

Green Mobility in the German RRP

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Abstract: This paper is about the aspect of green mobility within the German RRP. To put this specific topic into context, I will present the German climate targets and their current status. Then I will evaluate whether the German politicians are on track or lagging behind. On this basis I will link the German progress regarding their climate goals with the investments from the RRP. Furthermore, I will examine the focus of German policy on green mobility. This focus is reflected in the general climate goals to date, the current coalition agreement and the German RRP. In this study, my focus will be primarily on electric-cars and rail transport. A cross-comparison with seven other EU Member States will then show how the German focus differs from the focus of the other EU countries. I will then work out these differences and look for possible reasons for them. Last, I will evaluate the German priorities and highlights possible chances and risks.

1. Introduction

This paper deals with the aspect of green mobility in the German Resistance and Resilience Plan (RRP). I will focus on the planned reforms and investments in this area and link them to the German climate goals. In this context, I will examine whether the current reforms and investments fit these objectives or not. In addition, I will question the German focus within green mobility on e-cars (electric cars).

This topic is highly relevant because in 2019 around 784 million tons of CO₂ were emitted in the European Union (EU) by the combustion of fuels in road transport. With this value, road transport is responsible for 26% of all CO₂ emissions in the EU in 2019 (Destatis, 2022).

So how the EU proceeds in this context plays a major role. It is a big lever that can significantly move CO₂ emissions in the EU up or down. In the aforementioned year 2019, the German share of the 784 million tons of CO₂ was 163.5 million tons of CO₂ (Umweltbundesamt, 2020), in percentage around 20.9%. This also clearly shows the importance of German decisions on the transport of the future. One fifth of the emissions are attributable to Germany. In this context, Germany is therefore not only relevant as the largest economic power in the EU, but also as a direct influencer on emissions figures.

Since this paper examines the part green mobility from the German RRP, it is important to put the RRP and Next-Gen-EU in the right context. Next-Gen-EU is a recovery plan with an overall-budget of 806.9 billion euros (European Union). It is the first time that the EU is taking common debts. They plan to have a long-term payback until 2058 (European Commission). The German share amounts to 27.95 billion euros (Bruegel Dataset, 2022) and around 40% of this is allocated to the green transition (Corti et al., 2022). Green mobility, in turn, is part of the green transition. In addition to the monetary aspect, Next-Gen-EU also has a symbolic meaning because of the common debt. It is a new joint project, which is even described on the website of the European Union as "once in a lifetime chance". It can therefore be said that Next-Gen-EU has a high priority within Europe and that the transport sector plays a major role in climate protection. On this basis, I put forward the thesis that Germany misses a great opportunity for climate-neutral traffic with its RRP and is heading in the wrong direction with its focus on electrically powered cars.

The paper is structured as follows. The first sector presents the existing research and the literature that I used to develop the research. A second section is then focused on the German climate targets and its current status. Whereas the third section focuses on the German RRP and its contribution to green mobility. I will present the main focus of the German projects and investments. The fourth section will provide a comparison between this German focus in the field of green mobility to the main focus of other EU member states in this field. Conclusions then briefly summarize the findings and show some possible counterarguments.

2. Existing Research

Since Next-Gen-EU is still a relatively new topic, most of the research and elaboration is very general. It tries to describe the project as a whole and to find the country-specific differences. However, my elaboration is thematically much more concrete, as it only stays in the German RRP and analyzes the part of green mobility there. This focus with the link to the German railway/rail infrastructure has not yet been documented in this way.

In order to make my elaboration as well-founded as possible, I will refer to the previous, somewhat more general, research. In particular, Bruegel's elaborations and the websites of the European Commission, the European Parliament and the German institutions help to gain a basic understanding of Next-Gen-EU and the German RRP. Since my paper focuses on the green part of the RRP, the Green Recovery Tracker is also of great importance. There, the "Green Spending[s]" (Green Recovery Tracker) of the EU member states are compared, analyzed, and evaluated. In order to do justice to the German focus at the same time, it is essential to work with the DARF (German RRP). In addition to this primary source, I also work with some articles from the German media landscape. Here, the articles of the last one to two years paint a good picture of the status of climate targets, sticking points in implementation and the often-conducted debate about electric cars. Through this already existing research at EU level and national level, it is possible to go one step further and analyze green mobility in detail.

3. German climate targets and their current status

I dedicate this section to the German climate targets. This is the basis for a comparison between these objectives, past measures, and investments from the RRP.

In recent years, Germany's climate targets have been intensively discussed in the media, in public and even in court. That is possible because the German path to climate neutrality was laid down in the Climate Protection Act, a German climate law. This law therefore forms the guideline for German climate action. The guideline has been criticized by many as too unambitious and inadequate. Since it is a law, this issue could even be taken to court. This is exactly what has happened, and the Federal Constitutional Court (the highest German court) has obliged the Government to adapt the law (Die Bundesregierung, 2022). This judgment of 29.04.2021, that the Climate Protection Act is unconstitutional in parts, has attracted a lot of attention. For example, the later top candidate Armin Laschet of the CDU (at the time the governing party) said that this verdict marked a "historic moment" (Süddeutsche Zeitung, 2022). As a result, the climate protection law was renewed by the government around Chancellor Angela Merkel. This renewed version came into force on 31.08.2021.

The content of this new version is stricter climate targets. According to these new targets, Germany has to achieve greenhouse neutrality by 2045 and reduce greenhouse gas emissions by 65% until 2030 (compared to 1990) (Die Bundesregierung, 2022). All these changes took place at the end of the government of the so-called grand coalition of CDU and SPD. On 08.12.2021, almost three months after the amendment of the Climate Protection Act, there was the appointment of the new Chancellor Olaf Scholz and with him a new government between SPD, GRÜNE and FDP. This new federal government has also taken climate change into account in its joint coalition agreement and stipulated, among other things, that 15 million purely electrically powered cars should be registered in Germany by 2030 (Augsburger Allgemeine, 2022). This very concrete promise is extremely important for my subsequent elaboration on Germany's transport strategy.

Also important for the following argumentation is the fact that the Climate Protection Act is evaluated from outside by media and other players. An "Expert Council for Climate Issues" (Die Bundesregierung, 2022) supervises the implementation of the law and writes an expert opinion every two years, which reflects the current status. This report is intended to ensure that the monitoring of this project is carried out by experts in the field and that the Federal Government can quickly make adjustments in the event of failures. I took a closer look at the first report from 2022 and the report came to the following conclusion on the current implementation: "The development of greenhouse gas emissions observed in the past as well as the continuation of the trends of the last years before the Covid-19 pandemic point to a significant gap in compliance with the 2030 targets for all sectors and overall" (Expertenrat für Klimafragen, 2022). After the very first review, the expert council commissioned by the government has already concluded that there are significant gaps. According to the expert council, the targets for 2030 can only be achieved through strong additional measures.

This result is supported by some reports from the media. However, these also focus on the promise from the coalition agreement that 15 million fully electric cars should be registered by 2030 (Augsburger Allgemeine, 2022). For example, the newspaper Focus (2022) concludes that reaching the 15 million mark is "quite unrealistic". This is not only due to the low number of new registrations, but also to the many exports of electric cars instead of selling them in Germany (Focus online, 2022). The newspaper Augsburger Allgemeine comes

to a very similar conclusion in an article. There, too, the achievement of the 15 million mark is not given a high probability. With luck, the one million mark will be reached by the end of this year. How an increase of 1500% by 2030 should take place, however, is not clear. As an additional argument, the rising electricity costs are cited here, which make the conversion even more difficult (Augsburger Allgemeine, 2022).

There is also a critical interim conclusion on rail transport. Although the coalition agreement (2021) of the current government speaks of a "rail transport master plan", it is currently far from achieving its goals. Among other things, passenger transport is to be doubled by 2030 (Verkehrsrundschau, 2021). Even though the Federal Government achieved a great success with the 9 Euro Ticket project, Deutsche Bahn was unable to maintain the increase in passengers after the three-month project (FAZ, 2022). Above all, the backlogs in the railway infrastructure are repeatedly criticized. Although Germany has the narrowest road network in Europe, it is far from playing such a role in rail transport. For example, the Stern (2022) sums up the current situation as follows: "Germany slows down uniform rail traffic in Europe". The article refers to a study that suggests that Germany's rail network is more like a patchwork quilt and shows structurally large differences to European neighbors (Stern, 2022). These differences make rail transport across national borders very difficult. It is therefore an omission, which is now also causing problems at EU level.

In conclusion, it can be said that the German climate targets are ambitious, at least after the court ruling and the revised Climate Protection Act. Especially if you compare these goals with the current situation and read reports such as that of the Expert Council for Climate Targets. Currently, the goals and actions still seem to diverge significantly. This interim conclusion can also be applied to German rail transport, which is mainly due to the deficits in the rail infrastructure.

4. German RRP (DARP – the German term) and its contribution to green mobility

The additional budget through Next-Gen-EU could therefore be a unique opportunity to narrow this gap between climate goals and current progress. But how exactly is Germany taking advantage of this opportunity and what are the priorities in the field of green mobility? I will answer these questions in this section. The part

regarding climate-friendly mobility takes up 99 pages of the German RRP. Right at the beginning, the link to Germany's climate goals (including the Climate Protection Act) is established. The measures within the RRP therefore serve to comply with the previously set objectives (DARP, 2021: 141-142). Looking at the interim conclusion shown above, it is logical that no new goals are set, but new means are used to close gaps. From a political-strategic point of view, this is a clever decision, but a clear admission that the goals set so far cannot be achieved with the current measures. Specifically, this part of the RRP provides for six investments and one reform.

The first three investments relate to electromobility in road transport. It is about the "construction of refueling and charging infrastructure", the "Electric Mobility Promotion Guideline" and the "Innovation premium to promote sales of electrically powered vehicles" (DARP, 2021: 142). These three investments in conjunction with the reform, which also brings tax advantages for purely electric cars, should finally bring the electric car in large numbers to the German roads (DARP, 2021: 141-142). For this purpose, two adjustments are to be made at the same time. On the one hand, the infrastructure (nationwide charging facilities) and on the other hand, the e-cars themselves, as well as their sales.

The project with the biggest budget is also the most discussed one. It is the "Innovation premium to promote sales of electrically powered vehicles" (DARP, 2021: 155). In detail this project is an innovation premium, which is paid out on the purchase of an electric car. The aim of the measure is to minimize the price difference between electric cars and cars with combustion engines. In simple terms, this means that the supply-demand balance is artificially shifted. By paying out the premium, the buyer can save part of the money that nevertheless ends up with the car manufacturer. The costs of this shift are then borne by the state. This very costly program shows that the car industry cannot yet offer e-cars at a price that consumers will pay. The state's approach here shows that the main goal is to build a strong future-proof car industry. The real goal of these projects, however, should be to enable green, CO₂-friendly transport nationally and internationally. Instead, the money is being used to make the switch as easy as possible for car manufacturers. Although this could promote the German economy in the future, it will probably also lead to the car manufacturers always relying on the state when faced with major challenges instead of navigating into the future through their own

innovations and courageous decisions. So, in my opinion the money invested is an economic stimulus, but not a truly green investment.

The three investments listed above, as well as the reform, are also the first mentioned measures in the list (DARP, 2021: 142). This underlines the focus on e-mobility on the roads. This is because the content of the other three reforms is more widely distributed. These include the "purchase of buses with alternative drives", "alternative drives in rail transport" and "subsidies for hydrogen cell applications in transport" (DARP, 2021: 142-143). The financial volume of investments also fluctuates significantly. For the "innovation premium to promote the sale of electrically powered vehicles" (DARP, 2021: 142) alone, 2.5 trillion euros are estimated, while the investment in rail transport amounts to only 0.23 trillion euros (Bruegel Dataset, 2022). With an investment volume of 2.5 billion euros, this investment is even the third largest single project in the German RRP (Corti et al., 2022). The investments and the reform for the topic of electric cars in road transport amount to 3.57 billion euros, which is 65.6% of the total budget for climate-friendly mobility. In comparison, the investment for rail transport is 4.2% of the budget (Bruegel Dataset, 2022). It can therefore be said that almost two-thirds of the money is reserved for electric cars and this is the clear focus of German future planning in the field of green mobility.

5. Comparison with other countries (investment in rail transport)

The fact that rail transport is hardly taken into account in the German RRP (4.2% of the budget for climate-friendly mobility) gives little hope that the backlog in the railway infrastructure will be made up. The European neighbors show that there is another way. In order to make a comparison between EU countries and at the same time not go beyond the scope, I have concentrated on the largest individual projects within the RRP. The Recovery and Resilience Reflection Papers (2022) are a suitable source for this cross-comparison. This publication lists the ten largest individual projects of the countries surveyed within the RRP. The countries studied are Italy, Germany, Spain, France, Slovakia, Belgium, Austria, and Portugal (Corti et al., 2022). Since the largest individual projects also reflect the priorities of the countries due to their financial volume, these data are ideal for comparing the political priority of rail transport in the other countries with that of Germany.

The result of this comparison is very clear. Every member state listed above got at least one project regarding railways or the metro in their top ten projects. Listed here are the concrete projects with financial volume:

Figure 1. Comparison of railway-/ metro projects within the EU

| EU Member States | Title of the project | Financial volume (in billion euro) |
|------------------|--|------------------------------------|
| Italy | High-Speed-Rails | 13,2 |
| Spain | Transformation of urban and metropolitan transport | 2,9 |
| France | Support of the railway sector | 4,4 |
| Slovakia | Low Carbon Transport (including modernization of railways) | 0,66 |
| Portugal | Strengthening the metro network | 0,6 |
| Austria | Construction of new railways and electrification of regional railway | 0,54 |
| Belgium | Rail-efficient network | 0,28 |

Source: Corti et al. (2022)

Of course, the total figures of the financial volume vary greatly. But this is simply due to the discrepancy between the total budgets of the countries. In relative terms, however, each country has spent a relatively large amount on these projects, as they are among the ten most costly. But even in total terms, each of these individual projects would exceed the German rail costs (0.23 billion euros) (Bruegel Dataset, 2022). This

makes it abundantly clear that Germany's attitude towards rail transport differs significantly compared to other European countries.

But why is it that Germany deviates so far from the European norm in this aspect? An answer to this question could be the subject of another entire paper and is too far-reaching to be formulated here. Nevertheless, I would like to provide some approaches for an answer.

First of all, the German car industry should be mentioned here. This is traditionally very influential in Germany and contributes to the fact that Germany is so attractive as a business location. Meanwhile, even three car manufacturers (BMW AG, Daimler, Porsche and Volkswagen) are represented in the DAX (list of the 30 most important German stocks) (Tagesschau, 2022). In addition, in 2021, as in previous years, "motor vehicles and semi-trailers [...] with 210.8 billion euros and a share of 15.3% of total exports [...] [are] Germany's most important export goods" (DESTATIS, 2022). In simple terms, this means that the German car industry is a big factor in the German economy. This is why one often speaks of a strong and influential car lobby. The support of passenger rail transport is therefore traditionally viewed critically as a competitor to the car.

Secondly, I would like to offer Deutsche Bahn as a monopoly for passenger transfers on rails. Due to the high entry threshold for new providers, Deutsche Bahn is still the only provider with its rail network. However, this lack of competition is only one of the many factors why Deutsche Bahn as a company is often in crisis. Again and again, the company is in the press because of insufficient infrastructure, high ticket prices or immense delays. The many delays of Deutsche Bahn even led to the fact that there is now the saying "punctual like Deutsche Bahn" in Germany. This accuses someone or something of being unpunctual.

In the case of the company, it is also noteworthy that this company is structured like a joint-stock company, even though it is 100% owned by the state (Bundesministerium für Finanzen, 2022). Again and again, the demand for privatization comes up on this topic, but so far it remains the case that the state rejects this and invests billions in the continued existence of the company.

These two arguments are only intended to give a first impression of the complexity of a possible solution. Due to its historical and economic importance, the automotive industry is popular with politicians and citizens. In addition, Deutsche Bahn, with its media image and internal problems, is not a real competitor to get people off the car.

6. Conclusion

In summary, it can be said that Germany is still lagging behind the climate targets it has set itself. Even the expert council appointed by the Federal Government comes to this interim conclusion. This is probably one of the reasons why Germany primarily provides financial support for existing goals and measures in its RRP. New topics are rarely found in the German RRP. The green mobility part of the German RRP places a strong focus on e-mobility. This is where financial support is provided most intensively. At the same time, the charging infrastructure is to be expanded and the number of electric cars increased. In contrast, rail transport is hardly taken into account. This decision is particularly exceptional in the European context. Because in other EU countries you can find many financially large projects in rail transport. This not only has an influence on the CO₂ emissions emitted by German traffic, but it also affects cross-border rail connections, which often fail due to German defects. Reasons for the German behavior could be both the long history between cars and Germany as a business location as well as the bad image of the company “Deutsche Bahn”. Either way, Germany is leaving rail traffic behind its own destinations when running behind. While this could lead to the achievement of some objectives, it is short-sighted and will lead to some problems in the future. Although the future of cars is e-mobility, the future of passenger transport lies in car sharing and climate-friendly rail transport.

Germany must therefore be careful not to ignore long-term, sustainable transport planning despite all the ambition in automotive technology.

The answer for the question why the German politicians keep the railways and their infrastructure out of their focus, could be a topic for further research. I just tried to give a first insight into this complex issue. Furthermore, one counterargument to mine is the importance of the German car-industry. The production of

electric cars could not only benefit the German economy, but it could also be an important factor to reach the EU-Goals of electric cars. Even though they slow down the European railway-connection, they can speed up the change to purely electric cars by a large number of exports within the EU. At this point one can talk about the weighing of the advantages and disadvantages of this focus. Nevertheless, I think that the German priorities are set wrong. This will lead to many problems in the railway-transport and is an admission that their own climate goals are in danger. Germany needs the Next-Gen-EU to get closer to their original climate goals.

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