ANALYSEN

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SUSTAINABILITY

GERMANY AS A 'CLIMATE SAVIOUR'

DEBUNKING THE MYTH – THE SOCIO-ECOLOGICAL IMPLICATIONS OF GERMANY'S MODEL OF CAPITALIST DEVELOPMENT

TOBIAS HAAS

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FOREWORD: BRAVE NEW GERMANY?

No doubt you still remember the way things used to be: before Özil and the #MeTwo racism debate, before the 'Mannschaft' suffered its ignominious defeat in the group stage of the men's World Cup in Russia. And, of course, before that 'unnecessary' protest in Hambach Forest, where Germany showed the world that it is not only a world champion at mining and burning lignite, but also that is has no scruples about trampling on civil liberties to get at this lignite. Indeed, before all these unpleasant events took place, people's perception of Germany at home and abroad appeared to be influenced by a very different image. Back then, Germans were supposedly living in the legendary 'Kingdom of the Climate Saviour'.

The tale went something like this: Once upon a time there was a land in the heart of Europe that had learned from its mistakes. Purged by the painful experience of coming to terms with its dreadful history, it was able to guide its neighbours during the turbulent years of the 'Great Recession' (the financial and economic crisis that started in 2008). It led the way in women's and men's football, in its generous attitude to refugees, in the rational, calm demeanour of its head of government – a woman who donned the mantle of 'Leader of the Free World' when the madman took office in Washington – and, of course in the field of environmental policy, especially climate policy, an area in which for decades this country had been recognised as a pioneer. Long before the tabloids hailed this head of government as 'Climate Chancellor' at the G8 summit in Heiligendamm, her fortunate nation had already acquired an almost mythical status as the star performer at the annual UN climate negotiations. And, when Donald Trump announced in early June 2017 that the US was pulling out of the Paris Climate Agreement, it was only natural to assume that the hopes of the world now rested on this nation's slender shoulders. It was up to Germany at last do what it had repeatedly attempted to do in the past: to lead the world, this time out of the fossilised era and into the age of green growth – the world of climate action.

As a fitting celebration of Germany's leading role in climate protection, the world convened in Bonn last year for the 23rd climate summit. The conference may have been presided over by Fiji, but the location was Bonn: a city in the Rhineland – and a major mining area for lignite, or brown coal. Is this a winter's tale in brown? It is, above all, a fairy tale. As the following articles show, Germany is far from being an ecological pioneer or a champion of climate protection. On the contrary, the articles show that its wealth is based on an economic model that is highly destructive, both socially and environmentally, that Germany's global leadership relates primarily to lignite mining rather than to the development of renewables, and that there is still a lot of work to be done if Germany is finally to close the gap between its claims and the reality.

Tadzio Müller, Senior Advisor for Climate Justice and Energy Democracy,
Rosa-Luxemburg-Stiftung
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1 INTRODUCTION

In June 2017, US President Donald Trump announced the US's withdrawal from the Paris climate agreement. Now more than ever before, the hopes of the world rest on China and the EU. The latter has in the past repeatedly claimed to be in favour of an ambitious global climate policy – at least during discussions. Observers frequently portray the EU as a key player in global environmental and climate policy (Oberthür and Roche Kelly 2008). One country in particular is often lauded as a pioneer of green policy: Germany. Its Chancellor, Angela Merkel, has repeatedly and successfully portrayed herself as the *Climate Chancellor* on the international political stage. During the G20 Hamburg summit, she was able to convince every government, with the exception of the US, to reaffirm its commitment to the Paris climate agreement. The credibility of Germany's image as a pioneer in climate protection, however, is to a considerable degree grounded in the country's powerful environmental movement and its energy transition *(Energiewende),* which has been influenced by events stretching as far back as the 1970s (Schreurs 2016).

Germany's energy transition has even caught on in English-speaking countries, so much so that the term *Energiewende* is now commonly used by English-language media outlets. Two examples demonstrate the huge appeal the *Energiewende* has had. After his visit to Germany, Thomas Friedmann, called Germany 'The Green Superpower' in his New York Times column. The documentary 'This Changes Everything', which was inspired by Naomi Klein's 2014 book of the same name, explicitly portrays the German *Energiewende* as a positive example of energy policy (Müller 2017).

But in Germany itself, the *Energiewende* has come in for harsh criticism from conservative groups. Hans Werner Sinn (2008) demands an 'illusion-free climate policy' and Joachim Weimann (2010), a Magdeburg-based economist, sees 'Germany muddling under the dim light of energy-saving bulbs'. For the right-wing populists of the AfD *(Alternative für Deutschland)* party, German energy policy had always struck the right balance between providing reliable and sustainable energy at cost-effective prices – at least until a social democrat (SPD) and Green Party coalition government passed the Renewable Energy Sources Act (EEG) back in 2000 (AfD 2016: 78-83). Following Trump's withdrawal from the Paris Agreement, the CDU's right-wing conservative *Berliner Kreis* demanded a complete government overhaul of climate policy (*Zeit Online* 2017).

A great deal of overlap appears to exist between the external and internal perceptions of the country: for most, Germany is the world's pioneer in environmental and climate policy. By and large, however – as this text will show – the idea of Germany being a climate trailblazer is merely a myth. With the exception of the real progress that has been made in expanding the share of renewables in the energy mix, and which is, moreover, a success delivered foremost by German social movements and not the government (the grand coalition government left out no opportunity to hamper the process), Germany's

record when it comes to climate policy is anything but commendable.

To substantiate this hypothesis, I will consider the structural makeup and dynamics of change inherent to the German model of capitalism and analyse them in the context of conflicts over climate policy and the *imperial mode of living* (I explain this concept below). Climate policy, after all, is not made in an economic and political vacuum. Thereafter, I analyse four central fields of German climate policy: energy transition in the electricity and heating sector, as well as in transport, agriculture and raw material policy, before taking a look at the development of German emissions and the related discussions.

2 CAPITALISM AND THE GREEN MOVEMENT IN GERMANY

As far back as the 19th century, Germany has shown a talent for developing highly specialised industries. Back then, the leading sectors were mechanical engineering, as well as the electricity and chemical industries. Right from the outset, the insufficient development of Germany's internal market (i.e. low domestic purchasing power) led to a heavy focus on exports (Haas 2017: 146-150).

During the economic boom of the 1950s, industrialisation took on a whole new dimension. Supported by Marshall Plan funds and the integration of the Federal Republic into the Western bloc, Germany's *Wirtschaftswunder* unfolded. Foreign economic policy largely focused on developing new markets for German exports. As early as 1959, West Germany concluded its first bilateral free trade agreement, which was signed with Pakistan (Methmann 2012: 21). German industry also remained highly dependent on the import of metallic raw materials, and successive German governments adopted a series of measures to safeguard supply (Gocht 1978).

High economic growth rates went hand in hand with a massive increase in fossil fuel consumption. In the 1950s and 1960s, there were times when the Rhineland coal district employed well over half a million workers. In the GDR, too, coal mining in both the Lausitz and the central German coal district (near Leipzig) was a key energy supplier (Agora Energiewende 2016: 15-17). This was accompanied by a substantial increase in road traffic. Between 1960 and 2016, the number of cars increased tenfold, rising from 4.5 million to 45 million (Brand and Wissen 2017: 135). The automotive sector became a key branch of Germany's economy. Yet the rapid rise in automotive transport also led to a growing dependency on oil imports.

Agricultural output increased as significantly as industrial production. A period of food scarcity after the war was followed by continuous increases in agricultural output, and was accompanied by a significant rise in the consumption of animal products. After 1957, with the creation of the Common Agricultural Policy (CAP), coordination of German agricultural policy was predominantly shifted to the European level. The goal was to modernise agriculture in Europe and make labour available for a booming industry. At the international level, European integration, as well as the framework provided by the Bretton Woods institutions, the World Bank and the International Monetary Fund, secured the rapid development of German capitalism.

Swift post-war economic recovery in Germany occurred within a specific socio-political framework. Workers, represented by strong unions, achieved relatively high wage increases. The single male earner household and bourgeois nuclear family asserted itself. Sustained economic growth, (male) full employment and new consumption opportunities created *mass loyalty.* According to Brand and Wissen (2017), we could interpret these dynamics as a spread and deepening of the *imperial mode of living* in Germany. The concept highlights the fact

'that people's everyday lives in the capitalist core countries depend significantly on the social conditions in non-core countries and the relationship of these countries with nature, mediated through the principally unlimited access to labour, natural resources and sinks (ecosystems that can take up more of a particular substance than they emit. In the case of CO_2, sinks are, for example, rainforests and the oceans) and this at a global scale.' (Brand and Wissen 2017: 43)

Internally, the imperial mode of living had a stabilising effect because it continuously improved the standard of living for broad segments of the population during the post-war period until the end of the 1960s. Rapid economic growth provided new possibilities for consumption and produced gigantic export surpluses. Following the horrors of World War II, this proved a vital source of identity. The environmental degradation that this caused, such as acid rain, the pollution of air, soil and waterways, soil sealing and decreasing biodiversity, was hardly ever made into a political issue. However, this changed in the late 1960s, when the economic, social and ecological problems that the Fordist model of development (mass production + mass consumption achieved through high salaries) caused, erupted in widespread social protests.

Economic stagnation, growing rates of unemployment, the collapse of Bretton Woods and the oil crisis of 1973 are but a few of the developments that marked this period of economic uncertainty. At a socio-political level, and driven mainly by the 1968 protests and the women's movement, people began to rise up against archaic social structures. These protests gained further momentum from the green and anti-nuclear movements, who were fighting against all forms of natural destruction and the high-risks related to nuclear energy (Schmalz and Weimann 2013).

Over the following decades, the green and anti-nuclear movements became largely institutionalised (e.g. in the Green Party, as well as in environmental associations such as BUND and Greenpeace). The anti-nuclear movement provided a significant boost to efforts to find alternatives to the domination of fossil and nuclear energy. In 1980, the Öko-Institut coined the term *Energiewende*. The continual improvement of wind and solar energy production systems combined with Germany's electricity feed-in act, which was adopted in 1990, provided a firm basis for the expansion of renewables. In 2000, at the initiative of Hermann Scheer and a group of like-minded parliamentarians, the Bundestag pushed through the Renewable Energy Act (the EEG), against the will of the Ministry of the Economy. The share of renewables in energy production soared, going from 6.6 per cent in 2000 to 32.5 per cent in 2016. Such a rapid expansion was also made possible due to three factors: German industry received generous exemptions from paying the EEG levy, green energy technological leadership has huge potential for exports, and jobs in the renewables sector are often insecure. Low levels of union organisation correspond with low wages and often also precarious employment conditions through work contracts and temporary employment. In this sense, Agenda 2010, which was implemented by the social democratic (SPD) and Green Party coalition government, also paved the

way for the *Energiewende* (Sander 2016: 91-137).

Implementation of Agenda 2010, Gerhard Schröder's package of labour market reforms, put a brake on domestic market growth and further strengthened Germany's export focus. In 2016, Germany ran a current account surplus of 8.6 per cent of GDP. Given the design of the German model of capitalist development, austerity policies and forced liberalisation became the guiding principles of Europe's response to the financial crisis. This increased the dynamic of unequal development in Europe (Becker and Jäger 2012). In trade policy, the EU followed a neo-mercantilist strategy, which mainly benefitted German industrial corporations, as well as agro-industrial groups (Raza 2007).

While strongly export-oriented, German capitalism is therefore also highly dependent on imports, in particular oil and metallic raw materials. Although inequality and exclusion continue to rise, the imperial mode of living has mainly been secured *internally* by continuously expanding consumption options, and *externally* by consolidating unequal trade relations, growing economic imbalances and an ever-tighter grip on raw materials and labour. To a certain extent, though, German anti-nuclear and environmental movements have managed to turn destructive technologies, such as nuclear and coal power, into socially contested issues. Thanks to the *Energiewende* in the energy sector and shifts, for example, towards organic agriculture, niches for alternatives have developed that provide an opening for other, less destructive ways in which nature can be socially appropriated.

3 GERMANY: A PIONEER IN CLIMATE PROTECTION?

This section will dissect the myth of Germany as a pioneer of climate protection against the backdrop of the imperial mode of living and the briefly touched upon German model of capitalism. To this end, I will take a closer look at three central fields of climate policy: the energy and heating sector, and transport and agriculture. The fourth section then analyses the downside of Germany's export model and looks at its raw material policy in more detail, before finally examining the actual impact of climate policy and discussions surrounding the *Germany 2050* agreement. As will become clear, in light of the actual developments in the fields of energy, transport and agriculture, and taking into account the underlying interests of powerful stakeholders as well as the effective failure to cut emissions, there is little to no hope for a climate protection agreement that offers more than ambitious rhetoric.

3.1 An ecological glimmer of hope? Initial steps towards an *Energiewende*

In spite of the increasing share of renewables in the energy mix, electricity generation remains the greatest source of greenhouse gas emissions in Germany. In 2016, the sector was responsible for emissions of 306 million tons of CO_2, around a third of total emissions (Agora Energiewende 2017a: 5). Whereas emissions have effectively dropped by 17 per cent since 1990, the dip during this period was due mainly to the near-total deindustrialisation of the former GDR. As renewables nonetheless increased their share from 6.6 per cent in 2000 to 32.5 per cent last year, it is safe to say that the expansion of renewables contributed towards a reduction of power sector emissions.

The share of renewables in heating, however, increased only moderately, with a current share of under 15 per cent. Nonetheless, heating contributes around 26 per cent to total German greenhouse gas emissions (Brüggemann 2016). Improving the greenhouse gas balance would require greater efforts to modernise buildings. Far more heat pumps (powered by renewable sources) would have to be installed and heating networks expanded (here too, meeting climate goals will require a transition from fossil to renewable energy sources) (Fraunhofer IWES and IBP 2017). Moreover, we need to prevent these processes from simply driving *eco-gentrification,* i.e. setting in motion a process of rising property prices that forces those residents who can no longer afford the higher rents of renovated buildings to move out (The Guardian 2015).

The rising share of renewables in the electricity and heating mix has a significant impact on employment. In 2013, 371,400 jobs were directly or indirectly linked to the renewables sector. This is a drop of 28,400 compared to the previous year, and was due to a significant loss of jobs in the photovoltaics (PV) industry (GWS et al. 2015: 1-3). While PV cell production has, to a certain extent, been outsourced to Asia, job cuts are also related to a 2012 amendment to legislation related to PV, the subsequent slashing of subsidies and, as a consequence, a clear drop in the rate of PV expansion. As early as 2002, Germany launched a renewables export offensive with offices in the

German Ministry of the Economy, thus enabling the development of renewable energy technology to become integrated into Germany's export-oriented model of capitalism (Haas 2017: 172). The *Energiewende* could thus potentially provide a basis to dynamically modernise Germany's export-based system. Correspondingly, the BDI announced in 2009:

'Germany's green technology, which is being developed by all branches of industry, has great potential for growth, contributes to a sustainable development of the global economy and creates employment opportunities in Germany.' (Quote in Methmann 2012: 3)

Germany has effectively expanded the renewables share in its energy mix and vowed to phase out nuclear energy by 2022. What is lacking in this context, however, is a commitment to also rapidly phase out coal. Over the past few years, more lignite, which has a particularly high emissions footprint, is again being burnt to generate electricity. Germany has also become an international leader in electricity exports. Last year the country exported around 8.6 per cent of its electricity. Renewables are generating an ever-increasing amount of electricity. Yet, instead of boldly phasing out fossil power plants, lignite-fired power stations are operating at full capacity – and the excessive electricity is exported (Agora Energiewende 2017a: 16). As a side effect, this also impedes energy transitions in other countries.

In recent years, the dynamics of *Energiewende* conflicts have shifted. Prompted by the Fukushima nuclear meltdown and in the face of a resurgent anti-nuclear movement, the FDP and CDU coalition government decided – against the stern resistance of nuclear power plant operators – to shut down a number of nuclear reactors and completely phase out nuclear energy by 2022. Battles over nuclear policy have since focused mainly on legal questions and the problem of finding a final nuclear waste disposal site (Brunnengräber and Syrovatka 2016). People involved in the struggle for an ecological, social and democratic transformation of the energy sector increasingly began calling for *a phase-out of coal,* thereby attacking the second pillar of the *fossil-nuclear* energy system. Backed by a range of civil disobedience actions, in particular the *Ende Gelände* campaign, and in combination with a vague but mounting social pressure for something to be done in response to growing concerns about the urgent need for climate policy action, the campaign for a phase-out of coal has managed to gain considerable traction (Haas and Sander 2016: 128-129).

However, from 2011 onwards, Germany's key fossil-nuclear energy economy stakeholders began to attack the central instrument of the energy transition, the EEG. One example is the campaign *Energiewende retten – EEG abschaffen* (Save the energy transition – do away with the EEG!) by the *Initiative Neue Soziale Marktwirtschaft* (New Social Market Initiative). Beyond the (unfortunately, not entirely false) allegation that the burdens of the EEG are not shared fairly (Pomrehn 2014), the campaign focused on the claim that renewables are no longer a niche technology and should therefore be integrated into the market. This then led to the argument that the system of guaranteed feed-in tariffs was outdated. Peter Altmaier, then Germany's Federal Minister for the Environment, took this criticism to the extreme, proclaiming his

fears that overall costs could increase exponentially. In an interview with the German daily *Frankfurter Allgemeine Zeitung,* he bemoaned the high costs of the *Energiewende,* stating it would total a trillion euros (Haas 2017: 181-186).

This indicates that the campaigns against the EEG Act succeeded in influencing members of the government. Successive amendments of the EEG since 2012 have greatly slowed the expansion of renewables and also led to a shift from decentralised to more centralised approaches. In 2012, an amendment to PV legislation slowed down installation rates of new PV systems. When the grand coalition (a CDU/SPD government) took office in 2013, the German government shifted responsibility for the EEG from the Ministry of the Environment (traditionally in favour of the *Energiewende*) to the Ministry of the Economy, which had long been sceptical of energy transition. In 2014, guided by the then Minister of the Economy Sigmar Gabriel, Germany's government again overhauled the EEG. Next to a decision to adopt tendering models, mandatory direct selling for certain facilities and defined expansion corridors have now become part of the EEG. The adoption of a further amendment last year has continued this course. The trend is evident: to progressively exempt German industry from paying energy transition-related costs through *special equalisation schemes,* and to defend such exemptions against attacks by the EU Commission (Haas 2016).

The most recent amendments particularly impacted the development of PV installations. Whereas newly built PV installations amounted to over 7 gigawatts capacity installed annually between 2010 and 2012, in 2016 this figure had dropped to 1 gigawatt (Agora Energiewende 2017a: 21). The number of newly registered energy cooperatives dropped from 167 in 2011 to 54 in 2014. This trend continued in 2015, when just 40 new cooperatives were founded (DGRV 2016: 5). Evidently, the most recent amendments have severely impacted what was once a relatively decentralised, democratic energy transition. Moreover, renewable energy expansion corridors are far below what climate policy demands. As Volker Quaschning, professor for regenerative energy systems, posits (2017), the EEG has been twisted into a *coal phase-out prevention act.* A move to phase out coal is long overdue, yet the German government remains steadfastly opposed.

Born out of social movements, the energy transition project, which aims for a different, less destructive system of energy supply, has met with stiff resistance in recent years, which has transformed its direction and today left the country with a policy more in line with the interests of influential fractions of capital (Haas and Sander 2016). Only slow progress is being made towards a similar transition in the heating sector (Fraunhofer IWES and IBP 2017). This is by no means the record you would expect from a climate action pioneer.

3.2 Busy roads, little action: the failure to transform transport

While emissions have fallen in the electricity sector in recent decades, no such change has been seen in the transport sector. Instead, the opposite has happened: in 2016 transport sector emissions were slightly higher than in 1990. Today, 18 per cent of German emissions are caused by the transport sector

(Agora Verkehrswende 2017: 8). Despite increasing air and freight traffic, cars nonetheless remain the greatest source of traffic emissions.

It is a telling story. In Germany, dynamic social movements have developed against destructive technologies such as nuclear and coal power, yet failed to speak out against (fossil-fuel driven) automobility. It is hard to overestimate the cultural importance of the car; it has become *the* symbol of capitalist progress (Paterson 2007). 20th-century urban planning has been centred on the car. In Germany the number of registered cars rose from 4.5 million in 1960 to 45 million today (Brand and Wissen 2017: 135). The dominance of automobility is a common feature of all Western societies. The immense importance of the automotive industry (VW, Daimler, BMW), including suppliers (such as Bosch) and its role for the model of capitalism is, however, unique to Germany.

German car manufacturers are particularly well-placed in the executive and luxury segments. For decades, the trend has been towards increasingly heavier cars with a correspondingly poor environmental performance. Incentives, such as the privileges granted for company cars and commuter allowances, secure this business model in Germany. In past decades, the model has received support from successive German governments that were determined to prevent EU regulation that would have forced German producers to change their model policies, thus ensuring no external interference. In 1998 the European Commission concluded a voluntary agreement with the European Automobile Manufacturers' Association (EAMA) to reduce the average CO_2 emissions of new cars to 140g/km by 2008. This was to be achieved mainly by increasing the number of diesel cars. According to official figures, however, actual average emissions in 2008 were 154g/km (Helmers 2015: 3-11).

Later, after the German government applied pressure to link emissions to car weight, the EU adopted regulation EC 443/2009:

'For the first time, this grants the model policy of the German automotive industry, with its focus on mid-range and luxury class vehicles, SUVs and sports cars, a kind of *species protection.* The decision to end this trend of increasingly heavier cars, which would be decisive to build more efficient cars, has been virtually postponed.' (ibid. 11)

Tying emission threshold values to weight contributed to the massive spread of SUVs, and registration figures for SUVs continue to rise (Brand and Wissen 2017: 125-129).

Even when the *dieselgate* scandal struck, Germany's automotive industry was still able to rely on the German government. Car manufacturers had equipped a large number of diesel cars with software that ensured the vehicles would meet emission targets when run under test conditions. Actual emissions on the road were then often far greater. According to estimates, in 2015, these *defeat devices* potentially led to 11,400 deaths in the EU alone. According to media reports, the German government and many members of the European Commission were well aware of what was happening long before the scandal broke, yet did nothing. Whereas German car manufacturers, who were at the heart of the scandal, have already been fined billions in the US, they have been treated with kid

gloves in Germany and Europe (Brunnengräber and Haas 2017: 21). On 2 August 2017, members of the German government, the governments of various federal states, the automotive industry and union representatives convened for the so-called 'diesel summit'. Environment and consumer protection organisations, however, were not invited. As a result, car manufacturers were asked to retrofit software, which will cost them around 500 million euros – and only marginally reduce pollution levels (DUH 2017).

Moreover, claims of collusion levelled against Daimler and VW based on voluntary declarations of a cartel agreement, portray Germany's automotive industry in a bad light – an industry which for decades has been wooed by politicians and been the poster child for German capitalism. The industry's tremendous impact on people and the environment was willingly tolerated.

Neither the automotive industry nor the German government has given any thought to renouncing our imperial car-based mobility (again, a form of mobility that depends on accessing the resources of others). Rather, the dominant strategy remains to renew the current system of transport by changing the drive technology, i.e. by switching from combustion engines to electric motors (Candeias 2012: 10), and further the hype of self-driving cars and digitalisation.

In fact, the situation requires a shift to promote public and rail transport, substantially improve the infrastructure for bicycles and dramatically reduce traffic – an approach supported by numerous associations and movements. Preventing mobility poverty needs to be a further goal, for example, by providing public transport free of charge (Brie 2012: 5-9). Faced with continued urbanisation, the energy transition in the electricity sector and increasing digitalisation, concepts to restructure our transport systems do, however, exist (WWF et al. 2014, Agora Verkehrswende 2017, Greenpeace 2017, VCD 2017). A further key challenge, however, will be to find forms for a *just transition* that takes into account the interests of automotive industry employees, i.e. finding ways to transform a dirty industry that will not cost workers their jobs. Our car-based mobility needs to shrink to a level compatible with social development and actual emissions must conform with the targets set by the 2015 Paris Agreement. A truly Herculean task for the automotive stronghold of Germany (Candeias 2012).

3.3 No signs of a transition in agriculture

When it comes to agriculture, Germany's climate record is also by no means exemplary. Over the past 25 years, the greenhouse gas emissions produced by German farm holdings have always fluctuated between 60 and 70 million tons annually (measured in CO_2 equivalents). In 2015, the figure stood at 67 million tons, which translates into roughly 7.4 per cent of Germany's total emissions (UBA 2017).

Immediately after World War II, the top political priority was to produce sufficient food for the population, yet as early as the 1950s, this had changed and food production began to exceed demand. Consumption patterns changed and over time people began to consume more animal products. The adoption of

the Common Agricultural Policy (CAP) in 1957 saw political coordination of the agricultural sector increasingly shift from a national to a European level, deeply affecting the structure of the industry. The number of farms decreased continuously, as did the number of people employed in the sector. The average farm size and yields, however, steadily rose. The pressure to export food increased and incentives in the form of subsidies were provided. (Officially, subsidies were removed in 2014, but farmers effectively continue to receive the same amounts of money, albeit through other channels.) (Kluge 2005: 36-49.)

Whereas the demand for meat and other animal products has stagnated in Germany in recent years, or even decreased, the number of animals being held in the country continues to rise. This is only possible through the steady expansion of fodder imports, chiefly soya from monoculture plantations in Latin America. The proliferation of soya plantations often goes hand in hand with large-scale rainforest destruction (and the release of large amounts of CO_2 and the destruction of biodiversity), the expulsion of local populations, the use of poisonous pesticides and poor labour conditions. Keeping the costs of German meat production down depends on wreaking havoc elsewhere (Heinrich-Böll-Stiftung and BUND 2016: 8-11) – again, through the façade of our economic model, the imperial mode of living is still being imposed.

At the same time, these *factory farms* pollute our rivers and soil and force livestock to live in pitiful conditions. Moreover, the meat industry in Germany is known for its reliance on contract workers from Eastern Europe and systematic wage dumping. Tellingly, work contracts do not count towards a company's gross added value. According to regulation, wage dumping then allows numerous slaughterhouses to make claims under special equalisation schemes and many are largely exempt from paying for Germany's energy transition (taz 2017).

Factory farms are, however, not the only problem. The rising use of nitrogen fertilisers in traditional agriculture has increased the impact on soil, water bodies and the overall climate balance of German agriculture. There are thus numerous aspects of Germany's industrial, and increasingly export-oriented, agricultural model, which is sustained politically through lobbying by the German farmer's association *(Deutscher Bauernverband),* that are problematic (Niemann 2017).

Farmers are, however, also under significant price pressure. Food corporations and supermarket chains have enormous power to influence the market. An oligopoly is also developing in the seed and fertiliser industries. One of its central pillars is German corporation Bayer's planned takeover of Monsanto. Unfortunately, the new corporation is likely to increase its attacks on those sections of EU regulation that aim to protect the environment and consumers, such as regulations concerning the approval of genetically modified plants (Heinrich-Böll-Stiftung et al. 2017: 20-21).

However, there are numerous approaches in practice as well as struggles that embrace a different style of agriculture – one that is essentially based on smallholder farming. These struggles began with movements in the 1970s that searched for alternatives to the agro-in-

dustrial model based on the limitless growth of yields. Beyond direct selling, natural and health food shops created outlets for organic produce and/or small-scale farm produce. Over the following decades, a niche for organic produce developed which included separate sales channels. At the turn of the century, criticisms of the existing model of agriculture intensified with the BSE scandal *(mad cow disease).* Renate Künast, at the time Green Party Minister of Agriculture, demanded a transition in agriculture and the conversion of 20 per cent of cultivated land to organic forms of production by 2010. By 2015, however, this share was still a mere 6.6 per cent (Stodiek 2017, Gfäller 2015).

Faced with the destructive nature of Germany's agricultural model, stakeholders such as the smallholder farming umbrella organisation *Arbeitsgemeinschaft Bäuerliche Landwirtschaft* (ABL) or the NGO network *Meine Landwirtschaft* demand the systematic promotion of family farms, an expansion of organic farming, a strengthening of animal rights and an end to factory farming, drastic cuts to fertiliser and fodder imports and a departure from the sector's export-driven model. We will need new consumption patterns that are less reliant on animal products. Approaches for an agricultural transition exist and there are already organisations and people fighting to bring it about. Last year, for example, in the Romanian town of Cluj, numerous activists met for the second European Nyéléni Forum for Food Sovereignty to discuss and promote alternatives to the agro-industrial model. An agricultural transition in Germany that would befit a pioneer of climate and environmental policy is sadly not on the horizon.

3.4 The downside of the export economy: Germany's raw materials policy

Germany's export-oriented model of capitalism depends almost entirely on the import of metallic raw materials. Or, as Ullrich Grillo, the former President of the BDI, noted (2012: 66):

'Securing a steady inflow of raw materials is a question of fundamental importance to Germany: German industry is technologically top-notch, our wealth is export-based. The value created in Germany, however, depends to a large extent on a constant supply of raw materials from other countries, and in terms of metallic primary raw materials, we are completely reliant on imports.'

The dependency on imports is also high for oil and natural gas. Germany is set to phase-out coal mining next year. Coal-fired power stations, however, will continue to run on imported coal. A large share of this coal comes from Colombia where indigenous peoples are driven off their land and union activists regularly murdered in the pursuit of coal extraction (Ganswindt et al. 2013). In agriculture too, the expansion of meat production, the application of nitrogen fertilisers, as well as the increased use of biomass for electricity generation are increasing Germany's dependency on imports. A steadily growing appropriation of resources, land and labour from the Global South is therefore the basis of the German model of capitalism.

Development policy instruments, such as the provision of funding for mining projects, also help secure access to resources (Gocht 1978: 174-185). An ecological modernisation process will not overturn this dependency but simply refocus it (Mehtmann 2012). The

construction of wind turbines requires *rare-earth elements,* and solar panels need large amounts of silver. Electric motors cannot run without lithium, coltan and rare-earth minerals (Laag 2015: 261). Given the fundamental importance of raw material imports and growing geopolitical conflicts over the access to these resources, awareness of the issue has greatly increased in recent years. Since 2005, the powerful Federation of German Industries (BDI) has organised regular raw materials congresses. In 2007, under the direction of Germany's Ministry for Economic Affairs, the Inter-ministerial Committee on Raw Materials was set up. In 2010, the committee approved a raw materials strategy and has since concluded three raw materials partnerships with Kazakhstan, Mongolia and Peru respectively (Reckordt 2017).

At the European level too, and mainly due to pressure from German industry, the question is receiving greater interest. Around half of the imports of metallic raw materials to the EU are destined for Germany (Jäger 2015: 14). In 2008, the European Commission published its own Raw Materials Initiative (RMI), which applies development policy as a means to securing raw materials:

'There is an obvious case for coherence between EU development policy and the EU's need for undistorted access to raw materials in order to create win-win situations: Good governance, transparency of mining deals and mining revenue, a level playing field of all companies, financing opportunities, sound taxation regimes and sound development practices are beneficial for both developing countries and the EU's access to raw materials.' (EU COM 2008: 8, emphasis in the original)

It is therefore evident that security of supply is a top priority both for Germany and, more broadly, for the EU too. The overarching goal is to guarantee a steady supply for German industry, so as to secure export-driven growth and a constant renewal of the (essentially *greenwashed*) imperial mode of living. Trade policy backs up these approaches, and this is reflected, for example, in WTO accession talks, bilateral trade and investment protection agreements or the deepening of intellectual property rights for green technology (Jäger 2015: 21-60; Mehtmann 2012: 15-20).

This briefly outlined set of problems inherent to the German model of capitalism highlights the model's deep embeddedness in global relations of power and domination, which are permanently renewed, not least through raw materials and trade policies that prioritise security of supply and corporate interests. So, actually, it would be necessary to fundamentally question the imperial mode of living and capitalist growth as such. AK Rohstoffe, a network of German NGOs, has developed a number of proposals for initial steps to redirect the focus of German and European raw material policies that would take greater account of social and environmental concerns to establish a more just relationship between North and South (AK Rohstoffe 2016). However, we are unlikely to see a shift away from Germany's current resource-intensive, capitalist, growth-oriented model.

3.5 The champion of climate policy is missing its goals

In view of these developments, it is hardly surprising that the German government is finding it increasingly

difficult to reach its climate and energy policy targets. It is almost certain that the government will fall far short of achieving a 40 per cent reduction in greenhouse gas emissions by 2020 (Agora Energiewende 2017b). Germany is also likely to miss its goal of expanding its share of renewables to 18 per cent by the same year. Germany committed to this goal as part of the European 2020 climate and energy package. In 2016, the share of renewables in the total amount of energy consumed was a mere 14.6 per cent. Germany may relish the opportunity to portray itself as a pioneer in climate protection both on the European and international stage, yet the country is not even able to meet its short-term climate goals (BEE 2017). If this is the case, how well will it fare with its long-term goals?

When the Elmau G7 summit set the goal to achieve a total decarbonisation of the global economy by the end of the century, the BMU developed a climate protection plan for 2050. Relying on a broad participatory process, the BMU drafted a first version of its 2050 climate protection plan. At this stage, industry associations such as the BDI were still barred from exerting their usual influence, and the BDI's criticism of the process was unsurprisingly harsh (Rucht 2016: 12-18).

Of course, the BDI then severely criticised the BMU draft plan, as did the *Deutscher Bauernverband, Deutscher Industrie und Handelskammertag* (DIHK) and the *Zentralverband des Deutschen Handwerks* (ZDH) (BDI et al. 2016). While the initial draft still included goals such as phasing out coal on the short- to medium-term, as well as a critique of Germany's model of agriculture, these large business associations gradually pressured the SPD-run Ministry of the Economy to conform to the positions held by the economic wing of the CDU and water down the proposal (Stodieck 2017: 25-28). Merkel too, our Climate Chancellor, actively helped dismantle the initial text. The headline of the German daily *Tagesspiegel* on 4 August 2016 read *Federal Chancellery dismantles Climate Plan* (Tagesspiegel 04/08/2016). Four large environmental associations, among them the WWF, then boycotted the final hearing of the climate proposal.

On 14 November 2016, shortly before the 22nd UN climate change conference in Marrakech, the German cabinet adopted a climate protection plan. Although the proposal contains plans to decarbonise the economy on the medium- and long-term, it proposes no concrete measures – and there is, of course, no critique of Germany's export-oriented model of capitalism or the imperial mode of living. Barbara Hendriks, the Federal Minister for the Environment, Nature Conservation and Nuclear Safety, still flew to Marrakech, where she stressed the German claim to leadership in international climate policy, before haggling over global targets that will undoubtedly be trampled on back at home. Or, as the journalist for the German daily FAZ, Andreas Mihm, wrote, 'The German government does not take climate protection seriously' (FAZ 2017).

4 THE FAILURE OF GERMAN CLIMATE POLICY

A widening gap exists between climate policy talk and the actual developments in emission levels. The rhetoric of long-term goals to decarbonise the economy and the myth of Germany as a bastion of green energy policy are opposed by the reality of an export- driven model of capitalism, which is secured through a specific balance of power in which powerful stakeholders effectively block a rapid reduction of greenhouse gas emissions. The imperial mode of living, i.e. the access to resources and labour in the Global South, internally strengthens Germany's model of capitalism, because it continues to grant large segments of the population relatively broad consumption opportunities. Even in Germany, though, the polarisation of income distribution is increasing and the rise of right-wing populist currents indicates a crisis of hegemony. At the same time, the spread and deepening of the imperial mode of living in parts of the Global South offers German capital, which is so strongly geared towards exports, new spheres of accumulation, by exporting anything from cars to meat or even green technologies.

Over recent years, Germany has again begun to burn more lignite to produce electricity, and the transition of the electricity sector has faced a significant slowdown. Social imbalances in financing the transition were not corrected and jobs in the renewables sector are often precarious and poorly paid. In terms of transport policy, the country's strong automotive industry, with its focus on executive and luxury-segment cars, places Germany among the most environmentally destructive countries in the world. Whether we look at EU emissions regulations, dieselgate, fine dust pollution or the decision not to introduce a speed limit on motorways, an overhaul of transport policy remains an unlikely prospect. Germany is also far from being a pioneer when it comes to agricultural policy. For decades, smallholder farming has been on the retreat. Nitrogen fertilisers continue to be used in large quantities and the constant increases in meat production can be achieved only through animal maltreatment and huge imports of fodder. In agriculture too, there is no hope of a transition in sight.

Furthermore, the downside of Germany's export-based model is the country's vast dependency on raw material imports, in particular metals. Raw materials policy, guided by the primacy of safeguarding supplies, has grown in importance in recent years. Access to raw materials is secured through a trade policy that systematically disregards interests in the source countries. An ecological modernisation, for example, by massively expanding the number of electric cars, would further increase the dependency on raw materials, albeit under green auspices. It is simply not possible to completely sever the link between economic growth and resource consumption. Capitalist growth in Germany is based on an imperial mode of living that cannot be made accessible to everyone. Instead of being a green pioneer, Germany is a huge part of the global climate problem.

Important progress has, however, also been made over the past decades. The most obvious example is the energy transition taking place in the electricity

sector. This has its roots in the environment and anti-nuclear movements and their decades-long struggle against the fossil and nuclear energy economy. The share of renewables in this field rose to 35 per cent and decentralised organisation meant that the number and kind of stakeholders increased. In this sense, what has been witnessed was not simply an expansion of renewables, but the actual democratisation of the electricity sector.

Furthermore, the seeds for a transition in the transport sector have also been sown. Car ownership rates in cities are decreasing and new ownership models, such as car sharing, are being tested. More money has been invested into the cycling infrastructure and a total privatisation of the railways has been prevented. Numerous initiatives are advocating cost-free public transport (Brie and Candeias 2012) and environment associations are doggedly trying to hold the managers responsible for the emissions scandal to account and to spread awareness of approaches that will bring about a transformation of the transport sector.

As witnessed in the electricity sector, movements have carved out a niche within the field of agricultural policy. Rooted in the environment movement and offered fresh impetus following the BSE scandal, sales channels for smallholder and/or organic produce developed and consumer rights were strengthened. Moreover, consumption patterns appear to be changing and the consumption of animal products decreasing. Within Germany's association of farmers, the *Deutscher Bauernverband,* the conflicts between smallholder farmers and the heads of the association are intensifying (Niemann 2017). Numerous concepts for an agricultural transition exist, which is long overdue, not just from a climate policy perspective but with regard to consumer protection and animal rights.

In terms of raw material policy, a shift has become visible at least in discussions around the issue. Raw material partnerships, for example, now give greater consideration to social and environmental aspects. However, as long as the German model of capitalism remains on its export-driven path and continues to strive for a permanently increased output, the potential to develop a different resource policy will remain small.

As a final thought, it seems quite telling that those sectors where we can pinpoint actual emission reductions, as well as those that aim for true social change in the sense of more democracy *and* greater sustainability, are precisely those sectors in which we can identify strong social movements as stakeholders. I would argue that Germany is entirely capable of becoming the ecological pioneer it purportedly wishes to be, yet the important steps needed in pursuit of this goal have to come from the grassroots: from movements for a genuine socio-ecological transformation.

Tobias Haas received his PhD for his political science analysis of the energy transition *(Energiewende)* in Germany and Spain in the European context. Currently his work is focused on the debates surrounding the transition of transport in Germany.

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