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The Green Deal in multi-level policy: the example of the Bremen Climate Enquiry Commission and the implementation of its findings

Global oil consumption has already exceeded the historic mark of 100,000,000 barrels of oil – per day – in 2019 and is increasing. Global CO₂ emissions continue to rise. The agreed climate target of 1.5 degrees of warming was exceeded for a whole year for the first time in 2024 and can no longer be met. This puts the partial decarbonisation in Germany into perspective. Although emissions here fell by 46 per cent between 1990 and 2023, some climate-damaging production was relocated abroad. In the transport sector, greenhouse gas emissions have risen anyway, which is why the Federal Environment Agency is quite rightly calling on politicians to make improvements to “drastically” reduce emissions (see Brand, Brunnengräber 2025).

Global climate policy

When we look at global climate policy, we should remember the following:

Climate research assumes that the political 2 degree target may not be enough to safely prevent irreversible feedbacks caused by tipping elements in the Earth system.

This is why the UN Climate Change Conference in Paris in December 2015 decided to limit global warming to “well below” two degrees Celsius compared to pre-industrial times and to make efforts to limit it to 1.5 degrees in order to minimise these risks as far as possible.

In concrete terms, the agreement in 2015 meant meeting the two-degree target with a probability of more than 66% and at the same time maintaining a 50% chance of achieving the 1.5°C limit. This results in a fixed CO₂ budget, i.e. an upper limit for emissions that may be released until 2100.

Of great importance for this approach was that strong climate protection measures should be implemented quickly, that global greenhouse gas emis-

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sions should peak by 2020 at the latest and then be halved every decade, and that these targets can only actually be achieved if we remove CO₂ that has already been released into the atmosphere – so-called negative emissions.

As we all know, this interim target has not been achieved.

Stefan Rahmstorf, one of Germany's leading climate researchers, outlined a reduction pathway in 2017. The figure for 2017 is estimated at a maximum of 600 billion worldwide tonnes of carbon dioxide assumed for a 50% chance of achieving the climate target. From the perspective of 2017, however, compliance with this target requires a global emissions turnaround by 2020 at the latest.

The longer effective climate protection measures are postponed, the faster the remaining budget will be exhausted and the more emissions will have to be reduced in the future. And at some point, of course, this results in reduction paths that are completely unrealistic. Conversely, rapid emission reductions in the present allow the point at which zero emissions must be achieved to be pushed further into the future.

According to more recent calculations from 2020, this residual budget now amounts to around 500 billion tonnes of carbon dioxide. Current data also show that global CO₂ emissions are not declining, but have continued to rise in 2021, 2022 and 2023 compared to pre-coronavirus pandemic levels.

In recent years, climate research has seen us on the path to a global temperature increase of 3 degrees Celsius in terms of actual emissions and climate policies.

The Green Deal

Against this backdrop, we look at the **EU's Green Deal**.

The EU has set clear climate targets for its member states, which Germany has not achieved by 2024.

The EU wants to reduce its emissions of climate-damaging greenhouse gases by 55 per cent by 2030 compared to 1990 and become climate-neutral by the middle of the century, i.e. not emit more greenhouse gases than are saved.

Member states and the EU Parliament have adopted important plans that are likely to drastically change Europe's way of life and economy. For example, the EU will ban new cars with combustion engines from 2035, focus on more renewable energies and expand emissions trading. The number of emission credits will be reduced more quickly and the allocation of free certificates will be gradually abolished.

But: According to the EU Environment Agency (EEA), the European Union is only partially on track with its climate, environmental and sustainability targets.

Despite steady progress, more decisive action is needed, the agency said – including in boosting a circular economy, combating species extinction and reducing the ecological footprint of consumption.

In the wake of the war, the Community is adapting its climate legislation. This is a good thing, says CDU MEP Peter Liese: “The Russian aggression in Ukraine has of course dominated the year, and we have to be flexible here in the short term. That is why we are giving citizens and industry time to breathe. Emissions trading will be tightened, but the effect will not be felt until 2027” (Mayr 2023).

From this date, emissions trading will also cover CO₂ emissions from road transport and buildings; for private individuals, it will only apply – if at all – from 2029.

The European Union has set the right priorities in its decisions following the outbreak of war, says Christoph Bals, Political Director of the think tank Germanwatch: find new energy suppliers, save energy, switch to renewables quickly. However: “In terms of concrete measures, the purchase of LNG gas has so far been the main focus. Case study Germany: In the transport sector in particular, but also in the building sector, not even the previous climate targets have been achieved. But we need to get out of oil and gas faster” (Mayr 2023).

In a landmark achievement, the European Union reported an 8% reduction in net greenhouse gas emissions in 2023, according to the latest “Trends and Projections” report from the European Environment Agency (EEA). This significant reduction marks a milestone on the EU’s path to climate neutrality, a goal to be achieved by 2050 under the EU Climate Law. The latest report emphasises that the reduction has been achieved through a decrease in coal use, a significant increase in renewable energy sources and improved energy efficiency in the EU Member States (see Müller 2024).

Preliminary forecasts indicate that the current measures would reduce net emissions by 43% by 2030. Additional planned measures could increase this reduction to 49%. However, this shows that a gap remains, emphasising the need for Member States to further improve and implement their National Energy and Climate Plans (NECPs) (Müller 2024).

The transition to renewable energy sources has proven to be crucial for reducing emissions in the EU. According to EEA estimates, renewable energy now accounts for 24% of total energy consumption in the EU – a significant increase compared to just 10% in 2005.

At the same time, energy consumption across the EU continues to fall: primary energy consumption has fallen by 19% and final energy consumption by 11% since 2005.

The transition from fossil fuels to renewable energies has had an enormous impact, particularly in the energy sector, where emissions have been halved since 2005.

The industrial sector has also achieved a 30% reduction in emissions during this period, mainly through improved energy efficiency and optimised processes. This progress is largely due to the EU Emissions Trading System (ETS), which has created a regulatory environment that encourages emission reductions in sectors with high greenhouse gas emissions (see Müller 2024).

Although significant progress has been made in the energy and industrial sectors, developments in other areas covered by the Effort Sharing Regulation (ESR) are mixed.

For example, the buildings sector has seen a remarkable 30% reduction in emissions since 2005, thanks to energy-efficient refurbishments and sustainable heating and insulation methods.

The transport and agriculture sectors, on the other hand, faced greater challenges in achieving comparable reductions.

The EEA emphasises that achieving the proposed 2040 target of a 90% reduction in emissions, as envisaged by the European Commission, requires both predictable and flexible policy frameworks that take into account the scale and speed of the necessary changes.

According to the EEA's analysis, the projected emission levels for 2040 and 2050 remain above the targets, even if many Member States introduce new measures (see EEA Report 2024).

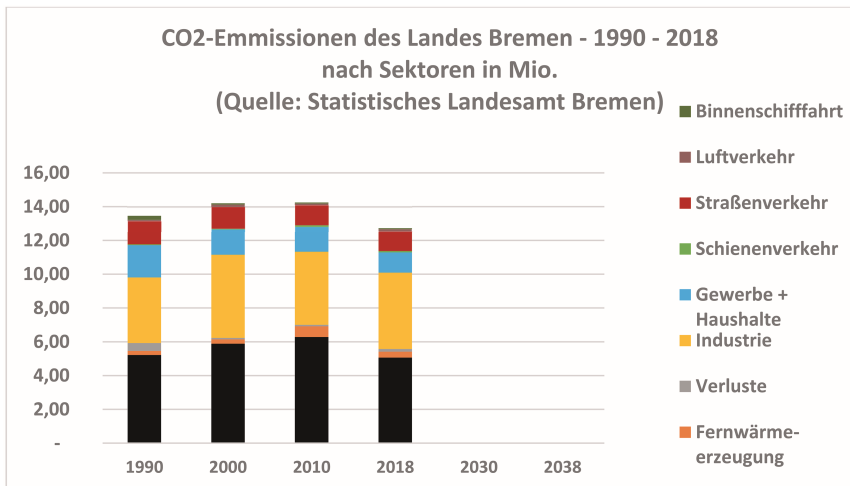
Regional climate policy

With this in mind, let's take a look at Bremen.

Bremen's climate policy already has a long tradition and can boast activities in all relevant areas. It is consistently rated very highly in various comparisons of municipal approaches. In some areas, it even stands out in particular – for example in car sharing. Overall, it has long been very differentiated and Bremen has been a pioneer in climate policy at local level nationwide.

And yet: in the 30 years between 1990 and 2020, Bremen's emissions were only reduced by just under 6% – instead of the 40% that Bremen's climate policy aimed for. This very sobering situation is the starting point for the parliamentary commission of enquiry that worked in 2020 and 2021.

Let's first take a quick look at the data to understand the situation a little better:



The graph shows Bremen's emissions by sector over time – and we can see that 4 sectors are particularly significant: electricity generation (black), which fluctuates at a high level, industry (yellow), whose emissions have actually increased, buildings (blue), whose emissions have fallen by around 1/3 (which is certainly not easy to see here), and road transport (red), which has slightly lower emissions.

Let's take a look at the most important influencing factors in the individual sectors:

In the electricity sector, the decisive factor is the delayed energy transition and the continuation of coal-fired power generation prior to the decision to phase out coal. This is controlled at federal level. It is also important that the energy producers are privatised, i.e. companies make the decisions here. Bremen has hardly any influence here.

In industry, emissions are dominated by the steel industry. Bremen is home to a basic materials industry. Emissions here are determined by economic trends and global market-driven corporate strategies. Transformative approaches have long been unimaginable.

In the buildings sector the falling emissions are a result of improved standards in new construction + refurbishment of existing buildings – both are directly attributable to federal building legislation and the accompanying

measures at local level (energy advice and local funding programmes, for example).

In the transport sector, we are seeing slightly lower emissions – this is due to significantly more efficient vehicles. At the same time, however, there is a very significant increase in traffic – both for cars and goods vehicles. This reflects the approaches of transport policy, both nationally and regionally, which are primarily focussed on the car.

It is important here once again to address Bremen's limited scope for action and the decisive role of the federal government and the EU – both in terms of legislative powers and financial resources.

The areas in which Bremen has the most important options of its own in the multi-level state system are clearly transport policy and the area of buildings and their heating supply.

In all areas, it is clear that there have been virtually no attempts to make truly transformative changes for decades. Neither at federal nor state level.

This was the starting point for the redefinition of Bremen's climate policy in 2020 – the goal of the Enquete Commission's work.

The Enquete Climate Commission, an institution of the Bremen parliament, was a novum, the first one in Germany on communal level.

All parties (9 representatives) were represented plus experts (9) and permanent guests (environmental and business associations, labour unions, members of the state administration). Work began in May 2020 and the final report is available since December 2020.

It had described its goals as follows:

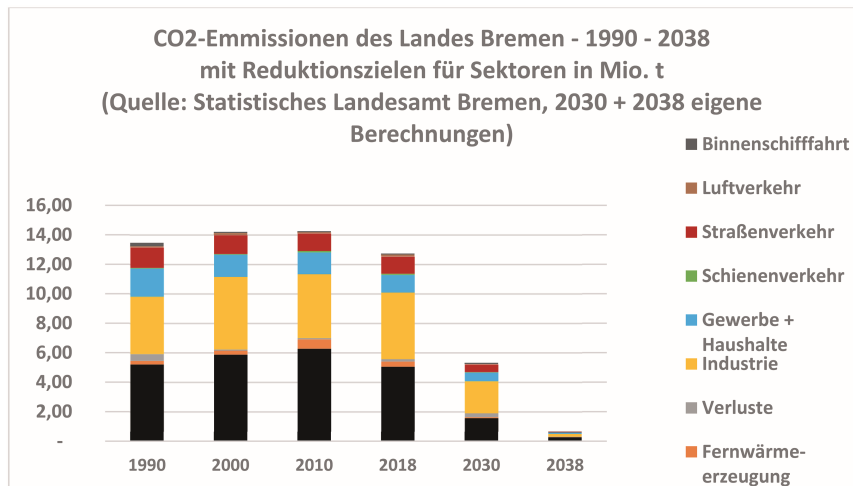
- Development of a comprehensive orientation of all areas of action towards the goal of climate neutrality,
- Convergence with EU and national policy with limited options for local authorities,
- Managed transformation for all sectors.

In my view, the challenge is most clearly expressed in this statement by Patrick Graichen, who participated in the Enquete as an external expert. "We have to pull all the levers to the limit"

The Enquete's approach is explicitly to orientate itself on the Paris goals – and to do for all areas what climate policy has not yet done consistently at either federal or local level, namely to think about a comprehensive, controlled transformation.

Due to the repeatedly emphasised central importance of federal and EU policy, the role of the different policy levels was also explicitly considered here.

The emissions pathway developed by the Enquete is based on the Paris targets and an emissions budget broken down to Bremen.



Specific reduction quotas are derived for the different sectors.

Let's take a look at the key measures in the most important sectors:

In energy generation, the expansion of renewable energies, i.e. wind and solar energy, is crucial. This is largely controlled at federal level – in Bremen, the focus is primarily on the expansion of PV systems on public and private roofs. We are actually at the very beginning here.

In the transformation of the steel industry, we are dependent on the strategy of a multinational company, i.e. Arcelor Mittal, and the actual expansion of the hydrogen infrastructure. It is important to note that there are very clear time windows for necessary replacement investments in such plants, which mean that there are very precise and tight time windows for change that must be utilised in order to achieve change – and which mean that additional acceleration of a transformation is not possible. For Bremen, this path is a decisive factor in securing the location. This is crucial for Bremen as a business location, even though Arcelor Mittal is responsible for almost half of Bremen's emissions.

Specifically, the plant is planning to retain the site and is making concrete preparations to enter into hydrogen technology, the subsidies from Brussels are also in place and Bremen has promised co-financing. However, it remains to be seen what concrete steps will be taken in view of the tense global market situation for the German steel industry.

Transport policy is about the conversion to e-mobility, but not only. For example, the Enquete's assumptions are also based on the fact that the number of passenger cars will be reduced by 66% by 2038. The number of cars per 1000 inhabitants is expected to fall from 428 to 150. That is a very important point. Transport performance, i.e. the total number of kilometres driven, is also set to fall – by 30% in the car sector by 2030. However, there were special votes from individual parties.

One key instrument is the massive expansion of local and regional public transport. For example, we absolutely need services for regional commuter transport, which is much more important from a climate perspective than inner-city transport. And here we have no concrete plans to date. In the coming years, politicians will have to make statements on how they intend to finance the expansion of public transport. Among other things, the Enquete also proposed the principle of “transport finances transport” – in other words, that car traffic should be burdened with additional costs in order to support local public transport.

In the area of buildings and heating, the focus is of course on the standards for new buildings and the refurbishment rate for existing buildings. The Enquete Commission determined that the measure with the greatest CO₂-saving effect here would be a separate, very expensive state funding programme for building refurbishment. The second most effective measure is a state heating law and this would also involve very ambitious Bremen targets for the conversion of the heating supply. Gas consumption is to be reduced by 56% by 2030 – how exactly do politicians intend to achieve this?

Another challenge is the conversion of district heating and new local heating networks to truly climate-neutral renewable energies. Here we only have very vague ideas for district heating, and it is now clear from the current plans of the local energy supplier that its expansion cannot take place quickly enough. For local heating, we need clear statements on which options should be supported here: how do we view urban geothermal initiatives that want to organise themselves as cooperatives? Should there be a municipal infrastructure? Politicians are already lagging behind the time targets set out in the Enquete report. However, local heating networks in particular offer an opportunity to supply climate-friendly energy to those neighbourhoods that cannot be connected to district heating networks and also to create cost-effective and participatory solutions.

The financial framework conditions are crucial: the realisation of this climate policy is only possible with a huge investment. This involves investments, operating costs, but clearly also additional personnel. The Enquete Commission assumed that the public sector will need around 6–7 billion eu-

ros in one-off investment costs and around 200–380 million euros per year in long-term operating costs. Of course, similar costs are incurred everywhere in Germany, as various studies show for individual sectors and for Germany as a whole. It is quite clear that these burdens can only be met through additional debt, either at local level, for example in Bremen, or through support from the federal government and then through debt there. The judgement of the Federal Constitutional Court of November 2023 sets limits to this.

In February 2023 Bremen's parliament approved 2.5 billion euros for climate protection, enshrining certain reporting obligations for greenhouse gas emissions. A preliminary balance sheet is due by the end of March 2025 for the first reporting year 2023. However, the State Statistical Office will not be able to provide this. This is a very time-consuming process and the necessary positions are not available – not least due to necessary budget cuts as a result of the debt brake. The 2.5 billion approved for climate protection measures could also not be realised due to the debt brake.

This means that although the Enquete Commission in Bremen is an excellent example of cross-party, expert-led political decision-making, it is unlikely, that the measures can be implemented in the form that was intended.

It remains to be seen which measures can still take effect despite reduced financial resources and where the municipality will utilise its room for manoeuvre, particularly in municipal heat planning. The current discussion is focussing on issues such as the conversion of district heating and new local heating networks to truly climate-neutral renewable energies and citizen participation. There are promising approaches from local initiatives here and their promotion could be a great opportunity.

Especially when it comes to issues such as the transport transition, doubts are justified as to whether the state government is prepared to boldly move forward and decide on far-reaching changes to strengthen the environmental network and significantly reduce the number of cars in the city.

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But it is doubtful if a climate-neutral Bremen by 2038 is even possible.

The devil is in the concrete implementation.

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