

# Macro Focus

## A greenish recovery

- ▶ Political momentum and cheaper renewables support a greener recovery in Europe
- ▶ The Nordics are on the right track, but more is needed
- ▶ Concerns for fiscal sustainability might water down good initiatives

### Global emissions have fallen amid coronavirus, but green future remains uncertain

As a consequence of the corona crisis, global carbon emissions have seen a decline. According to the IEA, global emissions could fall by around 8 % this year, markedly more than during any previous crisis. However, as a one off event this is no panacea, as in order to limit climate warming to less than 1.5C above the pre-industrial level, global emissions would need to fall with around 8 % each year until 2030. (Carbon brief, 2020). While emissions tend to fall when economic activity slows down, they may rebound quickly, as was the case after the financial crisis.

However, previous crises have also caused structural shifts where emissions continued to grow after the crisis but fell to a slower growth path, as was the case after the oil crises in the 1970s as energy use shifted away from oil (Peters, 2020). **Given technological advances and global declines in renewable energy prices, it is possible that a structural shift could occur again**, which could give a head start to a longer-term emission reductions. However, the crisis has also implied lower oil prices which risks locking in carbon heavy technology.

### Green stimulus could help economies recover after the corona crisis

After the immediate health crisis subsides, governments are ready to spend significant amounts to speed up the recovery of their economies. Among others the IMF and the EU Commission highlighted the importance of green stimulus in order to tackle the crisis without forgetting longer-term sustainability goals. **Green stimulus can be defined as economic measures that at the same time aim to reduce emissions and increase aggregate demand.**

Green investments can be viewed as direct green stimulus, where the government or the private sector spends on infrastructure and technology development in green areas (World Bank, 2010.) Without the right price signals, however, the realization of green investments may slow down. Therefore, a green recovery requires a **carrot-and-stick approach**, where carbon pricing and other policies that work through a price mechanism also support green investments by signalling that the price of carbon will increase in the future. The potential negative effects from higher carbon prices on some industries could be counterbalanced by lower taxes on other goods or services or increased public spending. The IMF has called for policymakers to do anything they can to achieve a green recovery, and outlines long-term climate targets, green investments, carbon pricing, and support to green rather than brown business activities as key policy areas.

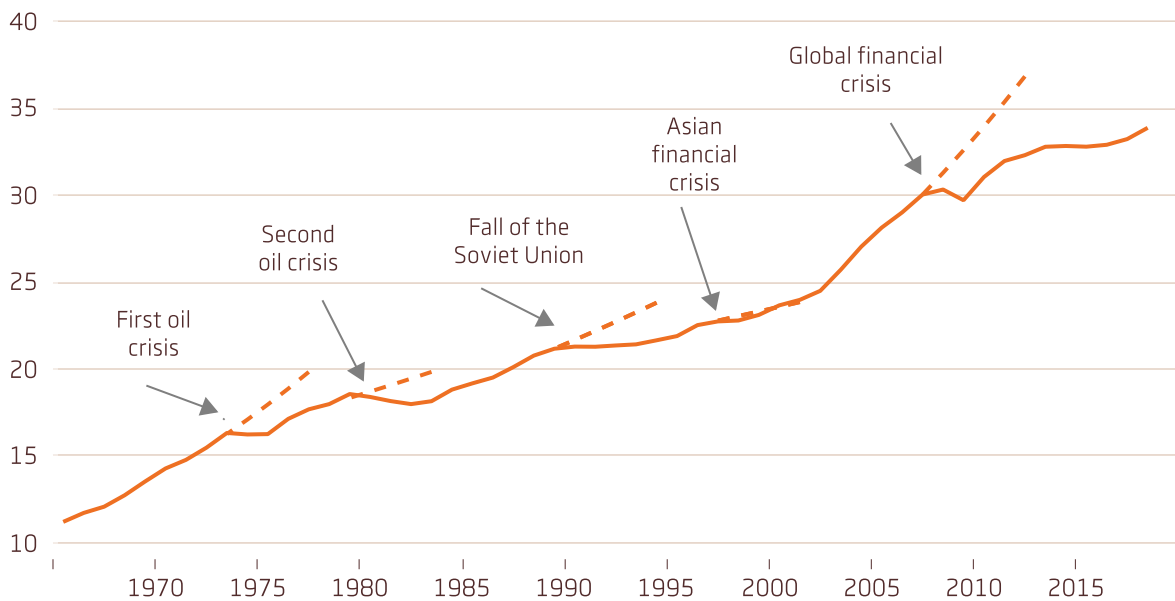
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## Global CO2 emissions and crises

Metric tons. Dashed lines show extrapolated trend in the 5 years before crisis



Sources: BP, Swedbank Research & Macrobond

### Green investments are already being planned across the Nordics

The green transition requires large investments, which can also be used to support aggregate demand. However, there is often a trade-off between the short-term and long-term impacts of different measures. The investments that bring large short-term benefits in terms of increased aggregate demand and employment often have modest longer-term effects on emission reductions and economic growth, and vice versa. Infrastructure investment may be more important for growth in the long term, while short-term activity is often supported better by for example faster renovation projects. In addition to their direct stimulus potential, however, ambitious climate targets and public green investment projects can support recovery by strengthening businesses' confidence in future demand.

The environmental and growth benefits of green investments partly depend on whether they can create sufficient economies of scale and learning-by-doing effects to bring the down the costs of green technologies, goods and services (World Bank, 2010). In a global scale any investments made by small countries such as the Nordics have relatively little direct impact on emissions. They may, however, have more important indirect effects by supporting global demand for green technology and by spurring technological development. The cost efficiency of green investments in the power and industrial sector in reducing emissions could also be weakened by effects through the EU emission trading system (EU ETS) in the long term. This depends crucially on the development of the EU ETS and future reforms to the system.

Nordic governments have already proposed green investments as part of their recovery packages. In Finland the government has suggested that all stimulus investments are to be evaluated with sustainability criteria. In their latest additional budget, the **Finnish government announced multiple investments to ecological reconstruction**. For example, 45 million EUR is proposed for grants to phase out oil heating in buildings, and 53 million EUR for projects involving green areas. **Many investments were also announced in infrastructure**. Spending will be increased to promote sustainable transport projects and affordable housing production. The government is committed to spent 755 million EUR on the transport sector, from which 600 million EUR are tram and track investments. On top of these measures, the previously agreed national climate fund will be capitalised by 300 million EUR. Large green investments

can also be expected in the fall and in the coming years. The sectoral low-carbon roadmaps<sup>1</sup> published in the beginning of June reveal that the energy system alone requires investments in the magnitude of 20 bn EUR in clean energy production in the period of 2020-2050.

**The Norwegian government has proposed to spend 3.6 bn NOK on a green restructuring package**, from which most will be used to support businesses in adopting climate friendly technologies, and on research and development on green technology. As part of its more long-term climate policy plan, the **Danish government** also announced investments in more wind power, emission reduction initiatives in the industry and heat production, energy efficiency and waste management. The measures are estimated to cost an annual 1.6 bn DKK each year until 2030.

**In Sweden the discussion on the more long-term recovery plans is just getting underway.** So far, the Swedish government has announced 200 million SEK in further subsidies for solar panels as well as over 700 million SEK in the maintenance of railways. The government is also planning green credit guarantees to encourage green investments in companies and has announced the issuance of its first green bond in August to fund environmental policy related spending. A so called "climate collegium" has been formed within the government to support the government's work towards its climate goals in all the relevant policy areas and to work with reforms to support a green economic recovery. More green investments can be expected to be announced later this year, as part of the budget proposal for 2021. Given the government's earlier plans outlined in its climate policy framework (Prop. 2019/20:65), what could be realised in the near future is more spending in for example electricity grids, railways, electric vehicle charging stations, and energy efficiency in buildings. More support will likely also be allocated for green technology in the industrial sector.

In general, there are **big investment needs in the Nordics in among others renewable energy, green transport, electricity grids and storage, and low-carbon industrial processes.** While Sweden's and Norway's electricity system is already largely based on zero carbon energy, more will likely be needed in the future due to electrification. Carbon capture and storage will likely also become important, even if this area is still at development stage. Well targeted public spending in green investments could speed up the development and introduction of new technologies, lay the foundation for future emission reductions, and support competitiveness in the Nordic countries.

### ...but worries about public finances may hinder stimulus

Despite the momentum that the coronavirus creates to accelerating green investments, **there is also a risk that the pandemic will postpone some of them due the worries about public finances.** Currently, governments are spending large sums to get through the immediate crisis with as small losses to companies and job markets as possible. In the recovery phase continued high unemployment and needs in other areas such as social security and active employment policy will require big spending. This might make it more difficult for the governments to find funds for low-carbon investments after the crisis, as the public debt-to-GDP ratio is forecast to grow by 20 percentage points or more in many countries.

In the Nordics the debt-to-GDP ratio is low for European standards. Even in Finland where debt level is almost twice as high as in the other Nordic countries, the level of public debt is lower than the EU-average. This means that **Nordic countries have a relatively good capacity for green stimulus, but caution over fiscal sustainability still risks watering down more costly investment projects.** However, many European countries most affected by the crisis, have had much higher debt levels, and face much bigger constraints. For example, in Italy the debt-to-GDP ratio is expected to rise to 158 % this year. This has made a difficult starting point for the negotiations about a European Union level recovery fund, but the

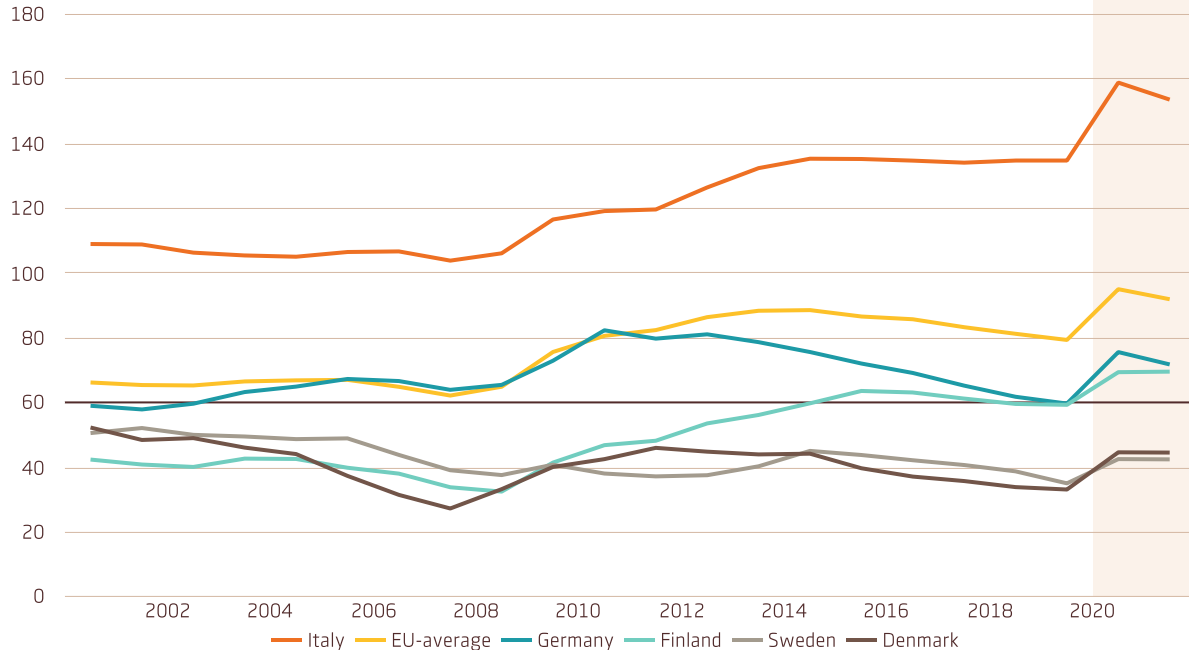
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<sup>1</sup> The sectoral low-carbon roadmaps were drawn up in cooperation with companies and organisations in the relevant sectors. The government will use the roadmaps in the preparation of its climate and energy policy, with the purpose of ensuring that Finland will be carbon neutral by 2035. (MEAE, 2020).

threat that the crisis causes for the European economies and EU's political system has led to many countries accepting the idea.

### General government gross debt, % of GDP

Estimate European Commission



Sources: Swedbank Research & Macrobond

### A common recovery package could support the green recovery in the European level

A common recovery package could also speed up green recovery in the European level. The EU Commission has put forward a major recovery plan that includes billions of euros in investments to a greener future. According to the Commission, all programs in the proposed a Next Generation fund worth 750 bn EUR will be in line with the European Green Deal.

The largest instrument of the proposition is the Recovery and Resilience Facility of 560 bn EUR, which will focus on investments and structural reform, including green and digital transformation. To support the transition towards climate neutrality, the Commission is also proposing to strengthen the Just Transition Fund<sup>2</sup> as well as increase the support targeted to rural areas and farmers. Additionally, companies that have suffered from the pandemic can be supported if they meet certain green conditions.

There is still a long way to the package to become a reality as it must be accepted unanimously. Therefore, the EU Commission must still convince the "frugal four" (i.e. Denmark, Sweden, Netherlands and Austria) that have criticized the package, because of the high share of grants instead of loans in the fund. So far, no decisions have been made regarding the common recovery fund. Nonetheless, **the proposal shows that the Commission takes the transition to green economy seriously, even in the mists of the pandemic.**

### The crisis adds challenges to green tax reforms, but they could be used to support public finances

While green investments are necessary to build the prerequisites for greener business, the right incentives in terms of taxes and subsidies are also necessary to make it happen. **Carbon pricing and the removal of fossil fuel subsidies** can both be used for this purpose. Without the right incentives, the recovery phase

<sup>2</sup> As part of the European Green Deal Investment Plan, the Commission has proposed the establishment of a Just Transition Mechanism including the Just Transition Fund, which primarily provides grants to regions. The purpose the Just Transition Mechanism is to ensure that the transition towards a climate-neutral economy happens in a fair way.

risks causing a large increase in emissions given that a large part of the existing infrastructure and industrial processes are still based on fossil fuels: even if green investments and technology development make greener choices cheaper than before, they are unlikely to incentivise giving up existing production and systems fast enough.

A so called **green tax shift** has been on the political agendas in the Nordic countries for a while before the crisis and is something that could be instrumentalised in the post-crisis recovery. The classical definition of a green tax shift is to increase environmental taxes and to use this to reduce taxes on activities that benefit the society, such as labour. More generally, the concept can also incorporate reduced fossil fuel subsidies and the use of green tax revenue to increase public spending (Henriksson, 2020). Lower taxes on labour or businesses or higher public spending could be used to stimulate the economy, and financing this via environmental taxes and removed fossil fuel subsidies could help to reduce the pressure on public finances.

However, increased taxation of fossil heavy activities has its own challenges, not least following an economic crisis. The Danish Economic Councils (2020) therefore proposed a **scheme with a green tax shift, but with a delay in the cost side**: measures that support demand, such as a reduction in the electricity fees, could be implemented immediately, while a CO2 tax increase to finance this could be implemented only after the crisis has passed. This would allow for more stimulus together with long-term incentives for emission reductions.

In its latest climate policy plan the Danish government did not include any mentions of carbon pricing, however, commenting that they don't want to burden consumers or companies with additional costs (Børsen, 20.5.2020). This illustrates the additional political difficulties caused by the crisis with any policies that would make carbon heavy activities more expensive. Instead, Denmark's strategy focuses on investments and subsidies. In other countries too, **investment spending and subsidy-based industrial policy will likely be easier to implement** than measures that increase costs for businesses and consumers.

In Sweden, the government has committed to a green tax shift in the agreement formed between the current government and its support parties after the 2018 election. In 2019 the government announced that large scale tax reductions would be implemented in 2021 as part of this reform, and that details would be decided in 2020. However, the discussion has so far not been restarted after the crisis hit. In Finland as well, the current government program includes a tax reform for sustainable development. The government was supposed to decide on the policies related to energy taxation already in the budget session in April, but the corona pandemic postponed the decisions to the fall session. It is also likely that harmful tax subsidies, for example to peat, will be addressed then. The Exit and Reconstruction Working Group (2020), set by the government, has already commented that when considering tax increases or cuts in the public as a means of rebalancing the economy, it is worth remembering that removal or reallocation of harmful tax subsidies would provide additional funding to the state budget, while reducing emissions as well.

### Reforms to the EU ETS may stall but this time around the price will not collapse

The largest carbon pricing scheme in Europe is the European Emissions Trading System (the EU ETS), where firms in the power sector and heavy industry must buy allowances for their carbon emissions, which are freely traded.<sup>3</sup>The financial crisis led to a large decline in the price of emission allowances as the demand for emission allowances collapsed. The price has since risen after reforms to the system in 2018. The risk was again that the coronavirus crisis could lead to a long period with a low price of carbon.

The system is now different, however, given the so called market stability reserve which is designed to guard the system from price declines in a crisis. The price of emission allowances fell at the wake of the crisis but stabilised at the end of March and has then recovered considerably, which suggests that the

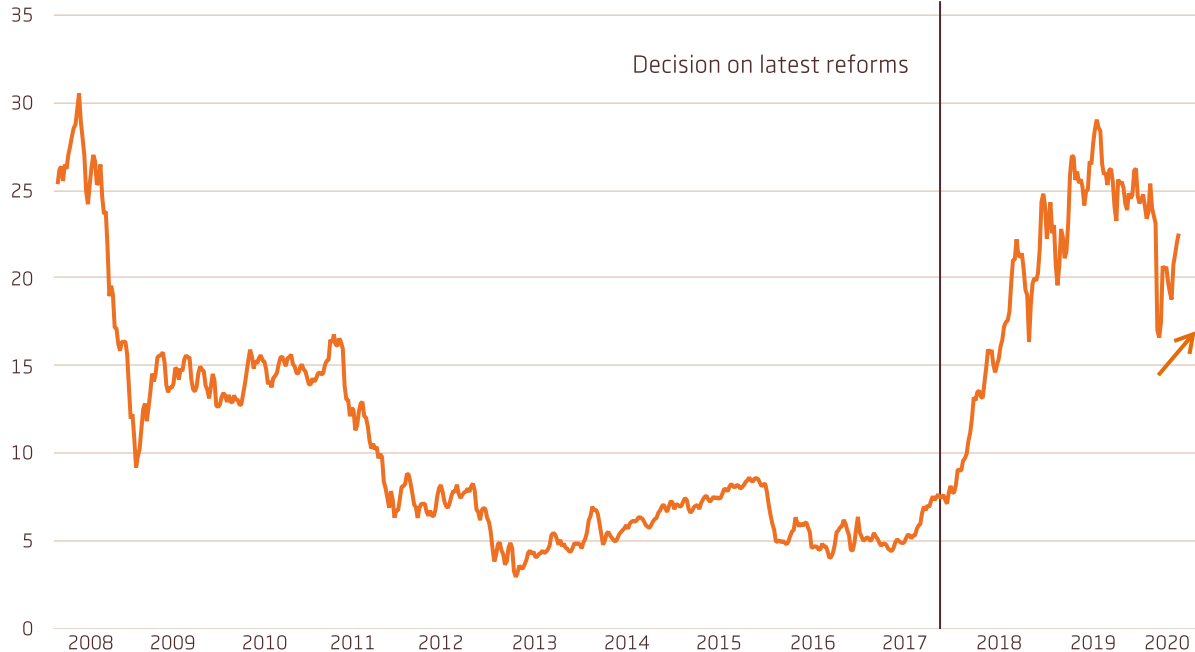
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<sup>3</sup> See our previous macro focus "[Green protectionism: Threat or opportunity?](#)" for more details on the EU ETS

reserve has helped to prevent a collapse in the allowance price, although the future outlook still remains uncertain.

### EU ETS emissions allowance price

EUR/Ton CO<sub>2</sub>



Sources: Sandbag, Swedbank Research & Macrobond

The EU ETS will be reviewed in 2021 and the proponents of strong carbon pricing such as the Finnish and Swedish government are likely to advocate continued policy for a relatively high emission allowance price. Countries that have a large fossil industry, however, could oppose this even harder at the backdrop of the economic crisis. **The future price of carbon in Europe hence remains uncertain, and the planned reforms such as carbon tariffs and the coverage of more sectors will likely be harder to implement.** However, removing already implemented reforms to the system would also be challenging to motivate and a collapse in the allowance price therefore does not seem likely either.

The effects of a more stringent EU ETS on government revenues are not as straightforward to predict as with taxes, but they can also be used to support the economy. In the latest years, most of the revenue has been spent on climate and energy purposes and the EU commission is planning to use EU ETS revenue to fund green investments.

### Nordic green industries stand to gain

After the financial crisis global spending on green energy increased considerably. While this helped to spur the development of key low-carbon technologies, the recovery was nevertheless overall carbon intensive. In 2010 the emissions increased sharply, driven mainly by the developing Asia (Fatih, 2020). However, renewable energy is now globally more cost-competitive, and given the political momentum for environmental action, **the stimulus implemented to support the recovery from the corona crisis will likely be characterized by much more climate ambition** than the measures implemented after the financial crisis, at least in Europe. Green investments will likely play an important part in this, although concern over government finances risks watering down these initiatives.

Carbon pricing and the removal of fossil fuel subsidies has become an even more politically challenging area due to the crisis, and initiatives to increase and broaden carbon pricing could therefore be delayed considerably. However, **the price of the emission allowances will not see a complete collapse and the**

system will continue to incentivise emission reductions. Meanwhile, higher environmental taxes and the removal of fossil fuel subsidies can be implemented together with reduced costs or increased stimulus in other areas, which could make them politically more viable.

**Industrial policy, such as government funding for R&D and green industrial development will likely play a larger role** in climate policy over the coming years. Finnish subsidies in battery development announced as part of the stimulus packages and the recent German and French support to electric vehicles, serve as examples. Such initiatives will inevitably result in both hit and miss and may neither reduce emissions at the lowest possible cost nor be a major driver for the economic recovery in the short term. However, they hold potential to speed up the development of green technology and increase the competitiveness of the European industry in the long-term.

The implications of the coming recovery phase will vary: while certain sectors will receive considerable support in the form of investment projects and subsidies, old fossil heavy sectors will likely miss out on such opportunities. While the price of carbon may take some time to recover, it will remain considerably higher than after the financial crisis, which will continue to pressure emissions from fossil fuel combustion in the power sector and some manufacturing sectors. However, the crisis also means that free allocation of emission allowances is unlikely to be phased out quickly. While the aggregate effects of the crisis on different sectors will depend on the global technology pathway of the recovery, Nordic governments should use this opportunity to push for structural change.

### Sources:

Biol, Fatif, 2020: "What the 2008 financial crisis can teach us about designing stimulus packages today." IEA, 2020.

Carbon Brief, 2020: "Analysis: Coronavirus set to cause largest ever annual fall in CO2 emissions." Carbon Brief, 2020.

Dalsgaard, Carl-Johan, Nabanita Datta Gupta, Lars Gårn Hansen, and Jakob Roland Munch, 2020: "Corona-scenarier: Coronanomics." Danish Economic Councils.

Exit and Reconstruction Working Group, 2020: "The aftermath of the corona crisis and the reconstruction of Finland." Reconstruction Working Group Report, Phase 2". Finnish Government publications, 2020.

European Commission, 2020: "Questions and answers on the MFF and Next Generation EU." [https://ec.europa.eu/commission/presscorner/detail/en/qanda\\_20\\_935](https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_935)

European Commission, 2020: "Key instruments supporting the Recovery Plan for Europe." [https://ec.europa.eu/info/sites/info/files/factsheet\\_2\\_en.pdf](https://ec.europa.eu/info/sites/info/files/factsheet_2_en.pdf)

IEA, 2020: "The impacts of the covid-19 crisis on global energy demand and CO2 emissions." Global Energy Review, 2020.

Henriksson, Ruben (Ed.), 2020: "Växla upp! 12 inspirerande bidrag för en bättre grön skatteväxling." Fores, 2020.

Marcu, Andrei, Emilie Alberola, Jean-Yves Caneill, Matteo Mazzoni, Stefan Schleicher, Charlotte Vailles, Wijnand Stoefs, Domien Vangenechten, and Federico Cecchetti, 2019: "2019 State of the EU ETS Report."

European Roundtable on Climate Change and Sustainable Transition (ERCST), Wegener Center, ICIS, I4CE and Ecoact, 2019.

Ministry of Economic Affairs and Employment of Finland, 2020: "Low-carbon road-maps."  
<https://tem.fi/en/low-carbon-roadmaps-2035>.

Peters, Glenn, 2020: "How changes brought on by coronavirus could help tackle climate change." The Conversation, 16.03.2020.

Vestergaard, Sine Furbo, and Morten Munkholm, 2020: " Her er regeringens klimaudspil: Vil opføre 2 energi-øer og aftale sig til CO2-reduktion med erhvervslivet." Børsen, 20.5.2020.

World Bank, 2010: "Green stimulus, economic recovery, and longer-term sustainable development." The World Bank Development and Research Group: Environment and Energy Team, Policy Research Working Paper No. 5163.

Quemin, Simon, and Raphaël Trotignon, 2019: "Intertemporal emissions trading and market design: an application to the EU ETS." Centre for Climate Change Economics and Policy Working Paper No. 348, Grantham Research Institute on Climate Change and the Environment Working Paper No. 316.



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