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Report Title: IS GERMANY READY FOR THE FUTURE?

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CHAPTER 4

GERMANY: READY FOR A TRANSFORMED ECONOMY?

Germany is at the geographical, economic and political core of the European Union, and is about to take on additional responsibility during the second half of 2020 when it will hold the Presidency of the European Council, including hosting a major EU-China summit.

In this chapter we analyse the effects on Germany of the major disruptive trends introduced in the previous section and combine this with a discussion of Germany's current response to the climate crisis in order to assess the country's readiness for upcoming transformations. We also take an in-depth look at Germany's finance sector and the debate on sustainable finance, asking what role finance does and can play in accelerating the necessary change.

Major trends are disrupting Germany's status quo

Germany does not fully use the opportunities of technological innovation

Germany is structurally well prepared for benefiting from future technological progress, but the uptake of the most recent digital technologies is slower than in other countries, particularly among small- and medium-size enterprises.¹⁴⁸

For example, every second manufacturing company is still relying heavily on traditional, non-digital production processes, and only every sixth company is prepared for advanced digitalisation measures.¹⁴⁹ The German public is, compared to other European countries, sceptical towards digitalisation, and concerns about privacy and data protection are exceptionally high. Only 54% of citizens expect digitalisation to have a positive societal impact.¹⁵⁰ A well-managed digital transition offers many opportunities to the German economy and society, but so far, only large companies have been able to reap the benefits

¹⁴⁸ OECD (2018). **Leveraging the Opportunities of Digitalisation in Germany**

¹⁴⁹ Fraunhofer-Institut für System- und Innovationsforschung (2017). **Wie digital ist Deutschlands Industrie wirklich?**

¹⁵⁰ Körber Stiftung (2019). **Deutsche sehen wenig Chancen in der Digitalisierung, andere Nationen schon**

of new digital technologies. The potential of digital technologies for supporting small and medium enterprises as well as climate action is not fully used, and there is a lack of supportive policy frameworks.

Digitalisation has become a key issue of German industrial and innovation policy, but it is mainly seen as an opportunity for incremental rather than transformative change. Elsewhere, for example in the US, the disruptive effect of new technologies takes centre stage, but the German “Industry 4.0” discourse prioritises gradual change and improvements of existing processes over transformative changes and leapfrogging.¹⁵¹ The predominance of an established manufacturing industry at the heart of Germany’s industrial core, which is opposed to fast changes, is one of the main reasons for this. Germany is comparatively bad at producing small, disruptive digital companies, and “Industry 4.0”, i.e. connecting factories and machines, may be an opportunity to offset this disadvantage. However, this position may be endangered by the rising importance of data-processing technologies such as artificial intelligence (AI), a field in which German companies are relatively uncompetitive.¹⁵²

Nonetheless, the importance of digital technologies in German industry will continue to grow, and the related turnover is expected to double from €24.5 billion in 2018 to more than €50 billion in 2020.¹⁵³ While the roll-out of digital technologies proceeded more swiftly in the services sector than in the manufacturing sector, the progress has recently stalled in the service sector but continued in the industrial manufacturing sector.¹⁵⁴ Currently, large companies increasingly integrate digital technologies, while small enterprises are facing difficulties in adopting these technologies.¹⁵⁵ Given Germany’s reliance on small and medium enterprises, this poses a challenge for the key pillars of the country’s economy in an increasingly digital world.

Additionally, the long-standing global leadership position of German heavy industry is increasingly threatened by competition from abroad, including from China and innovative peers such as Tesla which move into the markets of

¹⁵¹ Friedrich-Ebert-Stiftung (2016). [Germany’s Industry 4.0 strategy](#)

¹⁵² PwC (2014). [Industrie 4.0: Chancen und Herausforderungen der vierten industriellen Revolution](#)

¹⁵³ GTAI (2018). [Digital Economy in Germany](#)

¹⁵⁴ Bundesministerium für Wirtschaft und Energie (2018). [Monitoring-Report Wirtschaft DIGITAL 2018](#)

¹⁵⁵ Institut für Arbeitsmarkt- und Berufsforschung (2016). [Arbeitswelt 4.0 – Stand der Digitalisierung in Deutschland](#)

Germany's core industries.¹⁵⁶ In conjunction with the weakness of Germany in leading on disruptive technologies such as AI, this makes it **necessary to devise new strategies to respond to a structurally changed global economic and technological environment.**

The German transition to Industry 4.0 has the potential to create additional jobs, based on re- or upskilling and productivity gains in the manufacturing sector, for example in the automotive industry and mechanical engineering.¹⁵⁷ At the same time, 12% of jobs in Germany are at risk due to automation, and the automation risk is highest for employees with elementary and primary education (80%).¹⁵⁸ This mirrors the analysis of the global situation outlined in Chapter 1, which has found that low-skilled workers and members of the lower middle-class are most at risk from automation. This suggests that conversations about how to devise socially just transition pathways for people in many different sectors is becoming necessary for the twin reasons of automation and climate policy. Over the past years, significant political attention has been paid to the 20,000 workers left in the coal sector, in particular because of the regional concentration of these jobs, but Germany's job market will face significantly larger challenges in the coming decades.

The Economy Ministry's industrial strategy for 2030 aims to adapt German industry to rising global competition and the emergence of new technologies. An earlier version of the strategy had been heavily criticised for its heavy focus on state intervention to protect large industrial players and its lack of attention to small- and medium-sized enterprises which play an important role in the German economy.¹⁵⁹ This earlier version also did not include any climate protection measures and failed to recognize the benefits of becoming a leader in emerging low-carbon markets. The final version has improved in this regard, but **the industrial strategy still falls short of enabling a climate neutral and resilient industry as well as creating linkages between decarbonisation and other trends such as digitalisation.**¹⁶⁰ As these trends exert growing pressure on established industrial entities, their competitiveness and associated jobs, the industrial sector must adapt – and this requires targeted investments as well as a

¹⁵⁶ CNBC (2019). [Tesla CEO Elon Musk announces plans for fourth factory and design center near Berlin](#)

¹⁵⁷ BCG (2015). [Industry 4.0: The Future of Productivity and Growth in Manufacturing Industries](#)

¹⁵⁸ Zentrum für Europäische Wirtschaftsforschung (2015). [Übertragung der Studie von Frey/Osborne \(2013\) auf Deutschland](#)

¹⁵⁹ Global Counsel (2019). [German industrial strategy: big firms for big challenges?](#)

¹⁶⁰ For more on industry and climate see E3G (2019). [The Race to Decarbonise Industry](#)

supportive regulatory framework for efficiency, circularity, new processes and new technologies.¹⁶¹

All technological changes must also be aligned with the requirement to tackle the climate crisis. The German industry sector has continuously decreased emissions by 31% since 1990, but a further halving of emissions is necessary by 2030 to reach the sectoral climate target. Energy and process-related greenhouse gas emissions from the industry sector still account for a significant share of Germany's emissions. In particular, process emissions in energy-intensive industries such as steel, cement and chemicals are technologically and economically difficult to mitigate.

Nevertheless, **various large businesses such as Heidelberg Cement or Thyssen Krupp have announced net zero emission plans by 2050 and are actively exploring feasible pathways**, for example based on alternative gases, circular processes and carbon capture and storage technologies as well as investment strategies to decarbonise. In addition, the German government supports research and innovation in the industry sector to speed up the transition process and optimise efficiency in cross-cutting implementation measures and industrial processes.¹⁶²

Digitalisation and its effects are already causing major changes in the German industrial and economic landscape. At the moment, decision-makers are reluctant to embrace the reality of these changes, leading to a slow adoption of digital technologies and ineffective measures against climate change. In the long run, failing to prepare and guide these changes will lead to more negative consequences than action in the present. **Policymakers thus need to recognise the opportunity to combine the changes triggered by technological innovation with the need for effective climate action.** This would make it possible to build tomorrow's climate neutral, digital economy while keeping disruptions at a minimum.

¹⁶¹ See for example WWF (2019) **Klimaschutz in der Industrie**

¹⁶² See also Agora Energiewende (2019). **Klimaneutrale Industrie**



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Germany has become a key geopolitical player, but lacks a strategy

Germany is one of the key countries in Europe and a significant player in global relations. With its large diplomatic assets, the country is a strong and stable supporter of multilateralism and international liberalism, and an important member of the G7, G20, OECD and NATO. Within the EU Germany is an economic powerhouse, and European integration is a continuous and strong foreign policy priority based on a close, at times complicated, relationship with France. However, **Germany does not yet deliver the geopolitical leadership that is needed**, and its foreign policy is largely focused on achieving short-term economic gains.

German international leadership is needed due to recent fundamental geopolitical changes, such as the rise of populist governments in other Western countries. Such leadership would also be in Germany's interest: over the past decades, global rules have suited its needs, making rule-taking a largely successful foreign policy strategy. But in a world that is tending towards major power competition, Germany is at risk of losing out, and would thus benefit from becoming an active shaper of global rules.

Such a strategic shift would need to happen against a backdrop of tensions with key partners such as the US and the UK, which are increasingly shaping key aspects of German foreign policy. In parallel, disagreements and conflicts with some other key powers such as Russia and Turkey have deepened, while business cooperation, for example with regards to Nord Stream II, is still strong. This has also sparked international criticism: for example, many Eastern European states called on Germany not to support Nord Stream II due to its geopolitical implications, such as a weakening of Eastern transit countries including Ukraine.¹⁶³ Despite concerns from major allies, including the US and Poland, Nord Stream II will likely be constructed, indicating the **predominance of economic over strategic geopolitical aspects in German decision-making.**

Links between competition, trade, security and climate in relationships with China, USA and Russia will be particularly pronounced in 2020 when Germany holds the EU Council Presidency and hosts the EU-China Summit in Leipzig in the runup to the critical climate conference COP26 in Glasgow. Competitive and technological pressure, accelerated by regulation, is perceived as the main risk by many companies in Germany, meaning that at the international level,

¹⁶³ Brookings (2019). **Nord Stream 2: A failed test for EU unity and trans-Atlantic coordination**

Germany will be forced to integrate the climate crisis much more actively in foreign policy and economic spaces.

Climate diplomacy has become an important part of international relations. Germany, as a key player within the EU delegation, has for a long time been **at the core of international climate negotiations and still has a strong reputation.** This is based on its past climate leadership in international negotiations and contribution to producing renewables at scale, thus making low carbon technologies more affordable. However, the **German reputation in the UN climate negotiations is weakened** because of the stronger engagement of other main emitters and international players, and Germany's failure to deliver domestic climate action at an ambition level which leads the way for other nations. This not only puts a burden on German credibility but also the EU's ability to increase climate ambition in its Nationally Determined Contribution in 2020. Nevertheless, Germany is regularly sending the largest number of participants from any EU country to the UN climate negotiations and played an important role in other key climate processes such as the Cartagena Dialogue, the High Ambition Coalition, and its annual Petersberg Climate Dialogue.

The German government has continuously raised climate action at key international fora such as the World Economic Forum and the G7 and G20.

In addition, the German government made climate and security one of the priorities of its membership of the UN Security Council. Lastly, Germany is one of the largest contributors to international public climate finance, through domestic funding instruments as well as its development and promotional bank (KfW) and development agency (GIZ), but also through international funding instruments such as the Green Climate Fund and the Adaptation Fund, UN agencies and multilateral development banks. According to its current budget, the German government is set to reach its domestic goal of contributing €4 billion per year to international climate financing by 2020.¹⁶⁴

Germany is still heavily reliant on imported fossil fuels, a problem that may be exacerbated by increasing gas demand in the power sector and heating in the coming years, but projections show that gas demand must decrease by 2030 if renewable expansion targets are met.¹⁶⁵ Dependence on energy imports is high and increasing. In 2016, energy imports, largely fossil fuels, accounted for 64% of energy consumption. In the same year, **almost all oil and gas was imported.**

¹⁶⁴ Clean Energy Wire (2019). **Germany to reach goal of 4 bln euros for intl climate financing by 2020**

¹⁶⁵ Agora Energiewende (2017). **Energiewende 2030: The Big Picture**

Since the beginning of 2019, all hard coal has been imported since the last hard coal mine was closed just before Christmas 2018.

Germany's key role in the redistribution and storage of gas in Europe also has profound geopolitical implications. Germany's dependence on imports from Russia is high and will likely increase, including due to the Nord Stream II pipeline project. In parallel, gas is still perceived as a viable bridge technology, for example in the context of the coal phase out, while overall declining demand in Europe suggests that new gas investments are at high risk of turning out to be stranded assets. To counterbalance this dependence and to prevent any pressure by the US on the German export industries (in particular automotive), Germany is considering its own liquefied natural gas (LNG) terminal infrastructure. It is unclear however to what extent a domestic LNG terminal infrastructure is viable and economically sound given the high interconnection of the EU gas market, increasing electrification and efficiency gains.

An accelerated deployment of domestic renewable energies, especially wind and solar, would reduce import dependence and increase Germany's geopolitical scope of action. However, with the current deployment trajectory, Germany will likely not reach its goal of integrating 65% of renewables in the power mix by 2030. This is both fuelling energy security concerns, given the parallel nuclear and coal phase out, and concerns about the stability of energy prices, and makes new investments in fossil infrastructure more likely. In other sectors, competitiveness concerns are more pronounced. Through sector coupling, transport, buildings and industry will require large amounts of renewable power to be decarbonised. At the same time, Germany is outcompeted by lower-cost economies such as China, for example in steel production, and lagging behind in the deployment of key low carbon technologies such as electric vehicles and batteries compared to China and others.¹⁶⁶

With its high degree of public support for multilateral cooperation, economic clout, and unique position as a potential bridge-builder between East and West, Germany's geopolitical leadership is crucial in a context of geopolitical disruption and realignment. While domestically there is still a strong perception of geopolitical stability in the European neighbourhood, looming disruptions suggest that Germany must define and act on its foreign policy interests more clearly. Thanks to its strong track record on manufacturing, Germany could pivot

¹⁶⁶ The Economist (2018). [China is rapidly developing its clean-energy technology](#)



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to becoming a manufacturing hub for the clean economy – but there will be international competition for this role. In addition, Germany must work together with other EU member states to enable the EU to show strong leadership in the world, on issues ranging from conflict to climate change and authoritarianism.

Germany has recently upped its rhetoric on taking on more responsibility and defending multilateralism, but this must be followed by action. The German and French Foreign Ministers' Alliance for Multilateralism has not yet resulted in concrete next steps, and Germany lacks a proper and coherent strategy towards countries such as Russia and China.¹⁶⁷ Germany must more clearly identify where it can have a strong impact. For example, Germany's influence on EU monetary policy has had significant consequences on austerity and investment policies in other EU member states. Over the last decade, Germany was continuously criticised for keeping other member states in deficit and dependence, while benefitting from the broader economic situation, namely low interest rates and high exports.

Germany is struggling under the macroeconomic slowdown and low investment rate

With a GDP of €3.4 trillion (2018), Germany has the largest economy in Europe. Family-owned, internationally competitive businesses are perceived as the “engines” and pride of the German economy, even though Germany is also home to some of the largest corporations worldwide.

Germany is the third largest export economy worldwide and manufacturing exports are driving economic growth. Thus, global economic conditions have significant effects on the German economy. Overall, Germany has a strongly service-based economy (69% in 2017), however public debate is often centred on the still large, world-renowned and export-oriented industry and manufacturing sectors in the country (31%). This results in a German economy sensitive to global competition and financial and economic shocks in partner countries and key markets.

However, key pillars of Germany's export economy are at risk of losing their competitive position due to the coming transformations. For example, the automotive industry, already challenged by digitalization and automation, is lagging behind in the transition towards electric mobility, the solar PV industry has already lost large shares of its manufacturing capacity towards China, and

¹⁶⁷ DW (2019). [Germany launches Alliance for Multilateralism](#)

industrial actors in various sectors are at risk of losing market shares due to their slow uptake of digital technologies.

Table 2: Germany's main export goods by percentage share of exports (2018)¹⁶⁸

Automotive goods	Machines	Chemical products	ICT goods	Electrical equipment
18%	15%	9%	9%	7%

After years with a strong economy and a significant reduction of public debt, **Germany is currently on the brink of a recession.** Recent announcements by Audi, Continental and Daimler have lifted the tally of job cuts announced in 2019 across Germany's manufacturing sector to more than 100,000, according to Bloomberg calculations.¹⁶⁹ Nevertheless, the German federal government has committed – again – to not making any new debts in the coming budget cycle. This approach (“Schwarze Null”), a key priority of Chancellor Merkel's Conservatives, is increasingly criticised given the slowing economy and large investment needs for infrastructure, digitalisation and climate. The critics include the German Council of Economic Experts, the industry association, trade unions and civil society.¹⁷⁰ In addition to the overall amount of investment, Germany struggles to deliver critical small- and large-scale infrastructure projects, due to often poorly coordinated public participation and extensive planning processes. Recent statements by the Finance Ministry suggest that the government might move away from the “Schwarze Null” approach in 2020.¹⁷¹

Germany's labour market is strong, particularly in science, engineering and technology jobs, thanks to world-renowned vocational and on-the-job training. At the same time, there are concerns about a lack of skilled employees, particularly in rural areas.¹⁷² Trade unions play an important role in decision-making processes as they are often directly and formally involved in these processes through established formats such as “social dialogues” and “social partnerships”. Social dialogues usually take the form of close and decentralised structures of contracts and mutual agreements between employers' associations, trade unions and workers' councils, ensuring regular meaningful

¹⁶⁸ Bundesministerium für Wirtschaft und Energie (2019). [Fakten zum deutschen Außenhandel](#)

¹⁶⁹ Bloomberg (2019). [German Manufacturing Job Losses Top 100,000 With Daimler Cuts](#)

¹⁷⁰ Deutschlandfunk (2019). [Wirtschaftsweise rütteln an der Null](#)

¹⁷¹ Der Tagesspiegel (2019). [Olaf Scholz stellt schwarze Null infrage](#)

¹⁷² Deutsche Welle (2019). [German firms face skilled workers shortage](#)



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interactions between employers and employees in individual industries.¹⁷³ The whole system is challenged to provide talent required for moving to a green economy, including by attracting and retaining talent from abroad, and investing in targeted education and qualification in the country.

However, the **low-wage segment of the labour market has significantly grown in recent years**, partly due to social and economic reforms introduced in the 2000s. Compared to many other countries, the difference between market income and disposable income is relatively high, driven by the tax, transfer and social welfare system.¹⁷⁴ Germany's public spending on social protection (per capita) ranks second in the EU. The labour share of income is still at 69% but has decreased significantly since the 1970s. The share of workers with the right to collective bargaining is high at 57%, but has decreased dramatically from 85% in 1985, reflecting a decrease of unionisation and the decline of some highly organised large-scale industries. Overall, wealth is distributed much more unevenly than income, and further inequalities persist between the genders, rural and urban areas, and industries. The reunification in 1990 was a unique challenge for the economy, and its effects are still visible in data and reality. Median net incomes in the Western states of Germany are still 20% higher than in the East, despite recent convergence trends.¹⁷⁵

Another key macroeconomic shift faced by Germany is demographic change, characterised by a low birth rate and an increased life expectancy, which together lead to an overall ageing population. This trend is not offset by migration into Germany.¹⁷⁶ By 2035, the size of the working population in Germany will decrease by 4-6 million people. The overall population size will continue to increase slightly over the coming years, before plateauing and decreasing after 2040.¹⁷⁷ These developments have varying effects on different regions of Germany: while ageing can be observed across all states, decreases in population particularly affect rural, structurally weak regions. Importantly, the demographic trends combined with the low interest environment put major pressure on the stability of the traditionally strong Germany pension system as

¹⁷³ Dustmann et al. (2014). **From Sick Man of Europe to Economic Superstar: Germany's Resurgent Economy**

¹⁷⁴ Federal Ministry of Finance (2019). **Social inequality and inclusive growth**

¹⁷⁵ Wirtschafts- und Sozialwissenschaftliches Institut (2019). **Medianeinkommen**

¹⁷⁶ Demografie Portal (2019). **Der Demografiebericht**

¹⁷⁷ Statistisches Bundesamt (2019). **Bevölkerung im Erwerbsalter sinkt bis 2035 voraussichtlich um 4 bis 6 Millionen**

well as pension funds.¹⁷⁸ Structural reforms of the system can be expected for the coming decade.

Again, it becomes clear that **the various disruptions that are occurring for reasons not related to climate policy have strong implications for the fight against climate change, too.** For example, the threat to pension systems caused by demographic change is exacerbated by the risk of stranded assets due to necessary climate policy, showing the need for change in the financial sector. Furthermore, the environment of stagnating growth and low interest rates makes it necessary and desirable to invest into the economy, investments which could very well be aligned with the need to build new, green infrastructure. **Altogether, a “green stimulus”, as demanded for example by the OECD Economic Outlook, would provide a solution to many of the different problems analysed here.**¹⁷⁹

Pressure for more climate protection is not translated into effective policies

Climate change is currently a top priority in the German political debate as a result of both increasingly salient climate impacts and the broad mobilisation of the climate movement, in particular the strikes of Fridays for Future. Most Germans perceive climate as a key political issue for their voting decision and 63% believe that climate protection is more important than economic growth.¹⁸⁰ Germany has a historically strong environmental movement, but the climate movement has regained momentum only recently. Fridays for Future Germany regularly reports the highest participation in the Friday strikes worldwide, with a peak in September 2019 with 1.4 million people on the street.

Considering this, **political pressure to deliver more ambitious climate policy is immense but the government has so far failed to agree on adequate measures aligned with the Paris Agreement.** At the same time, climate impacts have become more visible in the country, particularly during the exceptionally hot summers of 2018 and 2019 which caused major economic losses, for example in agriculture, inland shipping, tourism and even fossil industries due to a lack of cooling water. In 2018 alone, climate damages led to costs of €700 million in

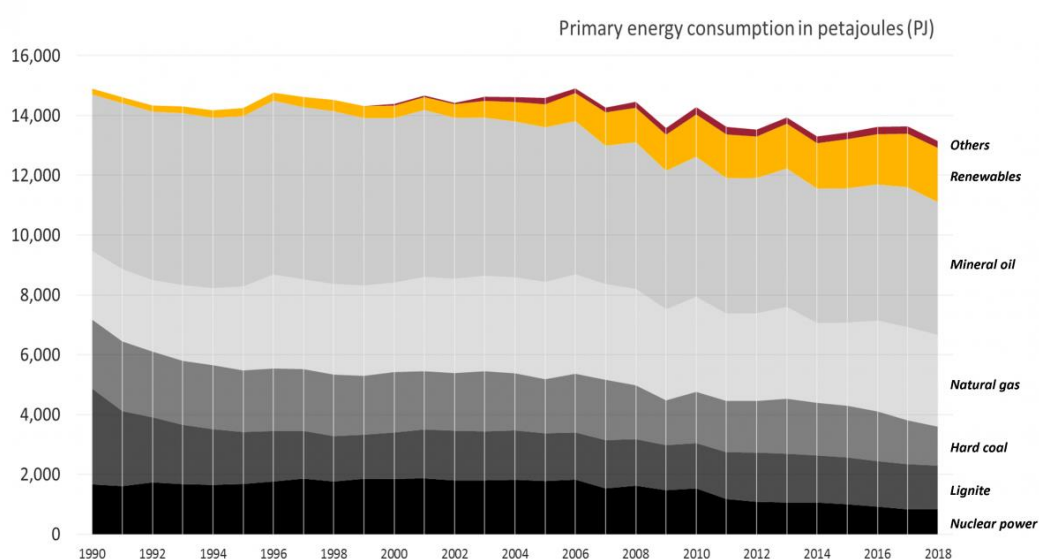
¹⁷⁸ Handelsblatt (2018). **Die Zinsflaute geht ersten Pensionskassen an die Substanz**

¹⁷⁹ OECD (2019). **Economic Outlook**

¹⁸⁰ Tagesschau (2019). **ARD-DeutschlandTrend: Klima toppt Wirtschaft**

agriculture, and extreme weather events caused total costs of €3 billion.¹⁸¹ While a broader understanding of the impacts of climate change is growing, and Germany has built capacity on adaptation, climate-related migration and issues around disaster displacement, the debate is mainly focused on domestic mitigation measures.

Figure 4: German energy sources' share in primary energy consumption 1990-2018¹⁸²



The internationally praised “Energiewende” has contributed to the successful deployment and integration of a large share of renewables in the power mix. However, at the same time, Germany is still the largest coal-burning country in Europe. In 2018, seven of the top ten emitters of CO₂ across all sectors in Europe were German lignite plants. While the share of coal has been reduced, renewables have mainly replaced nuclear power. **In other sectors such as buildings, transport or industry, progress has been much slower**, resulting in a persistent reliance on oil, fossil gas and coal. In 2018, renewables accounted for only 14% of primary energy consumption (see Figure 4), while energy sources which are largely imported – oil (34%), fossil gas (24%) and hard coal (10%) – accounted for more than two-thirds of the overall consumption figure. **Large investments will be needed to manage the transformation to a net zero economy across all sectors.**

¹⁸¹ Umweltbundesamt (2019). [Monitoringbericht 2019 zur Deutschen Anpassungsstrategie an den Klimawandel](#)

¹⁸² Clean Energy Wire (2019). [Germany's energy consumption and power mix in charts](#)

In its 2018 study on climate pathways, the German industry association BDI estimated that a **95% emission reduction by 2050 would require additional investments of €2.3 trillion or 1.8% of GDP annually**.¹⁸³ In an optimal scenario, assuming global climate action and a level playing field, the net economic effects would be positive: GDP would grow slightly, driven by key markets such as renewable energy, energy efficiency and low carbon mobility. This would however entail a transformation of major parts of the German economy with negative or at least disruptive effects on currently significant sectors such as coal, gas, and the high-carbon car industry. It is estimated that at least an additional €270 billion is needed to reach the domestic climate targets for 2030.¹⁸⁴ Significantly more will be needed for a Paris-compatible pathway and the modernisation of existing wider public infrastructure. **For the finance sector, this means not only a complete divestment from fossil fuels but also strategic investment in net zero infrastructure and markets of the net zero economy.**

Germany was one of the first countries to develop a long-term climate strategy after adopting the Paris Agreement. However, as shown in figure 5, **Germany will miss its domestic climate targets for 2020 and 2030 in almost all economic sectors. For a Paris-aligned path to net zero emissions before 2050, the targets would need to be even higher**.¹⁸⁵ In September 2019, the government presented plans for a Climate Law, based on legally binding sector targets and a governance for reaching the climate goals, as well as a package of measures in all sectors to implement on existing targets. This includes a carbon pricing system for two sectors which are not covered by the EU emission trading scheme (ETS) (with an insufficiently low entry price of €10 per ton of CO₂, later increased to €25 after negotiations with state governments), incentive and support schemes for greener technologies and a few regulatory interventions such as the end of almost all new oil heating systems in buildings by 2025. In addition, the German government has introduced a Climate Cabinet, led by the Environment Ministry, and including all affected ministries. This has helped increase the visibility, cross-sectoral thinking and political importance of climate politics in Germany.¹⁸⁶

¹⁸³ BDI (2018). **Klimapfade für Deutschland**

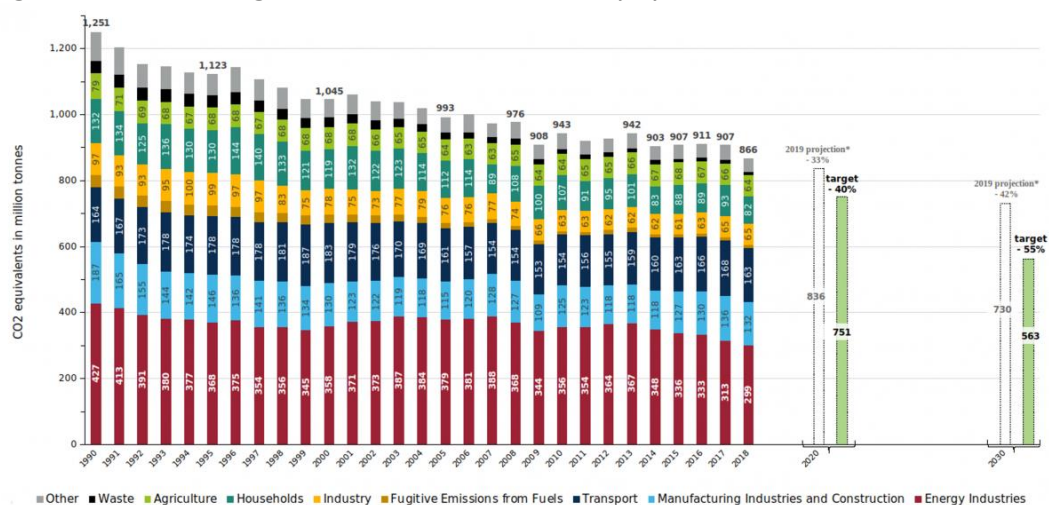
¹⁸⁴ Öko-Institut (2018). **Folgenabschätzung zu den ökologischen, sozialen und wirtschaftlichen Folgewirkungen der Sektorziele für 2030 des Klimaschutzplans 2050 der Bundesregierung**

¹⁸⁵ SWP (2019). **Klimaneutralität als Langfrist-Strategie**

¹⁸⁶ E3G (2019). **One step forward does not make a leader: Germany's climate package and its relevance on the international level**

The ambition of this “climate package”, which was the result of months of intense and polarised political debate, is too low. Agora Energiewende estimates that the package will only close one third of the gap to reaching the 2030 emission reduction targets.¹⁸⁷ If the government does not increase ambition, it will fail to deliver on its climate commitments under the Paris Agreement and will also be responsible for a heavy budgetary burden. If Germany does not reach EU targets in the non-ETS sectors, it must pay billions in fines over the next decade.¹⁸⁸ Germany’s support for a net zero emissions economy in Europe by 2050 has not yet trickled down to concrete implementation and more ambitious domestic 2030 goals, though the government has recently said that it supports higher EU-wide goals for 2030.¹⁸⁹

Figure 5: Greenhouse gas emission trends in Germany by sector 1990-2018¹⁹⁰



Note:
Without emissions from land use, land-use change and forestry (LULUCF)
*According to the federal environment ministry's 2019 emissions projections report, Germany is set to widely miss its goal to reduce greenhouse gas emissions by 40 percent by 2020.

International pressures on democratic political systems are mirrored in the domestic debate. Rising populism and the weakness of the two traditionally largest party blocs, Conservatives (CDU/CSU) and Social Democrats (SPD), shed light on challenges for two key features of the German political system: federalism and the consensus democracy. Political discourse is polarised, for example on migration and climate issues. While in the Western states of Germany and at the federal level, the Green party is polling above 20%, with

¹⁸⁷ Reuters (2019). [Regierung verteidigt vor UN-Gipfel ihr Klimapaket](#)

¹⁸⁸ Agora Energiewende (2018). [Die Kosten von unterlassenem Klimaschutz für den Bundshaushalt](#)

¹⁸⁹ Clean Energy Wire (2019). [Merkel says govt supports raising EU’s 2030 climate target but little on consequences for Germany](#)

¹⁹⁰ Clean Energy Wire (2019). [Germany’s greenhouse gas emissions and climate targets](#)

majorities in cities and among highly-educated groups, the far-right, anti-system AfD has celebrated victories in elections in the Eastern parts of Germany, thereby putting major pressure on democratic coalition-building.

As systemic challenges such as the climate crisis and digitalisation require a whole-of-government approach to shape the societal transformation across economic sectors, **traditional decision-making attitudes which seek middle ground between industry, government and trade unions are increasingly challenged.** Nevertheless, Germany is still a stronghold of liberal democracy, with clear majorities pro-EU, pro-democracy and anti-populism at the federal level.

Overall, the country and the current government do not seem to be ready for transformative climate policy. The outcome of the Coal Commission and the overall climate package are not ambitious enough to align the German economy with the Paris Agreement and incentivise sustainable investment decisions. Germany's consensus-oriented, federal political system which traditionally sought to find a compromise between employers and trade unions is struggling to reach agreements around the physical realities of climate change. In addition, the emergence of new players including powerful social movements is challenging the logic of established decision-making structures. For these reasons, institutional innovation will be required to establish climate change as a cross-cutting political topic at the highest level of government, that is also linked to all the key policy fields. Institutional cross-ministerial learning on climate issues, to enable Germany to design and implement effective policies for the whole economy, will be one of the main challenges for the coming year. In this context, Germany can learn from the experiences, showcased in chapter 3, of the Mexican cross-ministerial platform.

Just transition challenges

Debates about the social and economic implications of climate policy have intensified. Reflecting the need for just transition, the so-called "Coal Commission" was tasked with reaching a compromise on a just transition process for Germany's coal producing regions, rather than developing a phase out pathway for coal power.¹⁹¹ Over the next 20 years, the federal and state governments will invest up to €40 billion in the transition of coal regions, for example in infrastructure, social security schemes, innovation, education and economic diversification. This is a remarkable development given the overall

¹⁹¹ E3G (2019). **The German Coal Commission – A Role Model for Transformative Change?**

moderate ambition of the phase out deal and the relatively low numbers of workers – approximately 20,800 in lignite mining and 5,700 in hard coal plants.¹⁹²

Similar transition conversations have started and will increasingly be necessary in other sectors such as industry, buildings and transport. The German car industry, which includes a large supply chain of small- and medium-sized businesses, is under pressure to accelerate the transformation to producing low-carbon alternatives such as electric vehicles. It is questionable to what extent a governance approach similar to the Coal Commission could be used for a much larger industry which will not disappear but rather change disruptively. Furthermore, the car industry is more dispersed across the country, with 819,996 workers and an overall record revenue of €423 billion in 2017.¹⁹³ Similarly, energy-intensive industries such as steel, cement, chemicals and building materials employ 880,000 people, in contexts of heavy international competition and often closely linked to fossil energy and other large manufacturing industries.¹⁹⁴ This shows that the most significant employment challenges of the climate transition still lie ahead.

Beyond employment effects, **concerns about social cohesion, the rise of populism, and the cultural importance of cars and coal for regions and the German economy play a major role** in this debate.¹⁹⁵ These legitimate concerns were, however, also used as arguments to delay or slow down climate action, as exemplified by the coal phase out date which is far too late to be in line with the Paris Agreement¹⁹⁶, and a proposed carbon price which is too low to be effective in driving climate action in the transport and buildings sectors, while also not being socially just.¹⁹⁷

¹⁹² Umweltbundesamt (2018). **Beschäftigungsentwicklung in der Braunkohleindustrie: Status quo und Projektion**; RWI – Leibniz Institut für Wirtschaftsforschung (2018). **Strukturdaten für die Kommission „Wachstum, Strukturwandel und Beschäftigung“**

¹⁹³ Verband der Automobilindustrie (2019). **Zahlen und Daten**

¹⁹⁴ Die Energieintensiven Industrien in Deutschland (2019). **EID: Daten und Fakten**

¹⁹⁵ Reitzenstein et al. (2019). The Story of Coal in Germany: A Model for Just Transition in Europe? In **Just Transitions: Social Justice in the Shift Towards a Low-Carbon World**

¹⁹⁶ Climate Analytics (2018). **Coal phase out in Germany**

¹⁹⁷ MCC & PIK (2019). **Bewertung des Klimapakets und nächste Schritte**

In general, three key factors of a coherent just transition discussion are not yet adequately reflected:

1. **The economic and social costs of inaction are poorly addressed in just transition debates.** This refers both to the impacts of climate change such as natural disasters, droughts and flooding¹⁹⁸ in Germany but also international impacts such as increased forced migration or the role of climate change as a risk multiplier in conflicts, with effects on German domestic and foreign policy.
2. **The opportunities stemming from the transition are not highlighted sufficiently.** Employment opportunities in green growth markets such as renewable energies, energy efficiency, low carbon mobility, green industry or circular economy could provide credible alternative employment in many affected regions. For example, the coal region Lusatia is also a large producer of renewable energy. Based on existing energy infrastructure, the region could be a good site for data and energy storage facilities. Only recently, Tesla announced plans to build a new Gigafactory between Berlin and the coal region of Lusatia in the state of Brandenburg. Coherent investment strategies, such as the one for the Coal Commission, provide further opportunities for a broader sustainability transition across the regions, and can trigger additional private investment if done well.
3. Inaction **puts an additional burden on economies and societies**, for example, air and water pollution, or the need for regeneration of ecosystems in coal regions. Overall, the just transition process should be more focused on credible planning for security for communities and businesses, based on stakeholder engagement in affected regions and linked to investment strategies.

Sustainable finance in Germany

Germany is a late mover on sustainable finance. Domestically, Germany has only recently started to drive the agenda with the establishment of a Sustainable Finance Council which inputs to a Sustainable Finance Strategy to be published in 2020. Compared to international peers such as the UK, France or Canada, Germany is lagging behind on domestic implementation of innovative sustainable finance measures. At the EU level, Germany was perceived as a blocker of ambitious legislation for the Sustainable Finance Action Plan, with little indication of a coherent strategy on the topic. Proactively shaping the

¹⁹⁸ Umweltbundesamt (2015). [Germany's vulnerability to Climate Change](#)



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agenda is however not only in the domestic interest to ensure the competitiveness of Frankfurt, Germany's financial hub, but will also be crucial to enable financial markets to support the rapid transformation of the real economy in times of climate crisis.

Germany's financial sector is internationally relevant. Frankfurt ranks 11th among global financial centres and its stock exchange is the 12th largest globally. Importantly, Germany has the third largest asset management industry in Europe. Overall, the German financial system is exceptionally heterogeneous and decentralised. The importance of public banks and the large number of member-owned credit unions distinguishes Germany from other financial centres and these features are shaped by the federal political system.

In 2018, finance and insurance sectors contributed 4% to GDP, a low share compared to other countries with a strong finance industry.¹⁹⁹ Contrary to, for example, the UK, where financial services' direct contribution to GDP (7% in 2018²⁰⁰) is a more important factor, **Germany's financial sector has a strong tradition of being linked to financing real economy activities.** Overall, the German sovereign bond market is still perceived as a safe haven with top ratings and is used as benchmark for fixed income instruments. Banks foreign exposures stand at only 20% of total assets, with only small exposure to vulnerable emerging markets. Germany's net external assets have been growing relatively continuously since the start of this millennium. At the end of 2017, Germany had a balance of €1.8 trillion, making it the world's second-largest net creditor in absolute terms, after Japan.²⁰¹

Germany is also the **fourth largest FinTech market in Europe**, with 700 companies in the sector. In 2017, €541 million were invested in FinTech, making it the second biggest recipient of investments among digital start-ups after E-Commerce (€1,810 million).²⁰² However, financial innovations spread relatively slowly in the established structures of the banking and finance sector, as exemplified by the slow roll-out of cashless and contactless payments.²⁰³ On the European level, the opportunities of linking financial innovation through FinTech

¹⁹⁹ GTAI (2019). **Financial Services**

²⁰⁰ House of Commons Library (2019). **Financial services: contribution to the UK economy**

²⁰¹ Deutsche Bundesbank (2018). **Germany's international investment position: amount, profitability and risks of cross-border assets**

²⁰² GTAI (2018). **Digital Economy in Germany**

²⁰³ Statista (2019). **Number of cashless payment transactions in Germany from 2013 to 2017**



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and sustainable finance are not yet used, as, for example, the European Commission's action plans on FinTech and sustainable finance were written separately and do not cross-reference each other. The recent creation of a unit on "Financial Technology and Sustainable Finance" in the Commission's Directorate-General for Financial Stability was a positive step, however.²⁰⁴

In international fora, Germany is perceived as a credible player, as well as a major climate financier, working towards more climate-related finance in multilateral development banks and UN organisations. **However, Germany's international track record is not always consistent.** Only recently, Germany was one of the countries pushing for exceptions for fossil gas in the European Investment Bank's new energy lending policy which includes a commitment to end all fossil fuel funding by the end of 2021.²⁰⁵

Positively, the country continued the priority on green finance during its G20 presidency in 2016 and acknowledged the recommendations of the Task Force on Climate-related Financial Disclosure (TCFD) and the G20 Green Finance Study Group. During Germany's G20 presidency, the G20 Hamburg Climate and Energy Action Plan for Growth was adopted, which included commitments to establish a Global Partnership for Climate and Disaster Risk Finance and Insurance Solutions, and work towards creating an enabling environment to making public and private investments consistent with the Paris Agreement's Article 2.1c on shifting financial flows towards the climate transition.

Sustainable and green finance did not feature highly in any domestic policy strategy or coalition treaty until recently. In contrast to neighbouring countries which took domestic steps on climate-related risk disclosure (France) or climate change impacts on financial market stability (UK), Germany was largely reacting to EU regulation. For example, Germany translated the EU Corporate Social Responsibility Directive into national law, thereby imposing some disclosure duties on banks, insurance companies, and capital market oriented businesses with more than 500 employees; but, in contrast to France, it did not add specifics on the type and quality of reporting nor did it add mandatory, comparable reporting, including for other actors such as investment funds. Similarly, Germany has not yet played a proactive or progressive role in the process following the EU Sustainable Finance Action Plan. In all areas – particularly taxonomy and disclosure – Germany is perceived to play a relatively conservative

²⁰⁴ MLex (2018). **Sustainable finance and fintech get boost as EU Commission created dedicated unit**

²⁰⁵ E3G (2019). **Die Europäische Investitionsbank – nächster Schritt hin zur Klimabank Europas?**

role, pushing for voluntary instead of mandatory disclosure and a narrow scope of application of the sustainability taxonomy.

Germany's long tradition of family-run businesses with strong corporate governance and social protection measures, as well as a central role for trade unions, contributes to regularly strong sustainability ratings. Elements of Germany's "social market economy" which is based on a strong industrial core are also reflected in the close link between the decentralised banking system and real economy actors. Financial markets in Germany perform different functions compared to markets in, for example, the US or the UK. While in the US and UK, financial services are perceived more strongly as directly contributing to value creation and GDP itself, the German system is more focused on banking and its link to financing real economy action. Based on this perspective, sustainable finance is a slightly less important driver of change in Germany compared to other countries, given the strong reliance on the real economy which means that policy changes are more strongly driven by an industry sector with low corporate debts.

Overall, **sustainable finance has not yet arrived in the German finance mainstream.** Positively, the market for sustainable investments has increased by 28% to €219 billion in 2018, accounting for 4.5% of the overall investment market (which decreased by 2% in the same period). The recent growth is largely driven by institutional investors which make up 93% of sustainable investments.²⁰⁶

A lack of a long-term and credible regulatory framework is a major barrier for the creation of sustainable finance products and additional sustainable investment. Nevertheless, over the last few years, significant action has been taken by private finance actors, in particular sustainability-focused financial actors, large insurance and reinsurance companies, and also some asset managers and banks. For instance, Allianz joined the Net Zero Asset Owners Alliance in 2019. Furthermore, large energy-intensive industry actors such as ThyssenKrupp and Heidelberg Cement have set science-based net zero targets in an environment of low regulatory clarity. Various initiatives such as the Sustainable Finance Cluster are actively working towards strengthening sustainable finance in Germany, and positioning Frankfurt as a major sustainable finance hub. Demand is growing for strong political signals towards the financial

²⁰⁶ Forum Nachhaltige Geldanlagen (2019). **FNG-Marktbericht Nachhaltige Geldanlagen 2019**

industry as an enabler of the transformation in the real economy, both from a risk and an investment perspective.

Germany has not decided to lead any major innovation or reform initiative on green public investments. For example, climate risk is not yet a criterion to assess the federal public budget. While ESG standards are implemented and considered for many public funds, for example, there is an exclusion of all investments in nuclear power, and guidelines are not yet systemic and far-reaching. The public development bank KfW, as a major issuer of green bonds and funder of green projects in Germany and worldwide, has committed to not fund any coal projects. It has however not yet taken a strong leadership role on greening other financial players or taking the next steps with its own portfolio. For example, after the EIB's decision to end funding for all fossil fuels by 2021, KfW has missed the opportunity to move forward and show how it plans to reduce the risk of stranded assets, and coherently develop towards a Paris-aligned investment strategy.

The two main supervisory authorities in Germany, Bundesbank and Bafin, are increasingly active in the sustainable finance space. Particularly Bafin has upped its game by publishing a guideline note to give orientation on the role of sustainable finance in addition to existing risk management standards, calling for a strategic assessment of risks, and exploring stress testing and climate-related scenario development.²⁰⁷ While the German Bundesbank, together with Bafin, is a member of the Network for Greening the Financial System, its position on sustainable finance is still cautious. In November 2019, Bundesbank President Jens Weidmann opposed using monetary policy to fight climate change, for example in the form of green quantitative easing and directing asset purchases, thereby positioning himself against the new ECB President, Christine Lagarde, and Mark Carney, Governor of the Bank of England.²⁰⁸ Nevertheless, Weidmann does see scope for the Bundesbank to help green the financial system, for example in terms of its own fund portfolios or facilitating better knowledge on climate-related risks.²⁰⁹

Germany is set to develop a domestic sustainable finance strategy early in 2020. As a reaction to increasing demand and expected EU regulation, the German government set up a domestic Sustainable Finance Council to develop a

²⁰⁷ BaFin (2019). **Merkblatt zum Umgang mit Nachhaltigkeitsrisiken**

²⁰⁸ Financial Times (2019). **Weidmann opposes using monetary policy to fight climate change**

²⁰⁹ Deutsche Bundesbank (2019). **Weidmann and Mauderer: Protecting the climate a hugely important topic for central banks**



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German sustainable finance strategy and establish the country as a key player for sustainable finance. In June 2019, the 38 person-strong council, with representatives from most major stakeholders, met for the first time, subsequently establishing four working groups: strategy and communication, financial market stability and risk management, disclosure and transparency, and private and institutional customers.²¹⁰ It remains to be seen to what extent both a systemic perspective on the enabling role of the financial system for the transformation, as well as clear suggestions of policy measures are included in its final report.

Furthermore, **it will be important to observe if and to what extent the recommendations are translated into a strong government strategy.** Only if Germany can present a clear plan for policy change which goes beyond EU regulation, will it be able to shape the debate during its EU Presidency in the second half of 2020 and in the runup to COP26 in Glasgow. In the coming months, the government must also make major decisions on EU sustainable finance. Based on the current conversations about the scope, governance and timeline of an EU taxonomy for sustainability, the legislative file might either be closed before the German Presidency or be an important legislative part of it.

The strategy process is currently led by the Finance and Environment Ministries, in cooperation with the Economy and Energy Ministry. It is however so far **neither well connected to the broader climate and financial discourse nor prioritised by high level government representatives.** While more capacity has been designated to the topic from government, finance industry and civil society over the course of the last two years, and sustainability is slowly making its way up to the offices of CEOs, there is still a lot of **room to increase capacity, knowledge and education on the links of finance and sustainability.** This refers to all levels, from leadership to end customers, not only to allow for an informed discourse but also to shape behaviour and strengthen the agenda.

The **German sustainable finance debate so far mainly takes place in separate siloes.** Stronger links to the EU process, broader climate legislation and other, related policy fields would be key to allow for a systemic perspective and transformative approach. Given the concerns about the social and economic implications of climate policy and climate change, a **more integrated approach** is necessary. When designing public policies to address the climate crisis, social, economic and cultural factors must be considered. Initial ideas about **investment**

²¹⁰ Bundesministerium der Finanzen (2019). [Sustainable Finance-Beirat der Bundesregierung gibt sich umfangreiches Arbeitsprogramm](#)

in a just transition to a net zero economy should be further explored and considered by the German government to ensure the most effective use of funds.²¹¹ Since the **“Coal Commission” approach** with vast public investments is **unlikely to be replicable in other sectors such as mobility**, debates about how to steer private investments towards green growth markets should take centre stage in coming months.

Linking this back to the real economy, **Germany is well placed for a green and transformative stimulus in times of a slowing economy**, being on the brink of recession.²¹² Alongside major economists, trade unions and industry associations have asked for more investment in a rare joint initiative.²¹³ 2020 is expected to be a tough year for the German economy, and a discussion about a green stimulus will likely intensify under these circumstances. Growth in 2019 was mainly driven by government and household spending as well as exports, while domestic industry is struggling. Against this backdrop, climate protection has already created more than one million jobs in Germany over the last decades, and the OECD expects the German economy to grow in a high ambition scenario.

Investment needs to ensure competitiveness, job protection and justice in the transition to a green economy, in particular in the automotive sector, energy-intensive industries, buildings and energy sectors. Germany will need to invest more, and in more targeted ways, but also make planning of small- and large-scale infrastructure more efficient to enable timely implementation. Several proposals have been made for how to speed up planning while still ensuring public participation and addressing conflicts with other policy fields.²¹⁴

Targeted German investment is essential for the EU’s ability to deliver on a net zero emissions goal by 2050. As pointed out by ECB President Lagarde, the EU is relying on Germany, alongside other key member states to invest with a broader economic perspective. **Maintaining the status quo is not prudent, because it risks the core credibility of the German economy and the value of its assets, but the investment required for the ambitious agenda of the new EU Commission will be burdensome.**

²¹¹ Grantham Research Institute on Climate Change and the Environment (2019). **Investing in a just transition – global project**

²¹² The Guardian (2019). **Germany downplays stimulus hopes as economy escapes recession**

²¹³ Tagesschau (2019). **DGB und BDI fordern mehr Investitionen**

²¹⁴ Handelsblatt (2019). **So lassen sich Bauprojekte beschleunigen**



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Financial innovation is key for Germany to prepare for change

Germany, the largest economy in Europe, with a strong financial sector closely tied to the real economy, faces massive, potentially disruptive changes in the coming years. This refers to challenges of digitalisation, the geopolitical context, the macroeconomic slowdown and the climate crisis. So far, those challenges have not yet been sufficiently addressed and linked to financial market reform. However, **without faster financial sector reform, it is unlikely that the vast investment and innovation needs across the economy can be met.**

Germany was an early mover on financing green projects with its Energiewende and innovative industrial economy, significantly large investments in renewable energy and support schemes for energy efficiency investments. This is however still not combined with a credible fossil fuel phase out and just transition plan for coal, oil and gas and related productive sectors. While KfW, Allianz and others took steps to phase out coal, there is still no systemic move away from fossil fuels in the absence of an enabling regulatory environment. In recent years, this was combined with relatively low investment and high saving rates given the excellent economic situation. The risk of a recession might be an opportunity to launch a systemic green investment package. The climate package, as proposed by the government, is neither enough to reach the climate targets, nor would it be sufficient as an economic stimulus. The recently adopted Climate Act could however be a strong governance framework for investment.

Importantly, Germany must pursue opportunities of the transformation towards a net zero economy much more actively. With growing domestic and European climate legislation, the need for additional investment but also the opportunity of sustainable finance becomes ever clearer. As the world shifts to fully decarbonise in three decades and to manage a changing climate, all financial transactions will have to include due diligence over a wide range of increasingly material climate and environmental risks. Frankfurt and Germany would be well placed to play a major role in and shape the sustainable finance space, based on its financial market relevance, and world class organisations in insurance, law, climate science, manufacturing, academics and think tanks. Integrating these capabilities into a global financial offer and helping build the global regulatory and marketplace to support its growth should be a central strategic German interest. Concretely, Germany is hosting the EU-China summit



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in Leipzig next year. Cooperating with China on green finance, including on China's Belt and Road investments, is key for the international climate regime and economic cooperation. This should however not neglect challenges in the bilateral relationship with China when it comes to human rights violations.

Germany must move beyond its reactive approach to finance and the economic slowdown. **Given the parallelism of major, potentially disruptive trends in technology, geopolitics, macroeconomics, finance and climate, the question is not if Germany will be changed or not, but to what extent Germany can actively shape the transition and reap the benefits of change.** In this picture, ambitious climate policy enabled through sustainable finances reduces material systemic risk, ensures competitiveness of German industry, and mobilises the necessary investment for the transformation to a net zero economy. In our interviews, it came across that the main risks to companies do not come from, for example, carbon pricing, but competitive and technological pressure which is accelerated by regulation. All this shows that the costs of action in the present are much smaller than the future costs of inaction: under rapidly changing circumstances, preserving the status quo no is longer the safest option.

This will require a whole of government approach in a strong Europe, based on substantial institutional and regulatory innovation. The transition towards a net zero economy in Germany first and foremost requires political commitment and a strong regulatory framework for change. The policy mix depends on sectors and regional contexts, but it is quite clear that measures are necessary to both mobilise green investment and urgently phase out "brown" fossil investments. Both the climate crisis and digitalisation impact on most parts of the German and world economy and cannot be addressed with the traditional policy siloes in governments. Hence, new institutions will be necessary for a coherent policy approach. The Climate Cabinet and the Climate Law with legally binding sector targets are a good step in this direction but a further strengthening of climate in the institutional governance of the government is essential to deliver on the cross-cutting and global nature of the challenge. **Climate and digitalisation are, in the end, a responsibility of the Chancellery and not for single ministries.**

Germany is lagging behind on greening the financial system. In contrast to other European countries such as the UK, France or Luxemburg, Germany has not yet made ambitious domestic steps to accelerate sustainable finance, neither on disclosure nor on stability aspects of the financial system. With its Sustainable

Finance Council, the country has now the opportunity to catch up ahead of its EU Council Presidency, and potentially drive the finance agenda in the future.²¹⁵

For this to happen, the domestic approach needs to move beyond reaction to an EU regulatory framework and incorporate risk but also opportunity aspects. It is however crucial to point out that **Germany's close link of finance and real economy puts a stronger focus on "financing green" than on "greening finance"**. A focus on boosting investment to transform the real economy means that Germany can contribute significantly to strengthen this link and to address the challenges of real economy change.

So far, the **German approach to sustainable finance is mainly characterised by necessity**. In the wake of the financial crisis, a new set of ideas emerged towards a Capital Market Union in Europe. As one key priority, the EU Commission started a process which culminated in the EU Sustainable Finance plan and the recent wave of legislative files. For Germany, it was simply necessary to develop positions towards a new regulatory framework. Only in recent months, a deeper debate on the question was triggered as to what extent private investments need to be mobilized more systematically to fund the transformation towards a net zero economy. As a key learning from other countries such as the UK, risk aversion and rigidities mean that even mature financial markets will not adapt to new technologies, business models and markets fast enough to finance the pace and scale of the climate transition. A smart regulatory framework with a clear net zero vision is needed to accelerate investment and minimise policy costs.

Germany must extend its framing of sustainable finance towards stability in its push towards a sustainable financial market reform. Germany hosts an industry and a financial centre that is highly exposed to fossil fuel investment and faces risks from climate change impacts but also transitory risks from climate policy for fossil-based economies. Evidence is strong that markets do not yet adequately price in these material systemic risks to domestic financial markets and the global financial system. Internationally, central banks and financial regulators made strong efforts to improve data and analysis, strengthen disclosure and introduce regulation – these issues are also being looked at by the IMF and by the Coalition of Finance Ministers for Climate Action. Countries must set clear political and regulatory frameworks, including for mandatory climate disclosure, to move beyond the analysis of risk exposure, towards a financial system that reduces systemic and structural risk exposure.

²¹⁵ Clean Energy Wire (2019). [Germany launches sustainable finance council to leverage climate action](#)