

SWEDISH CLIMATE POLICY COUNCIL

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Foreword

This report constitutes the Swedish Climate Policy Council's evaluation of the Government's overall policy in relation to the climate targets established by Parliament and the Government. In addition, it contains an overall picture of emission trends and a follow-up on the Government's climate policy action plan as well as its climate report to Parliament.

Over the past year, implementation of the policy has been heavily influenced by the ongoing pandemic. Society's ability to address the coronavirus crisis and its long-term economic and social effects influences conditions for managing the climate transition in several ways. In this year's report, the Climate Policy Council has therefore chosen to place a special focus on the Government's policy response to the pandemic and on how crisis and recovery policies affect our chances of achieving climate policy goals.

At the time of writing this report, the pandemic is still ongoing. As yet, there is no definitive picture of the many events, connections and consequences that are relevant in this context. Yet many major political decisions linked to the coronavirus crisis and its consequences need to be taken now and in the near future. The fact that the Climate Policy Council is already presenting this report about the crisis is in line with the Council's ambition to provide relevant and useful policy input for the Government and Parliament.¹

The Climate Policy Council would like to express its sincere thanks to the more than 100 organisations, researchers, experts and practitioners who contributed to this report. The conclusions and recommendations presented here are the Climate Policy Council's own.

Stockholm, March 2021

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¹ As early as 11 June 2020, the Council presented some initial recommendations to the Government in a letter on recovery policy.

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Summary and Recommendations

2020 was an unforgettable year. The world was hit by a pandemic that profoundly affected people's lives across all continents and brought on a deep social and economic crisis. Countries around the world have responded with comprehensive interventions involving huge government spending to prevent the spread of the virus and combat the pandemic's social and economic consequences.

The design of these initiatives will have a significant impact on the chances of achieving climate targets, in both the short and the long term. This impact will be felt directly, in the economy and society, and indirectly, such as through effects on trust in institutions and in international cooperation.

This year, in its annual evaluation of the Government's overall design of policies to achieve Sweden's climate goals, the Swedish Climate Policy Council has chosen to focus on the Government's crisis and recovery policy during 2020 and on the impacts of that policy on our chances of achieving net-zero emissions by 2045. In addition, this year's report contains a general overview of emission trends and an assessment of the Government's climate policy action plan and the Government's climate report to the Parliament.

Big temporary reductions in emissions in 2020 – but negligible effects on our chances of achieving our climate goals

The latest official statistics on greenhouse gas emissions in Sweden are for 2019, before the pandemic broke out. The reduction in emissions that year was 2.4 per cent, slightly more than in previous years, but still nowhere near the 6–10 per cent per year needed to reach net-zero emissions by 2045. On the positive side, the 2020 interim goal of reducing emissions outside the EU emissions trading scheme (EU ETS) by 40 per cent has been achieved, independently of the pandemic's short-term effects on emissions.

Greenhouse gas emissions decreased temporarily in 2020, both globally and in Sweden, mainly due to restrictions and recommendations aimed at reducing the spread of the coronavirus. The reduction in emissions was historically large, but not more than what is required *each year* for the global temperature increase to be kept below 1.5 degrees. Emission reductions in any one year do not diminish the greenhouse effect, either – the concentration of greenhouse gases in the atmosphere just temporarily increases at a slightly lower rate than it otherwise would have. It is not until net emissions reach zero or are negative that the conditions will be in place to stop global warming. This requires permanent structural changes, which in turn call for further policy reforms.



ASSESSMENT

Greenhouse gas emissions decreased somewhat more in 2019 than in preceding years, but still far from the pace required to reach net-zero emissions by 2045.

The temporary emission reductions achieved during the ongoing pandemic have only a marginal effect on global warming and on Sweden's opportunities to achieve its climate goals.

Sweden achieved the interim goal for 2020, which would have happened even without the COVID-19 pandemic.

A window of opportunity for the climate transition...

The coronavirus crisis is taking a heavy toll on society and has hit many families and individuals hard. But a crisis can also present opportunities to reset, rethink and implement major changes. Conditions for the social transition towards achieving the climate targets will be better in many ways after this crisis than they were after previous economic crises.

One reason is the long-term fundamental changes that took place prior to the crisis. These include digitalisation and advances in technology, increasingly competitive renewable energy options, industry's focus on clean-energy competitiveness, well-developed climate policy frameworks, more ambitious policies in a growing number of countries, and broad public support for the climate transition. This can be termed the establishment and *maturity* of the climate transition.

Another reason is the breakthrough insight that rapid change and collective action are possible, including extensive climate investment: an insight of *momentum*. Communities have shown that they can react swiftly and resolutely during times of crisis. This interface between maturity and momentum opens a window of opportunity to accelerate the climate transition.

... underutilised by the Government

In an emergency, it is natural for short-term crisis management to come to the fore. It is thus a positive sign that in 2020 the Swedish Government took few decisions that risked directly undermining its climate goals.

However, when it comes to recovery from the crisis and more long-term reforms, the bar must be set higher. It is not enough to simply not do the wrong thing. The pace of climate transition remains too slow, and current policy is insufficient for achieving the climate goals.

According to the Climate Policy Council's analysis, only one-tenth of the Government's recovery measures also contribute to achieving Sweden's climate policy goals. Although the Government has been pushing for tougher climate goals and greater ambitions in the EU, several Member States have linked their recovery measures more closely to the climate transition than Sweden has.

Government policies play a key role in generating understanding, shaping public opinion during a crisis, and bringing together all stakeholders to act in a more unified way. The Government has described its recovery policy as “a powerful green economic restart”, but the message has not been consistent. We lack a clear, cohesive narrative about how to emerge stronger from the crisis to achieve the vision of Sweden as the world’s first fossil-free welfare state.



ASSESSMENT

The pace of climate transition remains too slow, and established policy is insufficient for achieving Sweden’s climate goals. Throughout the crisis, the Government has maintained the focus of Sweden’s climate policy action plan. Yet it has not yet made sufficient use of the window of opportunity provided by the coronavirus crisis, to leverage crisis and recovery investments to advance overall policies for the climate transition.

How the Government can better leverage the window of opportunity

Although 2020 was a tumultuous year, the Climate Policy Council’s analysis shows that so far, the coronavirus crisis itself has not decisively changed the conditions for the climate transition in the long term. Some investments in the industry and energy sectors may have been postponed, but major new fossil-free initiatives have also been announced. The transport sector, which was already undergoing a major shift, has been most affected by the crisis. However, it is still too early to say what long-term impact this will have on our chances of achieving the climate goals. Current policy priorities and plans remain relevant, despite the crisis. New strategies are not required. Instead, we need to use this window of opportunity to turn plans into action and increase the pace of the climate transition.

Create stronger ties between recovery policy and climate transition

The Government’s climate policy action plan is in place, as are numerous strategies and initiatives in areas that are central to the climate transition. A range of business sectors have developed roadmaps for clean-energy competitiveness. The Government is set to present its national recovery plan under the EU-wide recovery and resilience facility. It is paramount for the Government to use its recovery policy to implement the climate policy action plan and link all these different strategies and roadmaps together, so that it can work more coherently. This would also enable the creation of a strong and meaningful narrative about the way out of the coronavirus crisis – a narrative that also boosts efforts to achieve the climate goals.

In June 2020, the Government established a Ministerial Working Group on Climate Policy, led by the Prime Minister, to coordinate the implementation of its climate policy action plan. The working group was also to play a central role in “climate-proofing” the recovery policy. Stakeholders outside the Government, however, still struggle to understand whether and how the working group will make a difference. Still, it has great potential to promote broader responsibility and ownership around the implementation of the Government’s climate policy action plan and its overall policy

for achieving the climate goals. At the same time, the working group can ensure that the strategies adopted and the decisions made by the Government are consistent.


 rek:

RECOMMENDATIONS

Use the recovery policy to implement the climate policy action plan and existing strategies that give concrete expression to the desire to be “the world’s first fossil-free welfare state”.

Strengthen the role of the Ministerial Working Group on Climate Policy, in accordance with its mandate, and utilise it as a driving force in the Government’s efforts to achieve the climate goals.

Funding the window of opportunity

Extensive investment is needed in areas such as clean energy systems, transport and infrastructure to make the climate goals achievable. Policy has an essential role to play in creating favourable conditions for other stakeholders to invest sustainably. But there are also compelling reasons why the state sometimes needs to be involved in (co-)financing climate initiatives, which is most evident when it comes to public infrastructure. In addition to the EU, international economic cooperation organisations such as the IMF, the World Bank and the OECD are encouraging their member states to support green investments as they emerge from the coronavirus crisis.

Fiscal stimulus for economic recovery, together with an increased openness to publicly funded support for business, can contribute strongly to a momentum that can intensify and accelerate the climate transition. Together with an understanding of the maturity of the climate transition – for example, the business community’s own transition strategies – a window of opportunity is created for more effective policy to achieve the goals.

In the aftermath of the 1990s crisis, a fiscal policy framework was created that helped Sweden achieve a more transparent budget process and more robust public finances. In an emergency requiring urgent action, the framework ought to be applied in ways that do not risk closing the window of opportunity for economically viable climate investments. The flexibility in the fiscal policy framework should be leveraged so that savings to reach the surplus target are not increased too rapidly.

The fiscal policy framework, which focuses on the long-term robustness of public finances, lacks an analysis of the climate change risks to this robustness. The review of the framework planned to begin in 2025 and end in 2027 should thus be brought forward to ensure that the risk analysis includes relevant risks for future generations. A debt anchor of 35 per cent of GDP has been set to provide a significant margin to the EU debt ceiling and to debt levels identified as problematic. However, an overly low debt anchor may mean that Sweden is investing too little in future generations. This is a risk that, based on the need for a climate transition, may prove to be at least as large, or greater, than the risk of insufficient savings.

Monetary policy, which is controlled by the Riksbank, also needs to address the requirements and opportunities of the climate transition and the risks posed by climate change. On the one hand, climate change can make it more difficult for the Riksbank to reach its inflation target and therefore threaten financial stability. And on the other hand, the Riksbank's monetary policy governing the purchase of corporate bonds, for example, can affect the chances of achieving the climate goals.

The Climate Policy Council believes that the new Riksbank Act, which is being drafted at the time of publication of this report, should be developed on the basis of a clear climate perspective. The Council recommends that the new Riksbank Act require the Riksbank to address the impact of climate change on monetary policy and to contribute to the achievement of the climate goals.



RECOMMENDATIONS

Utilise the flexibility of the fiscal policy framework to allow a longer period to restore savings to the surplus target, to create scope for investments that contribute to the climate transition.

Bring forward the review of the fiscal policy framework and include the climate perspective in the risk analysis of the robustness of public finances.

Include a climate perspective in the ongoing redrafting of the Riksbank Act.

Prerequisites for climate investments

Protracted permitting procedures are a known obstacle to the timely implementation of vital climate investments. Paradoxically, the rules that are supposed to ensure environmental considerations in town and country planning risk slowing down the climate transition. In addition to the review of relevant legislation and rules previously recommended by the Climate Policy Council and initiated by the Government, it is important to ensure that licensing authorities are equipped with the necessary resources, sufficient skilled staff and clear guidelines in order to process large numbers of applications more quickly.

The climate transition requires new knowledge and improved skill sets across all industries and areas, in both the civil and the private sector. To strengthen Sweden's competitiveness, the Government should seize the opportunity offered by its ongoing recovery policy to invest in targeted and in-demand upskilling for the climate transition. Broader efforts to raise public awareness and mobilise civil society can also facilitate the implementation of policies that will achieve the climate goals.

Like many other government agencies and research reports, the Climate Policy Council has highlighted the importance of ensuring that investments in transport infrastructure contribute to a more transport-efficient society. However, the orientation document that is now on the

Government's table, which is intended to govern investments in transport infrastructure for at least half the period leading up to net-zero emissions in 2045, does not point to any major change. The Government needs to bring together the relevant authorities to jointly develop a basis for transport investments within the framework of the climate policy goals.

rek:

RECOMMENDATIONS

Implement a faster, more transparent permitting procedure for investments that contribute to the climate transition.

Invest in knowledge and skills for boosting climate transition efforts as part of the ongoing recovery policy.

Ensure that the national transport infrastructure plan contributes to a more transport-efficient society within the framework of the climate goals.

The European Green Deal and recovery plan

The Government should be inspired by how the EU has conflated recovery policy and the climate transition, and how the climate agenda has been tied to a broader sustainability agenda for promoting resource efficiency and the circular economy, biodiversity and a just transition. Sweden's climate transition will be strongly influenced by all the new and amended rules and regulations now being developed at the EU level, linked to the European Green Deal and its comprehensive recovery plan. There is reason to revisit whether the Government Offices of Sweden possess sufficient resources to be able to both influence and capitalise on the European wave of green reform, which has only just begun.

rek:

RECOMMENDATION

Strengthen Sweden's engagement and influence in the EU by participating in a strategic, coordinated and active manner in the European Green Deal and recovery plan as well as in related political processes.

Openings for behaviour change

In several areas, the coronavirus crisis has brought about rapid and extensive behavioural changes. Policy should strive to support behavioural changes that can make a positive contribution to the

climate goals and discourage behaviours with negative impacts. For example, this might include supporting more sustainable travel patterns and online meetings, developing rules and regulations that facilitate more efficient use of buildings or more efficient logistics for e-commerce, and stimulating outdoor life and sustainable tourism locally. When the pandemic is over, those who chose to drive their car during the crisis need to return to using public transport and other more climate-efficient means of transport.

rek:**RECOMMENDATION**

Promote behavioural changes that aid our chances of reaching Sweden's climate goals.

Follow up and report on the implementation of the climate policy action plan

In accordance with the Climate Act, in December 2019 the Government decided on a climate policy action plan which was to guide efforts over the subsequent four years to achieve the climate goals. However, the Government has not provided an update on the plan's implementation to Parliament, in its 2020 climate report or in any other context. This follow-up is important for the Government's own work and to deliver on the climate policy framework's vision for clarity and transparency.

For almost three years, the Government has been announcing that an assessment of the impact of all relevant proposals in official government inquiries and official policy input on the climate goals will be carried out. This has not yet happened.

rek:**RECOMMENDATION**

Report on how the implementation of the climate policy action plan is progressing in the annual climate report to Parliament.

Present the climate report at the same overarching appropriations level as the budget statement. Decide that an assessment of the impact on our chances of achieving the climate goals is to be included in all official government inquiries and inputs to Government decisions.

1. Introduction

– A tumultuous year

1. Introduction – A tumultuous year

In January 2020, few could imagine the year ahead. A global pandemic was not unexpected – epidemiologists had warned that it was only a matter of time – but for most people it was an abstract, distant threat with no practical meaning. Now, as this report is being published in March 2021, everyone knows what a pandemic is and understands its profound effects on everyday life. More than 3 million people have died from Covid-19 worldwide, and more than 150 million have fallen ill.¹ Many more have been affected by the political, economic and social consequences of the pandemic.

1.1 Encounter with the health crisis affects the climate change transition

A valuable lesson from the past year is how quickly society can mobilise resources and adapt in a crisis situation that endangers our life and health. Policy decisions and behavioural changes that were inconceivable before 2020 not only proved possible, but were accepted by the vast majority of people. Real-time online social interaction, at work and at home, grew quickly to levels that were previously thought would be possible only years into the future. Global and European cooperation between private and public stakeholders, the pharmaceutical industry and governments, enabled effective vaccines to be developed and approved in a fraction of the time that this complex process normally takes. Governments around the world have put aside the ordinary framework for economic policy to some extent in order to take firm decisions and invest substantial public resources to combat the spread of infection and economic and social damage from the pandemic.

Society's ability to address the coronavirus crisis influences the conditions for managing the climate change transition in several ways. Because of the enormous scale of the crisis response, the impact of the decisions taken will be felt for a long time. The rapid-fire developments during the 2020 crisis year have also changed the conditions for climate efforts as well, and thus affected Sweden's chances of achieving its climate targets. The dimensions and scope of these changes are certainly greater than we can grasp today. Among them, however, is confidence in the power of policy to address crucial societal challenges and in international cooperation to solve global problems.

1.2 Climate crisis still high on the agenda

2020 was one of the warmest years ever recorded, with a global average temperature more than 1°C above pre-industrial levels. In Sweden, 2020 was the warmest year since the 1860s, when the Swedish Meteorological and Hydrological Institute started measuring temperatures. It was thus another year in a long-term trend in which every decade since 1980 has been warmer than the previous one.² The negative effects of climate change are becoming increasingly apparent worldwide through more extreme weather events, such as heat waves, droughts and floods, with implications for food supply, water resources, health and ecosystems.^{3,4}

As the extent of the coronavirus's effects became clearer, concerns grew that the climate transition would be put on hold – or in the worst case, take several steps back. It can be noted that some of

the resources that countries around the world can use in their recovery policies also provide climate solutions, but many investments have also been made to date do not contribute to the transition, or may even hinder it. Of course the long-term impact of the coronavirus crisis cannot be evaluated yet. However, it can already be established that innovation and global collaboration drove developments in several areas in 2020. The use of renewable energy continued to expand worldwide, despite the deep economic crisis, while the retreat from fossil fuels continued. Electricity from solar and wind power is now produced at a lower cost than coal power nearly everywhere in the world, helping to redirect major financial flows. Multinational oil companies are predicting a drop in demand and announcing a shift in investments to renewable energy sources.

The climate issue was also high on the global political agenda in 2020. Many countries, including major economies such as China, South Korea, Japan and Canada, as well as the European Union, either set targets for net-zero greenhouse gas emissions by mid-century, or announced they intend to do so.^b The new U.S. administration is expected to do the same in 2021.

1.3 Has crisis management policy during the pandemic affected our chances of achieving the climate targets?

The Swedish Government aims to push for a more rapid global transition away from fossil fuels by demonstrating at the national level that the transition goes hand in hand with economic development and social welfare.⁵ An important test for this goal is the formulation of crisis policy during the pandemic, including policies for long-term recovery. To what extent do they contribute to, or hinder, the achievement of climate policy goals?

Against this background, in this year's review report, the Climate Policy Council has chosen to explore in depth the question: *Has crisis policy during the pandemic affected our chances of achieving climate policy goals?* Crisis policy here means all policies across multiple policy areas that have emerged in direct response to the coronavirus crisis and its effects, or have cited them in their rationale. Of course, this crisis policy is not entirely distinguishable from other policies related to the climate change transition and other societal challenges. Many new developments in recent years have reshaped the context, including the climate policy framework and the EU's Green Deal, which were agreed on in December 2019, before the pandemic and therefore by no means as a result of it. Since then, however, the EU recovery programme has had strong ties to the Green Deal.

The corona crisis has hit society so hard that many established ideas, principles and behaviours have been disrupted and, in some cases, completely transformed. As a result, a perception has emerged that it is possible to achieve larger-scale change in a relatively short time. The changes that have taken place and the significant resources invested open a window of opportunity. It is also a well-known phenomenon that times of truly deep crisis can cast a new, merciless light of truth. In this light, we see things with fresh eyes. The crisis does not merely need to be confronted and averted. It also makes changes that have previously seemed improbable or uncomfortable suddenly

^b The net-zero emissions targets have different definitions in different countries and thus in practice different meanings, mainly depending on how the effects of soil and plant carbon sequestration are estimated as well as greenhouse gases other than carbon dioxide. But they all express the goal of no longer contributing to increased levels of greenhouse gases in the atmosphere by mid-century. See, for example, the Net Zero Tracker.¹⁶¹

seem not only possible, but the right thing to do or even the necessary thing to do. The future after a crisis can, and should, be different from the past – what the philosopher Immanuel Kant more than 200 years ago called “a moral demand for a difference”.⁶

This report consists of two parts:

Part I contains the Climate Policy Council’s regular review of emission trends and the Government’s reporting to Parliament, as well as a follow-up to the first climate policy action plan presented in December 2019.

Part II contains the review of the Government’s corona crisis policy and how it has affected our chances of achieving the climate targets, including what Swedish crisis management policy looks like in a European context. The term *corona crisis* is used as a collective term for the pandemic, the economic crisis that followed, and all its social and other spillover effects.

Part I

Follow-up of emissions of greenhouse gases and assessment of the government's policy



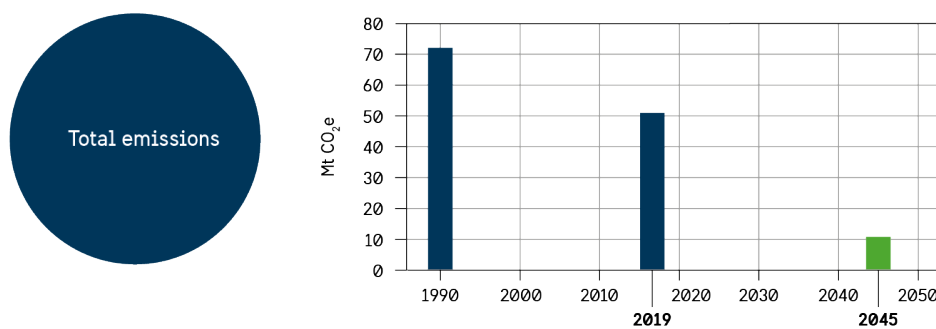
2. Climate targets and emission trends

2. Climate targets and emission trends

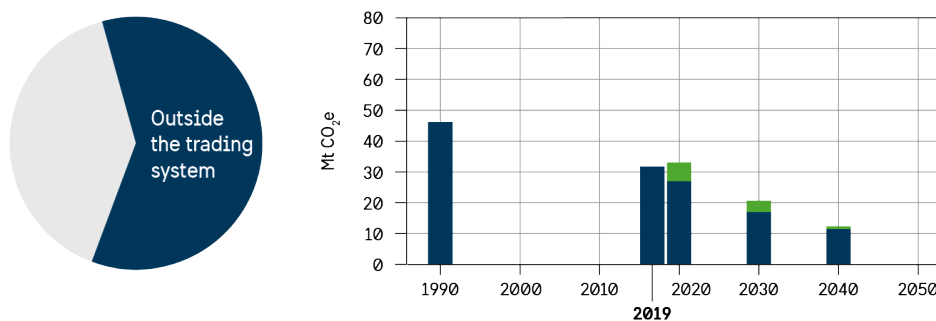
The overarching goal of the climate policy framework is that Sweden should have net-zero greenhouse gas emissions by 2045, and negative net emissions thereafter. Parliament has decided that the target is achievable if emissions within Sweden's borders are at least 85 per cent lower by 2045 than in 1990. The remaining emissions can be covered by so-called supplementary measures. These can include an increased net uptake of carbon dioxide in forests and soils, verified emission reductions through investments in other countries, or carbon capture and storage from the burning of biomass, known as BECCS (bioenergy with carbon capture and storage). Sweden's negative net emissions beyond 2045 mean that the supplementary measures must be greater than Sweden's remaining greenhouse gas emissions.

The climate policy framework includes a number of interim targets in addition to the overall 2045 target. While the 2045 target applies to Sweden's total emissions, the interim targets apply to a subset of emissions. Sweden's total greenhouse gas emissions can be roughly divided into two parts: emissions that occur outside the EU emissions trading system (EU ETS) and emissions from sectors included in the trading system. For emissions not included in the EU ETS, there are three interim targets set for 2020,⁶ 2030 and 2040. In addition, there is a 2030 interim target for domestic transport. Emissions within the ETS are included in the 2045 target of net-zero emissions but do not have their own national interim target and are instead limited by the EU ETS framework. The goals of the climate policy framework are summarised in Figure 1 below.

⁶ The official emissions statistics for 2020 will not be published until December 2021, which is why this target is still relevant.

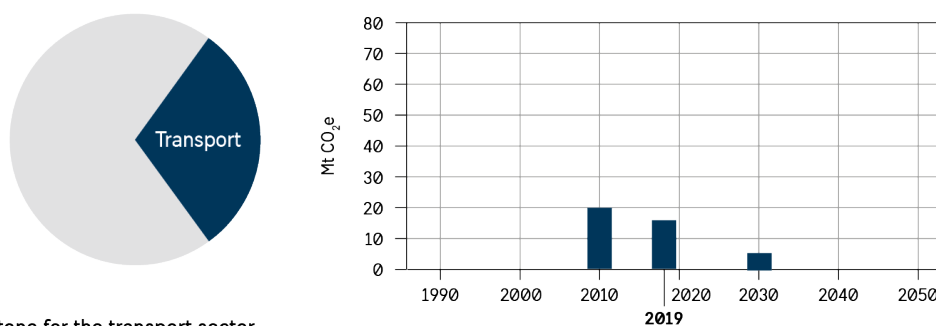


Net Zero emissions by 2045. Emissions must be at least 85% lower than 1990. 15% may be compensated with additional measures. Negative emissions thereafter.



The milestones for emissions outside the trading system are as follows:

- 2020 emissions must be 40% lower than in 1990. A maximum of 13% may be made through flexible mechanisms.
- 2030 emissions must be at least 63% lower than in 1990. A maximum of 8% may take place through supplementary measures.
- 2040 emissions must be at least 75% lower than in 1990. A maximum of 2% may be through supplementary measures.



Milestone for the transport sector

2030 emissions from domestic transport (excluding domestic aviation included in the EU ETS) must be at least 70% lower than in 2010.

- Greenhouse gas emissions (Mton CO₂-e)
- Emissions that can be compensated with additional measures

Figure 1. Targets in the Swedish climate policy framework.

2.1 Emission trends through 2019

The latest available official statistics on greenhouse gas emissions are from 2019, when total greenhouse gas emissions within Sweden's borders (territorial emissions) were just below 51 million tonnes CO₂e, which is almost 30 per cent lower than in 1990.^d

A large part of the decrease is due to the gradual increase in the use of biofuels and increased efficiency in the energy sector. Emissions have fallen by as much as 66 per cent since 1990. In the transport sector, the use of biofuels and more efficient vehicles has helped to curb emissions, but increased traffic volumes limited the overall reduction to 17 per cent. Industry has reduced its emissions by roughly 20 per cent and agriculture by 9 per cent since 1990. The "other" section includes waste management and reflect a reduction in waste landfilling since the early 1990s.

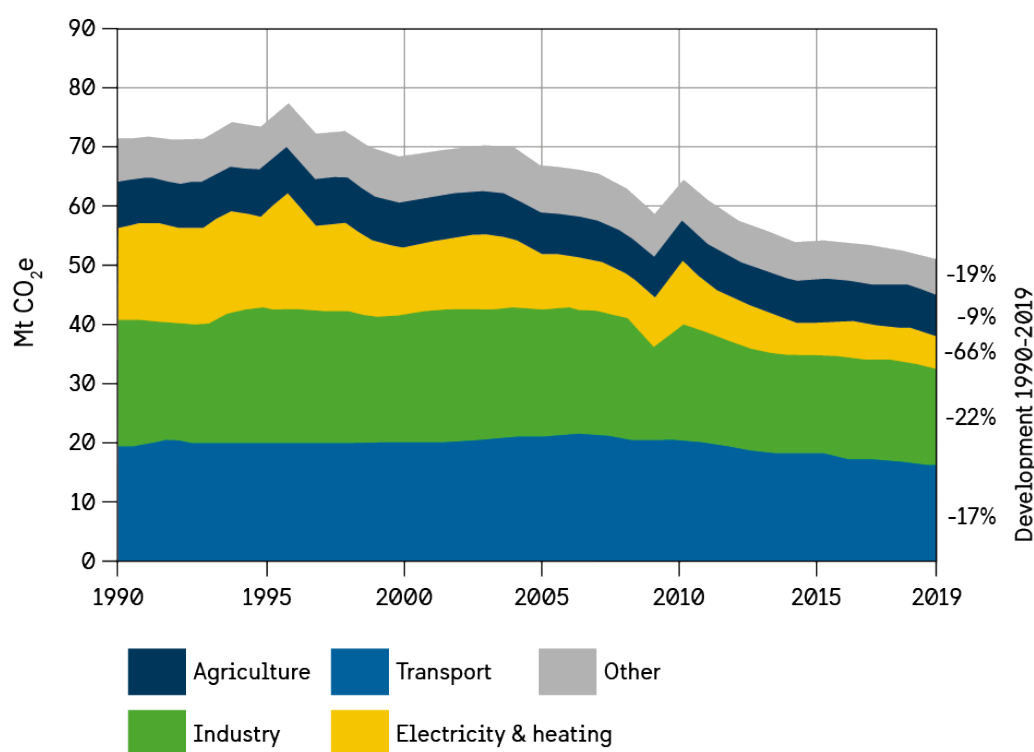


Figure 2. Domestic greenhouse gas emissions by sector, 1990–2019, in million tonnes of CO₂ equivalent ⁷.

Source: Swedish Environmental Protection Agency

Annual fluctuations in emissions are due to several factors, including weather, economic cycles and political decisions. For example, Figure 2 above shows that the economic recovery following the financial and real estate crisis in the early 1990s led to increased emissions, and during the 2007–2008 financial crisis, emissions fell first before rising again when the economy picked up in 2009 and 2010. Trend-wise, the largest emission reductions occurred over the 10-year period 2005–2014,

^d The latest emission statistics cover the years 1990 through 2019. The totals include emissions that occur within Sweden's borders, but exclude land use, land use change and forestry.

with an average annual reduction rate of over 2 per cent. The pace then slowed, and greenhouse gas emissions decreased, on average, by less than 1 per cent per year between 2015 and 2018. This coincided with the fact that emissions from heating, which accounted for a large part of the reduction, no longer fell at the same rate, while industrial emissions increased.

Between 2018 and 2019, emissions decreased slightly more, by 2.4 per cent. However, the rate remains lower than is needed to reach the 2045 net-zero emissions target through continuous annual reductions. That would require annual reductions of 6 per cent if supplementary measures can be fully utilised, and of 10 per cent if emissions are to fall to zero. In reality, the reduction in emissions will not be completely even. Major technological shifts and sudden changes in the world around us can cause discontinuities or step-off effects in the rate of reduction. However, the average reduction rate of 6–10 per cent per year serves as a yardstick to assess whether emissions are falling fast enough and, if not, what change of pace is needed. For each year the reduction rate is too slow, the demands for stricter emission reductions increase in the coming years.



ASSESSMENT

Greenhouse gas emissions decreased somewhat more in 2019 than in preceding years, but still far from the pace required to reach net-zero emissions by 2045.

Sections 2.1.1 and 2.1.2 describe emission trends between 2018 and 2019 in more detail, based on the classification from the climate policy framework – i.e., emissions from installations included in the EU ETS and emissions outside it. Figure 3 below shows the proportion of emissions in different sectors covered by the ETS. A somewhat simplistic summary is that larger installations within industry, electricity and district heating production, as well as aviation within the EU, are covered by the ETS, while transport, agriculture and other emissions (solvents, working machinery and waste) are outside of it.

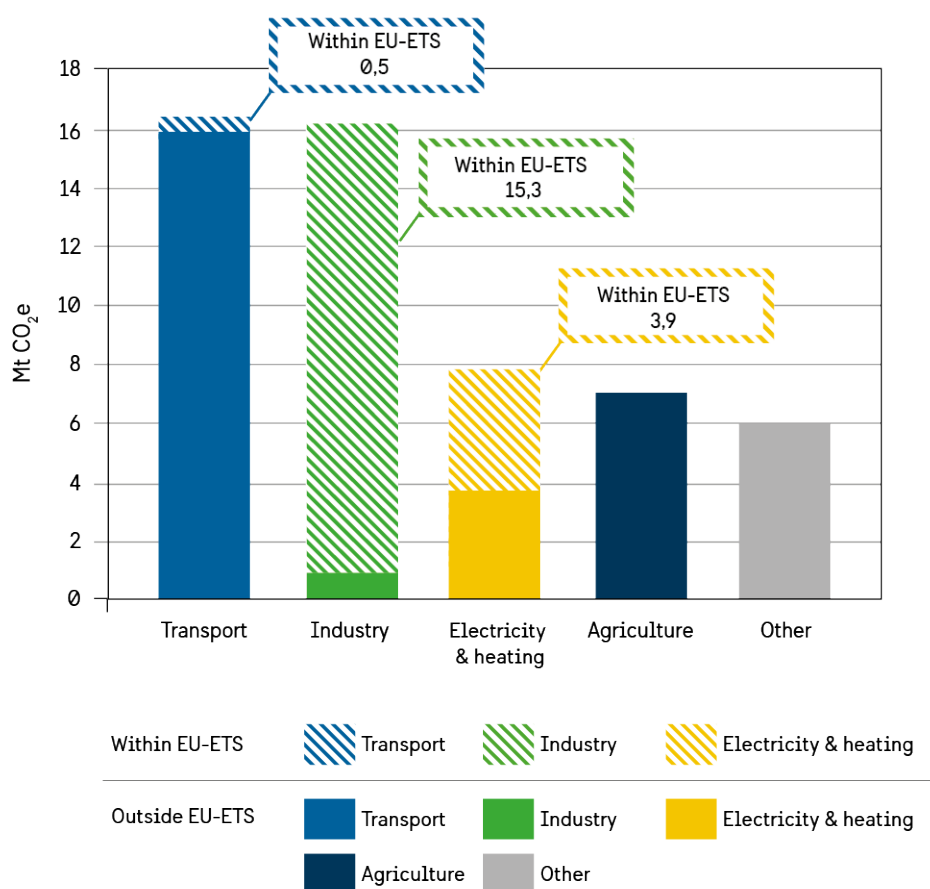


Figure 3. Sweden's territorial greenhouse gas emissions in 2019, by sector. The striped area of the bars indicates emissions included in the ETS.

Source: Swedish Environmental Protection Agency^{8,9}

2.1.1 Emissions in the ETS were 5.5 per cent lower in 2019 than in 2018

Sweden's greenhouse gas emissions from the installations covered by emissions trading account for about one-third of total territorial emissions. Since the system was introduced in 2005, emissions from these installations have decreased by a total of 17 per cent, or just over 1 per cent per year. The largest single decrease occurred in 2019, when emissions were 5.5 per cent lower than in 2018. Driving this rapid development was the energy sector, where emissions fell by 11 per cent, while industrial emissions fell by just under 4 per cent.

Emission for energy installations in the ETS decreased by 11 per cent

The reduction in emissions in 2019 can be explained by the unusually high emissions in 2018. This was due to a cold winter and limited access to biofuels. In 2019, the winter was milder, access to biofuels improved, and several coal-fired plants were phased out – which may have been accelerated by the tax increase on fossil fuels introduced in August. In 2019, greenhouse gas

emissions from electricity and district heating production covered by the EU ETS were 3.9 million tonnes CO₂e, accounting for 20 per cent of greenhouse gas emissions in trading sectors.

Emissions from industrial installations in the ETS decreased by 4 per cent

Industry accounts for about a third of Sweden's total greenhouse gas emissions and 75 per cent of emissions in trading sectors. The reduction in emissions in industry was largely due to reduced emissions from refineries and the mineral industry. The reduction in emissions from refineries is due to the fact that two plants have had maintenance stoppages, and the reduced emissions from the mineral industry are due to reduced production of clinker. Emissions from the iron and steel industry rose in 2019 due to increased production within Sweden.

2.1.2 Emissions outside the ETS decreased by 0.4 per cent between 2018 and 2019

Emissions outside the trading system totalled 31.7 million tonnes in 2019, about half of which were from transport. This is 31 per cent lower than 1990 levels. Although emission reductions occurred across all sectors, domestic transport, residential and commercial heating, waste treatment, and industrial and energy installations account for most of the emission reductions during the period in absolute terms. Between 2018 and 2019, emissions outside the ETS decreased by only 0.4 per cent.

In order to monitor emission trends outside the ETS towards the 2030 and 2040 interim targets, the climate policy framework provides for what are known as indicative emission pathways. These are defined as a linear reduction from the actual emissions level in 2015 to the respective interim targets, with a higher pathway if supplementary measures are used and a lower pathway without the use of supplementary measures (see Figure 4 below). The fact that emissions are above the indicative levels in a single year does not mean that the targets will not be met, but that emissions will have to be reduced more quickly in the coming years. According to the climate law, the Government must present an analysis and, if necessary, tighten policy if emissions exceed the indicative target pathway.¹⁰

Figure 4 shows emissions outside the EU ETS from the base year 2015 to 2019 (black line) and the two indicative emission pathways (red and green lines, respectively). Between 2015 and 2016, emissions were below the level that includes supplementary measures, but above the level without supplementary measures. Since then, emissions have been above even the level that includes supplementary measures. The reduction in emissions slowed in 2019, resulting in emissions that were 2 million tonnes above the lower indicative pathway that year and 1 million tonnes higher than the upper indicative pathway.

Since emissions have been higher than both indicative pathways for several years, the Climate Policy Council believes that this emphasises the need for the type of analysis required by the law. Carbon dioxide accumulates in the atmosphere, growing into a kind of emission debt for each year that emissions are higher than the target expressed in the indicative pathways. With this approach, the emission debt for the period 2015–2019 can be interpreted as the surface between the black line and the red and green lines in Figure 4, depending on the emission pathway.

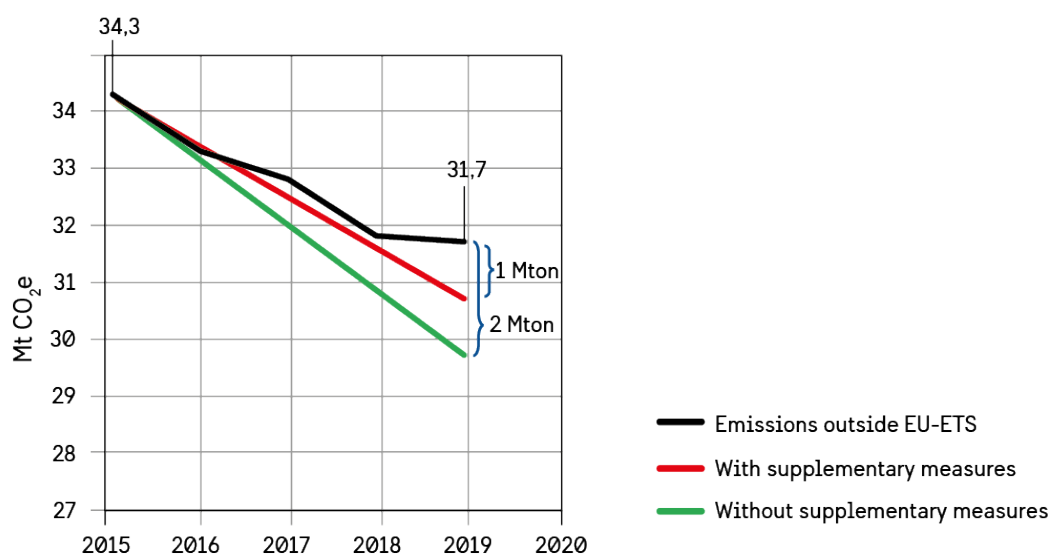


Figure 4. Greenhouse gas emissions from sectors outside the ETS.

Transport emissions decreased by 2 per cent

Emissions from domestic transport account for a third of Sweden's total greenhouse gas emissions and roughly half of emissions outside the EU ETS. In 2019 transport sector emissions were 2 per cent lower than in 2018. Emissions need to be reduced by at least 8 per cent per year to meet the 2030 target for domestic transport. In 2019, emissions from domestic transport were 17 per cent lower than in 1990.

Agricultural emissions increased by 1 per cent

Greenhouse gas emissions from the agricultural sector make up about 14 per cent of Sweden's total emissions and about 20 per cent of emissions outside the EU ETS. Between 2018 and 2019, emissions increased by about 1 per cent, mainly due to an increase in emissions from the use of crop residues such as manure. Compared with 1990, emissions have fallen by 9 per cent.

2.2 Emission trends in 2020 – preliminary estimates

2020 will be a year to remember, with major emission reductions both in Sweden and the world that were brought on by the restrictions and recommendations imposed by governments and authorities to mitigate the spread of COVID-19. Both business travel and leisure travel declined, and other behaviours also changed significantly (see fact box 1 below).

It is not yet evident from the official emissions statistics how greenhouse gas emissions have been affected by the corona crisis, as the latest statistics refer to 2019. The Climate Policy Council has previously pointed to the value of accelerating the reporting of greenhouse gas emissions, as it would increase the ability to follow up and develop policies to achieve the climate targets. The rapid changes underway in both policy and emissions underscore this need.

Fact box 1: Changes in behaviour and consumption during 2020 affected greenhouse gas emissions

For Sweden to achieve the climate targets, greenhouse gas emissions from the production of goods and services within its borders (territorial emissions) must be gradually reduced to zero. A complementary measure of territorial emissions is consumption-based emissions, which include emissions in Sweden and abroad that result from meeting demand throughout society for household consumption, public-sector consumption, and public investments such as buildings and infrastructure. Consumption-based emissions were 82 million tonnes CO₂e in 2018,¹¹ which can be compared with territorial emissions of 52 million tonnes CO₂e the same year.

Over the past decade, greenhouse gas emissions from Swedish household consumption have decreased gradually, despite growth in the volume of consumption. Two-thirds of that drop is attributable to lower production emissions from both imported and domestically produced goods. The remainder is attributable to a change in what people are choosing to consume.¹²

During the pandemic, restrictions to stop the spread of infection have led to a rapid change in both the composition and the volume of consumption. So-called close-contact industries have seen a sharp decrease in demand. Reduced travel, mainly international but also domestic, reduced tourism, increased teleworking, and fewer visits to restaurants, concerts and theatres are all examples of the consequences of restrictions.¹³ This is also evident in the number of restaurant and hotel bankruptcies, which were 27 per cent higher in 2020 than the average over the last three years.¹⁴

Some consumption categories do not show a significant impact from the pandemic. The need for heating, electricity, food and drink remains. Purchasing channels, however, have changed somewhat. This is most evident in the sharp increase in e-commerce for food and pharmaceutical products. The biggest increase is seen among older people.¹⁵

Preliminary estimates of how the pandemic affected global emissions in 2020 show that daily carbon dioxide emissions were at most around 17 per cent below the average of recent years.¹⁶ This is a direct result of the restrictions and recommendations imposed by governments and authorities to mitigate the spread of COVID-19, and to some extent due to the subsequent economic downturn. In countries with the toughest lockdowns, total emissions fell by up to 26 per cent during the lockdown period, according to one study, and emissions from road traffic by around 50 per cent.¹⁷

Taken over the whole year, global carbon dioxide emissions are estimated to have been about 6–8 per cent lower in 2020 compared with 2019.^{16,18} This is the largest observed decrease for a single year, and also roughly the decrease required each year for temperature increases to be kept below 1.5°C.

These figures are based on factors such as fuel sales and traffic volume studies, not on official emission statistics. The Climate Policy Council's own estimates based on similar methods indicate a reduction in emissions on the same order of magnitude in Sweden as the global average for the full year 2020. Preliminary figures from the Swedish Transport Administration show that emissions

from road traffic decreased by 9 per cent in 2020, mainly due to a decrease in vehicle traffic during the pandemic. Added to this was a reduction in carbon dioxide emissions from new cars due to electrification and efficiency improvements.¹⁹



ASSESSMENT

The temporary emission reductions achieved during the ongoing pandemic will have only a marginal effect on global warming and on Sweden's ability to achieve the climate targets.

There are no conclusive research findings on how an economic crisis affects emissions in the longer term; however, temporary emission reductions caused by an economic recession have generally been followed by a rebound effect, with a rapid rise in emissions. Early analyses show that pattern seems to apply in this crisis as well. In countries such as China and Brazil, greenhouse gas emissions have started to rise again as economic activity returns to more normal levels.¹⁸ Whether they can reach pre-crisis levels may depend on whether and which economic structural changes took place or began during the crisis, more lasting behavioural changes, or the robustness of their climate policies.²⁰

Temporary emission reductions in themselves have an insignificant effect on the earth's temperature fluctuations. Emissions were also high in 2020, and carbon dioxide released into the atmosphere will remain there for a long time to come. In 2020, the concentration of greenhouse gases in the atmosphere also increased.

What matters is that emission reductions become permanent over time, and this requires structural changes to approach zero emissions and a sustainable use of resources. Accomplishing this requires further political reforms. It is not until net emissions to the atmosphere reach zero or are negative that the conditions will be in place to stop global warming.

2.2.1 Sweden achieved the 2020 interim target

The first interim target in the climate policy framework, agreed back in 2009, was a 40 per cent reduction in greenhouse emissions outside the ETS^e by 2020 over 1990 levels. We can already conclude that this target was achieved by a wide margin, even though official emissions statistics for 2020 are not yet available. The target was achievable even without the temporary emission reductions that occurred in 2020. Thanks to those temporary emission reductions, the target might have been achieved even without the use of flexible mechanisms. Without the temporary reductions in 2020, a gap of 1.5–2.5 million tonnes of CO₂e would probably have had to be filled through flexible mechanisms.

^e A maximum of 13 per cent may be achieved through flexible mechanisms. This means that Sweden can acquire credits for emission reduction measures in other countries.

ASSESSMENT

Sweden achieved the interim target for 2020, which would have happened even in the absence of the coronavirus pandemic.

2.3 Achieving future climate goals requires tighter policies

On 15 March 2021, the Swedish Environmental Protection Agency (EPA) presented updated scenarios for continued emission trends based on agreed policies. The so-called reference scenario includes all instruments introduced by the Government and Parliament through June 2020. In this scenario, the targets beyond 2020 will not be met.

According to the agreed policy scenario, emissions outside the ETS will fall by 44 per cent by 2030 compared with 1990. The interim target aims to reduce emissions by 63 per cent. This means the target could not be achieved even with the full use of flexible mechanisms of 8 percentage points.

The corresponding 2040 target is a 75 per cent reduction in emissions compared with 1990, of which flexible mechanisms must not exceed 2 per cent. The decision scenario indicates a decrease of 51 per cent for 2040.

The sectoral target for domestic transport is to reduce emissions by 70 per cent by 2030 compared with 2010. In the decision scenario, the emission reduction stays at 35 per cent – halfway to the target.

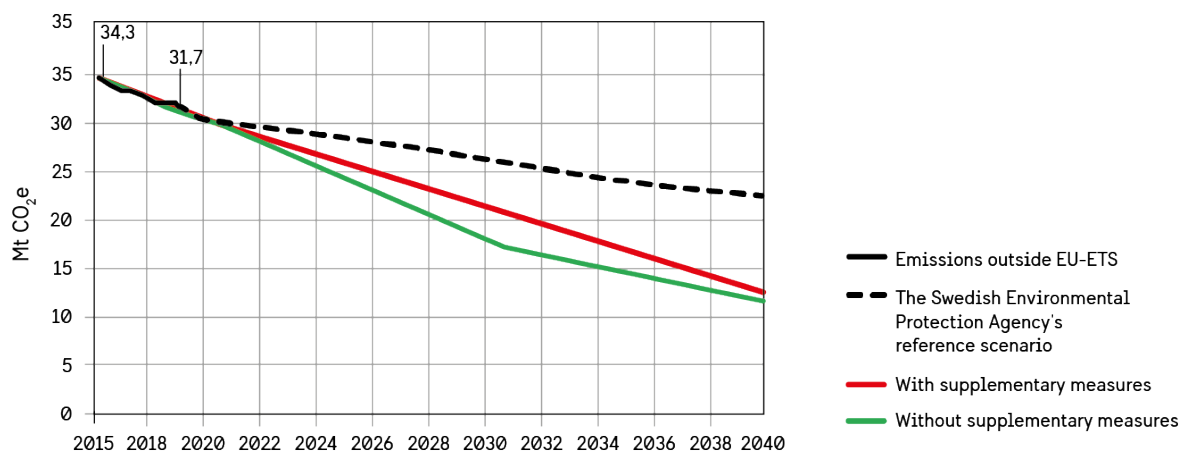


Figure 5. The Swedish EPA's greenhouse gas emissions scenario with agreed policy through 30 June 2020.²¹

In the second half of 2020, the Government clarified the level of ambition and regulations in its proposals to develop the reduction obligation for fuel for road transport and working machinery.^{22,23} In its climate report to Parliament, the Government assessed that these proposals,

together with other applicable policies, are positioned to close the gap in the targets by 2030. The Government's impact assessments indicate that the reduction obligation alone could reduce emissions by 6–7 million tonnes CO₂e by 2030. It is uncertain how large this effect would actually be in practice, however, and relying on this instrument alone to close the entire emissions gap is a risky strategy. Furthermore, such large emission reductions require enormous volumes of renewable liquid fuels, mostly from biomaterials. The Climate Policy Council has previously noted that there are significant risks in terms of availability and pricing around sustainable biofuels in such large volumes. The Swedish EPA's decision scenario does not include the increasing reduction obligation in the coming years, since it has not yet been decided, only announced.

Against this background, the Climate Policy Council sees the Swedish EPA's decision scenario as a relevant point of departure for discussing the needs for tighter policies in more areas. This scenario does not currently lead to the attainment of either the 2030 interim targets or the 2040 targets.

3. Follow-up on the Government's climate policy action plan and climate report

3. Follow-up on the Government's climate policy action plan and climate report

This chapter contains a follow-up on the Government's climate policy action plan and its annual climate report to Parliament.

According to the Climate Act, the Government must present a climate policy action plan every four years during its electoral period. The action plan must include the Government's planned climate policy initiatives during the electoral period and a description of how the Government considers that they will affect the chances of achieving the climate targets. The first climate policy action plan was presented as a bill to Parliament in December 2019.⁵

The primary aim of the annual climate report is to describe emission trends, key decisions in climate policy during the year, and the impact of those decisions on greenhouse gas emission trends.

There is no formal requirement in the Climate Act for the annual climate report to Parliament to contain any follow-up on the action plan. However, the Climate Policy Council considers that it would be natural and appropriate to use the climate report to monitor the implementation of the action plan in a transparent, systematic manner. In the Government's 2020 climate report, the action plan is only mentioned in passing,^f with no update on the more than 100 actions included in the plan is taking place. The Government also does not refer to the action plan in press releases on related activities, and there is no summary on the Government's website or any other information on the status of the plan's implementation. In other words, the climate report lists a significant number of decisions taken, but it lacks a connection to the plan that should be guiding the Government's work.

The intention of the climate policy framework was to approach climate policy with a long-term mindset, continuity, clarity and transparency.²⁴ The Government wrote in its proposal: "A law describing the government's climate policy efforts in a concrete and clear way also enables everyone to access information about how this work will take place. The opportunity to consult the regulatory framework and understand how efforts are developing and which next actions should be taken increases."

Against this background, the Climate Policy Council considers it problematic that the Government does not in any way report on the progress made in the implementation of the central governing document: the climate policy action plan. In addition, the division of responsibilities for implementation among ministries and ministers that the Government says has been made not transparent to the public or Climate Policy Council.

^f "The Government has begun extensive efforts to implement the action plan. Responsibility for implementation is shared among several ministries and government ministers, and all the Government Offices are affected by these efforts. The Government's ambition is for all actions to be implemented during the electoral period in order to close the emissions gap." ^{82 (p.156)}

rek:

RECOMMENDATION

Describe the implementation of the climate policy action plan in the annual climate report to Parliament.

The prerequisites for a coordinated implementation of the climate policy framework have been strengthened by a ministerial working group on climate policy, which the Government established in June 2020, to be led by the Prime Minister. In addition to the Prime Minister, this working group consists of seven ministers^g in charge of areas that the Government has deemed crucial to achieving the climate targets. The Government has announced that the purpose of the working group is to integrate the climate change issue in all relevant policy areas so that the climate policy framework and action plan become more clearly and closely tied to the Government's work.²⁵ When the working group was presented, it was also stated that the group would play a central role in a green recovery after the crisis.²⁶ But the working group met for the first time on 9 November, long after the major economic decisions on the Government's recovery package had already been taken and presented in the budget.^h

According to the Government, the working group on climate policy should be convened regularly,²² although it is unclear how often. The second meeting of the working group took place on 9 March and, according to the press release, addressed sustainable urban development and electrification.

The Climate Policy Council welcomes the fact that this group was formed, which was also one of the recommendations in last year's report²⁷. Stakeholders outside the Government, however, still struggle to understand if and how the working group will make a difference in the Government's efforts. The working group has great potential to create broader responsibility and ownership around the implementation of the Government's climate action plan and its overall policy for achieving the climate targets. At the same time, the working group can ensure that strategies and decisions taken by the Government are cohesive.

The Climate Policy Council notes, however, that the Government's interventions in 2020 relevant to the climate change transition have not been linked to the climate action plan, suggesting that both coordination and communication are still lacking.

rek:

RECOMMENDATION

^g Ministers of the working group on climate policy in addition to the Prime Minister: Minister for Business, Industry and Innovation, Minister for Finance, Minister for Infrastructure, Minister for Energy and Digital Development, Minister for Rural Affairs, and Minister for Financial Markets and Housing.

^h According to the government website, this meeting discussed matters such as how to facilitate the domestic production of biofuels to help create new green jobs and regional development.

Strengthen the role of the ministerial working group on climate policy in accordance with its mandate, and utilise it as a driving force in the government's efforts to achieve the climate targets.

3.1 Follow-up of the climate policy action plan

3.1.1 Content of the action plan – from ambition to policy

Since the Government has not reported on its progress in implementing the climate policy action plan, the Climate Policy Council has conducted its own follow-up. This was made more difficult by the fact that the planned actions are described only vaguely throughout, and they lack a timetable for implementation, which we criticised when the plan was presented.ⁱ Similarly, the division of responsibilities for implementation made by the Government among ministries and ministers is not transparent.

The action plan expresses a wide range of ambitions, priorities and planned actions across many sectors, from the local to the global level, which the Climate Policy Council welcomes. However, it is not easy for the reader to understand which concrete actions and results the plan will result in. The Government Offices has summarised the action plan in a “list of actions in the climate policy action plan”.²⁸ It contains a total of 132 items which the Climate Policy Council has taken as a starting point for its follow-up on the action plan's implementation.

The items in the list vary in nature. There are a number of ambitions and priorities, such as Sweden pushing for a tightening of EU emissions trading. It is difficult to assess the extent to which these are achieved, how active the Government has been, or what role they have played in any success. Such ambitions rather serve the purpose of clarifying the direction of government policy. Other actions in the action plan are more like follow-ups, either in the form of planned commissions of inquiry and remits to government agencies, or as specific announced decisions on new or updated policy instruments.

The Climate Policy Council has followed up on efforts around the action plan based on three categories of actions: ambitions, commissions of inquiry or remits, and policy instruments. It is only the last category that directly affects stakeholders and, by extension, greenhouse gas emissions. Figure 6 illustrates how the items in the action plan are divided among the three categories.

Of the items in the plan, 30 per cent are expressions of general ambitions and priorities in the government's work. The largest share of the items, about 40 per cent, are planned inquiries and remits to government agencies. These remits are often a step in the process of later deciding on a new or improved instrument, but in these cases the action plan only says that a commission of inquiry should be appointed. Barely 30 per cent of the items are specific plans for new instruments

ⁱ Within three months, the Climate Policy Council must submit an assessment of the action plan to the Government. Such an assessment was included in the Council's annual report in March 2020.²⁷

or for tightening up existing instruments. Here, the plan states that these should proceed through to decision and implementation.

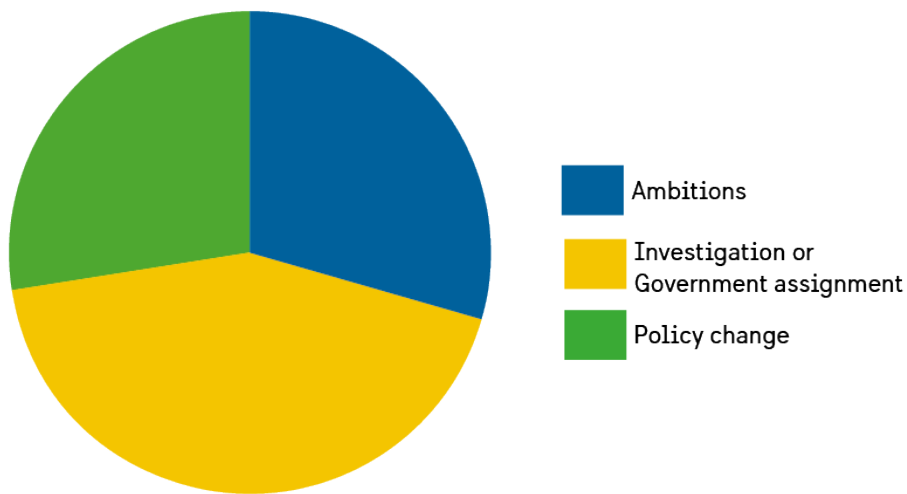


Figure 6. Number of announced actions in the climate policy action plan, by category.

When the action plan was presented, the Government received some criticism that it did not take enough of an international perspective. However, our review shows that around 60 per cent of the ambitions and priorities outlined in the action plan relate to the Government's efforts within the EU or globally. They also respond to provisions in the Climate Act that require the action plan to describe how the Government's actions contribute to achieving both national and global climate targets. The internationally oriented goals mainly involve working towards a more ambitious policy at the EU level, such as harmonising the regulatory framework for the green taxonomy. A smaller proportion, around 20 per cent, involves advocacy at the global level, such as promoting the integration of climate considerations into trade agreements and, of course, the implementation of the Paris Agreement.

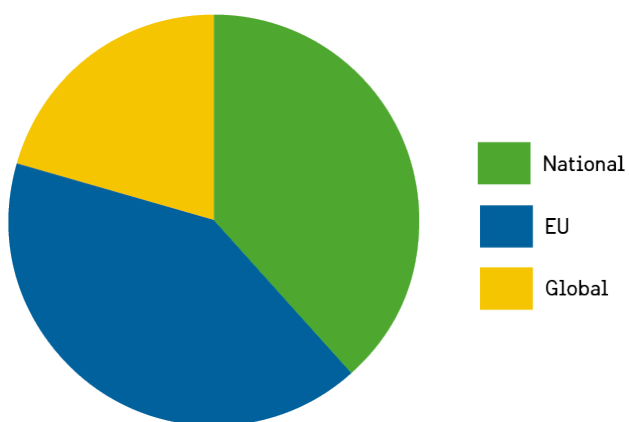


Figure 7. Number of announced goals in the climate action plan, by level.

As far as actions in different sectors are concerned, as much as 40 per cent of the items in the action plan concern the transport sector. This is natural, since domestic transport accounts for a third of Sweden's territorial emissions, has its own ambitious sectoral target, and is not included in EU emissions trading. However, only 3 of the 132 items in the action plan concern agriculture, despite the fact that the sector accounts for 14 per cent of total greenhouse gas emissions.

3.1.2 Implementation of the action plan by the Government

The Climate Policy Council has examined the progress of implementation through a categorisation of the 132 action plan items, one year after the plan was presented.

In the Climate Policy Council's assessment, the Government is taking active steps for the vast majority of the ambitions or priorities we have identified in the plan, although it is not possible to determine to what extent the ambitions are being met.

Figure 8 illustrates the Council's assessment of the situation on 1 January 2021 for the actions that can more easily be followed up, such as appointed inquiries, government remits or agreed instruments. More than half of the 36 planned new or improved instruments have either been decided on, or are slated to be decided by Parliament in the first half of 2021.

Examples of decisions expected in spring 2021 are the development of the reduction obligation for petrol and diesel, the reduction obligation for aviation, and climate declarations for buildings. In the absence of a timetable in the action plan, it is not possible to assess whether the Government is on track. But given that the Government still has time within its current electoral period, the Climate Policy Council considers that the plan's initiatives that can be followed up will be implemented in good time. Annex 1 contains a list of the Government's decisions during 2020 that aim to help achieve the climate policy goals.

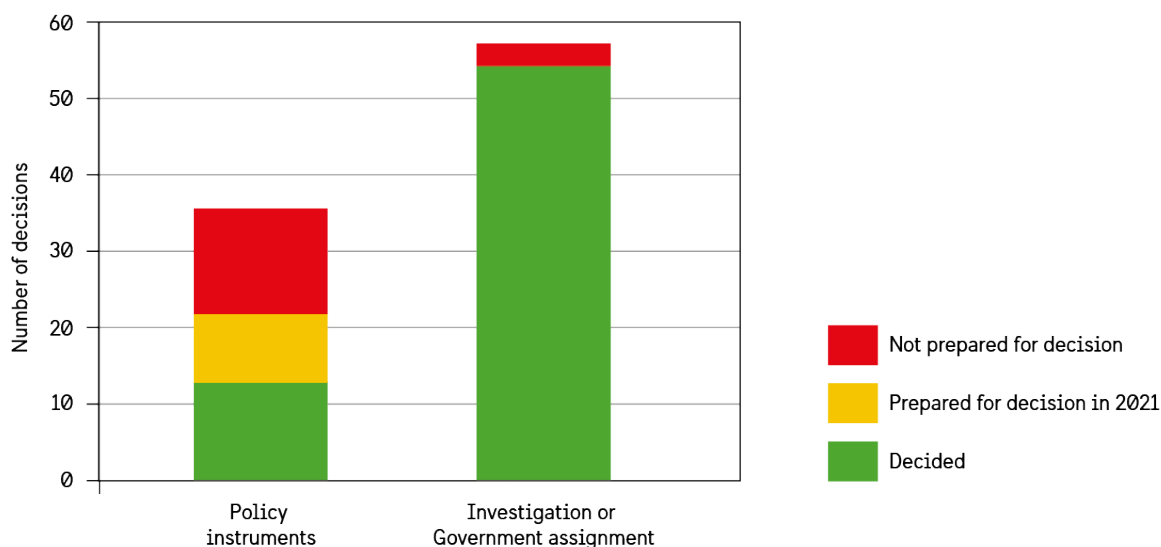


Figure 8. Results of the Government's initiatives through 31 December 2020, with the climate action plan divided into different categories.

The vast majority of the announced commissions of inquiry and government remits are underway. Of the announced inquiries, 18 have been appointed, and 36 remits have been given to various government agencies through December 2020. Among the appointed inquiries is the Climate Law Inquiry, which has been tasked with reviewing all relevant legislation to ensure that the climate policy framework has an impact.

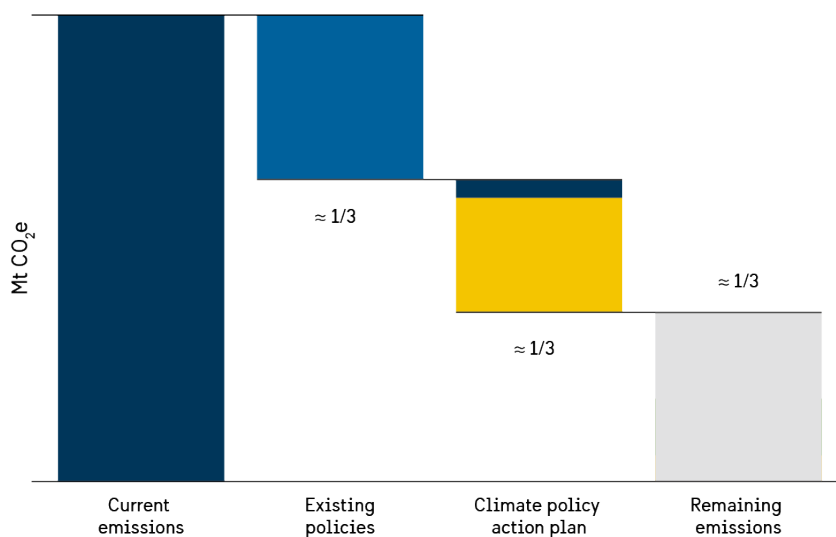
Among the remits to government agencies are remits at a strategic partnership level, such as the continuation of Fossil-Free Sweden, and those of a more specific nature, such as remits to the Swedish Energy Agency to investigate the need for additional instruments to promote Swedish biofuel production using new technologies.

Examples of agreed policy changes are a tax reduction for green technology installations, a new green rebate for electric trucks, and state aid for charging infrastructure where it is currently lacking. The Government is also working on three strategies listed in the action plan: an agreed circular economy strategy, and a bioeconomy strategy and national electrification strategy that are under development.

3.1.3 Impact of the action plan on emission trends

In its previous assessment of the Climate Action Plan, the Climate Policy Council criticised the Government's lack of reporting on the extent to which planned efforts, individually or collectively, contribute to the attainment of the climate targets. In its 2020 report, the Climate Policy Council presented its own estimate of the short-term and long-term potential of the action plan to reduce greenhouse gas emissions. Below, we present an updated assessment of whether the plan's potential can still be achieved.

Since the action plan contained few specific plans for policy changes in the near future, the Climate Policy Council previously assessed that the potential for emission reductions in the near future was small, and it relied almost entirely on the planned incremental increase in the fuel reduction obligation. The plans for developing the reduction obligation have since been implemented, as have some other intended initiatives in the action plan. In our assessment, the action plan could lead to a reduction in greenhouse gas emissions of around 2–2.5 million tonnes CO_{2e} by 2023 compared with a scenario without any action plan (represented by the dark blue area in the yellow bar in the figure below), a slightly higher figure than our assessment in last year's report. The action plan's potential for reducing greenhouse gas emissions within Sweden in the short and the long term is illustrated in Figure 9 below.



If all the proposals in the action plan are implemented, the long-term effect on greenhouse gas emissions can be significant, but it is not enough to achieve the long-term goal.

Figure 9. If all proposals from the action plan are implemented, the long-term impact on greenhouse gas emissions could be significant, but not enough to achieve the long-term goal.

The Climate Policy Council's previous assessment based the long-term potential of the action plan on assumptions that the plan's goals would be fully realised, including optimal interaction with other stakeholders, and that all actions would be implemented quickly and effectively. This was therefore not a forecast, but an estimate of the magnitude of the action plan's potential impact on emission trends if the measures envisaged were fully implemented. According to this estimate, the action plan has a long-term potential to reduce current greenhouse gas emissions by about a third in addition to agreed policies, which were also estimated to reduce emissions by about a third by 2045. All in all, the agreed policies and the action plan combined have the long-term potential to take Sweden two-thirds of the way to its target of net-zero greenhouse gas emissions by 2045.

One year after the action plan was presented, the Climate Policy Council considers that this potential is still achievable. The Government has taken important steps towards long-term results. An example is the appointment of a commission of inquiry on the phase-out of fossil fuels, which will propose a year when fossil fuels in domestic transport and working machinery should be phased out, as recommended by the Climate Policy Council in its 2019 report. Similarly, efforts have been made to support industry's transition away from processes using fossil fuels and to achieve negative emissions through BECCS (bioenergy with carbon capture and storage), mainly within the framework of Industriklivet, a state-funded programme aimed at actions for reducing greenhouse gas emissions from industrial processes and achieving negative emissions. However, it is important to realise that these are only initial small steps towards major changes. Nearly all the crucial decisions and major investments remain.

3.2 The climate report's impact assessment has improved

Under the Climate Act, the Government must provide an annual climate report to Parliament. The report must contain:

1. A description of emission trends;
2. The major climate policy decisions during the year and what these decisions can mean for greenhouse gas emission trends; and
3. An assessment of the need for further actions, and when and how decisions on such actions can be taken.²⁹

As in the previous year, the 2020 climate report was presented as a sub-annex to the Budget Bill's annex for expenditure area 20, "General environment and nature conservation". The Climate Policy Council has previously stated that this can lead to the perception that climate goal attainment still primarily lies within the realm of responsibility of environmental policy, and is not something that should inform overall policy. The Climate Policy Council therefore reiterates its previous recommendation to present the climate report at the same level as the financial plan, as the climate issue affects all policy areas.

Section 5.2 provides a detailed description of the Government's various interventions during 2020 in the heavy emissions sectors. Appendix 1 also contains a summary of relevant decisions taken by the Government during the 2020 calendar year, mostly in conjunction with the autumn budget bill. Most of the decisions concern the transport sector.

In some cases, the Government has also reported on decisions that counteract the climate policy goals.ⁱ If these decisions were presented consistently, it would be easier to assess the impact of the Government's overall policy.

The Climate Policy Council has examined how the 2020 climate report meets the requirements of the law, noting that it improved from the previous year. The main flaw in previous climate reports has been in the assessment of the various decisions' impact on greenhouse gas emission trends. The latest report shows improvement in this regard. The Government presents estimates of the impact of individual instruments as well as scenarios containing an estimate of the overall impact on emission trends. The impact assessment of individual instruments is presented uniformly as an impact on annual emissions in 2030. However, it is not clear how the calculations were made or what assumptions lie behind them, making it difficult to evaluate the Government's assessments.

Overall, the Climate Policy Council welcomes the fact that the Government has raised its level of ambition on several fronts in assessing the impact of agreed policies on greenhouse gas emissions. However, the Government should increase transparency around how the assessments were made, including an explanation of underlying assumptions. Table 1 summarises the requirements of the Climate Act and how the Government fulfils them in the 2020 climate report.

ⁱ These include a lower enumeration of the tax amounts for petrol and diesel (through 31 December 2019) and a reduction in the carbon tax on petrol and diesel relative to the increase that the CPI and GDP enumerations would have otherwise called for.

Table 1. The Climate Act's requirements on climate reporting, requirements fulfilment on the part of the Government, and Climate Policy Council comments. Green highlighting: The Government meets the legal requirements. Yellow highlighting: The Government's compliance with requirements should be improved.

Climate Act requirements	Climate Policy Council comments
Reporting of emission trends	The Government reports historical emission trends up to 2018 for the various climate targets and scenarios with decisions through 31 December 2019, as well as a scenario that includes the planned reduction obligation for fuel through 2030.
Reporting of major climate policy decisions during the year and what these decisions can mean for greenhouse gas emission trends	The Government reports, retrospectively, impact assessments of decisions taken from 1 July 2018 through 2019, as well as the estimated effects of selected decisions in the 2021 Budget Bill. However, it is not clear how the calculations were made or what assumptions lie behind them.
Assessment of the need for further actions, and when and how decisions on such actions can be taken	The Government notes that further actions are needed to achieve the climate targets beyond 2020 in addition to what was announced in the budget bill. The Government does not specify a timetable for this or for implementation of the climate policy action plan.

The impact assessment in the climate report mainly concerns decisions taken through December 2019. Only a few of the interventions presented in the budget bill – i.e., concurrently with the climate report – are accompanied by any impact assessment. The Government writes that it intends to follow up with more detailed impact calculations for the proposals included in the 2021 Budget Bill. It is not clear that the law requires these efforts to be included in the climate report. The Climate Policy Council believes, however, that the Government should present the impact assessments when the decisions are taken or proposed to Parliament, rather than afterwards.

A prerequisite for the Government's ability to assess the impact of decisions on achieving climate policy goals in the future is the inclusion of such impact assessments in all relevant policy input documents from commissions of inquiry and government agencies. It is therefore positive that the Government has provided extra resources and remits to several agencies in order to develop better impact assessments.

On the other hand, it is noteworthy that the Government has not yet implemented the changes announced long ago in the ordinance containing the regulations for impact assessments, namely the Committees Ordinance³⁰ and Ordinance on Regulatory Impact Assessments,³¹ as recommended by the Climate Policy Council in its 2019 report. A similar proposal was presented in broad agreement back in 2016 by the All-Party Committee on Environmental Objectives.³² For almost three years, the Government has announced that a review is underway. This delay seems

difficult to understand because it is the Government itself that decides on an ordinance. A three-year delay is not a negligible part of the time remaining before the climate targets are to be achieved. The Climate Policy Council therefore calls on the Government to implement the announced changes concerning impact assessments in inquiries and policy input documents as soon as possible.

rek:

RECOMMENDATIONS

Present the climate report at the same level as the financial plan.

Decide that an impact assessment of the potential to achieve the climate targets should be included in all relevant commissions of inquiry and government decisions.

Part II

Crisis policy and climate change



4. A window of opportunity for the climate change transition

4. A window of opportunity for the climate change transition

The coronavirus crisis is taking a heavy toll on society, requiring delicate priority-setting, and it has hit many families and individuals hard. Considerable resources have been devoted to fighting the pandemic and its consequences, resources that could otherwise have been used for other efforts.

In 2020, actions and restrictions by governments around the world to prevent the spread of infection led to the deepest global recession since World War II, with far-reaching economic, political and social consequences. Unemployment has increased sharply in most countries, and nearly 100 million³³ more people are estimated to be living in extreme poverty after one year of the pandemic.^k

But a crisis can also present a window of opportunity to reset, rethink and realise major changes. Such a window of opportunity is open to facilitate the transition after the corona crisis. The conditions for society's transition towards achieving the climate targets will in many ways be better now than they were during previous economic crises.

Responding to the crisis requires balanced measures based on factual analysis. But it also requires a credible narrative about how we could emerge from the crisis – one that coincides with the solutions needed to also achieve the climate targets, through mutually supportive measures. Previous crises, and what science has said about them, offer lessons to be learned. Shaping such a narrative is also the responsibility of policy-makers, who should build credibility for policy proposals and mobilise commitment to achieve policy objectives. This also means that the task falls to the Government, and part of the Climate Policy Council's evaluation is to determine whether and how the Government has worked to shape a credible way forward.

4.1 Lesson learned from previous crises

No two deep social crises are the same. The corona crisis is a health crisis whose effects have a major impact on the national economy and government policies. Most major economic crises in the 20th and 21st centuries have been brought on by geopolitical conflicts or instabilities in the economy. Despite the differences, there are nevertheless important lessons from these earlier crises that are relevant to policies for achieving the climate targets.

A common experience from many crises is that they act as accelerators of ongoing, underlying changes. The oil crises of the 1970s and early 1980s led to key political choices that accelerated the Swedish energy transition from fossil fuels to renewable energy. But this was not because of concerns over climate change, but rather because of economic pressures and ambitions to increase the security of supply.

^k The number of extremely poor, living on less than 1.9 U.S. dollars a day, fell by about 1 billion up to 2020 in an unbroken trend over two decades. The number of extremely poor people in the world by early 2021 is estimated to be roughly 700 million.¹⁶²

The so-called 1990s crisis has thus far been described as Sweden's deepest and longest-lasting economic crisis since the 1930s. It hastened the ongoing introduction of targets and market solutions, and also led to the formation of the fiscal framework for contributing to the long-term viability and stability of budgetary policy. Before the crisis hit in the early 1990s, the environmental issue was high on the political agenda. In 1991, Sweden introduced a carbon tax that was never seriously questioned at the time; on the contrary, it appeared to be prescient and far-sighted.³⁴ During the acute crisis phase, environmental issues were deprioritised by voters, but they remained on the political agenda.³⁵ Underlying efforts to build institutions and regulations abroad and in Sweden proved to produce sustained results from a longer historical perspective.

The 2008 financial crisis was a global financial crisis that started with the collapse of the U.S. mortgage market. The spillover effects on the global economy were extensive. Large stimulus packages were launched, some of which were called green and focused on investments in renewable energy and energy efficiency, especially in the EU. Despite this window of opportunity for the climate issue, climate change reforms gradually lost momentum, and differences in EU Member States' views on green growth widened both during and after the financial crisis.³⁶⁻³⁹ Research shows how investors became more risk-averse and less likely to invest in research and climate change.³⁹ At the same time, a parallel development took place during those years that laid the foundations for today's institutional climate change framework. The EU had already agreed on integrated energy and climate targets in 2007, and a climate law was passed in the UK in 2008, providing a structure for target-setting and accountability. The UN's major climate conference in Copenhagen in the autumn of 2009 was not the success many had hoped for. But at the climate conference in Cancun the following year, the world agreed on what is known as the 2°C target.

From research on past social crises, lessons emerge for how policies can now address the corona crisis in relation to the climate change transition:

- A crisis can cause social and political tensions, as during the Depression in Europe in the 1930s or, more recently, in the wake of the 2008–2009 financial crisis. However, a crisis can also be a window of opportunity for change, enable new ideas to be established as truths, and lead to positive changes and reforms, as in Sweden after the oil crisis.³⁹⁻⁴¹
- A crisis must be interpreted and made comprehensible, and policies play an important role here. The way the crisis is described and understood by citizens, in turn, is important for enabling politicians to implement the necessary changes.⁴²⁻⁴⁵
- One lesson learned from the green initiatives that followed the financial crisis of 2008–2009 is that targeted measures for renewable energy, for example, are vital but not enough. The right market conditions need to be in place, and fossil-fuel energy subsidies should not be given in parallel, but rather be phased out.⁴⁶
- Another lesson learned is that crisis management places great demands on long-term policy. The immediate economic and social impacts demand most of our attention during the first phase of an emergency. This means that longer-term societal goals can easily fade into the background. Paying attention to synergies between big-picture concerns such as employment, competitiveness and public health is crucial for maintaining support for the climate change transition through a crisis.^{41,42,47-49}

4.2 New conditions – maturity and momentum

The social crisis triggered by the pandemic is shaping the conditions for the climate change transition. At the same time, the transition has its own longer-term course, and it is essential to keep this in mind. Even in this longer-term perspective, the Climate Policy Council considers that the conditions for the transition are significantly better today than they were in the years immediately after the financial crisis of 2008, the last global economic crisis.

So when we talk about a window of opportunity, we are referring to a combination of two things that have become apparent in the past year. One is long-term underlying changes in politics, institutions, public opinion and grassroots movements, new knowledge, technological advances and a number of other social phenomena. This can be viewed as the establishment and *maturity* of the climate transition. The realisation that this problem must and can be solved within a relatively short time scale has grown significantly and now fundamentally affects politics, business, the media and civil society on a daily basis.

The second thing is an emerging insight that rapid change is possible, since it is playing out in real time right now. This is what the corona crisis has given to the climate crisis: it shows that measures can be put in place quickly and that a rapid transition is indeed possible. It is an insight about *momentum*. Communities have proven to react swiftly and resolutely during times of crisis.

The nexus of maturity and momentum offers great potential for overall policy. Below we discuss some of the changes in conditions signalling that the climate transition has reached a degree of maturity that makes it a growing majority prioritise it very highly. After this section, the discussion hones in on the new fiscal conditions produced by the crisis, which, in our assessment, provide the chance to start somewhat anew and consider the investments that the transition will require.

4.2.1 A new context for the climate change transition

There are several underlying factors which, taken together, offer more favourable conditions for achieving the transition after the corona crisis than after previous economic crises:

- Fossil-fuel energy systems are being seriously challenged by renewable energy systems, which now appear to be the most profitable to invest in.⁵⁰ Renewable energy sources are expanding rapidly throughout the world, even in the absence of subsidies. Almost 90 per cent of new electricity generation capacity added in 2020 used renewable energy sources. The IEA predicts that by 2022, all installed solar and wind power capacity will be greater than that of all plants powered by natural gas, passing coal power by 2024.⁵¹ The cost of renewable electricity has been lower than for oil, per unit of energy. This opens up a whole new era in which renewable electricity not only beats fossil-based electricity, but can replace oil in the transport sector and fossil-fuel raw materials in many industrial processes.
- There is a much stronger institutional climate architecture in place in terms of legislation, objectives, agreements and processes, nationally and at the EU and UN levels, most notably through the 2015 Paris Agreement and the EU's Green Deal. Many countries have passed climate laws and set up various independent climate policy councils tasked with reviewing the policies of their respective governments. More and more climate-related cases are being settled

in courts which, in several cases, have found governments and companies guilty of non-compliance with conventions and agreements on emission restrictions – agreements that did not exist just a few decades ago. (For the development of climate policy frameworks and independent recommendations, see Appendix 4.)

- Today the business community is clearly working to streamline and develop businesses to make a positive contribution to achieving climate goals, as business representatives view it as crucial to long-term competitiveness. Companies choose to aggressively present their enhanced climate commitments, likely because it is appreciated by consumers and investors alike and is also a sign of political goodwill. High-profile moves have been made by companies such as Microsoft, which is aiming to become carbon-negative by 2030, removing more carbon dioxide than it emits. In Sweden, LKAB has launched plans for fossil-free iron ore production that constitute the largest Swedish industrial investment ever, with investments of up to 20 billion SEK annually over 20 years. In Norrbotten, SSAB's HYBRIT project for fossil-free steel has been joined by another Swedish company that is investing in hydrogen-based steel production for the global market and has attracted well-known industrial and financial investors.
- Public support for the transition and for the necessary changes has grown over the past 10 years. Pressure is mounting from recent environmental movements, such as Fridays for Future. Extensive studies from the World Values Survey and UNDP also show that support is stronger and broader across all age groups and in the vast majority of countries, although public debate at times often seems to highlight extremes and conflicts.⁵²⁻⁵⁴
- The perception that the transition is urgent and binding has become increasingly established, contributing to the growing impact of a time-budget mindset. Research clearly reveals that the ambitious climate targets cannot be achieved unless the pace of change quickens very soon.⁵⁵
- Behaviours are changing faster than we thought possible. The crisis has proved that it is possible to live in more than one way. Socio-economic disparities that we had not reflected on enough have been brought to the fore. Opportunities abound for discovering and maintaining more climate-smart behaviours, such as online meetings that replace physical travel, premises that are used more efficiently and thus reduce the environmental burden on new infrastructure, and increased local tourism and outdoor activities that can reduce long-distance travel.

This does not mean that the difficult-to-interpret state of the world is unequivocally positive from the point of view of climate action. Global policies prior to the financial crisis focused on greater integration, improved cooperation and more open borders, which in the long term would have benefited the climate transition as well. Instead, the corona crisis is occurring amid an ongoing trend towards stronger prioritisation of national interests and a sharper tone in the debate on everything from politics to science and facts, as well as a trend towards weakened international cooperation and more border barriers of one kind or another. The “overall policy” that has a bearing on the climate targets thus also significantly affects questions around knowledge, the media and the general climate in society.

4.3 Funding the window of opportunity

The world's shift to net-zero greenhouse gas emissions by mid-century will require substantial investment, including in clean energy systems, transport and industrial production, and sustainable land use.⁵⁵⁻⁵⁸

Both public and private investments need to be sustainable. The primary task of policy is to create a stable framework to accomplish this, including by correcting market failures. One example is putting a price on emissions through various taxes and charges, thereby internalising the negative external impacts caused by carbon-emitting activities. There are also reasons for the central government to co-fund certain climate investments. This mainly applies to public infrastructure – public goods in which private companies cannot be expected to invest enough.

In addition, many climate investments in industry involve extensive changes in production processes and, in some cases, new value chains for goods such as battery-powered vehicles or hydrogen. Such investments are generally associated with significant economic risks that private operators are rarely prepared to take without government backing. Furthermore, advances in technology can often lead to positive spillover effects that help to boost the long-term competitiveness of industry but provide insufficient incentives for an individual investor.⁵⁹ During a period of structural change and major investments, government agencies are also likely to need additional resources, including new skills – for example, for urban planning and permit procedures.

In 2020, governments around the world approved economic stimulus packages totalling an estimated US\$14 trillion to address the coronavirus crisis.¹ This is about twice the sum of all public expenditure in all EU Member States combined in the year prior to the outbreak of the pandemic. The stimulus measures were more than ten times larger than the annual investments deemed necessary to reduce global greenhouse gas emissions enough to keep temperature increases below 1.5°C.⁶⁰

Of course, a global political and economic mobilisation of this kind also affects the chances of achieving the climate targets. The design of crisis policy in general, and economic stimulus in particular, can support or undermine the climate targets. Investments in physical infrastructure that do not promote the climate transition risk both contributing to substantial emissions during the construction phase, and cementing established carbon-intensive structures and behaviours for a long time to come. Investments in fossil-free systems, on the other hand, can significantly reduce emissions over time. This is why investments are important, both in how they are targeted and how swiftly sensible climate investments can be made. The longer the transition takes, the more carbon dioxide that old installations will emit, and the less carbon budget will remain to build the necessary systems for clean-energy, climate-neutral communities.⁶¹ It is also important to minimise carbon dioxide emissions during construction, by reducing material consumption, increasing recycling and reuse, and choosing materials with as low emissions as possible.

¹ This amount includes US\$8 trillion in direct budget effects and about US\$6 trillion in loans, guarantees or share capital.¹⁶³

4.3.1 A greater international focus on fiscal policy to address the crisis

As the world's governments invest in extensive budgetary stimulus measures to restart the economy, an opportunity is opening up for direct investment in measures that greatly reduce climate impact. This possibility is bolstered by the increased competitiveness of clean energy solutions. All this creates greater opportunities for synergies among pressing objectives such as public health, improved competitiveness, increased employment and reduced climate impact.

The pandemic has provided a deeper understanding that the consequences can be great and difficult to manage if long-term challenges are not prepared for in a timely manner. Insufficient preparedness in responding to the pandemic has cost human lives and health and has involved considerable costs to society. Counteracting the effects of future pandemics requires more support and reforms on several levels throughout society.

Similarly, more investment is needed to achieve the long-term climate goals and thus reduce the costs of a worsening climate crisis as much as possible. During the crisis, international organisations such as the European Commission, OECD and IMF have advocated for governments to use fiscal policy (increased government spending and transfers) to mitigate the economic consequences of the pandemic. Rarely have the fiscal gates stood as open as they do now. Interest rates are already historically low and are expected to remain low for some time, limiting central banks' ability to stimulate the economy with further interest rate cuts. This, along with the chokehold on business production and household spending caused by the various restrictions of the crisis, means that fiscal policy should largely take over responsibility from monetary policy.^m

In particular, climate change and digitalisation are consistently highlighted as priority areas for government investment and reform. The IMF, for example, initially advocated large state-backed investments combined with gradually rising carbon prices.⁶² At the same time, more and more business investment is already taking place to convert industry to clean-energy production. For businesses, these investments make sense because they are about strengthening their profitability and competitiveness.ⁿ

The need for fiscal stimulus for economic recovery, together with an increased openness to publicly funded support for businesses, can drive momentum to intensify the transition on our way out of the corona crisis. Together with an understanding of the transition's degree of maturity – in particular, the business sector's own aggressive transition strategies – a window of opportunity is created for more impactful policy to achieve the climate targets.

4.3.2 Flexibility of the Swedish fiscal framework

The fiscal framework consists of a restrictive state budget process, external follow-up and a number of budgetary policy objectives, including debt anchored at 35 per cent of GDP and a surplus target of one-third of a per cent of GDP over a business cycle. The framework was created

^m Monetary policy is a collective term for policies managed by the Riksbank that aim to achieve price stability and financial stability. A weaker economy has traditionally been met with interest rate cuts, but at zero interest, the scope for stimulus via monetary policy is limited. Instead, fiscal policy has grown in significance for stabilisation policy.

ⁿ See the roadmaps presented by 22 business sectors within the framework of Fossil-Free Sweden.¹⁶⁴

in the wake of the 1990s crisis and has helped to strengthen Swedish public finances, which has been beneficial not least in connection with the corona crisis.

The mechanisms of the fiscal framework can create an obstacle to forward-looking reforms for many years to come, as they generally steer towards increased government savings following a period of high spending, as is now the case during the corona crisis. But as the Swedish Fiscal Policy Council has written, the fiscal crisis response does not have to conflict with the fiscal framework, which is in practice quite flexible.⁶³

Among other things, the Fiscal Policy Council has said:

... there are no rules on how extensive savings must be in a single year. However, the framework document includes reasoning on how deviations should be handled to achieve the target over a normal business cycle. If there is a clear discrepancy, the Government must present a plan for how savings will return to the target and there are guidelines in the framework document on how such a plan should be designed. The speed of the return strikes a balance between the need to return to the target and the need for cyclical considerations. There is nothing in the framework that prevents the Government from allowing savings to deviate sharply from the target level in a deep and extensive crisis situation, or to allow the return to be more protracted than normal.^{63, p.38}

Although Swedish fiscal policy must also be tied to the EU's regulatory framework, there is flexibility within this, too, which has been activated for the ongoing crisis. In its regular assessment of the Swedish economy, the IMF notes that "There is room for increasing public expenditure over the medium term to enhance growth and achieve Sweden's ambitious green and inclusion objectives", and that "it is important to not prematurely return to the surplus target".⁶⁴

Overall, the Climate Policy Council believes that it is both entirely possible and urgent for the Government to simultaneously safeguard the fiscal policy framework and increase public investment to achieve the climate targets and leverage the momentum created by the current crisis.

When fiscal policy is applied vigorously during the crisis, it is vital for public funds to be used wisely. It is therefore crucial that the consequences of different investments are assessed in a systematic and transparent manner, and that such assessments take explicit account of the climate policy goals.



rek:

RECOMMENDATION

Utilise the flexibility of the fiscal policy framework and delay the return of savings to the surplus target to create scope for investment that contributes to achieving the climate change transition.

4.3.3 Climate change and fiscal sustainability

Ongoing climate change has increasingly come to be seen as a fundamental risk to economic and financial stability and sustainability. However, this has not yet been taken into account in the design

of the Swedish fiscal policy framework, even though it was modified as recently as 2019. A new review is due to begin in 2025, and a new framework could enter into force in 2027.

The Climate Policy Council notes that the study used as input for the updated framework only analysed fiscal sustainability based on factors such as demographics and the labour market.⁶⁵ There was also no climate perspective in the inquiry's directive.⁶⁶ Since then, several international and national institutions, such as the Riksbank, Bank of England, IMF and OECD, have invested heavily in including the climate transition in their own financial and economic analyses.

The Climate Policy Council believes that the fiscal policy framework must be based on a risk analysis for sustainability in a broader and longer-term perspective than is the case today. The debt anchor of 35 per cent of GDP has been set to provide a significant margin to the EU debt ceiling and to debt levels identified as problematic. However, too low a debt anchor may mean that Sweden is investing insufficiently for future generations. The risk of underfunding the transition may prove to be equal to or greater than the risk of insufficient savings.

Thus, a well-developed risk analysis, also integrating climate considerations, could conclude that it is more important for the current generation to invest in the near future, to benefit future generations. Such a strategy would be in line with recent reports from the IMF, for example.⁶² A review is needed of whether the Swedish framework is fit for purpose for addressing the transition while ensuring sustainable public finances. Such a review would also provide the Government with better support for living up to the Climate Act's requirement that the Government's work "be conducted in a way that provides the means for climate policy and budget policy goals to interact".²⁹ Given the limited timeframes before Sweden is to achieve net-zero greenhouse gas emissions, such a review cannot be delayed until 2025; it should begin as soon as possible.



RECOMMENDATION

Bring forward the review of the fiscal policy framework and include the climate perspective in the risk analysis of the sustainability of public finances.

4.3.4 Monetary policy and climate change

In economic policy, it is not only the Government's fiscal policy that affects the chances of achieving the climate targets. Monetary policy^o, for which the Riksbank is responsible, also needs to take a position on the requirements and opportunities of the transition and the risks posed by climate change.

Climate change can, on the one hand, affect the Riksbank's ability to reach its inflation target if, for example, periods of drought or flooding in any part of the world destroy harvests and food prices rise. In addition, climate change can have a major impact on the value of assets and threaten

^o According to the Riksbank Act (1988:1385), the Riksbank must maintain a fixed monetary value while promoting a secure and efficient payment system.

financial stability. On the other hand, monetary policy can make it more difficult to achieve the climate targets if, for example, the purchase of corporate bonds contributes to increased greenhouse gas emissions. Emergency credits and liquidity assistance are other examples of central bank measures that can affect the potential to reach the climate targets.

A new Riksbank Act is under preparation. The directive (2016: 114) that gave rise to the inquiry into a new Riksbank Act lacks any reference to the need to include climate issues in the analysis. The investigation presented in December 2019 (SOU 2019:46), which will serve as input to the new act, hardly affects the Riksbank's activities related to climate change. The words "climate" or "climate impact" are mentioned only four times in the nearly 2,000-page investigation. Sustainability, which includes climate change and the environment, is to some extent included in proposals related to asset management, cash management, and research and external analysis.

The Swedish investigation proposes that the Riksbank be given a secondary objective of contributing to a balanced development of production and employment – i.e., taking actual economic considerations into account without prejudice to the primary target, which is the inflation target. This compares with the current review of the strategy of the European Central Bank (ECB), which explicitly includes environmental sustainability in the secondary objective.⁶⁷ Some countries have also raised the issue, and the UK has already worked the climate issue into its monetary policy by recently updating the Bank of England's remit to include the climate target.^P

The Riksbank has developed its own strategies.⁶⁸ In view of its bond purchases, the Riksbank has decided to apply norm-based negative screening when purchasing corporate bonds starting in January 2021. This means that the Riksbank only buys bonds issued by companies judged to comply with international norms and standards for sustainability.⁶⁹

The Climate Policy Council believes that the new Riksbank Act should be developed with a clear climate perspective. In its climate action plan, the Government has stated that in the context of the review of various societal objectives, they shall, if necessary, be reformulated to make them compatible with the climate targets, and that all relevant legislation should be reviewed so that the climate policy framework has an impact. The Council recommends that the new Riksbank Act include its consideration of the impact of climate change on monetary policy and that the Riksbank contribute to the achievement of the climate targets.



RECOMMENDATION

Include the climate perspective in the ongoing revision of the Riksbank Act.

^P "I am today updating the MPC's remit to reflect the Government's economic strategy for achieving strong, sustainable and balanced growth that is also environmentally sustainable and consistent with the transition to a net zero economy." Remit for the Monetary Policy Committee (MPC), letter from Rishi Sunak, Minister for Finance, to Andrew Bailey, Governor of the Bank of England, 3 March 2021.

5. Evaluation of the Government's crisis policy

5. Evaluation of the Government's crisis policy

This chapter contains an analysis of how the Swedish government's handling of the coronavirus crisis affects the chances of achieving the climate targets. Section 5.1 highlights the budgetary measures taken by the Government in response to the crisis. Sections 5.2–5.3 describe how the policy implemented has affected the conditions for the climate transition in key areas, and section 5.4 places Swedish policy in an EU perspective.

5.1 Crisis policy content and budgetary profile

5.1.1 The three dimensions of crisis policy

Over the past year, the Government has taken hundreds of decisions on policies aimed at fighting the pandemic and its spillover effects, as well as stimulating the post-crisis relaunch of society and the economy. These efforts can be divided into three categories. The first concerns short-term efforts to prevent the spread of infection and to save companies, jobs and public services from the acute effects of the crisis and to avoid a wave of unemployment and bankruptcy. These are referred to as *rescue measures*. The second category consists of medium-term efforts to restart and stimulate an economic recovery. These are referred to as *recovery measures*. A third category deals with *reforms* – long-term interventions to become better equipped to address future pandemics and other crises or global problems that persist even after the crisis is over. When it comes to the Government's overall efforts tied to the corona crisis, meaning the three categories combined, we use the terms *crisis policy* or *relief effort* below. Table 3 summarises and gives examples of the three categories of crisis policy.

In practice, the boundaries between these different categories are not sharply drawn. They overlap with one another, and one specific intervention can contribute in more than one dimension. Nevertheless, in order to create a manageable structure in the analysis, all the Government's interventions have been placed in one of these three categories based on an assessment of their main impact.

Actions in the three categories do not necessarily follow in sequence. Rescue measures might be needed for a long time, even after recovery has begun. Reform decisions, in turn, normally take place on an ongoing basis during the various phases of the crisis. These or similar concepts are used slightly differently in different contexts. For example, both the EU's and the Swedish government's comprehensive "recovery programmes" contain a large number of long-term reforms.

Table 2. The Government's crisis policy can be divided into three categories of interventions.

THE GOVERNMENT'S RELIEF EFFORTS			
Category	Rescue	Recovery	Reforms
		These are both what the Government and the EU effectively include in the "recovery policy".	
Time perspective	Immediate (The pandemic has come in several waves; rescue measures have thus become relatively protracted/recurring.)	Temporary/time-bound (From one to several years, depending on the course of the economic crisis.)	Permanent (Or at least very long-term/not time-bound.)
Purpose	Reduce the spread of infection Secure critical public functions and livelihoods Protect vulnerable families, businesses and organisations from waves of bankruptcy and unemployment	Stimulate economic activity and employment in general or in specific sectors Strengthen financial institutions Help municipalities, regions and businesses to restore economic balance	Strengthen society's ability to respond to future crises Continue to address societal problems that are not due to the crisis
Examples	Travel restrictions Additional support for the regions' health care costs Testing and vaccines Rescue loans for companies Crisis support for public transport	Support for residential construction and renovations Increased general government grants to municipalities and regions Additional appropriations for road maintenance	Enhanced medical expertise in elder care Reduction obligation for fuel Strengthening of the legal system Increased research funding

Source: Own categorisation, based on several sources.⁷⁰⁻⁷⁴

5.1.2 Scope

In 2020, the corona crisis made its mark on policies everywhere. It is difficult to identify which decisions would still have been taken without the pandemic, or decisions were not taken because of it. The analysis in this report thus covers, in principle, all new actions relevant to the climate targets decided by the Government during the 2020 crisis year.⁹ This includes about 40 bills, just over half as many ordinance amendments, and nearly 100 remits to different government agencies.

A summary of all additional budget items in 2020 provides a picture of public expenditure around crisis policy and aid allocation. The summary includes the spring amendment bill, the autumn amendment bill, and all 12 additional revised budgets for the 2020 budget year. Our analysis also includes a total of 105 billion SEK in additional appropriations from the 2021 Budget Bill, which was decided in 2020 but applies for the 2021 budget year. The vast majority of these appropriations – 97 billion SEK – are presented by the Government under the heading “A powerful green economic restart”. The Climate Policy Council has thus chosen to start from the Government’s own description and has included all these budget appropriations in the crisis policy. This demarcation serves the best purpose of evaluating how the overall political response to the corona crisis has affected the possibility of achieving the climate targets.

The pandemic is still ongoing at the time of publication of this report, and the Government has already decided on additional revised budgets for 2021 as well. More decisions will certainly follow on further rescue and recovery measures. These are not included in the analysis below, which was limited to decisions taken in 2020.

5.1.3 Breakdown of budget expenditure

This section gives an overview of the Government’s budget initiatives during the crisis that were agreed decided through 31 December 2020. The summary thus illustrates how the state’s *economic* crisis package has been distributed, but it does not give a complete picture of either the crisis policy as a whole or the impact on climate targets. Decisions that are not associated with any budget item, such as legislative changes, can have a major impact. Decisions that do not affect the budget are included in the latter description of the Government’s public governance in sections 5.2–5.3.

The Government’s budget decisions during the pandemic outbreak in 2020 consisted almost entirely of urgent interventions to save businesses and jobs, reduce the spread of infection and strengthen health care, as shown in Figure 10. Only the 2021 Budget Bill provided greater scope for recovery and long-term reforms.

The 2021 Budget Bill contained unusually extensive new investments of just over 100 billion SEK. The supplementary budget was roughly the same as the total supplements in the four previous state budgets combined. However, the budgeted additional expenditure for emergency relief policy

⁹ More precisely, the decision taken on 1 February 2020, the day the Government decided to classify COVID-19 as a “socially dangerous disease”, applies through 31 December 2020.

in 2020 was significantly larger, around 290 billion SEK.^r Such expenditure will also be added in 2021, in addition to the regular budget bill. This additional expenditure can be compared with the original state budget for 2020, which included total expenditures of 1.03 trillion SEK.

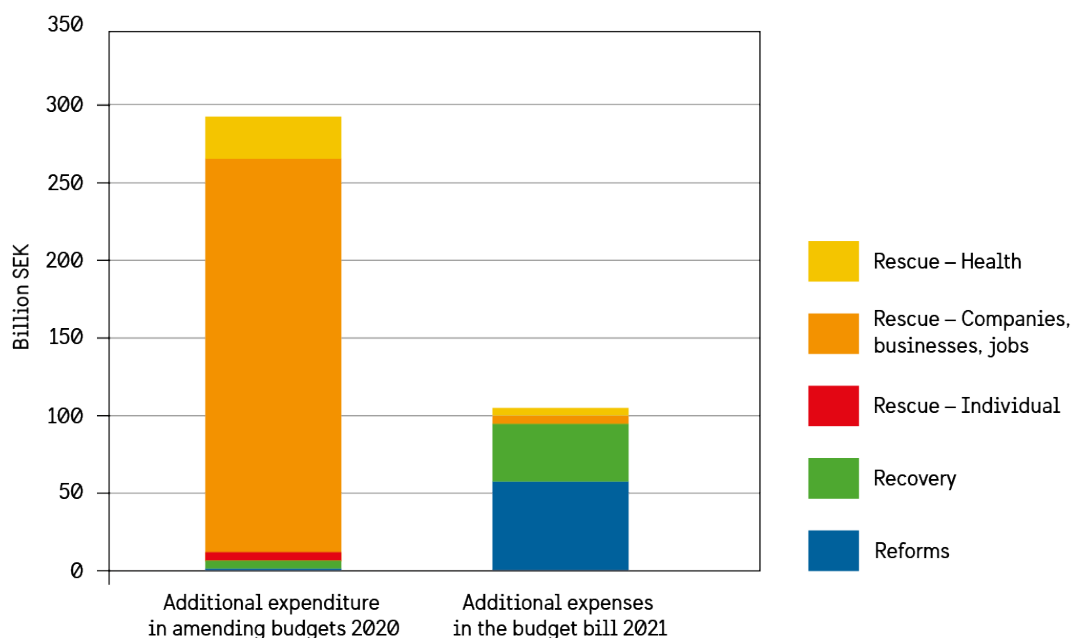


Figure 10. Expenditure for crisis policy in additional amending budgets in 2020 and in the 2021 Budget Bill.

The interventions for 2021, which the Government referred to as a powerful green restart package, mainly include targeted longer-term reforms that do not appear to have been given priority for maximising the economic stimulus effect in the near future. In the Climate Policy Council's analysis, only just over a third of additional expenditure in the 2021 Budget Bill consists of actual recovery appropriations. This is a logical priority given the nature of the corona crisis, as classic stimulus policies produce a limited effect as long as demand in the economy is simultaneously held back by infection controls and social distancing recommendations.

5.1.4 Short-term rescue measures can reduce the risk of setbacks in the transition

As shown in Section 5.1.3, the vast majority of public expenditure on crisis policy has so far consisted of various types of rescue measures aimed at supporting businesses and public-sector organisations. A central question that has often been raised in the Swedish debate is whether these subsidies are going to carbon-intensive activities or otherwise undermine the climate transition.

The Swedish Government's rescue measures for the business community have largely consisted of generally designed support, mainly furlough and rescue loans, which can in principle be given to all companies affected by the crisis. However, these subsidies can have an indirect impact on greenhouse gas emissions and climate change. In principle, general aid to companies means that

^r However, real expenditure was significantly less than budgeted for certain interventions, especially the so-called conversion aid to companies. Statistics Sweden and the National Financial Management Authority estimated government expenditure on pandemic-related support at 117 billion SEK in the first three quarters of 2020.

the central government contributes to maintaining the current structure of the business sector, which can counteract the structural change that could otherwise have been accelerated by the economic crisis, including a trend towards reduced climate impact.⁷⁵ The longer the aid period, the greater the risk of such preservation effects. Another risk that should be noted is that innovative new companies, which often have a weak financial position, cannot count on aid based on past turnover or other past circumstances. This can reduce the pace of innovation in business and its ability to achieve the transition.

However, the Climate Policy Council believes that substantial, short-term rescue measures can also be defended from the perspective of climate change. Large-scale bankruptcies, mass unemployment and widespread economic vulnerability would have deep, long-term economic and social consequences, thus also reducing the scope for action for policies aimed at achieving the climate targets. They could also undermine public support for an ambitious climate policy.

In relation to turnover and employees, general business aid in Sweden during the corona crisis has largely benefitted the service sectors, such as hotels, restaurants, and hospitality and tourism businesses, which bear a large share of the wage costs, but have comparatively little climate impact.^s

A small proportion of government spending on rescuing businesses and organisations has been directed at a particular industry or business. Such targeted rescue measures can more directly affect the chances of achieving climate targets by either preserving an inefficient or fossil-dependent industry that might otherwise have shrunk or closed down, or by saving businesses that are central to the transition. When implementing such targeted measures, it becomes essential to assess whether the aid must be associated with specific conditions to support, and not undermine, the climate targets.

Several of the targeted rescue measures have gone to the culture sector, sports and the media industry, which have little direct impact on Sweden's greenhouse gas emissions. Interventions aimed at the transport sector are the ones most relevant to the climate transition. On one hand, this has occurred with companies in carbon-intensive aviation and, on the other hand, with freight transport by rail and public transport, which have a low climate impact. Total expenditure on rescue measures for rail and public transport totals nearly 7 billion SEK, while appropriations for aviation amount to slightly over 9 billion, plus an additional 5 billion in credit guarantees to airlines. Most of the aid for aviation has not been associated with any specific climate requirements, but first arose when SAS received a capital injection of 5 billion SEK (see Section 5.2.1).

In conclusion, the Climate Policy Council considers that the vast majority of the Government's rescue measures during the corona crisis have little (positive or negative) effect on the chances of achieving the climate targets. If more targeted rescue packages are to be given to carbon-intensive industries, they should be tied to requirements that help to achieve climate policy goals, as recommended by the OECD and others.^{76,77}

^s Based on follow-up from the Swedish Agency for Economic and Regional Growth, data from Statistics Sweden and our own calculations.

5.1.5 Recovery measures and reforms can drive the transition

Recovery measures and longer-term reforms are the main tools the Government can use to drive the climate transition heading out of the crisis. The discussion below includes an assessment of how much of this expenditure can be considered to have facilitated or discouraged achievement of the climate targets. The different budget measures are divided into three categories:

- Measures deemed to contribute positively to achieving the climate targets;
- Measures deemed to run counter to achieving the climate targets; and
- Measures not deemed to affect the chances of achieving the climate targets.

This categorisation does not contain an estimate of the importance of different measures or their impact on the climate targets. The assessment is not limited to direct effects on greenhouse gas emissions; instead, it looks more broadly at whether a specific budget item can contribute to target attainment, for example in the form of innovation support for green technologies that can deliver future emission reductions.

As stated above, the additional revised budgets for 2020 included mainly rescue measures and few recovery and reform measures. Virtually all decisions of a forward-looking nature contributed positively to achieving the climate targets. This included environmental compensation for freight transport, extended biogas support, and increased expenditure on rail maintenance and broadband in rural areas, a total of just over 1 billion SEK.

Figure 11 gives an overview of the climate profile of the recovery measures and reforms included in the Government's 2021 Budget Bill. The green colour indicates fiscal measures that help to achieve the climate targets, while red indicates measures that run counter to the targets. The yellow part of the bar indicates measures that are not expected to affect the chances of achieving the climate targets.

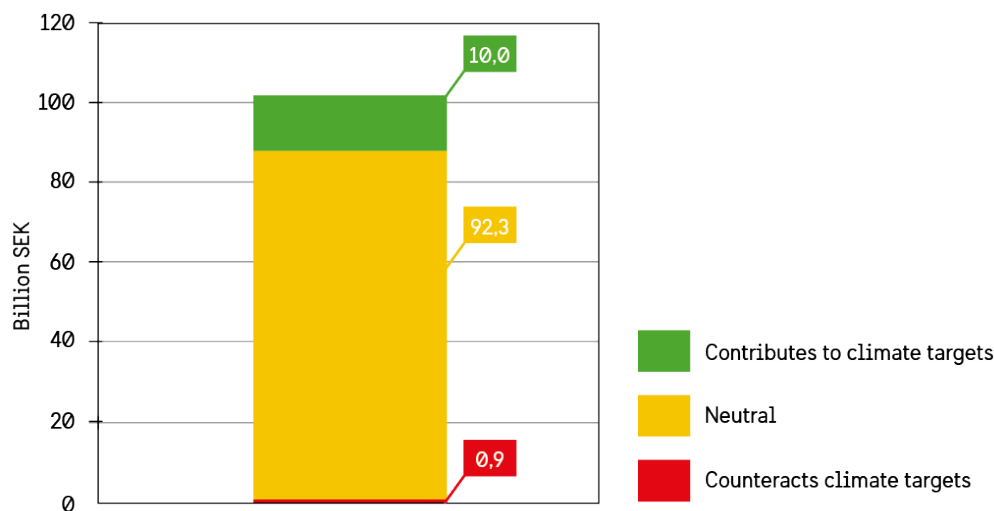


Figure 11. The Government's fiscal measures for recovery and reform in the 2021 Budget Bill and their impact on climate target achievement.

It is positive that the Government's recovery policy is largely devoid of measures that undermine the achievement of climate policy objectives. But since only about 10 billion SEK, or 10 per cent of the stimulus in the 2021 Budget Bill, contributes positively to achieving the climate targets,^t 90 per cent of what the Government calls "a powerful green restart package" does not contribute to the climate transition. When it comes to emergency relief measures, it is natural that they can be designed to a lesser extent to simultaneously contribute to long-term societal goals. However, when it comes to crisis recovery and reforms of a long-term nature, the bar must be set higher. Sweden is facing a major transition away from fossil fuel use towards net-zero emissions. It is not enough to simply not do the wrong thing. An extraordinary fiscal measure should also make a powerful contribution to the transition.

The roughly 90 billion SEK in supplementary budget appropriations in 2021 that are not considered to affect climate goals include two types of interventions. Some are deemed not to be relevant from a climate perspective, such as strengthening the legal system or raising unemployment benefits, while others may affect emissions development, but their net effect is difficult to assess. Among the latter are, most notably, a general tax reduction for investments of approximately 5 billion SEK in 2021 as well as increased investment support for rental apartments and student housing of 3 billion SEK in 2021–2023. The way these investments are designed greatly determines the potential to achieve the climate targets in both the short and the long term. The Government, however, did not analyse the measures' impact on the potential to achieve the climate targets and has not announced any conditions linked to the transition in order to benefit from these subsidies.

In terms of volume, Sweden's recovery programme so far appears to be relatively moderate.^u This can be partly explained by a less severe economic downturn than in several other countries, but it also suggests that there is scope to both prioritise climate investment within the budget and to increase the overall volume of public investment in order to achieve the climate targets. When the current infection control restrictions and recommendations can eventually be eased and thus the rescue packages scaled down, it will also make more sense for the Government to expand longer-term recovery policy.

It is not only decisions aimed at stimulating the economy or otherwise associated with a budget item that affect the overall impact of crisis policy on achieving the climate targets. In our continued discussion, the perspective is broadened from fiscal measures only to include other government decisions relevant to the climate transition. The following section evaluates whether and how the different instruments that were introduced or changed in 2020 will help accelerate the transition to a clean-energy society and their potential effects on greenhouse gas emissions in the emitting sectors.^v The discussion also touches upon the Government's rescue measures in the transport sector.

^t This is in line with the Government's own description of 9.7 billion SEK in investments in green recovery in the 2021 Budget Bill (in press release 200914). However, the content differs slightly. The Government includes investments in nature conservation and biodiversity, which are not part of this climate-related scope. Instead, these include certain investments in charging infrastructure, climate-related research and broadband expansion.

^u The recovery package in the 2021 Budget Bill is about 2% of GDP. Total budgetary stimulus including rescue aid as of 31 December 2020, according to the IMF Fiscal Monitor Database about 4% of GDP.¹⁶⁵

^v For a more detailed description of emissions included in the different sectors, see Swedish EPA (2020).⁷

5.2 Crisis policy from a sectoral perspective

The emphasis in this section is on the four emitting sectors of domestic transport (including working machinery), industry, electricity and heating, and agriculture, which together account for over 80 per cent of Sweden's total greenhouse gas emissions. In several of these sectors, a positive trend was noted before the corona crisis, with rapid technological development and innovations showing great potential to curb emissions on the path to commercialisation. When the crisis hit, there was a fear that these processes would stall or even take a few steps backwards. However, the Climate Policy Council's analysis reveals that despite a turbulent year for society as a whole, the conditions for the climate transition in the major emitting sectors appear to have been affected to a relatively small extent, even though the sectors differ.



ASSESSMENT

So far, the corona crisis has not made climate action in the major emitting sectors more difficult, but the long-term effects are still uncertain.

The short-term economic downturn and the emission reductions gained during the year have in themselves little impact on long-term trends. The Climate Policy Council sees no sign that the focus would have shifted away from the climate transition in the major emitting sectors. Business investment fell by 9 per cent in 2020 compared to 2019,⁷⁸ which can mean that some climate-relevant projects and investments have been postponed. However, there is much to suggest that the pre-crisis direction will also continue after the crisis – that is, a gradual shift towards reduced emissions in most sectors and a long-term focus on investments in key technologies for clean-energy competitiveness.

The transport sector is a possible exception to that general picture, especially public transport. In the short term, the reduction in travel has caused considerable income losses for public transport operators. The contraction of demand they suffered during the crisis, if prolonged, could lead to higher prices, lack of investment and reduced travel by public transport. Since the shift from private car use to public transport is a vital solution for transport sector efficiency and the transition to zero emissions, this would risk reducing the chances of reaching both the 2030 transport target and the overarching 2045 climate target.

As regards the instruments presented by the Government in 2020, the analysis shows that most of them help to achieve the climate targets. Figure 12 shows the distribution of the fiscal measures decided by the Government in 2020 that can be expected to have an impact on greenhouse gas emissions in each sector, whether positive or negative. As can be seen, the Government has invested most heavily in the transport sector. This reflects both the sector's substantial need for support during the corona crisis and its high priority in the Government's climate action plan. Here, instruments are available that can both have a positive impact on achieving the climate

targets, and can make them more difficult to achieve. Investments linked to industry and the energy sector are significantly smaller, but contribute unequivocally to laying the foundation for reduced climate impact.

None of the Government’s fiscal measures directly support reducing the climate impact of agriculture. On the other hand, green sub-sectors within agriculture have received aid that helps to reduce climate impacts in other sectors. This applies in particular to the extended support for biogas production, which contributes to reductions in the transport sector, and new aid for the rewetting of drained wetlands. The latter measure aims to increase carbon storage in these soils and thereby reduce climate impact.^w

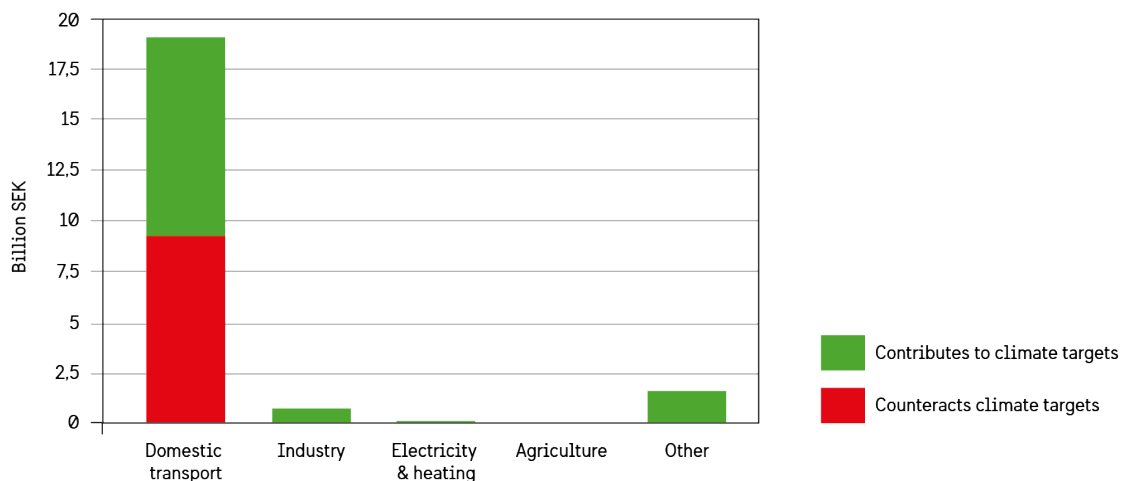







Figure 12. Expenditure agreed in 2020 that affects greenhouse gas emissions in the four biggest emitting sectors. Green indicates a potential contribution to climate target achievement and red a detraction.

In order to exemplify the type of instruments decided by the Government in the different sectors, Table 3 presents some of the measures in each sector, both those that support the transition (green) and those that slow it down (red). This also includes measures that do not affect the budget. Each sector is analysed in more detail in sections 5.2.1–5.2.4.

^w Drained wetlands release carbon dioxide and nitrous oxide, while rewetting can contribute to the soil becoming a net sink of greenhouse gases. Such changes are included in climate statistics, such as “land use” and “land use, land-use change and forestry (LULUCF)”, but are not currently included in national climate objectives in the climate policy framework

Table 3. Examples of actions in each sector that the Climate Policy Council assesses have a positive (green) or negative (red) impact on the conditions for achieving the climate targets

Sector	Decisions in 2020	
 <p>Industry</p>	<ul style="list-style-type: none"> • Increased support for investment, pilot and demonstration projects through Industriklivet • Government credit guarantees for green investments 	Green
 <p>Transport</p>	<ul style="list-style-type: none"> • Tightened reduction obligation for petrol and diesel • Reduction obligation for kerosene • Reduced subsidies for company cars • Enhanced environmental management in bonus-malus • Cycling infrastructure • Charging infrastructure for heavy-duty vehicles • Extended biogas protection • Support for public transport 	Green
 <p>Agriculture</p>	<ul style="list-style-type: none"> • No targeted instruments in recovery policy 	Grey
 <p>Electricity and heating</p>	<ul style="list-style-type: none"> • Support for solar cells and energy storage • Tax deductions for installing green technology • Measures to reduce plastic use 	Green
 <p>Cross-sectoral</p>	<ul style="list-style-type: none"> • More efficient permitting processes for electricity grids • Climate declarations for buildings 	Green

5.2.1 Climate change in the transport sector – the impact of crisis policy

The domestic transport sector today accounts for roughly a third of Sweden's total greenhouse gas emissions and is the only sector with a specific sectoral target. According to the 2030 target, greenhouse gas emissions from the transport sector should fall by 70 per cent from 2010 levels.

The Climate Policy Council's 2019 report highlighted three areas that could lead to significant emission reductions in the transport sector in the period leading up to 2030:⁷⁹

1. A more transport-efficient society that limits the need for transport and uses more efficient means of transport;
2. Electrification through electric vehicles and expanded charging infrastructure;
3. A phase-out of fossil fuels through alternative clean-energy fuels in more efficient vehicles.

The transport sector is the emissions sector most affected by the infection control restrictions imposed during the pandemic. Overall, travel has decreased, and there has been a redistribution among different modes of transport. Public transport has been hit hard, while individual passenger transport modes such as cars, bicycles and walking have increased as a proportion of total passenger transport. Teleworking and more online meetings have reduced work-related travel, which in ordinary circumstances accounts for just under a quarter of emissions from domestic transport. The emission reductions from business travel in 2020 have been estimated⁸⁰ at roughly 23 per cent, which corresponds to just under 1 million tonnes CO₂e. However, this reduction is offset by a shift from public transport to cars for getting to work.⁸⁰ Preliminary figures from the Swedish Transport Administration indicate that emissions from road traffic decreased by 9 per cent in 2020, mainly due to a 10 per cent decrease in vehicle traffic during the pandemic. Added to this was a reduction in CO₂ emissions from new cars through electrification and efficiency improvements.¹⁹

The Government's crisis policy contains many measures that are enablers for achieving zero emissions in the transport sector.

Aviation

The aviation industry has received the largest share of government aid, including credit guarantees to aviation companies worth 5 billion SEK, a capital injection to Swedavia of 3.1 billion SEK, and 5 billion SEK for the recapitalisation of SAS, as well as the procurement of temporary public service obligations for more domestic routes. Only one of the measures, the recapitalisation of SAS, has been combined with environmental requirements for SAS, involving an emission reduction target that was brought forward,^{*} potentially helping to reduce long-term emissions from air transport. Some, but not all, support measures have been targeted to geographic areas that lack good alternatives to air transport. The more forward-looking initiatives announced by the Government for the aviation industry (a reduction obligation for aviation fuel and research funding for aviation decarbonisation) are aligned with the climate action plan. However, sustained measures for fossil-fuelled aviation are many times greater than the forward-looking measures for green aviation.

^{*} SAS will reach its climate targets in 2025 instead of 2030, as previously planned.

Public transport

After the aviation industry, public transport has received the greatest policy support during the corona crisis. The Government has earmarked 5 billion SEK for public transport (3 billion in 2020 and 2 billion in 2021) in order to compensate for large revenue losses and help maintain a functioning public transport system. The Government has not decided on any sustained rescue measures aimed at rail traffic, even though, like air traffic, it has declined sharply during the pandemic. Despite the crisis support, public transport finances are in dire straits, which could result in cancellations and a deterioration in quality, making it more difficult to attract passengers after the pandemic.⁸¹ Infection control restrictions also risk making a negative long-term impact on attitudes towards public transport. Extensive efforts are likely needed on the part of the central government, municipalities and regions to secure public transport after the pandemic is over.

Bicycles and cars

In addition to crisis support for public transport, there are smaller-scale measures to transform the transport sector and promote a transport-efficient society. For example, increased bicycle commuting as a result of infection control restrictions has been met with modest interventions from the Government, mainly in the form of 300 million SEK in addition to urban environmental agreements, a few other initiatives for more and safer cycling, and changed regulations for bicycle lanes. At the same time, driving to work has been rewarded by temporarily considering parking for employees as a tax-free benefit. The Climate Policy Council considers that this might be justified for a limited period of time, but the decision actually increases subsidised car ownership and driving. The exemption should be abolished as soon as possible from the perspective of infection control. The Government has presented proposals that make company cars less advantageous, which is in line with the Climate Policy Council's previous recommendation to remove all subsidies for car ownership and driving.

Freight transport

Freight transport has been less affected by the crisis than passenger traffic. Nevertheless, the Government has provided a capital injection to state-owned Green Cargo (1.4 billion SEK), a rail freight operator that showed weak profitability even prior to the pandemic. In addition, environmental compensation for promoting the shift from road to rail freight has been expanded (400 million SEK annually from 2021). So-called eco-bonuses that promote the shift to maritime transport have been extended (100 million SEK). One challenge not addressed in government policy, however, is how e-commerce door-to-door delivery, which has spiked during the corona crisis and can be expected to keep expanding, should grow in a climate-smart way.

Reduction obligation for petrol and diesel

From an emissions perspective, the reduction obligation for petrol and diesel is the most impactful instrument for the transport sector. The Government has estimated that this measure will result in an emission reduction of 6–7 million tonnes CO₂e by 2030.⁸² The reduction obligation is not a new instrument. What has occurred in 2020 is that the Government has clarified its proposal on which

reduction obligation should apply for the years leading up to 2030. To mitigate the anticipated price increase from the reduction obligation, the GDP indexation of the fuel taxes is being put on hold, which for 2021 is estimated to lead to a reduction in tax revenues of 940 million SEK. This measure undermines the climate transition, as it can lead to increased demand for fuel and higher emissions than has otherwise been the case.

The Climate Policy Council has previously warned against a strategy that uses the reduction obligation alone to meet such a large part of the transport sector's 2030 climate targets, depending on risks to sustainability and the economy. In addition, Sweden pledged to achieve environmental objectives⁸³ in terms of emissions of nitrogen oxides (NO_x) from road traffic,^y which is not achievable if fuel volumes are as large as the Government anticipates in the 2020 climate report. In practice, biofuels produce the same amount of NO_x emissions as fossil fuels, while electrification and reduced traffic volumes reduce NO_x emissions.⁸⁴ The Swedish Environmental Protection Agency has stressed that the reduction obligation must not replace the investments in electrification and increased transport efficiency needed to achieve both aviation and climate targets.⁸⁵

The Government hopes that the reduction obligation will promote Swedish biofuel production. But the fuel market, both for fossil fuels and biofuels, is global. As demand is likely to increase in other countries as well, procuring enough sustainably produced biofuels may become a challenge. The Climate Policy Council therefore welcomes the Government's move to include electrofuels in the implementation of the reduction obligation. As a result, the raw material base will be broadened from biomass to include clean-energy electricity.^z For this to make a real contribution, production capacity and hydrogen infrastructure are required. The Council is also pleased that the Government has tasked the Swedish Energy Agency to develop proposals for a comprehensive strategy for the role of hydrogen and of electrofuels in the Swedish energy system.^a Major investments are also underway in other EU countries that Sweden should take note of and actively participate in.

As in the past, the challenge remains with regard to long-term instruments for high-blend liquid biofuels. The current solution of temporary tax exemptions depends on short-term state aid approvals from the European Commission, in addition to biogas, which has been approved for tax exemption through 2030 provided that it is not produced from food raw materials. The Government has also extended aid for biogas production from agriculture (200 million SEK).

Electrification

As a further change in policy, the Government has announced stricter emission requirements in the bonus-malus system to accelerate the vehicle fleet's transition to more electric cars and fewer cars with high fossil-fuel consumption. According to the Government's own estimates, this could

^y Air traffic pollution is estimated to cause close to 3,000 premature deaths each year, of which approximately 2,800 deaths are estimated to be due to exhaust gases (particulate matter, nitrogen dioxide and others) and about 200 to wear particles.¹⁶⁶

^z Electrofuels are carbonaceous fuels – liquid or gaseous hydrocarbons – produced from electricity which can offer a way to harness and store electricity from renewable sources like solar and wind during periods when production is high and prices low.

^a The Government's Fossil-Free Sweden initiative presented a hydrogen strategy back in January based on the industry's fossil-free roadmaps. The Government notes this in its remit to the Swedish Energy Agency but makes no mention of consultation or how these two different strategies should relate to each other.^{110,111}

reduce emissions by 2 million tonnes CO₂e by 2030. The long-announced Electrification Commission was formed during the year and focuses on heavy transport. The Government has also appropriated 500 million SEK in 2021 and the same amount in 2022 for heavy-vehicle charging infrastructure in the form of regional pilots, including hydrogen. Working machinery and eco-friendly trucks are now also included in the previous system of green rebates for electric buses.

Infrastructure that promotes a transport-efficient society

The Climate Policy Council already stated in its 2019 report that the policy instruments for promoting a transport-efficient society are weak compared with those for electrification, biofuels and more efficient vehicles. If traffic volumes continue to rise according to historical trends, meeting emission targets in the transport sector will likely be difficult. In such a development, new infrastructure for road traffic would also entail significant government expenditure and in itself lead to increased resource consumption and climate impact.

Like several other government agencies and research projects, the Climate Policy Council has underscored the need to adapt transport planning in order to direct government transport investment towards greater transport efficiency.⁸⁶⁻⁹⁰ The Swedish Transport Administration has itself highlighted the need for a well-formulated planning process from the current infrastructure plan to a more integrated transport plan.⁹¹

In the 2020 Budget Bill, the Government took a step in this direction by also making the 2030 climate target for domestic transport an interim target within the transport policy objectives. The Climate Action Plan states that a follow-up on this change must be carried out. The plan also contains several actions aimed at influencing transport demand and the choice of transport modes as well as measures that lead to a more efficient use of existing infrastructure.

A test of whether the adjusted target formulations have led to significant changes is the orientation document for transport infrastructure planning during 2022–2033 and 2037 that the Swedish Transport Administration presented in October 2020.⁹² The climate targets are covered quite extensively in the documentation, but the Swedish Transport Administration assumes in principle that they need to be achieved through measures other than transport and urban planning. However, a broad consultation opinion does not share the Swedish Transport Administration's view.^{90,93-96} Neither the result of the collaborative agency project SOFT⁸⁹ nor the Swedish Transport Administration's previous proposal for reformed planning⁹¹ seems to have made any major impact on the orientation document. However, the consultation bodies welcome the fact that the Swedish Transport Administration's document prioritises management of existing infrastructure over new investments.

At the next step in transport infrastructure planning, the Government will present a bill that will govern many hundreds of billions in investments over the next 12 to 16 years. It is apparent from the responses from other agencies with key roles in urban planning that the Government's intentions for the revised targets and the climate action plan have not brought about the intended impact, and that the Government has not been sufficiently clear in its remit to the Swedish Transport Administration. The Climate Policy Council therefore believes that the current orientation document cannot serve as background input for such a major long-term decision. The upcoming infrastructure bill will steer investment in transport infrastructure for at least half the

period remaining up to 2045, when the transport sector will have achieved zero greenhouse gas emissions.

It is worrying that another planning period is in danger of elapsing without any significant change in transport planning based on the climate policy framework. The Government needs to switch gears, in terms of the current orientation document and in order to adapt the current infrastructure planning process towards more integrated transport planning.



RECOMMENDATION

Ensure that the national transport infrastructure plan contributes to a more transport-efficient society within the framework of the climate targets.

Window of opportunity – changing behaviours affect the transport sector

One aspect of the corona crisis' window of opportunity involves encouraging behaviours that promise to help curb greenhouse gas emissions after infection control restrictions are eased and a somewhat new reality can be shaped. Conversely, there are behavioural changes that slow down the transition and should therefore be discouraged so that they do not become permanent, such as reductions in public transport use (Section 5.2.1). In simplified terms, travellers who have been driving their cars should be courted back to using public transport, while those who have chosen to ride their bikes or work at home instead of using public transport should be encouraged to keep doing that, if they prefer. More generally, new behaviours around working from home, accelerated digitalisation and travel-free meetings can eventually help to advance transport efficiency.

In the short term, the e-commerce boom has increased emissions from light freight transport. With delivery to the customer's door largely shifting to professional operators, the potential exists for streamlining and reducing emissions. But realising this potential also requires both greater financial incentives and other instruments. An analysis by the agency Transport Analysis⁹⁷ suggests that the Government should require e-commerce companies to make more environmentally friendly delivery options be pre-selected on order forms, compelling customers to actively opt out of them. They also propose that e-commerce companies provide customers with information about the environmental impact of different delivery options. Transport Analysis also sees a need for industry players to develop a kind of roadmap similar to those presented by different industries in the government initiative Fossil-Free Sweden. Another example of a behavioural change would be how the increase in teleworking has lowered demand for office space in urban centres and instead increasing demand for bigger living and office spaces near people's homes. Developments can thus be directed towards a more resource-efficient and climate-smart use of premises. A regulatory framework that makes the local use of premises more flexible should be developed so that premises can more quickly be repurposed as needed. Together with shifts in travel times to work and school, the potential exists to limit rush-hour traffic and thus make better use of existing transport infrastructure and reduce the need for new investment.

Because of infection control restrictions, people are spending more time outdoors exploring local areas and taking holidays within the country, while Sweden has been welcoming fewer foreign visitors.⁹⁸ All in all, the corona crisis has dealt a major blow to the tourism industry. And because transport accounts for a large proportion of emissions from tourism, the potential to reduce emissions exists when more people choose destinations closer to home along with less emissions-intensive transport modes.⁹⁹ However, a previous trend in which Swedes expressed an increased willingness to refrain from travelling abroad appears to be broken. A majority (86 per cent) say that the pandemic has not affected their plans to travel abroad.¹⁰⁰

To encourage a less emissions-intensive development of leisure travel and a more sustainable tourism industry, the options for closer destinations must be perceived as attractive, and transport modes with a lower climate impact must be made available. Investments in local nature and outdoor activities, which also have synergies with public health improvements and biodiversity protection, as well as investments in overnight rail services throughout Europe, are two examples of how this can be achieved. The relaunch of the tourism industry initiated by the Government in its budget bill will play an important role in seizing such opportunities and managing the risks of eased travel restrictions following the pandemic. The Climate Policy Council welcomes the Government's proposal to modify Visits Sweden's mission as part of this restart, from marketing Sweden as a destination solely for foreign tourists to also target domestic travellers.

The Government and its agencies should, in the near future, analyse which of these behavioural changes can contribute to achieving the climate targets and how policies can support these changes. The analysis should also take into account possible behavioural changes with negative effects on the transition, and try to prevent them from remaining after the corona crisis.



RECOMMENDATION

Promote behavioural changes that improve the potential to achieve the climate targets.

Conclusions

Although many of the emergency relief measures have gone to carbon-intensive aviation, the Government has continued its efforts overall to tighten governance, especially in terms of electrification and renewable fuels. As regards the efficiency of the transport system, the picture is more mixed. It is uncertain whether the Government's intentions have yet made an impact, and the crisis itself has brought with it fresh challenges. One example is how the future of public transport might be affected in the long run by the behavioural changes seen in 2020. This requires further analysis and a carefully considered process in order to ensure that any setbacks can be avoided.

However, there is a window of opportunity to leverage by supporting behavioural changes that show promise for reducing greenhouse gas emissions: increased teleworking and travel-free online meetings, more cycling and walking, and more climate-smart transport for the growing e-commerce business. In this context, the 10 recommendations presented by the Climate Policy

Council for the transport sector's transition in our 2019 report remain relevant.⁷⁹ Finally, the Council also wishes to highlight the importance of upcoming infrastructure bills for ensuring that physical infrastructure boosts transport efficiency and for broadening traditional infrastructure planning to encompass transport planning, which the Swedish Transport Administration has also highlighted.

5.2.2 The climate transition in industry – the impact of crisis policy

Like transport, industry accounts for about a third of Sweden's greenhouse gas emissions. The Climate Policy Council has previously pointed out that there are good technical and economic opportunities for reducing emissions to zero by 2045, but they demand timely investment^ª For industry, this involves a relatively small number of major investments that can already be identified to a great extent, in areas such as carbon-free hydrogen, expanded electricity grids, increased production capacity of renewable fuels, and carbon capture and storage (CCS). Many of these investments were also on the agenda prior to the corona crisis. Most notably, the industry's own climate roadmaps[°] make it clear that the necessary emission reduction solutions are gaining strong momentum.

At an aggregated level, the corona crisis does not seem to have significantly impacted the long-term direction of industry or the obstacles faced in the transition to zero emissions. Industrial production fell sharply between February and April but recovered in late spring and summer. The second wave of the pandemic in the winter of 2020–21 had significantly less impact on industry than the first wave. The Economic Policy Institute's tendency indicator¹⁰¹, which fell slightly in December, rose again in January 2021. And the economic climate was judged to be robust in January, mainly due to the volume of order backlogs and expectations of increased production volumes in the coming months.

Industrial investment fell slightly in the first half of 2020 compared with the corresponding period in 2019 but recovered in the third quarter.⁷⁸ For the full year, industrial investment decreased by 4 per cent compared with total business investment, which fell by 9 per cent. It is too early to predict investment trends in the longer term and how they will potentially affect the very investments necessary for industry's transition. However, trends during 2020 do not indicate that the corona crisis has affected the long-term direction of industry or significantly affected the obstacles to achieving zero emissions. Furthermore, there are examples of key transition projects that are continuing unabated and some indicating that the crisis may have hastened a transition already underway. HYBRIT, the joint initiative by Vattenfall, SSAB and LKAB to develop fossil-free steel production, is an example of the first category, and Preem's decision to end plans for a new fossil-fuel refinery in Lysekil and focus on biofuels belongs in the latter category.

For industry, all targeted interventions for recovery policy contribute to long-term reductions in greenhouse gas emissions to some extent, in particular through increased resources for investment, pilots and demonstration projects. This is mainly being accomplished through increased appropriations for *Industriklivet* (the increase corresponds to a total of 500 million SEK by 2023)

^ª See, for example, the 2020 Report of the Climate Policy Council.²⁷

[°] See the roadmaps presented by 22 business sectors within the framework of Fossil-Free Sweden.¹⁶⁴

to support projects that help reduce industry's process-related emissions. The Government's own assessment is that this contribution could deliver emission reductions of 1.7 million tonnes CO₂e by 2045.

In addition to interventions that involve direct government expenditure, the Government also proposes significant investments in state credit guarantees for green projects, which, based on technology-neutral criteria, aim to provide for major industrial investments that help achieve the goals of the environmental objectives system and the climate policy framework. A total of 50 billion SEK in guarantees is proposed for the period 2021–2023. Such a policy instrument can be vital for reducing the business sector's risk around big investments in emission reduction technologies, but the Government has not yet announced specific details on how the guarantees will be designed. To make an impact, they need to add some value that commercial operators and established investment banks do not already offer. A fee that reflects the risk of credit losses and covers administrative costs will be charged from the borrower, and technology-neutral criteria will be established to select the projects that can receive the credit guarantees.¹⁰² How the details are formulated will likely affect business sector demand for the green credit guarantees and thus the instrument's impact on investment in new technologies.

Conclusions

The Climate Policy Council's analysis shows that, taken together, the Government's policies for industry in 2020 improve the conditions for achieving the climate targets, mainly in terms of investments in emission reduction processes. None of the interventions during the crisis are expected to preserve existing emission-intensive structures. However, several significant obstacles remain. Several of them involve cross-sectoral challenges around the need for expanded and modernised electricity grids, new infrastructure and the right conditions for carbon-free hydrogen, as well as shorter lead times for obtaining environmental permits. These obstacles must be removed to ensure that industry's transition to zero emissions takes place fast enough.

The Government has extended the Fossil-Free Sweden initiative through 2024, partly in order to develop strategies to address common challenges around the roadmaps. However, the Climate Policy Council still lacks a specific process for implementation, follow-up and updates of the roadmaps, which must be done by the Government together with each industry and which the Council called for in its 2020 report. The stakeholders involved need to secure the roadmap activities, and more forceful decisions are necessary to remove obstacles and lay the groundwork for necessary investment in industry's climate transition.

5.2.3 The climate transition in agriculture – the impact of crisis policy

Agriculture accounts for approximately 14 per cent of Sweden's greenhouse gas emissions, mainly in the form of methane and nitrous oxide. Fossil fuels are also used in agriculture, but their emissions are reported under the working machinery category in the emissions statistics. The downward trend seen in many other sectors, and for greenhouse gas emissions as a whole, cannot be observed in the agricultural sector. Compared with other sectors, known solutions with the potential to significantly reduce emissions are largely lacking. This applies in particular to emissions caused by biological processes in livestock farming and from agricultural land.¹⁰³

Few crisis interventions have been directly targeted to agriculture, which is expected given that the sector is among those that have experienced growing rather than shrinking demand. Less effort has been made to tackle the problems of migrant seasonal labour shortages, green jobs for people far removed from the labour market, and better matching of job-seekers with green jobs. All this, however, has a weak and indirect link to the sector's transition.

For interventions that help ensure a competitive agricultural and food sector, the Government has budgeted a total of nearly 5 billion SEK over the next three years. Funding will mainly be provided for implementing the national food strategy, which was approved in 2017. The overarching objective is a competitive food chain marked by increased food production in parallel with efficient resource use. Although this has no immediate, short-term impact on greenhouse gas emissions from agriculture, it supports processes that contribute to sector's the long-term transition. The strategy is also meant to help achieve relevant national environmental objectives and sustainable development across the country.

In line with Climate Policy Council recommendations, the Government has continued to phase out exemptions and reductions of the carbon tax in non-ETS sectors, though not in the case of agricultural machinery, which saw an increase in reductions that remained throughout 2020. According to the Government's own assessment, these long-term subsidies have also resulted in higher greenhouse gas emissions than has otherwise been the case. The stepwise reduction obligation, together with funding for electrifying working machinery, will counteract this over time. According to the Government, emissions from working machinery are expected to be reduced by 1–2 million tonnes CO_{2e} by 2030 thanks to the reduction obligation.

However, the remaining problem of methane and nitrous oxide emissions, which account for more than half of the sector's total greenhouse gas emissions, is not addressed by the instruments announced in 2020. An increase in existing support for agri-environmental improvement measures that can be used for methane reduction is proposed for 2021, but assessments conducted every three years show a modest effect.¹⁰⁴ Furthermore, government funding in the 2021 Budget Bill for rewetting peatlands and restoring and constructing wetlands has a positive climate impact,¹⁰⁴ which could add to the supplementary measures within the scope of the climate targets.

Conclusions

With regard to agriculture, recovery policy only marginally improves the prospects of reducing emissions. Rewetted peatlands can eventually have a positive climate impact. However, methane and nitrous oxide emissions remain unaffected by both crises and policies thus far. The previous recommendation of the Climate Policy Council remains: A clear plan and interventions are needed from the Government to clearly address the obstacles standing in the way of a transition for agriculture.

5.2.4 The climate transition in the electricity and heating sector – impact of crisis policy

Greenhouse gas emissions from electricity generation and district heating production account for about 8 per cent of greenhouse gas emissions in Sweden. Together with emissions from the individual heating of residential and commercial premises, electricity generation and heating

together account for 10 per cent of Sweden's emissions. This is significantly less than in most other countries. Electricity generation and heating account for more than half of all greenhouse gas emissions for the EU as a whole.

To achieve zero emissions in this sector, the remaining fossil fuels – mainly from plastic waste in combined heat and power plants – must be phased out. The solution to the energy sector's own climate challenge thus largely remains out of its hands. Recycling technologies must be developed and scaled up, and infrastructure and mechanisms for managing and collecting plastics must be developed and improved. The amounts of plastic in society and in incinerated waste continue to grow. Furthermore, not all these emissions can be managed by reducing the use of fossil-based plastics or through circular material flows. CCS in conjunction with the burning of waste remains an option, as well as a shift from fossil-based plastics to bio-based plastics.

The effects of the corona crisis vary for the different stakeholders in the energy sector. Overall demand for electricity and heat has not been significantly affected, as the economic impact in the business sector has been weaker than many have feared. The Government's various support packages for the business community in response to the crisis has helped to keep up demand. This means that established businesses and plants have been able to operate without major disruptions.

However, investments in new plants, mainly in the wind power industry, have been impacted. Many wind power projects planned to be operational in 2020, 2021 and 2022 have been postponed due to delays in necessary decisions, in contracts, and in deliveries resulting from factory closures or travel restrictions that have prevented foreign specialists and key staff from finding their way to the areas where the wind farms will be built. The delay of these investments by a mere few years will not have a significant impact on the climate transition.¹⁰⁵ However, the problem is that environmental permits are only valid for a limited time. If this period is exceeded, operators need to reapply, entailing a delay of many years and a significant obstacle to accelerated electrification.

Few recovery policy interventions have been directly targeted to the energy sector. The Swedish Energy Agency has been tasked with designing an operational support system for BECCS to capture and store CO₂ from renewable sources. In the longer term, this can enable negative emissions on a large scale. Other positive efforts include increased support for solar cells and energy storage as well as tax deductions for green technology installations. The introduced tax on plastics and increased funding for introducing digital waste traceability systems, in accordance with the EU Waste Directive, have the potential to reduce emissions from waste incineration over time. On the other hand, the Government's decision to abolish the tax exemption for certain biofuels for heating risks increasing the burning of fossil fuels and thus greenhouse gas emissions.

In addition to the energy sector's own emissions, the energy system plays a crucial role in the climate transition of society as a whole. The supply of clean-energy electricity in particular is a critical factor for all other sectors and requires both sufficient production and transmission capacity. This is further explored in Section 5.3.

Conclusions

The corona crisis has had relatively little impact on the energy sector's ongoing operations, but it has delayed some investments in new generation capacity especially in wind power. The challenges

that existed before the crisis still remain: the amount of fossil-based waste that is incinerated needs to be reduced, electricity grids need to be expanded and modernised, and the production capacity for electricity needs to increase in the longer term. Crisis policy has included some minor steps in the right direction and no decisions that directly delay the transition.

5.3 Cross-sectoral challenges and decisions

Each sector has its own unique circumstances and conditions, both in terms of opportunities and challenges, for transitioning to zero greenhouse gas emissions. However, there are also several critical cross-sectoral conditions and important links between actions in different sectors that must be addressed for the climate targets to be achievable.

A fundamental challenge in all sectors is increased resource efficiency and the transition to a more circular economy.¹⁰⁶ By streamlining the use of energy and materials, the transition becomes less demanding, and greater emission reductions are possible in a near future.⁵⁵ The transition to a more efficient use of natural resources also tends to have greater positive synergies with other societal objectives, along with lower social costs than in scenarios with higher energy and resource use.¹⁰⁷ In the transport sector, this means steering towards a more transport-efficient society, reducing both the volume of renewable fuels needed to achieve the climate targets and the climate impact of building new heavy-transport infrastructure. In the energy sector, the remaining fossil-based emissions from incinerating waste can be phased out through reduced use and increased recycling of fossil-based plastics upstream in the value chain. Several areas of industry, such as cement production, can significantly reduce their emissions through increased recycling of various raw materials and other materials, while the use of concrete in new builds can be streamlined or replaced by construction in other materials, such as wood.

To realise this potential, regulations and instruments are needed that do not undermine, but instead enable the drivers for increased resource efficiency and a more circular economy. In 2020, the Government took some steps in this direction. In June, a circular economy strategy was presented that aims to identify what needs to be done to transition to circular production, consumption and business models as well as non-toxic, circular material cycles. The Swedish Environmental Protection Agency has received targeted funding to drive the transition to a circular economy and to implement, revise and apply the regulations in this area.

Furthermore, the Government has given a new remit to the All-Party Committee on Environmental Objectives to evaluate targets and strategies to reduce the climate impact from consumption. This is in line with the Climate Policy Council's previous recommendation to develop policies to stimulate and support household, business and public-sector demand for zero-emission, more resource-efficient goods and services. The Climate Policy Council considers it important to coordinate this investigation with related policy developments, such as the strategy and the announced circular economy action plans. Otherwise, there is an obvious risk that different overlapping strategies and target documents will stack up and become incalculable and difficult to understand for the stakeholders involved.

The Government has taken certain decisions during the corona crisis that support more resource-efficient solutions that reduce the need to travel, such as regulatory changes that facilitate online

business meetings and other types of meetings. For the rest, there is a lack of rapid and flexible decisions on the Government's part that could reinforce behavioural changes during the crisis that would help to achieve the climate targets.

Beyond this broad theme, four more specific challenges are emerging that concern several of the sectors: the need for infrastructure investments for carbon-free electrification, access to sustainable biofuels, licensing for critical investment projects, and the need for a leap in knowledge for the climate transition.

5.3.1 Infrastructure investments for clean-energy electrification

As the electrification of industry and the transport sector picks up, demand for electricity is set to increase sharply. Since last year's report, several major industries have announced plans to replace processes powered by fossil fuels with electricity,¹⁰⁸ which means that projections of future electricity demand need to be revised.¹⁰⁹

This further increases the need to develop and expand the electricity grids in order to deliver the right power at the right time. In places where new industrial plants with a high demand for electricity will be established, the need for more robust electricity grids will be especially great, as well as in cities and along critical transport routes, where increased electrification of the vehicle fleet generates increased demand for electricity. Investments in both electricity grids and solutions for storing electricity over different periods of time must be ramped up, and regulations must be modernised to promote the electricity systems of the future, which will include growing volumes of weather-dependent electricity generation and new market entrants. In 2020, the Government moved in that direction. For example, the Swedish Energy Markets Inspectorate has received additional funding to speed up the permitting processes for new grid investments. (See more below, in the chapter on permitting processes.) A bill aimed at creating specific incentives for power companies to make investments that increase grid capacity has also been drafted.

However, more needs to be done to further accelerate development. The Climate Policy Council has previously pointed to proposals that have already been investigated and said the Government should accelerate the process of translating existing policy-making input into concrete changes in regulations, government remits and instruments.²⁷ The Climate Policy Council welcomes the Government's appointment of the long-announced Electrification Commission, although its remit is limited to the electrification of the transport sector. But time is running out, and the Commission needs to produce concrete proposals that can be implemented without undue delay. The challenges are so great that they cannot simply be solved by a handful of incremental changes. Fundamental questions regarding regulations and market design must be addressed, requiring close collaboration between industry and government agencies in the coming years.

If this succeeds, we will be well-positioned to deploy renewable electricity, without subsidies, at prices that will often be lower than fossil fuel costs. This, in turn, will open up opportunities to produce hydrogen for fossil-free industrial processes such as steel production, zero-emission fuels in the transport sector, or small-scale cogeneration. Hydrogen production will be able to utilise cheap renewable electricity from solar and wind power in periods of surplus and thus balance the electricity system. This will provide the opportunity to effectively integrate the electricity, transport, industrial and heating sectors and replace a variety of fossil fuels.

In February 2021, the Government tasked the Swedish Energy Agency with developing proposals for a comprehensive hydrogen strategy, to be presented by 31 July 2021.¹¹⁰ A hydrogen strategy has already been developed within the Government's Fossil-Free Sweden initiative.¹¹¹ Here, too, it is important that different processes and remits are coordinated and lead to concrete actions.

5.3.2 Access to sustainable bioenergy

Replacing fossil fuels and materials with bio-based alternatives provides an opportunity for several sectors to significantly reduce their use of fossil-based energy and raw materials, in particular the transport sector and industry. This development is expected to lead to a substantial increase in demand for biomass. The Government's policies for reaching the transport sector's climate targets by 2030 today rely heavily on large volumes of biofuels. The Climate Policy Council has previously warned that increased demand from big countries, and from other sectors, is likely to effectively limit supply and raise the price of sustainably produced biofuels.

Developments in the EU are progressing towards electrification, and at present the EU has a more negative attitude towards the use of bioenergy in general. An example is the Commission's proposal to classify bioenergy together with natural gas as a "transitional technology" under the sustainable investment taxonomy, which could make it more difficult to finance Swedish biofuel production facilities, for example. In Sweden, forest bioenergy consists of forest industry by-products, which makes a big difference when calculating climate impact since the forest is not harvested solely for the purpose of being used as fuel. Bioenergy from forestry and agriculture by-products is replacing fossil-based energy in other sectors, helping to curb emissions. It will thus be important to take a more holistic approach across sectors, and to realise that forest coverage and industrial structures are not comparable in different regions of Europe.

The links between the use of bioenergy from forestry and their climate impact are complex, depending to a large extent on how forests are managed, their carbon storage potential, and the uses of forest products. In addition, there is a great deal of uncertainty in the calculations depending on the systems perspective, meaning what is included and whether the calculation is for the short or the long term.

Added to the problem is the decades-old conflict between the forest industry and nature conservationists. It is a conflict that cannot be easily resolved, because it involves prioritising between different environmental and social goals. Questions should therefore be asked about the conditions under which biomass can help to achieve the climate targets and how to balance different environmental and social goals as they relate to forests. Another question revolves around how to shape government regulations to create the best conditions to achieve such a balance.^{aa} The Government needs to work through the opportunities, conflicting targets and external factors relevant to forest bioenergy, including analysing the impact of EU policy developments on Sweden's climate strategy.

The bioeconomy strategy that the Government has announced over the course of several years, but that has not yet presented, could take a comprehensive approach to the existing challenges and

^{aa} See also Section 5.3.3 in Camia et al. (2021).¹⁶⁷

the priorities that must be made regarding the role of biomass in the climate transition. The Climate Policy Council believes that such a strategy should be developed as a matter of urgency.

5.3.3 More efficient permitting processes

Many industries and individual companies, as well as municipalities, regions and other public-sector stakeholders, are facing investment decisions that are crucial for determining whether or not we achieve the climate targets. Resources will need to be redirected from investments that drive greenhouse gas emissions to those that reduce them. This applies to everything from fossil-free steel solutions to new infrastructure for a transport-efficient society and increased domestic production of sustainable biofuels.

Policies need to lay the best possible foundation for sustainable investment. One important obstacle to sustainable investment is that regulations and permitting processes around key investments are often both time-consuming and unpredictable.^{112,113} A clear example is the permitting procedure for new power grid concessions, which takes many years from the time a power company files an application until a decision is reached, including appeals. Market players point out that, in many cases, the current regime gives rise to unnecessary duplicate procedures and that the installation of new electricity generation units or energy-demanding facilities must wait for a grid concession decision when all other licences are already in place.

The corona crisis has exacerbated these problems, partly because some investments delayed in 2020 risk missing their deadlines for environmental permitting. New time-consuming permitting processes risk delaying critical investments in both production capacity and electricity grids. The Government must urgently take action to minimise these risks. Changes are needed at three levels:

1. Laws and regulations need to be reviewed so that the climate targets become more of a driving factor when granting permits.
2. Government agencies need to improve and streamline their processes in order to shorten processing times and make their decisions more predictable and legally certain.
3. Extra resources are needed to support more rapid decision-making.

In 2020, government policy only addressed the third point, and only partially, when the Swedish Energy Markets Inspectorate received additional funding to process permit cases more quickly. The Land and Environment Courts also need more resources and enhanced skills. The Climate Law Inquiry (M 2019:05) is already working on the first point, and will issue an interim report in the spring of 2021. The so-called grid concession inquiry was appointed by the Government in 2018 to propose “legislative changes that modernise, simplify and improve the power grid’s regulatory framework”.¹¹⁴ In its final report, the inquiry presented a number of proposed changes to the regulatory framework on power grid concessions.¹¹⁵ However, the proposals have been criticised for not resulting in a faster permitting process; on the contrary, parts of the process are expected to take longer and the process become more complicated.^{bb}

The Climate Policy Council would like to emphasise the need to implement ready-made proposals produced by previous inquiries that contain broad support for implementation, and the need to

^{bb} See, for example, specific opinions from the inquiry’s experts Helene Mårtensson, Bengt Johansson and Ronald Liljegren, as well as Björn Galant.

promptly investigate outstanding issues, so they do not become an obstacle to vital investments that can enable the transition.



RECOMMENDATION

Implement a faster, more transparent permitting procedure for investments that contribute to the climate transition.

5.3.4 The need for a knowledge leap for the transition

The solutions that can help Sweden to transition require both improvements and new knowledge, innovations and investments in infrastructure and in new production processes. A skilled workforce is a critical factor in all these areas. There is already a shortage of skilled workers, such as engineers, technicians and installers. The Confederation of Swedish Enterprise's recruitment survey concludes that the skills shortage is hindering growth in three out of four member companies, and that the climate transition is increasing the need for reskilling.¹¹⁶ Many employers report that they see a growing need to recruit, mainly in energy and electrical engineering, electronics, computer technology and automation.¹¹⁷ Even in many of the industry roadmaps for clean-energy competitiveness, access to the right talent is raised as a critical factor for the transition.¹¹⁸ Technical solutions must also be organised effectively, and significant conversion processes are sometimes required to design sustainable solutions. This requires a solid knowledge of economics, organisational and behavioural issues, and insights into how such transition can be promoted. Upskilling measures are also necessary in the public sector – for example, at licensing authorities and municipalities.¹¹⁶

Yet unemployment is rising, not least as a direct consequence of the pandemic's aftermath. According to Statistics Sweden's labour force survey,¹¹⁹ the unemployment rate increased from 6.8 per cent in 2019 to 8.3 per cent in 2020, a figure that according to forecasts by the Swedish Public Employment Service¹²⁰ will increase further in 2021 and 2022. This is particularly true in the close-contact industries in the private service sector, while demand for industrial labour continues to rise.

This lack of job matching in the labour market brings considerable costs, including increased government expenditure, reduced business growth, and human suffering for those affected by unemployment. In addition, the transition risks being slowed down unless the right skills are available to companies and government agencies.

The Government can help reduce this risk by funding and organising a “knowledge leap for the climate”, which should include reforms throughout the education system from primary school to university. For example, those already employed will need additional training to cope with the technology shifts ahead. Another key reform should involve more upper-secondary and vocational training focused on areas that currently face, or are expected to face, skills shortages, such as electrification and the battery production, hydrogen and process industries. In addition, the skill

sets of government agency officials must also be enhanced in these areas. The agencies need to stay on their toes and work proactively to facilitate and accelerate the transitions currently taking place both locally and nationwide, especially within the EU regulatory framework and investment initiatives. Sufficient knowledge and capacity are needed for this, especially at the licensing authorities, so that processes are not unnecessarily delayed.

Part of the Government's crisis policy aimed at limiting rising unemployment has been to fund additional spots for student enrolment at universities, trade schools and folk high schools. These decisions have not identified any specific areas of expertise, with except for certain measures to meet the needs of health care and elder care. The Climate Policy Council believes that the Government should use the upcoming funding for promoting skills during the recovery policy period to meet essential skills needs for the climate transition. This can involve specific professional skills in certain sectors, but also general nationwide upskilling and involvement in the climate transition and its opportunities, not least through educational activities. The mobilisation of civil society and a better understanding of the transition's conditions and opportunities facilitate the implementation of policies that can achieve the climate targets.

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RECOMMENDATION

Invest in knowledge and skills for boosting climate transition efforts as part of the continued recovery policy.

5.4 Sweden's crisis policy from an EU perspective

Sweden's national policy is closely intertwined with and influenced in all areas by EU-wide decisions. Yet Sweden has a voice in these decision-making bodies and can thereby influence the direction of policy throughout the EU. The climate change issue is no exception – quite the contrary. There are many EU laws and regulations that are already in place or will be signed into law in Sweden, directly affecting how climate policy is shaped. The EU emissions trading scheme (EU ETS) is perhaps the most obvious example. Sweden has been a driving force here in tightening emissions trading, which has sent emission allowance prices soaring and has accelerated the phase-out of European coal power.

Sweden's actions in relation to the EU and other Member States are thus crucial both for shaping domestic policies and, potentially, for the direction of the entire EU effort to achieve the climate targets. This became particularly evident in 2020, when the pandemic and its economic, political and social consequences became intertwined with the climate agenda and Europe's green transition ambitions.

5.4.1 Fast pace in the EU, with a focus on green recovery

In 2019, the EU had already laid the foundations for comprehensive reforms in terms of climate change, energy, biodiversity, resource efficiency and the circular economy through the Green Deal.^{cc} In June 2020, the EU decided that the Green Deal should govern recovery policy (and long-term budgets) after the COVID-19 crisis in order to steer towards both a rapid economic recovery and green growth, and thus a more sustainable, resilient Europe. The Green Deal assumes that all EU actions and policies will contribute to the union's fulfilment of the Paris Agreement goals and make the EU the world's first climate-neutral continent by 2050. The EU has thus firmly integrated its recovery policy with the climate transition, and the transition in turn with a broader sustainability agenda.

Also in 2020, the EU decided both on its new long-term budget of more than 1 trillion euros over the period 2021–2027 and on the Next Generation EU recovery instrument, totalling 750 billion euros. These two initiatives combined represent a substantial increase in the EU's budget. In December, an agreement was also reached on the recovery fund formally known as the Recovery and Resilience Facility (RRF), which lies at the heart of the recovery instrument. The fund will support public investment and reforms in Member States, helping them mitigate the economic and social impacts of the COVID-19 pandemic. Each country is expected to present a national plan by 30 April 2021 specifying which investments and reforms it intends to implement within the scope of the fund. Sweden can withdraw around 35 billion SEK from the fund.^{dd} The national plan should explain how the measures strengthen national recovery policies both socially and economically, as well as how the reforms ensure a green, digital transition and a more circular economy. The European Commission will regularly evaluate implementation of the national plans. By the end of 2020, the EU also approved a Just Transition Fund to support and compensate those EU territories considered to be most affected by the necessary pace of decarbonisation. This is not relevant to Sweden, however. Furthermore, significant resources are being channelled to implement the Green Deal through the EU Framework Programme for Research and Innovation – Horizon 2020 – which totals over 80 billion euros.

New climate law and a taxonomy for green investments

In March 2020, the European Commission presented its proposal for an EU-wide climate law as part of the Green Deal. The main objective of the proposal was to create a clear framework for the goal of a climate-neutral EU by 2050 (net-zero greenhouse gas emissions). The European Parliament argued for a higher level of ambition and wanted to see a 60 per cent emission reduction target by 2030. In December, the heads of state and government in the Council of Ministers agreed that the 2030 target for the Climate Act should be a 55 per cent reduction in net greenhouse gas emissions from 1990 levels. Negotiations between the Council, Parliament and the Commission on the final target are still ongoing at the time of publication of this report.

^{cc} The Green Deal aims to increase resource efficiency and promote a circular economy, to reduce pollution and greenhouse gas emissions, and to improve biodiversity. These measures aim to promote green growth and thus a more sustainable and resilient Europe.¹⁶⁸

^{dd} The amount of the financial contribution is determined by three criteria: population size in 2019 (the larger the population, the greater the RRF contribution), inverse GDP per capita in 2019 (the lower the figure, the greater the contribution) and the average unemployment rate in 2015–2019 (the higher the rate, the greater the contribution). All variables are then weighted and then compared to the weighted average for all EU Member States (2020–2021 finance plan).

As early as 2021, however, the overarching decisions will be followed by specific proposals. The European Commission is already working on several pieces of legislation that include stricter energy efficiency requirements, higher renewable energy ambitions, emissions trading reform, allocation of emissions targets for 2030, reduced climate impact from vehicles, and new rules on carbon sinks in land use (called LULUCF). Furthermore, the Commission will present a renewed industrial strategy for the March summit, and transport ministers will discuss the draft strategy for sustainable and smart mobility.

In order to mobilise additional funding for the green transition, the EU has developed an instrument – a taxonomy – to identify and steer towards sustainable investment. To be classified as environmentally sustainable, an activity must contribute significantly to at least one of the six established environmental objectives in the taxonomy, while not causing material harm to any of the other objectives. No activity is excluded in advance, with the exception of fossil-based energy production. The taxonomy is intended to ensure that the financial sector can use common guidelines to determine which investments should be considered green.

After the Commission presented proposals for the more detailed regulations, the Swedish Government criticised the fact that parts of the proposed taxonomy do not comply with already agreed sustainability criteria, in particular with regard to bioenergy.¹²¹ For example, proposed criteria are formulated in a way that excludes a large part of the Swedish forest industry, as well as hydropower, from being classified as green investments. The plan was to decide on the applicable criteria by 31 December 2020, but due to the many comments received during December's public consultation from Member States, including Sweden, the process has been delayed.

Difficult to quantify and compare green recovery policies among countries

It is difficult to compare different national recovery programmes. Countries are regularly taking new decisions on incentives and investments, making it difficult to obtain up-to-date data across many countries simultaneously. In addition, methods and delimitations differ, including on what is classified as a green investment. Finally, fundamental differences in countries' circumstances in terms of industrial structure and energy systems, for instance, mean that the same type of stimulus policy can be both green and brown, depending on where the activity takes place. For example, support for electricity-intensive industries has very little direct effects on emissions in Sweden, where the electricity system is almost completely decarbonised, while the same support in Poland or Germany can be expected to contribute to increased emissions.

In studies that do present comparisons among the climate recovery packages of different countries and regions, the EU consistently emerges as the “greenest” region^{ee} compared with other parts of the world. The EU has succeeded relatively well overall in building on its future vision of a green competitive Europe by tying the Green Deal together with the major recovery package following the coronavirus crisis.

However, the level of ambition in the individual Member States varies markedly. As noted above, it is difficult to make simple comparisons based on aggregated data. One study¹²² presents Denmark,

^{ee} See, for example, Vivid Economics, Climate Action Tracker, Rhodium Group.

France, the UK, Spain and Sweden as the five countries in the EU with the highest proportion of green initiatives in their recovery packages. Another study^{ff} that was initiated in order to evaluate Member States' national plans under the EU Recovery Fund argues that recovery packages from Spain and Portugal have a very green profile, while Germany and France appear significantly less green. In March 2021, the UN Environment Programme (UNEP) published yet another study¹²³ highlighting Denmark, Finland, Norway and Germany and others as leaders, while Sweden, for example, was placed in a category of countries with yet-unrealised potential to act.

Taken together, these comparisons point to the fact that the EU as a whole has clearly linked recovery policy to the climate transition and a broader sustainability agenda that encompasses energy, circular economy and biodiversity. Individual Member States also offer many specific examples of how the transition can become a major part of recovery policy. The potential for learning and knowledge transfer among countries thus also exists, and can help to ramp up the transition in Sweden as well.

5.4.2 Has the Government leveraged EU opportunities?

The Government's climate action plan expresses a clear ambition to push forward and strengthen EU legislation on, and targets for, increased emission reductions. During the autumn negotiations on the new climate law, the Government supported the final proposal from the Commission for a 55 per cent reduction in emissions by 2030.

Based on the minutes from the Council of Ministers meeting, Sweden appears to have played a prominent role in the Environment Council, especially in the agreement on EU climate law and emission targets. Sweden has also pushed for a more ambitious climate policy in the Swedish Transport Council, Energy Council and Competitiveness Council. On the other hand, the climate transition does not seem to have been highlighted as clearly in the Financial and Agricultural Councils.¹²⁴ This indicates that Sweden may have underutilised the potential to become more consistent and coordinated in the EU Council of Ministers, missing an opportunity for the high ambitions to make a real impact when the European Climate Act is to be followed up in 2021.¹²⁴

The pace of EU reforms on the climate, energy and environment is not expected to slow in 2021. On the contrary – many major legislative packages that will affect the transition will be prepared over the course of the year. In addition, the national plans for the recovery fund will be reviewed and approved by the Commission and EU finance ministers. The countries' goals for a green and digital transition will then be made clear. Sweden's actions in these contexts will signal how much weight the Government attaches to the climate issue in relation to other national priorities and the weight with which Sweden will drive the climate issue during its EU presidency in spring 2023, when several pieces of legislation presented in 2021 are likely to be finalised.¹²⁴

In order to meet the requirements of the recovery fund and thus gain full access to the fund's loans and grants, the Swedish recovery plan must contain at least 37 per cent, or about 13 billion SEK, of green measures in line with the EU's definition of a green investment.¹²⁵ Sweden's national plan will be based on policies in the 2021 Budget Bill. The Government has estimated the "green part"

^{ff} Green Recovery Tracker, Wuppertal Institute, and E3G¹⁶⁹

of its 2021 budget at about 10 billion SEK, which represents 10 per cent of the new policy in the budget bill. In addition to this 10 billion, some support measures for research and development and green reforms extending through 2026 are included in the EU guidelines.

One component of the Government's budget is the investment in Swedish participation in the relatively new EU instrument IPCEI (Important Projects of Common European Interest), which aims to promote industrial ecosystems and technologies that enable non-fossil-fuel solutions of common European interest. Member States participating together can apply for funding for different types of multilateral partnership projects. Sweden's contribution amounts to 200 million SEK annually in 2021–2022 and 70 million SEK annually in 2023–2027. The EU has made exceptions in its state aid rules for projects financed through the IPCEI, which makes it easier for Member States to provide financial support and, by extension, stimulate industry's transition.

National policies to achieve the climate targets will be greatly influenced by the EU's growing focus on a green transition. During the Climate Policy Council's stakeholder dialogues when preparing this report, most industries placed more emphasis on the EU's comprehensive reform agenda than on the effects of the coronavirus crisis itself, or the impact of national policies on their own climate transition. The Swedish Government's actions in the EU will thus be vital not only for our contribution to Europe's climate transition, but for the competitiveness of Swedish companies and their ability to contribute to that transition. In view of the rapid pace of reform and the large economic values affected, it is essential that the Government Offices and relevant agencies have the resources they need to safeguard essential interests and take coordinated action. The Government Offices must plan for this and ensure that a lack of resources and skills do not put the brakes on Sweden's contribution to the EU's ambitious climate goals.

Similarly, the Government and the business sector need to work together effectively so that Sweden, and the European climate transition, can gain the greatest benefit possible from the funds allocated to various EU projects, where stakeholders and partner constellations will compete to access funding.

The Government's continuing efforts should also draw inspiration from the way the EU has linked comprehensive recovery packages to the transition, and the transition to a broader sustainability agenda, for increased resource efficiency and a more circular economy.

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RECOMMENDATION

Strengthen Sweden's engagement and influence in the EU by participating in a strategic, coordinated and active manner in the EU's Green Deal and recovery programme as well as related political processes.

5.5 Conclusions – create stronger ties between recovery and the transition

In an emergency such as the current pandemic, it is natural for short-term crisis management to come to the fore. Longer-term goals such as the climate targets, meanwhile, risk being overshadowed. The corona crisis does not appear to have hindered the Government's implementation of the climate action plan. That is very difficult to evaluate, however, because the plan is vague and lacks a timetable, and no clear feedback has taken place (see Chapter 3). At the same time, it is positive that the Swedish Government took few decisions in 2020 that directly counteracted climate policy goals (see Section 5.1).

When it comes to recovery from the crisis and reforms of a more long-term nature, the bar must be set higher. It is not enough to simply not do the wrong thing. According to the Climate Policy Council's analysis, only one-tenth of the Government's recovery programme makes a positive contribution to achieving the climate policy goals (see Section 5.1). The pace of the climate transition remains too slow, and policies are insufficient for achieving the climate targets (see Chapter 2).

The Government aims for Sweden to push for a faster transition away from fossil fuel use in European and global climate efforts.⁵ It has also been pushing for tighter climate targets and greater ambitions in the EU, but it is not clear that Sweden's national recovery policy can be described as leading from a climate perspective (see Section 5.4).

The coronavirus crisis is taking a heavy toll on society and often requires difficult priority-setting. It has hit many families and individuals hard. At the same time, a crisis can also open up new opportunities. The period following the corona crisis can serve as such a window of opportunity for the climate transition (see Chapter 4). The Climate Policy Council's overall assessment is that the Government has thus far not made sufficient use of this window of opportunity.



OVERALL ASSESSMENT

The pace of climate change remains too slow, and established policies are insufficient for achieving the climate targets. Throughout the crisis, the Government has maintained the focus of the climate action plan. Yet it has not yet made sufficient use of the window of opportunity provided by the corona crisis, which would allow for crisis and recovery investments to bolster the overall policy for the climate transition.

The Government's policies need to more unequivocally encourage the climate transition. This is especially true in a year when the state is investing larger sums than normal in the national economy and taking decisions that will have an impact over several decades. The Government's climate action plan is in place, as are numerous strategies and initiatives in areas that are central to the climate transition, including the 22 roadmaps for clean-energy competitiveness developed by different industries. The Government is set to present its national recovery programme under the EU-wide recovery and resilience facility. It is paramount for the Government to use the recovery

policy to implement the climate action plan and to link all the different strategies and roadmaps together. This way, a stronger narrative can be formulated for guiding us out of the corona crisis.

The window of opportunity during a crisis also provides the means to shape a new narrative about the crisis. Research on past crises finds that policy plays a key role in interpreting and clarifying what happens during the crisis so that it can be managed more constructively. Without a common narrative about the way forward, the crisis can instead open itself up to conspiracy theories, destructive reactions and a more divided society (see Section 4.2.1).

In the budget bill from September 2020, the Government describes its recovery policy as the starting point for an impactful green transition. The finance plan begins by stating: “Economic policy has two overarching purposes. It must be supported by a powerful green restart package. At the same time, it must combat long-term social problems to enable Sweden to emerge stronger out of the crisis.” The Climate Policy Council believes that the Government’s own communication around the budget and recovery policy has been inconsistent in this messaging. No clear, common narrative or picture of goals has been created for society’s recovery from the corona pandemic.

Instead of a message that makes climate action fundamental to the recovery, other priorities and descriptions are the prime concerns.⁸⁸ The Government has not linked the recovery policy to its own vision of becoming the world’s first fossil-free welfare state. The measures presented are decoupled from the climate action plan presented by the Government as recently as late 2019. This weakens the credibility and impact of the Government’s policy for enabling the climate targets to inform all areas of policy.

The European Union’s recovery programme, on the other hand, is borne along by a comparatively clear, consistent narrative of the green and digital transition that will make society more sustainable and resilient. The major budget initiatives are also consistently described as a tool for realising the Green Deal that the Commission presented and anchored back in 2019. Several other European governments, such as those in France and Germany, have also made green transition and green investment key themes of their recovery packages. The Government should draw inspiration from the way the EU has woven together recovery policy and the climate transition, as well as how the climate agenda has been tied to a broader sustainability agenda for promoting resource efficiency, the circular economy, biodiversity and a just transition.



RECOMMENDATION

Use the recovery policy to realise the climate policy action plan and existing strategies that give concrete expression to the desire to be “the world’s first fossil-free welfare state”.

⁸⁸ When the Minister for Finance presented the autumn budget, three main themes were highlighted: Investments in green recovery, welfare initiatives and security in the transition. When asked about the top priorities, the minister replied that there were three things: “jobs, jobs, jobs”.¹⁷⁰

References

1. World Health Organization. *Coronavirus disease (COVID-19) pandemic*. (2021).
2. World Meteorological Organization. *2020 was one of three warmest years on record*. Press release no. 14012021 (2021).
3. Harvard T.H. Chan School of Public Health. *Coronavirus and Climate Change – C-CHANGE*. (2021).
4. Beyer, R. M., Manica, A. & Mora, C. Shifts in global bat diversity suggest a possible role of climate change in the emergence of SARS-CoV-1 and SARS-CoV-2. *Science of The Total Environment* 767, 145413 (2021).
5. Govt Bill 2019/20:65. *En samlad politik för klimatet – klimatpolitisk handlingsplan*. (2019).
6. Koselleck, R. & Richter, M. W. Crisis. *Journal of the History of Ideas* 67, 357-400 (2006).
7. Swedish Environmental Protection Agency. *Nationella utsläpp och upptag av växthusgaser 1990-2019*. (2020).
8. Swedish Environmental Protection Agency. *Listor över utsläpp och tilldelning*. (2020).
9. Swedish Environmental Protection Agency. *Utsläppen i den handlande och icke-handlande sektorn*. (2019).
10. Govt Bill 2016/17:146. *A Climate Policy Framework for Sweden*. (2017).
11. Swedish Environmental Protection Agency. *Fördjupad analys av den svenska klimatomställningen 2020. Klimat och luft i fokus*. Report vol. 6945 (2020).
12. Larsson, J. & Nässén, J. Fördjupning: Konsumtionens klimatpåverkan - trender, mål och styrmedel. i *Konsumtionsrapporten 2019 [Orosmoln] - En rapportserie om den svenska konsumtionen* (2019).
13. Roos, J. M. *Konsumtionsrapporten 2020 [Acceleration] - En rapportserie om den svenska konsumtionen*. (2020).
14. Statistics Sweden. *Konkurser efter region, näringsgren SNI 2007, storleksklass och företagsform. Month 2009M01–2020M12*. (2021).
15. Transport Analysis. *Oro, anpassning och nya beteendemönster – godstransportaktörers upplevelser av coronapandemins första våg*. (2020).
16. Quéré, C. Le et al. Temporary reduction in daily global CO₂ emissions during the COVID-19 forced confinement. *Nature Climate Change* 10, 647–654 (2020).
17. Liu, Z. et al. Near-real-time data captured record decline in global CO₂ emissions due to COVID-19. *Unpublished* 1-45.
18. Lombrana, L. M. & Mathis, W. Global Emissions Were Slowing Even Before the Pandemic – Bloomberg. *Bloomberg green* (2020).
19. Swedish Transport Administration. *Vägtrafikens utsläpp 2020*. (2021).
20. Berghäll, E. & Perrels, A. *The economic crisis and its consequences for the environment and*

- environment policy*. *TermaNord* (Nordic Council of Ministers, 2010).
21. Swedish Environmental Protection Agency. *Report for Sweden on climate policies and measures and projections*. (2021).
 22. Govt Bill 2020/21:1. *2021 Budget Bill* (2020).
 23. Swedish Ministry of Infrastructure. *Memorandum: Reduction obligation for petrol and diesel — control station*. (2020).
 24. SOU 2016:21. *A Climate Policy Framework for Sweden*. (2016).
 25. Government Offices. *Expenditure area 20, "General environment and nature conservation" 1, 2021 Budget Bill*. (2020).
 26. Kihlberg, J. Regeringen lyfter klimatet ger åtta statsråd klimatansvar. *Dagens Nyheter* (2021).
 27. Swedish Climate Policy Council. *2020 Report of the Swedish Climate Policy Council*. (2020).
 28. Swedish Ministry of the Environment. *Klimatpolitiska handlingsplanen - Fakta-PM*. (2019).
 29. SFS 2017:720. *The Climate Act*. (2017).
 30. SFS 1998:1474. *Committees Ordinance*. (1998).
 31. SFS 2007:1244. *Regulatory Impact Assessment Ordinance*. (2007).
 32. SOU 2016:47. *En klimat- och luftvårdsstrategi för Sverige. Miljömålberedningens delbetänkande* (2016).
 33. World Bank. *Updated estimates of the impact of the impact of COVID-19 on global poverty*. (2021).
 34. Engström, M. *Miljöframgångar - från freonförbud till klimatlag*. (2020).
 35. Edberg, K. Från motsatsförhållande till symbios? Miljöpolitik och välfärd i ekonomiska upp- och nedgångar. *Archive. Tidskrift för samhällsanalys* 6, 7–37 (2016).
 36. Burns, C., Eckersley, P. & Tobin, P. EU environmental policy in times of crisis. *Journal of European Public Policy* 27, 1–19 (2020).
 37. Skovgaard, J. EU climate policy after the crisis. *Environmental Politics* 23, 1–17 (2014).
 38. Slominski, P. Energy and climate policy: does the competitiveness narrative prevail in times of crisis? *Journal of European Integration* 38, 343–357 (2016).
 39. Geels, F. W. The impact of the financial-economic crisis on sustainability transitions: Financial investment, governance and public discourse. *Environmental Innovation and Societal Transitions* 6, 67–95 (2013).
 40. Jonung, L. & Wicksell, K. *Tio år med det Finanspolitiska Rådet: Vad händer närmast?* (2019).
 41. Andersson & Nilsson. Makroinnovationer, långsiktig ekonomisk utveckling och framtida utsläpp av växthusgaser (underlagsrapport, bilaga 8). i *En klimat- och luftvårdsstrategi för Sverige* (2016).
 42. Hay, C. Crisis and the Structural Transformation of the State: Interrogating the Process of Change. *The British Journal of Politics and International Relations* 1, 317–344 (1999).

43. Hölscher, K., Wittmayer, J. M. & Loorbach, D. Transition versus transformation: What's the difference? *Environmental Innovation and Societal Transitions* 27, 1–3 (2018).
44. Jessop, B. Economic and ecological crises: Green new deals and no-growth economies. *Development* 55, 17–24 (2012).
45. Loorbach, D. et al. The economic crisis as a game changer? Exploring the role of social construction in sustainability transitions. *Ecology and Society* 21, (2016).
46. Bina, O. & La Camera, F. Promise and shortcomings of a green turn in recent policy responses to the "double crisis". *Ecological Economics* 70, 2308–2316 (2011).
47. Avelino, F., Wittmayer, J. M., Kemp, R. & Haxeltine, A. Game-changers and transformative social innovation. *Ecology and Society* 22, (2017).
48. Tienhaara, K. A tale of two crises: What the global financial crisis means for the global environmental crisis. *Environmental Policy and Governance* 20, 197–208 (2010).
49. Aşici, A. A. & Bünül, Z. Green New Deal: A Green Way out of the Crisis? *Environmental Policy and Governance* 22, 295–306 (2012).
50. Omri, E., Chtourou, N. & Bazin, D. Rethinking the green recovery through renewable energy expansion. *International Journal of Sustainable Development* 18, 59–76 (2015).
51. International Energy Agency (IEA). *Renewables 2020*. (2020).
52. World Values Survey. *The World Values Survey 2021*. (2021).
53. Hammar, O., Brancalion Lind, D. & Puranen, B. *Miljömedvetande hos Sveriges befolkning*. (2021).
54. United Nations Development Programme (UNDP). *Peoples' Climate Vote*. (2021).
55. Masson-Delmotte, V. et al. *IPCC Special Report 1.5 - Summary for Policymakers*. Intergovernmental Panel on Climate Change (IPCC) (2018).
56. International Energy Agency (IEA). *Perspectives for the Energy Transition: Investment Needs for a Low-Carbon Energy System*. (2017).
57. Intergovernmental Panel on Climate Change (IPCC). *Special Report on Climate Change and Country - Summary for Policymakers*. (2020).
58. Organisation for Economic Cooperation and Development (OECD). *Financing Climate Futures - Rethinking Infrastructure*. *Financing Climate Futures* (2018).
59. Rodrik, D. Green industrial policy. *Oxford Review of Economic Policy* 30, 469–491 (2014).
60. Andrijevic, M., Schleussner, C.-F., Gidden, M. J., McCollum, D. L. & Rogelj, J. COVID-19 recovery funds dwarf clean energy investment needs. *Science* 370, 298–300 (2020).
61. Alfredsson, E. & Malmaeus, M. Real capital investments and sustainability - The case of Sweden. *Ecological Economics* 161, 216–224 (2019).
62. International Monetary Fund (IMF). Mitigating climate change -growth- and distribution-friendly strategies. *World Economic Outlook*, 85–114 (2020).
63. Swedish Fiscal Policy Council *Fiscal Policy Council Report 2020*. (2020).

64. International Monetary Fund (IMF). *Sweden - Staff Concluding Statement of the 2021 Article IV Mission*. (2021).
65. SOU 2016:67. *En översyn av överskottsmålet - Betänkande av Överskottsmålskommittén*. (2016).
66. Swedish Government. Kommittédirektiv 2015:63 Översyn av målet för den offentliga sektorns finansiella sparande. (2015).
67. European Central Bank. *Strategy review*. (2021).
68. Riksbank of Sweden. *Strategi för Riksbankens hållbarhetsarbete*. (2020).
69. Riksbank of Sweden. *Ekonomisk kommentar: Hållbarhetshänsyn vid köp av före-tagsobligationer*. (2021).
70. Kus, B. Relief, Recovery, Reform: A Retrospective on the US Policy Responses to the Great Recession. *Intereconomics* 55, 257–265 (2020).
71. World Bank. *Saving Lives, Scaling-up Impact and Getting Back on Track: World Bank Group COVID-19 Crisis Response Approach Paper*. (2020).
72. Centre for Local Economic Strategies. *Rescue, recover, reform: A framework for new local economic practice in the era of COVID-19*. (2020).
73. World Bank. *Proposed Sustainability Checklist for Assessing Economic Recovery Interventions*. (2020).
74. Organisation for Economic Cooperation and Development (OECD). *Making the Green Recovery work for jobs, income and growth, Tackling Coronavirus (COVID-19): Contributing to a global effort*. (2020).
75. Handelsns Ekonomiska Råd. *Handeln och covid-19: Lärdomar från pandemin och dess hantering – en nulägesrapport*. (2020).
76. Organisation for Economic Cooperation and Development (OECD). *Shaping government interventions for an aunt and more resilient economic recovery*. (2020).
77. Organisation for Economic Cooperation and Development (OECD). *From containment to recovery: Environmental responses to the COVID-19 pandemic*. (2020).
78. Statistics Sweden. *Investment survey, fourth quarter 2020*. (2021).
79. Swedish Climate Policy Council. 2019 Report of the Climate Policy Council. (2019).
80. Ramböll. *Underlagsrapport till Klimatpolitiska rådet: Coronakrisens klimatpåverkan på transportsektorn 2020*. (2021).
81. Holm, H. & Kollmann, A. *Omstart för kollektivtrafiken - idéer för en hållbar framtid*. (2021).
82. Govt Bill 2020/21:1. *Climate Report. Annex in expenditure area 20, "General environment and nature conservation"*. (2020).
83. Swedish Environmental Protection Agency. *EU:s direktiv för utsläpp av luftföroreningar (takedirektivet)*. (2021).
84. Svenska Miljöemissionsdata. *NO_x-utsläpp i klimatscenarier för vägtrafik 2030*. (2021).
85. Swedish Environmental Protection Agency. *Yttrande över Promemorian Reduktionsplikten för*

- bensin och diesel – Kontrollstation (I2020/03425).* (2021).
86. Swedish National Audit Office. *Fyrstegsprincipen inom planeringen av transportinfrastruktur – tillämpas den på avsett sätt?* (2018).
 87. Pettersson-Löfstedt, F., Lund, E., Dymén, C., Hult, Å. & Sanne, J. M. *Infrastruktur, planering och miljömål – en analys av synen på ansvar, roller och möjligheter att använda transportplanering för att uppnå miljömålen.* (2020).
 88. Larsson, M.-O., Lund, E., Pettersson-löfstedt, F. & Styhre, L. *Miljömål i transportplaneringen.* (2020).
 89. Samordningsuppdrag för omställning av transportsektorn till fossilfrihet (SOFT) *m.fl. Strategisk plan för omställning av transportsektorn till fossilfrihet.* (2017).
 90. Isaksson, K. & Witzell, J. *Svar till Trafikverket gällande referenser om transporteffektivt sambälle.* (2021).
 91. Swedish Transport Administration. *Transportplanering 2.0 - En åtgärd initierad av Miljömålsrådet.* (2018).
 92. Swedish Transport Administration. *Inriktningsunderlag inför transportinfrastrukturplaneringen för perioden 2022–2033 och 2022–2037.* (2021).
 93. Swedish Energy Agency. *Yttrande angående Inriktningsunderlag inför transportinfrastrukturplanering för perioden 2022-2033 och 2022-2037.* (2021).
 94. Swedish Environmental Protection Agency. *Yttrande över inriktningsunderlag inför transportinfrastrukturplaneringen för perioden 2022–2033 och 2022–2037.* (2021).
 95. Swedish National Housing Board. *Yttrande om Inriktningsunderlag inför transportinfrastrukturplaneringen för perioden 2022–2033 och 2022–2037.* (2021).
 96. VTI National Road and Transport Research Institute. *Yttrande över Inriktningsunderlag inför transportinfrastrukturplanering för planering för perioden 2022-2033 och 2022-2037.* (2021).
 97. Transport Analysis. *Hur kan e-handels Rapport transporter bli mer hållbara? 2020:2 Redovisning av ett regeringsuppdrag.* (2020).
 98. Hansen, A., Falla Arce, J. & Lindberg, I. *Friluftslivet under coronapandemin Kartläggning av friluftsvanor och vistelse i naturen under coronapandemin i Västra Götaland. Outdoors Rapport* (2021).
 99. Kamb, A., Lundberg, E., Larsson, J. & Nilsson, J. Potentials for reducing climate impact from tourism transport behavior. *Journal of Sustainable Tourism* 1–18 (2020).
 100. Anderson, P.J. *Travel Barometer 2021: Så reste vi under coronaåret.* (2021).
 101. Swedish National Institute of Economic Research. *Economic Tendency Indicator, February 2021: Tendency indicator up in February.* (2021).
 102. Swedish Ministry of Finance. *Frågor och svar om statliga kreditgarantier för gröna investeringar.* (2020).
 103. Swedish Board of Agriculture *Rapport 2018:1 - Hur kan den svenska jordbrukssektorn bidra till att vi når det nationella klimatmålet?* (2018).

104. Swedish Board of Agriculture *Utvärdering av gödselgasstödet 2015 - 2016*. (2017).
105. Swedish Wind Energy Association *Inspel till Klimatpolitiska rådet*. (2021).
106. Oberle, B. et al. *Global Resources Outlook 2019: Natural Resources for the Future We Want*. (2019).
107. Swedish Environmental Protection Agency. *Fördjupad analys av den svenska klimatomställningen 2019. Industrin i fokus*. (2019).
108. LKAB. *Press release: "Historic transformation plan for LKAB"*. (2020).
109. Swedish Energy Agency. *Scenarier över Sveriges energisystem 2020*. (2021).
110. Swedish Ministry of Infrastructure. *Regeringen tar fram nationell vätgasstrategi*. (2021).
111. Fossil-Free Sweden. *Strategi för fossilfri konkurrenskraft: Vätgas*. (2021).
112. Fossil-Free Sweden. *Politik för fossilfri konkurrenskraft*. (2019).
113. Royal Swedish Academy of Engineering Sciences. *Så når Sverige klimatmålen - Syntesrapport för IVA-projektet Vägval för klimatet*. (2020).
114. Terms of reference 2018:6. *Översyn av regelverket för nätkoncessioner*. (2018).
115. SOU 2019:30. *Moderna tillståndsprocesser för elnät Stockholm 2019*. (2019).
116. Confederation of Swedish Enterprise. *Näringslivets underliggande kompetensbehov och rekryteringsmönster - Svenskt Näringslivs rekryteringsenkät 2020*. (2020).
117. Statistics Sweden. *Arbetskraftsbarometern 2020*. (2020).
118. Fossil-Free Sweden. *Politik för fossilfri konkurrenskraft, del 2*. (2021).
119. Statistics Sweden. *Arbetslöshet i Sverige*. (2021).
120. Swedish Public Employment Service. *Arbetsmarknadsutsikterna hösten 2020*. (2020).
121. Swedish Government. *SE comments on the Commission draft of Taxonomy Delegated Acts*. (2020).
122. Vivid Economics. *Greenness of Stimulus Index*. (2021).
123. O'Callaghan, B. J. & Murdock, E. *Are We Building Back Better?* (2021).
124. Engström, M. *Underlag till Klimatpolitiska rådet: Sverige och klimatfrågan i EU under en pandemi (november-december 2020)*. (2021).
125. Council of the European Union *Recovery and resilience facility: Council presidency and parliament reach provisional agreement*. (2020).
126. Feola, G. Societal transformation in response to global environmental change: A review of emerging concepts. *Ambio* 44, 376–390 (2015).
127. Lövbrand, E. et al. *Environmental Politics and Deliberative Democracy: Examining the promise of new modes of governance*. (2010).
128. Hildingsson, R. Governing decarbonisation the state and the new politics of climate change. *Lund Political Studies* 172 (2014).
129. Scoones, I. et al. *The politics of green transformations*. Routledge (2015).

130. Sterner, T., Barbier, E.B., Bateman, I. et al. & Sterner, T. et al. Policy design for the Anthropocene. *Nature Sustainability* 2, 14–21 (2019).
131. Senge, P. *The fifth discipline*. (Random House Business, 2006).
132. Palmberg, K. *Complex adaptive systems as metaphors for organizational management*. (2009).
133. Nilsson, L. *m.fl. I ljuset av framtiden Styrning mot nollutsläpp år 2050*. (2013).
134. Swedish National Audit Office. *Planning for the future – the central government’s work with scenarios within environmental, energy, transport and housing policy* (2019).
135. Sweco. *Klimatneutral konkurrenskraft - kvantifiering av åtgärder i klimatfärdplaner*. (2019).
136. Sadler, B. *Environmental Assessment in a Changing World: Evaluating Practice to Improve Performance*. (1996).
137. Bell, S. & Morse, S. *Sustainability Indicators: Measuring the immeasurable*. (2008).
138. Aldy, J. E. et al., Barrett, S. & Stavins, R. N. Thirteen plus one : a comparison of global climate policy architectures. *Climate Policy* 3, 373–397 (2003).
139. Azar, C. et. al. *Miljöpolitikens spelplan*. (2014).
140. Governo. *Utvärdering av Fossilfritt Sveriges arbete*. (2019).
141. Karlström, M. *Analys av kommissionens förslag till CO2 krav för lätta fordon efter 2020*. (2018).
142. Haug, C. et al. Navigating the dilemmas of climate policy in Europe: Evidence from policy evaluation studies. *Climatic Change* 101, 427–445 (2010).
143. Swedenergy. *Elbranschen - Färdplan för fossilfri konkurrenskraft*. (2020).
144. Swedish Energy Agency. *Statusrapport över arbetet inom samordningsuppdraget för omställning av transportsektorn till fossilfrihet*. (2019).
145. Jordan, A. & Huitema, D. Policy innovation in a changing climate : Sources, patterns and effects. *Global Environmental Change* 29, 387–394 (2014).
146. Hildén, M. et al. Climate policy innovation: developing an evaluation perspective. *Environmental Politics* 23, 884–905 (2014).
147. Allcott, H. & Greenstone, M. Is There an Energy Efficiency Gap? *Journal of Economic Perspectives* 26, 3–28 (2012).
148. Gillingham, K. & Palmer, K. Bridging the Energy Efficiency Gap: Policy Insights from Economic Theory and Empirical Evidence. *Review of Environmental Economics and Policy* 8, 18–38 (2014).
149. Mickwitz, P. *m.fl. Climate Policy Integration , Coherence and Governance*. (2009).
150. Owens, S. & Driffill, L. How to change attitudes and behaviours in the context of energy. *Energy Policy* 36, 4412–4418 (2008).
151. Haring, N. Corruption, inequalities and the perceived effectiveness of economic pro-environmental policy instruments: A European cross-national study. *Environmental Science and Policy* 39, 119–128 (2014).
152. Matti, S. *Exploring Public Policy Legitimacy*. (Luleå University of Technology, 2009).

-
153. Hammar, H. & Jagers, S. C. What is a fair CO₂ tax increase? On fair emission reductions in the transport sector. *Ecological Economics* 61, 377–387 (2007).
 154. Lubell, M., Zahran, S. & Vedlitz, A. Collective action and citizen responses to global warming. *Political Behavior* 29, 391–413 (2007).
 155. Duwe, M., Hope, E. & Morales, D. L. *Climate Laws in Europe: Good Practices in Net-Zero Management*. (2020).
 156. Guillot, L. French court condemns government for climate inaction. *Politico* (2021).
 157. Heimersson, A. Professor: Även Sverige skulle kunna dras inför miljödomstol - Dagens Arena. *Dagens Arena* (2021).
 158. Hoge Raad Der Nederlanden. No Title. *Court order* (2020).
 159. Finnish climate change panel. *Overview of national climate change advisory councils*. (2019).
 160. Averchenkova, A. et al. *The role of independent bodies in climate governance*. (2018).
 161. Energy & Climate Intelligence Unit. Net Zero Tracker. <https://eciu.net/netzerotracker> (2021).
 162. World Bank. *Understanding Poverty*. (2021).
 163. International Monetary Fund (IMF). *Fiscal Monitor Update, January 2021. Fiscal Monitor Reports* (2021).
 164. Fossil-Free Sweden. *Färdplaner för fossilfri konkurrenskraft - Omställning och utveckling av svensk industri*. (2021).
 165. International Monetary Fund (IMF). *Database of Fiscal Policy Responses to COVID-19*. (2021).
 166. Swedish Transport Administration. *Vägtrafikens luftutsläpp*. (2020).
 167. Camia, A. et al. *The use of woody biomass for energy production in the EU*. (2021).
 168. EU Commission. *The European Green Deal*. (2019).
 169. Green Recovery Tracker. *Green Recovery Tracker Home Page*. (2021).
 170. Swedish Parliament. *Debatt med anledning av budgetpropositionens avlämnande - Budget debate of 21 September 2020*. (2020).

Annexes

Annex 1. Government decisions in 2020 aimed at contributing to climate policy goals

Decision
Tax reduction for green technology installations
Framework for green Swedish government bonds
Enhanced and broadened Industriklivet
National carbon capture centre
Tax on waste incineration
Strategic automotive research and innovation reinforced with support for working machinery
New green rebate for electric trucks and other eco-friendly trucks as well as electric-powered machinery
Increased appropriations for rail network maintenance
State aid to cover white areas (coverage gaps) on charging station maps
Charging infrastructure requirements for some buildings
Stricter definition of green vehicles and tougher environmental requirements for government official cars
Continued cancellation of ESR surpluses continues
Approval of the London Protocol (allows the export of carbon dioxide intended for storage under the seabed)
Support to property owners for renovations and energy efficiency measures for apartment buildings
Enhancements and extensions: The Climate Leap to 2026
Investment in the rewetting of previously drained wetlands
Earmarked funds for implementing the climate action plan
Conversion support for cars, from fossil fuels to biofuels or biogas
Funding for the Swedish Energy Agency to set up a system of reverse auctions or fixed amount for carbon separation, capture and storage
Support for regional electrification pilots with charging infrastructure for heavy-duty vehicles, including hydrogen tank infrastructure
R&D for aviation biofuels and electrification
Extensions: Support for advice on energy and climate change
Extended support in 2021 for municipalities and businesses to install solar cells and for energy storage
Safe cycling: 2-year funding, including government cycling infrastructure
Temporary extension: Biogas production support for vehicle gas
Temporary enhancement: Urban environment agreements have a special focus on cycling
Extension and further development: Environmental compensation for rail freight transport
Procurement of overnight rail services for European countries; operator is the Swedish Transport Administration

Assessment of climate impacts: Government agency funding
Negative emissions: Design of criteria and methods for selecting suitable land: remits to government agencies
Swedish participation in IPCEI projects
Modernisation of existing biorefinery testbeds
State green credit guarantees
Tax reduction for green technology installations
Framework for green Swedish government bonds
Enhanced and broadened Industriklivet
National centre for CO ₂ separation
Tax on waste incineration
Strategic automotive research and innovation reinforced with support for working machinery
New green rebate for electric trucks and other eco-friendly trucks as well as electric-powered machinery
Increased appropriations for rail network maintenance
State aid to cover coverage gaps on charging station maps
Charging infrastructure requirements for some buildings
Stricter definition of green vehicles and tougher environmental requirements for government official cars
Continued cancellation of ESR surpluses continues
Co-financing of the Just Transition Fund
Continued tax exemption for clean, high-blend biofuels in 2021

Annex 2. Analytical framework of the Climate Policy Council

This annex briefly describes the analytical framework developed by the Climate Policy Council and uses its analyses of the compatibility of overall policy with the climate targets. For a more detailed presentation including references, please refer to the Council's website and previous reports (2019, 2020). The framework consists of criteria for assessing the Government's *leadership and governance*, as well as a method for assessing the impact of the policy's specific *instruments*.

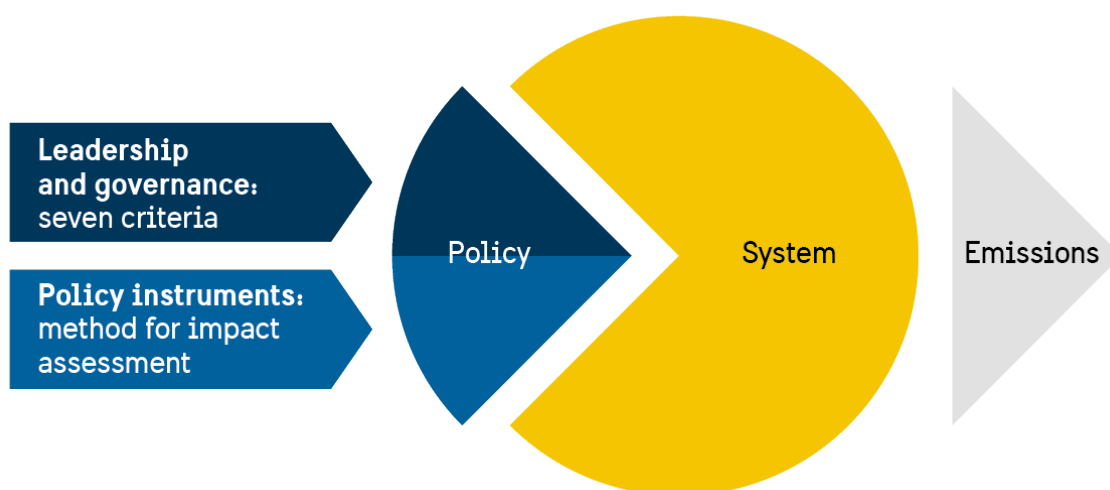


Figure 1 The Climate Policy Council's analytical framework for evaluating the Government's overall policy and climate policy action plan.

Criteria for assessing leadership and governance

Research in recent decades has increased our understanding of the profound changes in the economy and society that are needed to curb climate change and achieve sustainable development.^{126,127} On the other hand, the research does not yet provide clear answers as to how policies should be designed to drive or direct a radical transformation of this kind.¹²⁸ Furthermore, the climate transition has special conditions and circumstances. To date, it has been driven mainly by policy goals rather than technological and economic developments, and it needs to happen within a relatively short period of just a few decades.

Complex systemic challenges place new demands on policy, as does the fact that there is no global policy authority capable of making binding decisions.^{129,130} Research has highlighted the role of the state in stimulating and facilitating different kinds of stakeholder collaboration, in addition to its role as legislator and regulator. This is also reflected in political practice, from the Paris Agreement at the global level to the EU and the policies of individual countries. The emphasis on collaboration and networks of various kinds is linked to the understanding of the climate transition from a systems perspective.

The climate transition can neither rest solely on decisions taken from above by the Government and Parliament, nor on implementation by government agencies. Participation and engagement are

required from all stakeholders: politicians, the business sector, research organisations, civil society and individual citizens. However, the Government and its agencies have an important role in offering platforms for collaboration between different stakeholders and creating context and coordination among different initiatives. Research suggests that such collaboration has several positive effects, such as strengthening trust among stakeholders, promoting greater acceptance and legitimacy for policy decisions, and enabling common learning and innovation.

However, initiating, stimulating and orchestrating stakeholder collaboration does not take away from the state its traditional key role of making laws or introducing economic instruments that help operators to make an optimal socio-economic contribution to the transition. Robust instruments, such as legislation, regulations and economic instruments that provide the right market incentives, are still required. Policies for driving the climate transition need to continuously evaluate the most effective mix of the roles of the state as enabling and as governing. There is growing research literature in several different fields which highlights important considerations and trade-offs when designing effective policies. From this broad discussion, the Climate Policy Council has chosen to highlight seven criteria as essential in order for national policies to create the conditions for an economically, environmentally and socially sustainable transition.

Table 1. Criteria for an effective and sustainable climate transition policy.

Criteria	Effective policy
Common goals and vision	The policy should deliver a common view of goals that is firmly anchored among all stakeholders and a clear vision that creates momentum for long-term transition. This is an essential part of leadership in complex organisations and systems. ¹³¹⁻¹³⁵
Target attainment	Policies must be effective in achieving the climate targets set. It is not enough for the policy to be considered cost-effective or administratively operational if it does not lead to the target. ^{136,137}
Cost-effectiveness	Policy should aim to be cost-effective both in the short term and in relation to long-term strategic objectives. ¹³⁸
Coordination, organisation and resources	Policies must be coherent and coordinated, both between different levels (global, EU, national, regional, local) and between different sectors and policy areas. The state's organisation and resources must be designed and dimensioned to match the task. ^{79,107,139-141}
Stakeholder collaboration	Policy should stimulate engagement and interaction between different stakeholders in combination with traditional instruments in order to achieve the goals set as effectively as possible. ^{127,142-144}
A long-term approach, with learning and flexibility	Policy must be transparent, long-term and predictable in order to reduce the risks to the stakeholders involved while systematically evaluating and developing as lessons are learned and external changes take place. ^{145,146}
Acceptance, legitimacy and interaction with other goals	Policy must gain acceptance and legitimacy from citizens. Accountability mechanisms must be in place. The aim should be to maximise synergies and limit conflicts with other societal objectives, such as employment, good health or fair distribution, summarised in the UN sustainable development goals and Agenda 2030. ^{133,147-154}

Instruments – Analysis of solutions, obstacles and the impact of instruments in four steps

The Climate Policy Council has developed a methodology for analysing the solutions available to reduce greenhouse gas emissions, the factors that hinder the solutions, and the extent to which the instruments tackle these obstacles so that solutions can materialise. The method is continuously evolving.

At the moment, it contains four steps. The first identifies solutions for reducing emissions in different sectors and their potential. The second is a survey of obstacles to realising the different solutions. The third assesses how well existing instruments address identified obstacles. The fourth assesses the extent that the identified potential of each instrument is being realised.

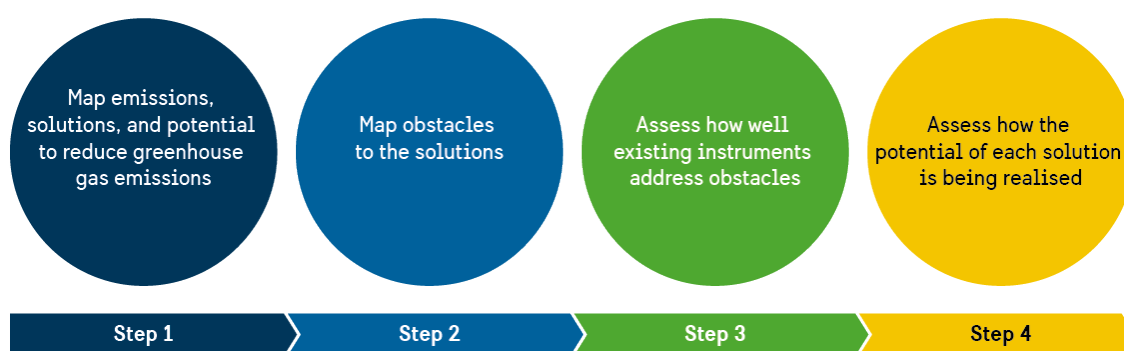


Figure 2 The Climate Policy Council's four-step approach for assessing the contribution of overall policy to achieving the climate targets

Step 1: Which solutions can reduce emissions to zero?

The first step identifies and describes the different solutions that can contribute to reducing emissions from each emissions sector. These range from reducing transport demand or increasing plastics recycling, to reducing emissions from grazing animals or fossil-free steel production. For each of these solutions, the size of the emission reductions they can contribute to is estimated to be an “emission reduction potential” in millions of tonnes CO₂e.

The Climate Policy Council has chosen to build on the consolidated information on solutions and their emission reduction potential contained in the visualisation tool Panorama. This tool has been developed and is operated by the Climate Policy Council together with the Swedish Environmental Protection Agency and Swedish Energy Agency. Panorama aims to give the user an overview of the current situation and the solutions available for reducing emissions and achieving the Swedish climate targets.

Step 2: What obstacles do the solutions currently face?

The solutions identified in Step 1 face obstacles to the realisation of the full potential to varying degrees. By compiling results from previous studies, government reports and other analyses (including the sectors' own roadmaps for clean-energy competitiveness) and supplementing them

with up-to-date, specific information from researchers and experts, an “obstacle map” has been created. Part of the obstacle analysis involves identifying possible conflicting objectives and synergies between different solutions.

Table 2. Obstacles faced by the transition

Obstacles to the transition	Critical questions to answer	Examples from the transport sector
Technology development and innovation	What further developments are needed to replace the old system and reduce greenhouse gas emissions, from a purely technical standpoint?	The recyclability of batteries is currently low
Economy and competitiveness	Are new technologies and solutions more expensive or otherwise non-competitive?	Electric cars are currently more expensive to buy
Inputs and production capacity	Is there a potential shortage of inputs or limitations on how quickly new production can scale up?	Availability of biofuels a potential obstacle in the future (especially Swedish biofuel)
Infrastructure	Is there a lack of infrastructure to scale up the use of new technologies and solutions?	Expansion of public transport needed to manage urbanisation etc.
Regulations and government processes	Are existing regulations or government processes (e.g. permitting) slowing down the transition to new technologies?	Regulation by the EU and others hinders the expansion of charging stations
Investments and lock-in effects	Are major new investments required, or have previous investments (in old technology) a long lifespan?	Existing and planned urban environments limit opportunities for new solutions
Norms and values	Is a norm shift and behavioural change needed on the part of private individuals or companies?	Carpooling, reduced travel and a switch to public transport require behavioural changes in private individuals

Step 3: How well do existing instruments address solutions and obstacles to the transition in different sectors?

Step 3 of the method aims to describe whether and how well existing instruments address the obstacles identified in Step 2. This is done through a qualitative analysis in which key instruments that affect developments in the different sectors are first identified and then rated into three levels based on how well they address the obstacles. These three levels are:

- **Weak governance:** Existing instruments do not address, or address to a highly limited extent, the obstacles to the transition.
- **Moderate governance:** Existing instruments address obstacles to the transition to some extent (for example, through weak or moderate incentives).
- **Strong governance:** Existing instruments address the obstacles to the transition well, so that the solution can be realised within a reasonable time range (for example, through mandatory measures or powerful financial incentives).

The rating is based on a weight-of-evidence determination of previous assessments and analyses, interviews with experts from different authorities and professional associations. The result is an overview of how well the instruments meet the identified obstacles. Linking the rating to the emission reduction potentials in Step 1 can provide a rough estimate of how large and what emission reductions and solutions existing instruments address well, to some extent, or not at all.

Step 4: How much potential can be realised with existing instruments?

The final step in the framework is to assess the percentage of each solution potential that can be realised by 2045, given existing the established instruments. The aim of this step is not to accurately quantify the impact of the instruments on emissions, but rather to make a qualified estimate of the magnitude of the contribution of current instruments towards achieving the long-term climate goals.

Annex 3. Development of climate laws and independent climate councils

Many countries have passed national climate legislation in recent years, and the number has accelerated since the Paris Agreement came into force. In Europe alone, 17 countries have a national climate law, and even more plan to decide on such a law. Although the design of the laws differs quite a bit, most are based on similar principles and aim to create long-term emission reductions.

Some of these climate laws are now being tested in the courts. In February 2020, an administrative court in Paris ruled that the French government had not done enough to reduce greenhouse gas emissions in relation to what was pledged in the Paris Agreement.¹⁵⁶ This was after the government was sued by four environmental organisations with the support of 2.3 million signatories. In a similar process in November 2019, the Dutch government was convicted of not doing more to reduce carbon emissions.^{157 158}

The number of established national climate councils that either have an independent role as reviewers of government policies or advisers to the government is constantly increasing, and progress is rapid. So far, more than 30 countries have set up some form of national climate council, and even more are found at the regional and local levels. First up was the UK, where the Climate Change Commission (CCC) and the Climate Act were established back in 2008. Since then, similar climate councils have been formed on all continents.¹⁵⁹

In Europe, in addition to the UK, there are climate councils in all Nordic and Baltic countries as well as in Ireland, France, Germany, Slovenia and Switzerland. The climate councils created through legislation, such as the Swedish, Danish, British, French and Irish councils, tend to be independent policies in their mandate, as well as expert-oriented and evidence-based. In addition to these independent scientific councils, there are a number of different bodies in many other countries working to achieve the climate goals. They serve as government-led scientific advisory bodies or are tasked with conducting different types of stakeholder dialogue. Poland and Hungary are examples of countries whose councils are led by the government and acts as an advisory body. Bulgaria and Iceland's councils are also advisory, but their members, unlike the independent scientific councils, not only have academic backgrounds but come from the business sector as well as environmental organisations. The last category includes the Norwegian and Malta climate councils, which aim to foster dialogue between various stakeholders and officials.

Outside Europe, variants of climate councils can be found in countries like Canada, Mexico, New Zealand, India, Chile, Kenya and Puerto Rico. In the U.S., there are several independent councils at the state level. Their mandates vary slightly in terms of remit, breadth and legal status, but they all serve as expert councils tasked with reviewing national climate policies or acting as advisory bodies to the governments of the countries.¹⁶⁰

The Swedish Climate Policy Council's remit

On 15 June 2017, Parliament adopted a climate policy framework for Sweden by a large majority. The purpose of the framework is to highlight the need for a societal transition in order to achieve the climate goals, to involve all policy areas and stakeholders in this transition, and to continuously keep Parliament up to date on the progress of these efforts. The climate policy framework contains three parts:

- The goals for Swedish climate policy;
- The Climate Act – with a planning and follow-up system for the Government's climate efforts;
- The Swedish Climate Policy Council.

The Climate Act entered into force on 1 January 2018. The Climate Policy Council was formed on that same day.

The Climate Policy Council is an independent, interdisciplinary expert body tasked with evaluating how well the Government's overall policy is aligned with the climate goals established by Parliament and the Government. The Council's remit underscores the broad nature of the climate issue.

Within the framework of the overarching remit, the Council shall do the following:

- Evaluate whether the focus of different relevant policy areas contributes to or undermines the potential to achieve the climate targets;
- Highlight the effects of agreed, proposed instruments from a broad societal perspective;
- Identify policy areas that require further action;
- Analyse how to achieve targets, both short- and long-term, in a cost-effective way;
- Evaluate the bases and models on which the Government builds its policy;
- Foster more debate in society on climate policy.

Under the Climate Act, the Government must submit an annual climate report to Parliament in its budget bill. The report should describe emission trends, major climate policy decisions during the past year, and an assessment of what additional measures may be needed.

Every four years (the year after ordinary parliamentary elections) the Government must also present a climate policy action plan to Parliament. Additionally, it must state the Government's plans during the electoral period, including how decisions in various areas are judged to affect the potential to achieve the climate targets and what additional decisions may be needed to achieve the national and global climate objectives. The first climate action plan was presented as a bill to Parliament on 18 December 2019.

By the last day of March of each year, the Climate Policy Council must submit a report to the Government. The report must contain the council's assessment of progress on the climate efforts and emission trends as well as an assessment of the alignment of government policies with the climate targets. For the years the Government presents its action plan, the Climate Policy Council must submit a report to the Government evaluating the plan within three months of its publication.

The Climate Act's obligations on the Government, together with the Climate Policy Council's reports, form a comprehensive planning and follow-up system. In addition, many government agencies provide input both to the Government's follow-up and planning, as well as decision-making input on the effects of decided and implemented policies.

Previous reports of the Climate Policy Council:

2018 Orientation around the climate policy framework

2019 Evaluation of government policies with a special focus on domestic transport

2020 Evaluation of government policies with a special focus on the first climate action plan