

Another problem for the financial stability would occur if we prolongate to tackling climate change, because the consequences of a global warming of more than 2°C would not only ruin the insurance industry, but also lead to incalculable loan defaults in the banking sector.

Consequently the 'Global Risks Report 2018', of the World Economic Forum (WEF) identified climate change as the biggest global hazard.²

We are in a dilemma situation: The renouncement of a fast exit from our fossil fuel economy leads us undamped into the climate catastrophe. If we operate the fossil fuel exit as quick as necessary to meet the 1.5° C limit, we unavoidably devalue massive fossil based assets in a way that leads to a systemic risk situation for the economic system.

The necessity of a 'climate bailout'

In the last crisis of the global financial system the Central Banks intervened to prevent a collapse of the whole banking system. This kind of bank bailout was covered by their mandate because dealing with the systemic consequences was not possible. A similar model is possible by dealing with our current situation: A 'climate bailout' which would enable fossil fuel related companies to convert their almost lost fossil assets into sustainable renewable energy assets.

Due to the fact that assets which are threatened from stranding in a foreseeable distance could only be sold at a minimum residual value to private investors and this way of conversion is not possible. Passing on

¹ <http://www.nature.com/nature/journal/v517/n7533/full/nature14016.html>

² Vgl. World Economic Forum; Global risk report 2018; http://www3.weforum.org/docs/WEF_GRR18_Report.pdf

the losses to taxpayers would be neither politically nor financially realistic. The only institutions that have the economic potential to implement a "climate bailout" are Central Banks, just as they have done in the banking crisis since 2008.

Because climate change is also a threat for the financial stability, all measures which could rescue the climate, like a fast scaling up of renewables energies, would be in line with the mandate of the Central Banks.

The Bank of England has recently stated that climate change is now in the area of their responsibility due to the systemic spillover effects on the financial markets.³ In case of the ECB the 'protection and improvement of the environment' is explicit part of their mandate (Art.127 TFEU and Art.3 TEU).

To solve this dilemma situation a new financial instrument is required to enable energy companies to convert their de facto "stranded" fossil fuel reserves into renewable energy (RE) assets.

The 'Climate Bailout': The conversion of stranded fossil assets into renewable energy investments by Central Banks

In order to initiate the conversion, energy companies must disclose their threatened fossil assets. The G20 Financial Stability Board (FSB) introduced recently the 'Task Force on Climate Related Financial Disclosures' (TCFD) which is assigned to support this disclosure process in cooperation with the financial sector and the affected companies.⁴

If companies identify the fossil assets they have, they must move them into a separate asset class. Central Banks must then allow papers securitizing these assets as a tool for refinancing at their current value, so that the energy companies can sell these new papers without major losses. Central Banks can decide to either buy these securities directly or through the banking system. Central Banks must not insist on a repurchase obligation in order to guarantee the energy companies a secure planning horizon.

However, Central Bank purchases should be limited to the extent that the new liquidity generated is used to finance investments in **new additional** renewable energies. Already existing or planned renewable energy units financed by other investors would be excluded. A detailed and transparent documentation by companies investing in RE with this new liquidity is required.

Fossil fuel assets which are threatened to become stranded can then gradually be replaced by sustainable assets in renewable energy units. In some respects Central Banks will become a bad bank for obsolete fossil fuel assets, but without burden the taxpayer.

³ Bank of England; One Bank Research Agenda, Discussion Paper, 25. February, 2015, pp. 30

⁴ Task Force on Climate- Related Financial Disclosure (TCFD) im Financial Stability Board (FSB); <https://www.fsb-tcfd.org/>

Reversing the incentive system

In the conversion process high-risk assets become sustainable assets because the threatened assets can be used to obtain refinancing by Central Banks if the received new liquidity is invested in new renewable energy. Due to the fact that the disposal should take place closely to the current market price energy companies have an incentive to convert their threatened assets as soon as possible, to prevent their value falling further.

This leads to a fundamental change in the incentives. Energy companies today have a strong interest to run their existing fossil fuel power plants as long as possible, after the implementation of a 'climate bailout' they would have a strong incentive for large scale investments into renewable energies. This would also lead to a change in their lobbying, because now they would be pushing politicians to improve the institutional frameworks for supporting a fast increase of renewable energies.

Stranded fossil asset in the balance sheets of the Central Banks

If Central Banks allow this type of refinancing without a repurchase obligation, they would obtain ownership of great quantities of unused fossil raw materials which cannot be incinerated. Therefore, their value for energy use is zero.⁵ Nevertheless, the commodities bundled in these securities have a monetary value.⁶ Even after a 100% conversion to renewable energies, fossil raw materials still need to be mined for the non-energy needs of basic industries (e.g. the petrochemical industry). Even in a highly advanced material recycling economy, new fossil raw materials will still be needed. This non-energy use will continue to create a market-based demand. As a result, fossil resources in the balance sheets of Central Banks will retain a long-term value.

However, the residual long-term market based value of the fossil fuels is not important for the functioning of the Central Banks. Through their exceptional position in the financial system and their role as creator of legal tender, Central Banks can integrate stranded assets permanently at the purchase value into their balance sheet without any problems.

No distortion of competition due to a "climate bailout"

The aim of this "climate bailout" is to relieve energy companies of their stranded fossil assets, in order to be able to invest on a vast scale in the construction of new and additional renewable energy units. This bailout only needs to guarantee the financial stability of energy companies to the extent that they can borrow in

⁵ Another problem could occur if the central banks would purchase e.g. large oil reserves in a foreign country which are in possession of a domestic energy company, but the country wanted to exploit the oil further. In this case a political agreement between the involved states would be necessary to guarantee that the oil remained in the ground.

⁶ The value of the fossil raw materials determines also the losses resulting from a pure energetic use. Because, after burning the raw materials are lost for a non-energetic use in a circular economy. See: World Future Council; The Monetary Cost of the Non-Use of Renewable Energies – Update 2017 –, Future Finance – Policy Brief, 03/2017

the private financial markets at sustainable interest rates to finance the transformation to the renewable energy economy.

This bailout must be designed so that companies with stranded fossil fuel assets would not become financially better off than those investing in renewables, but have no fossil legacy in their balance sheets. Competition distorting results must be prevented. As a compensatory measure, Central Banks may therefore, to a certain extent, declare securities (green bonds) of RE investors eligible for Central Banks financing those who do not have fossil assets on their balance sheets. Again, this would require renouncing repurchase commitments, or very long maturities (for example a hundred years) with a very low interest rate, in order to maximize the number of RE investments.

The purchases of assets which are threatened from stranding have to be limited to an amount which would not hinder the Central Banks to operate their usual monetary policies. As the bailout measures of the Central Banks during the last financial crises have demonstrated, there is a large scope for converting fossil stranded assets into renewable energies.

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