Federal Ministry
for Economic Affairs
and Energy

2021 Annual Economic Report

Tackling the COVID-19 crisis, supporting the economic recovery, strengthening structures

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Preface

At the beginning of 2021, economic policy continues to be dominated by the fight against the coronavirus pandemic. In order to bring down infection rates, social interaction and economic activity still need to be restricted. This caused a recession in Germany last year which was comparable to the slump in economic activity in 2009 following the global financial crisis.

Once again, our social market economy has passed the test. Economic policy provided extensive assistance to combat the effects of the coronavirus pandemic. We have expanded the scope of short-time work allowances, thus protecting millions of jobs and keeping companies afloat by providing much needed support in the form of loans and guarantees, tax deferrals and grants such as Bridging Assistance. Larger companies can also receive equity assistance under the Economic Stabilisation Fund.

Our assistance programmes have helped preserve companies, irrespective of size or industry. They will continue to be available in 2021, improving our chances and strengthening our confidence that we can overcome this crisis if we all pull in the same direction.

The Federal Government's historic Stimulus and Future Package stabilises the economy and mobilises important forward-looking investments in digitisation, climate action, education and research. The new venture capital fund for future technologies invests in start-ups during the capital-intensive scale-up phase. In addition to this, the Federal Government is clearly committed to a moratorium on additional burdens, keeping social insurance contributions at the same level (social guarantee) and lowering the renewable energy surcharge.

Thanks to these measures, the slump in economic activity was less severe than feared. The first figures presented by the Federal Statistical Office predict a 5% fall in gross domestic product in 2020. The annual projection, which is published along with this report, expects that our economy could recover by 3.0% in 2021.

Apart from taking immediate stabilisation measures, economic policy also looks at long-term challenges, including in particular digitisation, the energy transition and the looming skills gap. The goal remains to encourage entrepreneurship and individual efforts and to set clear rules for open digital markets and global competition. To achieve this, we need to minimise the burden from red tape, levies and taxes. I am convinced that raising taxes would harm our economy and send the entirely wrong message in the current situation. We need to provide incentives for investment and job creation. I am therefore advocating a ceiling for the level of social insurance contributions below 40% of gross wages and implementing the fourth Bureaucracy Reduction Act. The pandemic has also highlighted the importance of an effective digital infrastructure for the success and resilience of the economy. The Federal Government continues to work towards nation-wide coverage with gigabit-capable landlines by 2025. Improved depreciation rules for digital assets, the revised Telecommunications Act, and the funding programmes for artificial intelligence and quantum computing are providing targeted incentives for investment and innovation. The ARC (Act against Restraints of Competition) Digitisation Act is a milestone for state-of-the-art competition law to limit the market power of platform operators and give innovative competitors better access to markets and data. Climate action and a successful, competitive economy do not contradict each other. In order to set binding targets for both, I have proposed a cross-party charter. The Federal Government has already committed to reducing greenhouse gas emissions by 55% by 2030 compared with 1990 levels whilst harnessing the growth and export potential offered by technologies that help mitigate climate change. The essential market-based element of the Climate Action Programme 2030 – the national carbon pricing scheme for the heat and transport sectors – will be launched this year. The proceeds from this scheme will be passed back to citizens and companies through lower levies and investment incentives. The phase-out of coal-fired power by 2038 at the latest has now been put into law. The regions affected by the phase-out will receive funding and assistance under the Structural Reinforcement Act. The 2021 Renewable Energy Sources Act is the foundation for achieving a 65% share of renewables in electricity consumption by 2030.

As a very open, export-oriented economy, we need a strong and resilient Europe, a Europe that is fit for the future. The Federal Government was able to provide impetus on a wide range of issues during its Presidency of the Council of the EU. The heads of state and government concluded a new Multiannual Financial Framework for 2021-2027 totalling €1 trillion and the NextGeneration EU instrument including the Recovery and Resilience Facility worth €672.5 billion. We will be able to make better use of industrial policy to mitigate climate change by allowing companies to work together in Important Projects of Common European Interest (IPCEIs), not least in the areas of battery manufacturing and hydrogen.

The Annual Economic Report shows that we have good reason to be optimistic. We have done a good job thus far dealing with this historic test for both our country and our economy. As soon as the restrictions on economic activities are lifted, economies in Europe and around the world will bounce back quickly and strongly. In Germany, too, we have paved the ground for this by our economic and financial policy.

Peter Altmaier
Federal Minister for Economic Affairs and Energy

The 2021 Annual Economic Report of the German Federal Government

In accordance with Section 2 of the Act to Promote Economic Stability and Growth, the Federal Government hereby submits its 2021 Annual Economic Report to the German Bundestag and the Bundesrat. It also provides benchmark data for the overall orientation of the economy in 2021, in accordance with Section 3 of the Act.

In Part I of the Report, the Federal Government presents central priority fields of economic and fiscal policy. The German version of this Annual Economic Report also contains an Annex which provides a detailed inventory of the measures that the Federal Government has taken since the submission of the 2020 Annual Economic Report as well as the measures planned for 2021 and beyond. As stipulated by the Act to Promote Economic Stability and Growth, Part II of the Report discusses the Government's projection of overall economic trends in the current year.

The Federal Government would like to thank the German Council of Economic Experts (GCEE) for its detailed and comprehensive analysis of economic developments last year and the outlook for 2021, as well as for its discussion in its 2020/21 Annual Report of the guiding principles of economic policy. In the Annual Economic Report, the Federal Government comments on the Council of Economic Experts' 2020/21 Annual Report.

In preparing the Annual Economic Report, the Federal Government discussed its economic and fiscal strategy with the *Länder* and municipalities within the framework of the *Konjunkturrat für die öffentliche Han*d (a government economic advisory council). This strategy was also discussed with union representatives as well as with the *Gemeinschaftsausschuss der Deutschen Gewerblichen Wirtschaft* (a joint committee that serves as a co-ordinating body for German business associations).

I. The Federal Government's economic and fiscal policy

A. Tackling the crisis, continuing to address structural change

COVID-19 pandemic interrupts upward economic trend

1. The external shock of the COVID-19 pandemic put an end to more than a decade of growth which commenced as the financial crisis was overcome: from 2010 to 2019, Germany's gross domestic product expanded by an annual average of 1.9%. Real per-capital net income rose by an average of 2.5% between 2010 and 2019; the number of people in work increased from 41.0 to 45.1 million. An unemployment rate of 5.0% in 2019 meant that there was close to full employment. As a consequence of the strong, steady growth and of a stability-oriented economic and fiscal policy, Germany also succeeded over the same period in cutting its debt from 82.3% to 59.6% of GDP and in complying with the Maastricht debt rule in 2019 for the first time since 2002.

2. At the same time, progress was made in key fields of economic policy: greenhouse gas emissions, for example, fell by around 14% between 2010 and 2019, and the proportion of gross electricity consumption covered by renewable energy rose from 17% to 42%. These examples show that economic efficiency and sustainability can go hand in hand.

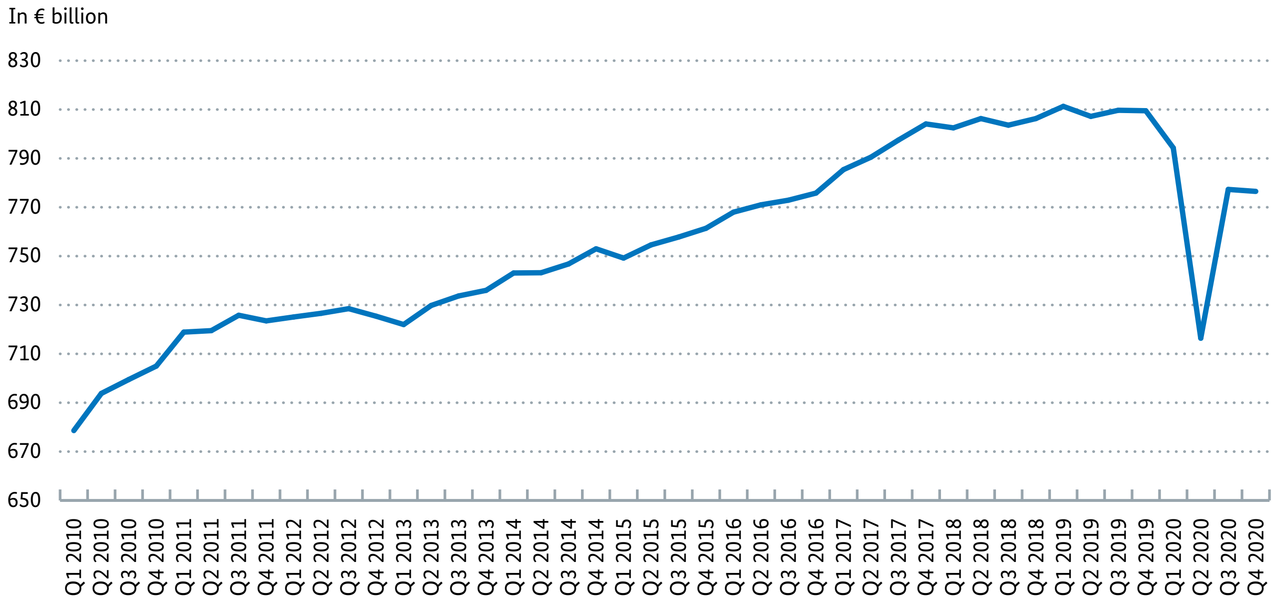
3. As a result of the COVID-19 pandemic, the German economy entered one of the most severe recessions seen for decades. GDP fell by 5.0% in 2020. Following the end of the hard lockdown in April, however, the economy had already started to pick up again in May. In the period since this first rapid recovery, Germany's economy has been continuing to gradually battle its way out of the crisis. However, the economy is not likely to regain its pre-crisis level of output before mid-2022. The anticipated recovery of the global economy, the under-utilisation of production capacity, and the leading indicators suggest a continuation of the recovery process. Growth of 3.0% is expected for this year. The future economic development will continue to be significantly influenced by the course of the pandemic and the measures to contain it.

4. The spread of the virus and the restrictions subsequently imposed on economic and social life since spring 2020 have resulted not only in Germany, but also in Europe and globally in an unexpected and sharp slump in economic output and in disruption to global supply chains and trade flows. The pandemic has not least highlighted the importance of a functioning international division of labour for economic development in Germany and many other countries around the world.

5. In view of the drastic economic slump, the Federal Government acted swiftly to provide citizens and companies with historic levels of rapid and targeted support. As early as spring 2020, it introduced comprehensive support measures to mitigate the shock.

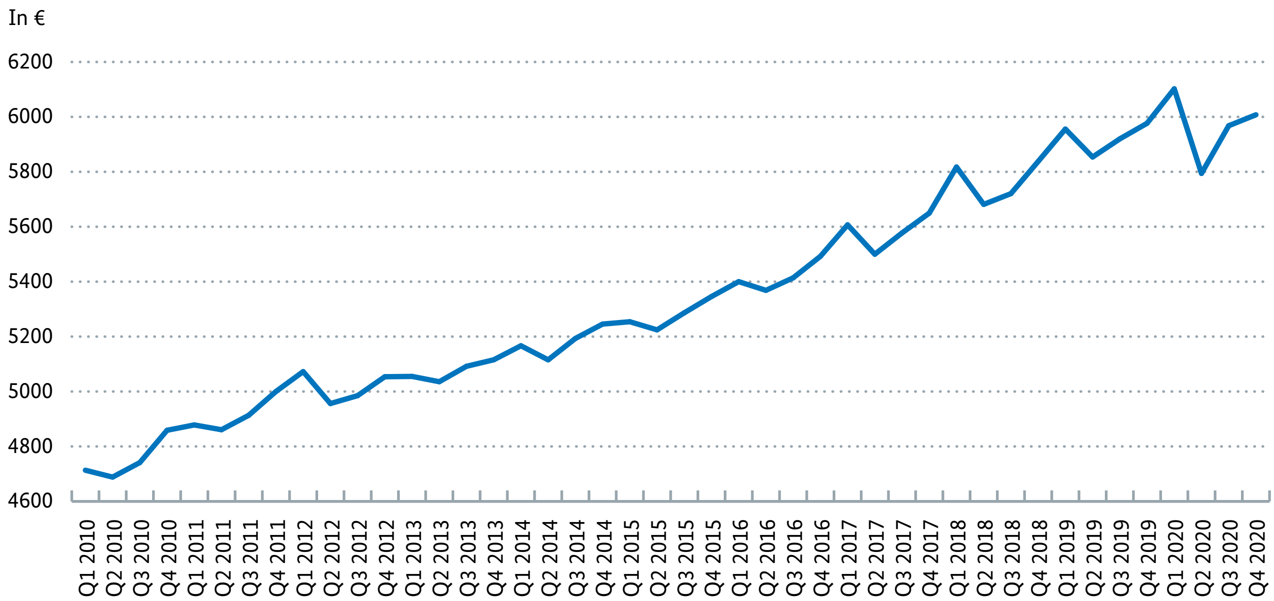
Following the spring lockdown, it was possible to scale back many of the health-related restrictions from the end of April 2020. The economy was able to ramp up production again, offer a wide range of services, and increase sales. The Federal Government bolstered the economic recovery with a comprehensive programme of stimulus measures. As part of the economic stimulus programme, investment in key forward-looking areas is being fostered in order to build a long-term platform for prosperity and sustainable economic growth.

Diagram 1: Development of gross domestic product from 2010 to 2020



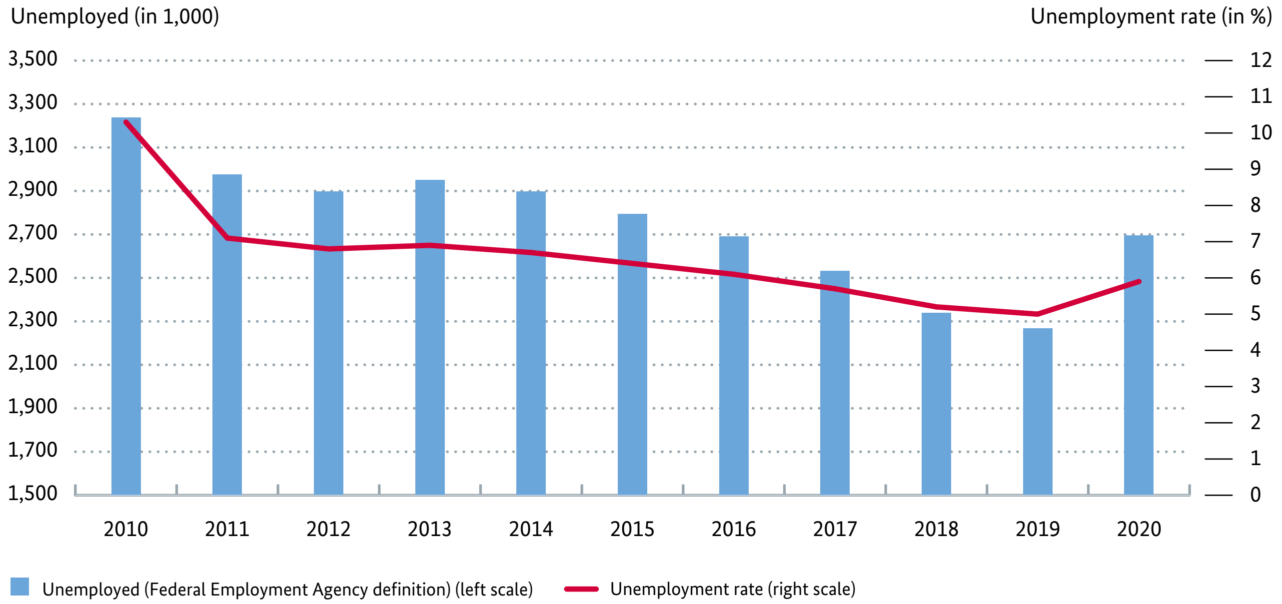
Sources: Federal Statistical Office, Bundesbank. Data adjusted for seasonal, calendar-day and price variations.

Diagram 2: Development of per-capita disposable income from 2010 to 2020



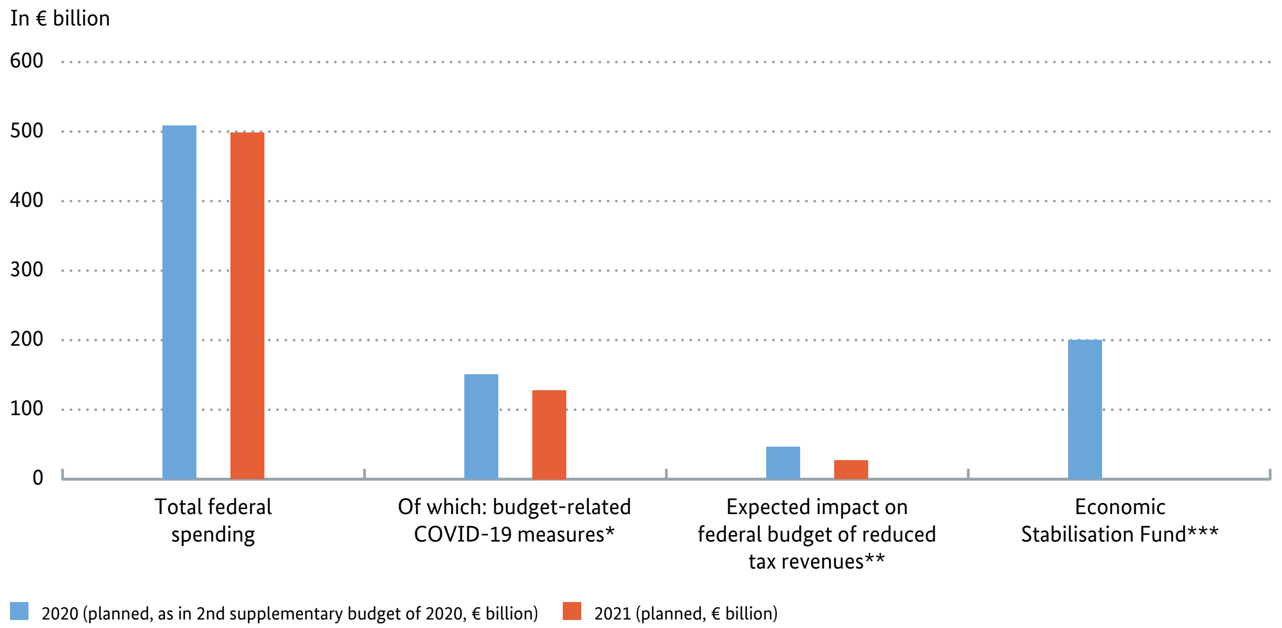
Source: Federal Statistical Office Data adjusted for price variations.

Diagram 3: Development of unemployment from 2010 to 2020



Source: Federal Statistical Office.

Diagram 4: Volume of federal COVID-19 measures from 2020 to 2021



Notes: * = Negative budgetary effects excl. tax measures in 1st and 2nd supplementary budgets of 2020 and in planned 2021 budget;
** = Including tax measures of stimulus package; *** = Excluding guarantees

Source: Federal Ministry of Finance.

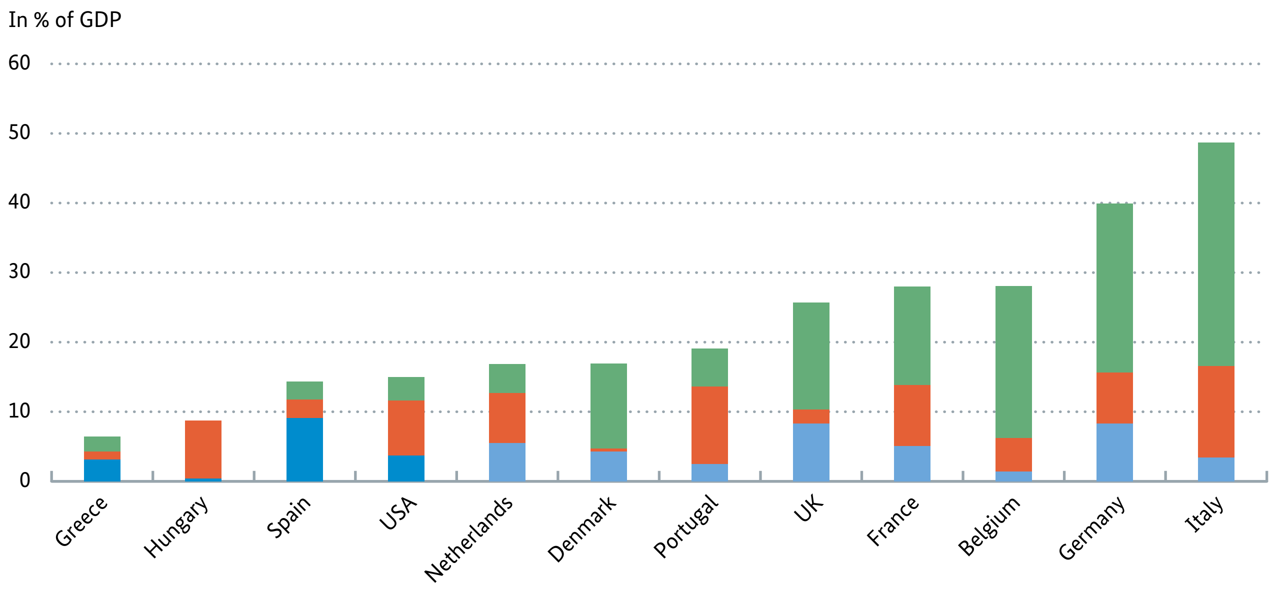
The Federal Government accompanied the renewed lockdown from November 2020 to restrict the course of pandemic with new support measures for the sectors affected by the closures. The Federal Government will continue to precisely observe how the economy develops and will provide the business community with appropriate support in line with the situation.

6. In the international comparison, Germany is one of the countries which has responded most vigorously to the crisis (cf. Diagram 5). The extensive support provided by the Federal Government to alleviate the crisis, to stimulate the economy and to promote investment is going hand in hand with net federal new borrowing of approximately €130 billion in 2020 and a planned amount of close to €180 billion in 2021. The financing of the stimulus programme and other support measures mean that the federal budget is delivering a considerable macroeconomic stimulus. The debt rule has worked well: the use of the exemption clause provided under Article 115(2) of the Basic Law means that the normal limits on net borrowing imposed by the debt rule can be exceeded in the 2020 and 2021 financial years. This is necessary to cushion the economic effects of the COVID-19 crisis.

Alleviating the shock

7. A series of grant and loan programmes was set up to help damaged companies get through the crisis. In order to boost liquidity, the necessary loans can be provided via the KfW 2020 Special Programme. As of 31 December 2020, 102,774 applications for loans totalling €44.07 billion had been approved. The guarantee programmes of the

Diagram 5: Fiscal COVID-19 measures in the international comparison



Source: Bruegel (status: November 2020)

guarantee banks, and the large-scale guarantee programme of the Federation (parallel federal-*Länder* guarantees) were also expanded in order to make it easier for companies to obtain loans and to strengthen the equity base of small and medium-sized enterprises (SMEs). The Federal Government's Economic Stabilisation Fund (WSF) is designed to counteract liquidity squeezes and to strengthen the equity base of larger companies and of companies whose potential failure would have a substantial impact on Germany's economy. Start-ups and small businesses are eligible for support from a €2 billion package. Social service providers and non-profit-making companies and organisations can receive financial assistance under the Social Service Provider Deployment Act (SodEG) and special federal and KfW programmes.

1.8 million own-account workers and micro-enterprises with up to 10 employees received grants totalling more than €13.4 billion for a maximum of three successive months during the March-June 2020 period, swiftly and without lots of bureaucracy. The immediate assistance, which was limited to three months, was followed by the Bridging Assistance in June 2020, in order to provide even more targeted support to the companies and freelancers who were particularly affected by the pandemic. In two programming phases, small and medium-sized enterprises and own-account workers in particular were able to apply for federal grants towards their fixed operating costs. A third programming phase was launched at the beginning of 2021: for the period from January 2021, the Federal Government is granting a new type of support, adapted to the needs of particularly hard-hit sectors. In November 2020, furthermore, support was given to those companies affected by necessary measures to tackle the pandemic ("November Assistance Programme"). This extraordinary economic assistance was extended to cover the duration of the closures in December, entitled "December Assistance Programme". A total of €24.6 billion was earmarked for these programmes in 2020.

8. Looking beyond these programmes, the Federal Government has taken a number of additional measures to support the liquidity of companies and thus to make them more resilient. These include an extension of the carryover of losses for tax purposes, the reimbursement of social insurance contributions for staff on short-time work, and, initially as rapid assistance, a simplified possibility to defer taxes and social insurance contributions for a limited period. The suspension of the requirement for companies that are over-indebted due to the pandemic to file for insolvency until the end of 2020, and under certain conditions for over-indebted and insolvent companies until 31 January 2021, as well as other temporary adjustments to insolvency law for companies affected by the pandemic until 31 December 2021 has given the companies time to respond to the crisis and a window in which the state's assistance measures can take effect.

9. The economic situation and the sharp decline in economic activity in certain sectors has led to some massive falls in profits and income. The Federal Government has substantially simplified access to basic security benefits for jobseekers under the Second Book of the Social Code (SGB II) for a certain period. The self-employed can also benefit from this if they are otherwise unable to provide for themselves. In order to cushion the losses for employees liable to the payment of social insurance contributions and to prevent a massive rise in unemployment, the Federal Government has facilitated access to short-time work allowances, extended their duration, and opened up the instrument to temporary agency workers. This has reduced losses of income in many cases.

Overview 1: Crisis-management measures adopted in March and April 2020 to help companies, the self-employed and employees

Measures	See Item
Financial, loan and immediate assistance for the self-employed and companies	
KfW Special Programme 2020 Volume of loans approved up to 31 December 2020: €44.07 billion	50
Expansion of the guarantee programmes of the guarantee banks. Guarantees approved from 13 March 2020 until the end of the year: 5,189 guarantees approved covering loans totalling €1.46 billion (status: 31 December 2020). Expansion of the guarantee programmes to strengthen the equity base of SMEs has been in force since 1 November 2020 (volume of applications and approvals not yet known)	51
Opening up of large-scale guarantee programme (parallel Federal/Länder guarantees) for companies based outside regions that are structurally lagging behind. Guarantees approved from 13 March 2020 until the end of the year: 9 guarantees approved covering loans totalling €2.7 billion (status: 31 December 2020)	51
Economic Stabilisation Fund with a total volume of €600 billion. So far, 9 measures adopted and contractually agreed with the companies totalling €7,871.6 million (status: 14 January 2021)	52
Immediate Assistance (grants) for own-account workers and companies with up to 10 employees for a maximum of three successive months in the March-June 2020 period. Approved funding: more than €13.4 billion (status: 31 December 2020)	48
€2 billion package of measures to support start-ups	110
Extension of federal export credit guarantees (Hermes insurance) by increasing the guarantee framework from €148 billion to €160 billion	264
Guarantee of up to €30 billion to cover supplier credits	51
Tax measures in response to the impact of the pandemic: tax deferrals and waiving of interest payments on deferrals, waiver of enforcement measures and penalties for late payments of tax debts, reduction or reimbursement of special VAT advance payment, adaptation and reimbursement of advance payments towards income and corporation tax, adaptation of the assessed basic amount for advance trade tax payments	144
Grants for social service providers and facilities (Act on the Deployment of Social Service Providers)	162
Financial support for hospitals, office-based doctors and psychotherapists, long-term care facilities, pharmacies and associations of statutory health-insurance doctors under the COVID-19 Hospital Discharge Act	182
Strengthening of the social insurance systems, flexibilisation on the labour market	
Relaxed rules on short-time work and reimbursement of social insurance contributions	159 f.
One-off extension of the duration of entitlement to unemployment benefit under Social Code III	161
Temporary flexibilisation of parental allowance	158
Simplified access to basic security benefits (Social Code II, Social Code XII, Federal War Victims' Compensation Act)	158
Exceptional rules for child supplement	27, 158
Expansion of possibility to earn additional money whilst receiving short-time work allowance	159
Compensation for lost earnings due to school or nursery closures	10, 131, 180
Funding for the purchase of mobile devices for schools to support online teaching	94
Possibility for 12-hour working days in exceptional situations	161
Reduction in the minimum statutory rest period from eleven to nine hours in exceptional cases	161
Exceptions from the ban on Sunday employment	161
Relaxations in the law, moratorium on payments and insolvency	
Suspension of the debtor's obligation to file for insolvency	54
Relaxed rules for holding assemblies by means of telecommunications technologies	55
Right for consumers to withhold payments for essential services	54
Right for micro-enterprises to withhold payments in the case of continuing obligations	54

In total, disposable income in the third quarter of 2020 stood at €495.57 billion, and was actually 0.7% above the level in the third quarter of 2019. In order to mitigate the repercussions of crisis-related falls in income, a temporary right for consumers to withhold payment was introduced for consumers, and the possibility to terminate rental and lease contracts due to missed payments was temporarily suspended.

10. Parents, and single-parent families in particular, are particularly impacted by the restrictions on daily life during the lockdown. To help them, the Federal Government has adapted the parental allowance rules to the necessities of the crisis, and has built exceptional rules into the child supplement. Further to this, the short-time work allowance for parents is increased by 7 percentage points, meaning that – depending on how long the allowance is received – the amount can be up to 87% of the lost net income. A new clause in the Infection Protection Act provides for pro-rata compensation for loss of earnings (67% of net income) for parents who have to look after their child themselves because the kindergarten, school or facility for people with disabilities is temporarily closed.

Supporting the economic revival

11. With the end of the exceptional situation due to the health-related restrictions during the COVID-19 pandemic in spring 2020, the Federal Government took targeted action to support the ensuing economic recovery during the year. To this end, it adopted a stimulus programme in June 2020 totalling around €180 billion in the budget for 2020 and 2021, including around €40 billion in 2021 for COVID-19 business assistance. The most urgent priorities for the Stimulus and Crisis-relief Package are to safeguard jobs and stabilise the economy. Further to this, the programme particularly also includes measures to revive the economy and boost forward-looking investment in order to resolutely tackle forthcoming challenges like climate change, digitalisation and demographic change.

12. To ensure that the measures to tackle the crisis and strengthen competitiveness in the medium term can take effect as quickly as possible, the Federal Government has built many of its measures on existing assistance and funding programmes. Not least, this ensures that the support can be targeted. The time limit imposed on many of the measures also provides a specific boost to the economy.

13. The Federal Government has deployed various targeted instruments to stimulate consumer demand by boosting the disposable income of private households. These particularly included the reduction in VAT rates from 19% to 16% and from 7% to 5% until the end of 2020. Further to this, the stimulus programme disbursed a one-off child bonus of €300 for each child entitled to child benefit in 2020, and the amount of tax relief for single-parents was raised to €4,008 p.a.

14. A second tranche of measures is chiefly addressed to the business community. The temporary and restricted increase in the upper limits of the carryover of losses for tax purposes helps companies. The social insurance contributions are stabilised at a maximum of 40% of gross wages until 2021 by means of a "social guarantee", and the EEG surcharge (to fund renewable energy sources) is restricted by means of grants from the federal budget. In order to maintain incentives for companies to invest, despite the crisis situation, the Federal Government has introduced a temporary increase in tax incentives for research and a temporary possibility for degressive depreciation of movable assets.

15. For young people, it is important that, despite the crisis, adequate training and initial career opportunities continue to exist to facilitate the smoothest possible entrance into the world of work. Companies also benefit from this, as they rely on well-trained staff. The stimulus programme therefore rewards small and medium enterprises which, despite the financial burden imposed by the crisis, continue to offer training places.

16. The municipalities are also losing out on important revenue due to the pandemic. In order to ensure that they remain viable in the face of the current challenges and can undertake important forward-looking investment, the relief provided in previous years is being continued and strengthened in a targeted manner. Under the stimulus programme, the Federation and the Länder have each offset half of the municipal revenue shortfall from 2020. In order to provide lasting relief for the municipal budgets in the field of welfare spending, the Federation will in future cover a further 25 percentage points of the costs of accommodation and heating provided by the basic security benefits for jobseekers. This par-

Overview 2: Selected measures from the Stimulus and Crisis-relief Package

Measures	See Item
Stimulus measures	
Temporary reduction in VAT rates	146
One-off child bonus of €300	146
Temporary increase in the amount of relief for single-parent families from €1,08 to €4,008 (rendered permanent in the 2020 Annual Tax Act)	146
Temporary expansion of carry-over of losses for tax purposes	146
Introduction of degressive write-offs for moveable assets purchased or produced in 2020 or 2021	146
Delay in due date for Import VAT	146
Issuing of binding guidelines for action by the federal administration when awarding public contracts	75
Stabilisation of the social insurance contributions at a maximum of 40% of gross wages, at least until 2021	168
Stabilisation of the EEG surcharge at 6.5 cents/kWh	201
Assistance for particularly affected stakeholders and sectors	
Bridging Assistance (grants) for particularly affected companies	49
Capital injection for Deutsche Bahn (€5 billion)	65
Funding for cultural sector (New Start Culture, €1 billion)	53
Assistance for Länder and municipalities	
Permanent assumption of a further 25 percentage points (to up to 74%) of spending on accommodation costs under Social Code II	126
Flat-rate offsetting of the expected reduction in trade tax revenue for municipalities in 2020 by Federation and *Länder*	125
Full coverage by Federation of reduced income for Länder and municipalities due to granting of child bonus (€2.5 billion) and due to the reduction in VAT tax in the second half of 2020 (partial compensation of €6.1 billion)	125
Expansion of all-day care services for children of elementary school age (up to €1.5 billion extra)	127, 167
5th investment programme to fund child care services in 2020-2021 (€1 billion)	127, 167
Increase in regionalisation funding by €2.5 billion for 2020	66

ticularly benefits municipalities with high levels of welfare spending. Further funding was provided for investment in the expansion of all-day education and child-care services, for the costs linked to the supplementary pension systems of the GDR and, in the form of federal regionalisation funding, for compensating financial disadvantages in local public transport.

17. In order to support the economic revival in the cultural and creative sector, which is particularly affected by the health-related restrictions and by economic losses, the Federal Government has set up the one-billion-euro New Start Culture programme, which is much in demand in the sector. It provides funding for institutions and facilities with a view to maintaining long-term employment and earnings prospects for creative professionals.

Tackling the key challenges of the future and structural change

18. In addition to the current challenges of the COVID-19 pandemic, the long-term challenges of climate change, digitalisation and demographic change shifted even higher on the agenda last year. Furthermore, it is important to bolster the resilience of the economy via structural reforms. The Council of Economic Experts also considers these challenges to be the central tasks for the coming years (cf. GCEE Annual Report Items 352, 525, 592).

19. The Federal Government aims to give proactive support to the structural change which goes hand in hand with these central challenges on the basis of the principles of the Social Market Economy, and to make targeted use of possibilities for development. It supports transformation processes by providing a suitable policy environment and market-based incentives, placing a focus on innovation. The intention is to boost the forces for growth, particularly via an internationally competitive, forward-looking tax system, flexible labour-market rules, and further reductions in bureaucracy. By adopting the Climate Action Package and introducing national emissions trading from 2021, the Federal Government has rolled out key policies towards a climate-neutral economy in recent years. The aim continues to be to set incentives for investment in climate-friendly products and innovations. In order to make full use of the domestic pool of skilled labour against the backdrop of the demographic development, the focus must continue to be on education and training, and the broadest possible employment of all sectors of the population on the labour market. For example, from the middle of next year, the continued coverage of social insurance funds in the case of short-time work will, as suggested by the Council of Economic Experts, be tied to the use of further training schemes. On top of this, an important role is played by the targeted immigration of skilled labour. Also, the Federal Government agrees with the Council of Economic Experts that, in view of demographic change, there is also a need for viable concepts in the field of social security.

20. The Federal Government's efforts to facilitate and shape structural change are reflected particularly in the Future Package of the stimulus programme. In order to bolster the competitiveness and innovative capacities of the German economy in the medium and long term, the Federal Government – on top of the direct assistance during the crisis and cyclical stimuli – is focusing on investment in key forward-looking areas. The Future Package, which is worth around €50 billion, provides incentives in particular in the fields of climate change mitigation, the energy transition, mobility and digitalisation, i.e. the central challenges of the coming years. Here, the Federal

Government is providing targeted support for private-sector investment as well as funding for an enhanced expansion of infrastructure. To a large extent, it is building on existing programmes and measures, and it is continuing its policies from this legislative term which aim to tackle the challenges posed by digitalisation and climate change mitigation.

21. In the 2030 Climate Action Programme, the Federal Government provided around €54 billion for the 2020-2023 period for climate-related measures. The Future Package of the stimulus programme contains approximately €15 billion more for this. Not least, €7 billion was provided for the roll-out of the National Hydrogen Strategy, and the CO_2 Building Rehabilitation Programme and Market Incentive Programme were topped up. The conditions for climate-related funding programmes were also made more attractive for municipal applicants with a view to increasing the take-up rate.

22. Climate action entails not least a shift to low-emission mobility. The expansion of the charging infrastructure creates the preconditions for successful electric mobility. Targeted fleet replacement programmes and premiums for electric vehicles are facilitating the shift to lower-emission vehicles. Targeted incentives for investment in new technologies are also being set by the additional funding for research and innovation in the field of battery cell manufacturing, the supplier industry for vehicles, shipping and aviation.

23. A modern digital infrastructure is of central importance for a successful, innovative economy. In the Future Package, the Federal Government is therefore driving the improvement of digital infrastructure, particularly in rural areas, via additional funding for broadband expansion, for mobile communications along railway networks, and for a powerful mobile communications network in areas without coverage. Here, the Federal Government is building on its policies of previous years designed to achieve nation-wide mobile communications coverage and coverage with gigabit-capable landlines by 2025.

24. In the context of the Future Package, the Federal Government is fostering the digitalisation of public administration and business (SMEs in particular). To this end, the Federal Government aims not least to introduce improved depreciation possibilities for digital assets. The funding for the forward-looking technologies of artificial intelligence, quantum computing and new communication technologies like 5G/6G is also being increased.

25. If we are to take advantage of the opportunities of digitalisation and advances in technology, the policy environment needs to be continuously reviewed and developed. The Federal Government aims to establish the principles for an ordo-liberal digital policy so that innovation can win through in fair competition and generate the necessary stimulus for growth, whilst also upholding the interests of society and the individual. Not least, competition law is being developed to ensure that competition remains intact in the digital sphere and use is made of the advantages of the market economy.

26. In its productivity report, which forms part of its Annual Report, the Council of Economic Experts points out that advances in technology, and in digitalisation in particular, offer considerable productivity potential and thus form a central platform for future growth. The Council of Economic Experts believes that small and medium-sized enterprises in particular could make much greater use of the opportunities of digitisa-

tion. At the same time, the Council points to technological trends like cloud computing, big data and artificial intelligence which form the basis for new business models. The Federal Government therefore gives particular support to SMEs; here, it is prioritising the transfer of innovations into practical applications.

Providing a good policy environment for economic recovery

27. A pro-growth and internationally competitive and fair tax environment will foster a rapid recovery from the coronavirus crisis. This includes improvements in the tax rules for non-incorporated firms, via the introduction of an option for corporation tax enabling these companies to be treated in the same way as corporations for tax purposes. The measures introduced by the Second Families Relief Act and the abolition of the solidarity surcharge in a first step for around 90% of the people previously required to pay the solidarity surcharge on wage and income tax reduces the burden on lower and middle income brackets, and particularly on families and small and medium-sized entrepreneurs, by over €17 billion in 2021 and over €22 billion in 2022. These are the largest permanent tax cuts seen in recent years. The measures from the first Families Relief Act from 2019 resulted in

Box 1: Second productivity report by the National Productivity Committee

On the basis of a European recommendation, the Council of Economic Experts has taken over the mandate of the National Productivity Committee and presented its second productivity report as part of the 2020/21 Annual Report (cf. Chapter 5 of the Annual Report).

The focus of the second national productivity report is on the innovation process of the German economy and its influence on productivity growth. According to the Council of Economic Experts, the innovation process includes:

- research and development,
- development of marketable innovations,
- diffusion of new products and technologies.

The Council of Economic Experts illustrates the importance of individual aspects of the German innovation system: research and development in public research institutions, innovation work in companies (depending on size), human resources as a prerequisite for innovation in companies, funding of innovation in companies, and the innovative activities of start-ups.

The Council of Economic Experts highlights the development and use of horizontal technologies, since they can generate productivity increases across the economy. The Council of Economic Experts sees a substantial degree of untapped potential in Germany, especially in the field of digitalisation.

It believes in particular that the expansion of digital infrastructure (fast internet and mobile broadband networks), the training of digital skills, and the potential of digitalisation are key factors for German competitiveness.

The Federal Government shares the view of the Council of Economic Experts that innovations are essential for long-term economic growth and a climate-neutral economy. It is therefore aiming to create an innovative-friendly policy framework and is adapting it where needed (cf. Chapter B).

relief totalling around €9.8 billion on an annualised basis. Beyond the comprehensive increases in child benefit and child allowance, low-income families have also been able to benefit since 2019 from the first step in an increase in the child supplement; from 2021, not only child benefit and the child allowance, but also the child supplement will rise further.

28. In order to avoid unnecessary burdens on business, it is important to reduce bureaucracy wherever possible and to cut the costs of bureaucracy for companies as far as possible. Since the introduction of the "bureaucracy brake" in 2015, compliance costs for business have been cut by more than €3.1 billion. The successful implementation of the Bureaucracy Reduction Act III alone in 2019 is reducing the burden of bureaucracy on companies by €1.1 billion a year. Also, possibilities to reduce the amount of red tape for businesses and individuals are being constantly examined. 'A high-level working group has been set up to identify regulations that can be covered by a Bureaucracy Reduction Act IV.

29. A good business environment also means that investment projects can be implemented

Overview 3: Selected measures from the Future Package

Measures	See Item
Broad-based measures	
Temporary increase in the maximum assessment basis for the tax-based research allowance	146
Energy	
Increase in the CO_2 Building Rehabilitation Programme	212
Expansion of hydrogen technology (€9 billion)	216
€500 million increase in the "Funding for smart city model projects" programme	128
Mobility	
Innovation premium for environmentally friendly vehicles	69
Additional funding for charging infrastructure, electric mobility and battery cell manufacturing (€2.5 billion)	69
Fleet modernisation programme	103, 106
Increase in GRW (regional assistance) funding	135
Digitalisation	
Improved depreciation possibilities for digital assets	144
Roll-out of a nation-wide 5G network by 2025 / mobile communications infrastructure company (€5 billion), improvement of mobile communications along railways, ongoing broadband roll-out	62
Increase in AI funding	87
Increase in funding for quantum computing	90
Healthcare	
Public Health Pact (€4 billion)	186
Hospital Future Programme (€3 billion)	182
Establishment of a national stockpile of protective equipment (€1 billion)	187
Strengthening of vaccine research and development (€0.75 billion)	188

swiftly. In 2020, an Investment Acceleration Act to further simplify planning and approval procedures in future was introduced in addition to various statutory simplifications in the area of transport infrastructure.

30. The ARC (Act against Restraints of Competition) Digitisation Act introduces focused, proactive and digital competition law 4.0, modernising competition law and adapting it to the needs of digitisation and the platform economy. In addition to stricter rules for platforms of outstanding cross-market significance, it also provides for improved access to data for competitors and a strengthening of the supervision of abuse of dominant positions.

Cushioning the impact of the pandemic on the labour market, investing in education and care

31. By adopting the coronavirus protective shield, the Federal Government acted very swiftly in March 2020 to take measures to mitigate the consequences of the pandemic for the labour market. These were supplemented and fine-tuned where necessary in the course of the year. Here, the Federal Government has made use of the short-time work allowance, a tried-and-tested instrument.

32. The COVID-19 pandemic had, and is still having, a strong impact on the labour market. New recruitment has fallen in almost all sectors. At the same time, there has been a strong boost to digitisation in companies, as well as in school teaching and vocational training. It remains difficult to fill vacancies in some IT occupations. The economic recovery is likely to see a general rise in demand for skilled workers, meaning that structural and, in particular, demographically driven bottlenecks are likely to become more obvious again. The Federal Government is therefore sticking to its Skilled Labour Strategy. In the course of the legislative term, the Federal Government has already taken various measures as part of its forward-looking and cross-sectoral Skilled Labour Strategy, not least with a view to securing the availability of skilled labour on a long-term basis against the backdrop of demographic change. This includes the changes which entered in to force in 2020 to the residence rules via the Skilled Immigration Act, the Act on Opportunities to Gain Qualifications, the National strategy for continuing training of the Federation, Länder and associations which builds on it – as well as the Act to Promote Advanced Vocational Training amid Structural Change and Enhance the Promotion of Training, which entered into force in 2020 and provides not least for a basic legal entitlement to support in order to obtain a vocational qualification in later life.

33. The establishment of reliable and high-quality care services is not just a fundamental precondition for improved possibilities to combine work with family life, but also creates possibilities for many children to participate and receive better educational opportunities. The investment in the quantitative and qualitative expansion of all-day care is therefore a central policy of the Federal Government. The federal funding to support the investment in the expansion of all-day education and care services for children of elementary school age has been increased further under the stimulus package. In this way, the Federal Government is underpinning its central educational and family-policy goal of helping the Länder and municipalities as they expand all-day care services for elementary school children and is introducing a statutory entitlement.

Continuing the energy transition on a market basis, strengthening the long-term efficiency of the economy

34. The Federal Government is pursuing an ambitious climate policy and is committed to the goals of the Paris Climate Agreement. Businesses and government must work together to attain Germany's and the EU's climate targets. If a climate policy is to be effective in the long term, it must take account of the needs of the business community and be implemented as a reliable policy environment which provides a reliable basis for planning. After all, a strong and internationally successful economy is essential if the economy is to be climate-neutral whilst maintaining our prosperity in the long term. At the same time, an economy can only enjoy long-term success if the natural environment is preserved.

35. In the 2030 Climate Action Programme, which was adopted in 2019, the Federal Government has laid a foundation stone for the attainment of the climate targets and the implementation of the 2050 Climate Action Plan. Up to 2030, greenhouse gas emissions are to be cut by at least 55% from the 1990 level. Central elements of the 2030 Climate Action Programme include the gradual phase-out of coal-fired electricity generation, the expansion of renewable energy, the introduction of national trading in fuel emissions for the heating and transport sectors from 2021, and the Federal Climate Change Act.

36. By adopting the Coal Phase-out Act, the Federal Government has started the process to end coal-fired electricity generation in Germany. The last nuclear power plant will be taken off the grid in 2022. The rapid and increasingly market-oriented expansion of renewable energy and the increase in energy efficiency are thus of even greater relevance. As a precondition for a successful energy transition, the Federal Government has, in particular, raised the expansion target for the share of gross electricity consumption covered by renewable energy to 65% in 2030.

37. The revision of the Renewable Energy Sources Act, which entered into force on 1 January 2021, sets out quantities for auction and deployment paths for the various technologies up to 2030 in order to attain the 65% target, and also states that from 2050 all electricity generated or consumed in Germany must be greenhouse-gas-neutral.

38. The ecological structural change is resulting in deep-reaching changes not only to the economy, but also to society. It is important as far as possible to avoid any economic and social hardships due to the structural change. Under the Structural Reinforcement Act for Mining Regions, which was adopted in 2020, the Federation is providing up to €41.09 billion until 2038 at the latest to support structural change in the coal-mining regions. The Federal Government is addressing the interests of those affected in a targeted way, and is opening up new prospects for the former coal-mining regions and the employees of the coal industry (cf. Items 137 f.).

Strengthening Europe, setting up a forward-looking European financial framework

39. The pandemic and its economic repercussions can only be tackled effectively if Europe acts together. The aim is a return to a path of sustainable growth. Also, there is a need for a joint European approach in order to tackle the central and long-term challenges of the coming years.

40. Via the temporary adaptation of the State aid rules, the activation of the escape clause in the Stability and Growth Pact, and the adaptation of the legal framework for the European Structural

and Investment Funds, the EU moved quickly to put the conditions in place for the Member States to be able to respond appropriately to the challenges posed by the pandemic. Via various instruments and credit lines, more than €500 billion was provided in the short term to tackle and mitigate the crisis.

41. The Multiannual Financial Framework provides the basis for European budgetary policy from 2021 to 2027. In view of the historic crisis, the EU has also agreed, in addition to the regular budgetary framework, on the temporary recovery instrument (Next Generation EU) with a volume of €750 billion (in 2018 prices) in the form of grants and loans. The central element of Next Generation EU is the Recovery and Resilience Facility. It serves to cushion the economic and social consequences of the crisis, to strengthen the resilience of the Member States and to support the green and digital transition. Overall, the growth potential of the Union's economies is to be restored, and jobs and sustainable growth are to be fostered. Germany can expect to receive around €25 billion (in current prices) in grants from the Recovery and Resilience Facility. On 16 December 2020, the draft of the German Recovery and Resilience Plan was adopted by the cabinet and transmitted to the European Commission. On this basis, the draft will be revised in the light of the consultation process with the European Commission, with a view to submitting the final plan to the European Commission by 30 April 2021.

42. An action plan of the European Commission, and the Council conclusions on the role of a deepened and fully functioning Single Market for a strong economic recovery and a competitive and sustainable European Union, help to make the Single Market more resilient and to strengthen it, and to foster the green and digital transition.

Strengthening free and fair world trade

43. Germany and Europe are closely integrated into world trade and benefit from the advantages of the international division of labour. Not least against the background of the experience gained during the COVID-19 pandemic, which has impacted on international supply chains, the Federal Government is advocating open markets and a rules-based global trading system centred around the WTO which gives companies the chance to diversify and thus boosts global resilience. Bilateral trade and investment agreements are important elements of trade policy, and supplement the WTO-based trading system.

44. The COVID-19 pandemic highlights the need to implement sustainability as an overarching policy principle. Firstly, it can be seen that sustainable development can boost the resilience of the economy, the environment and society. Secondly, the global pressure to act on the implementation of many sustainability goals has increased, substantially in some cases, due to the pandemic – for example regarding the fight against poverty, on education questions, social security, decent work conditions, and health. Not least against this background, the Federal Government regards the 17 Sustainable Development Goals of the 2030 Agenda, which the United Nations adopted in 2015, as an important principle for its policies and will soon adopt the updated version of the German Sustainable Development Strategy.

B. Flexibly adapting the policy framework in the crisis and making it fit for the future

45. The Social Market Economy combines market-based principles of competition with social balancing. For economic policy, this means firstly setting a policy framework for business activity in order to successfully tackle the major societal challenges like demographic change (cf. Chapter D), climate change mitigation (cf. Chapter E) and digitalisation whilst also safeguarding and increasing the competitiveness of Germany's economy.

46. The COVID-19 pandemic and the concomitant effects on the economy have necessitated resolute action by the state. The scale of the comprehensive support measures is temporarily justified and necessary. They do not signify any fundamental shift in the understanding of the role of the state in the Social Market Economy; rather, they continue to reflect its responsibilities. In view of the restrictions imposed in response to the spread of the coronavirus, functioning markets were put temporarily out of action, so that commercially successful companies also suffered and needed assistance. Following the crisis, the Federal Government will roll back the comprehensive support measures. This means that, as the economy returns to normal, the public-sector share of GDP will fall again.

Giving rapid and effective support to the economy during the crisis

47. The Federal Government, in coordination with the Länder and the European Commission, responded very quickly to the economic challenges, and adapted the policy environment for business to the extraordinary situation. To this end, it revised existing support schemes and added new programmes. The Council of Economic Experts states that government acted swiftly and resolutely in the crisis (cf. GCEE Annual Report Item 4).

48. In order to help small and micro-enterprises as well as own-account workers with little in the way of reserves, the Federal Government set up an Immediate Assistance Programme for a maximum of three successive months in the March-June 2020 period as soon as the restrictions were put in place due to the pandemic. In a rapid and non-bureaucratic procedure, more than €13.4 billion of non-repayable Immediate Assistance was disbursed to companies with up to ten employees, in response to nearly 1.8 million applications. Extraordinary economic assistance for the month of November ("November Assistance Programme") also supported companies affected by measures necessary to tackle the pandemic with a one-off flat-rate amount of up to 75% of the comparable turnover from 2019. This measure was extended for December in the form of the "December Assistance Programme".

49. Since June 2020, small and medium-sized companies have also been able to obtain non-repayable grants towards fixed operating costs of up to €50,000 a month via the Bridging Assistance Programmes (Bridging Assistance II from September to December 2020). The Bridging Assistance Programme runs until June 2021. It has so far been extended twice, and the conditions have been continuously adapted to meet the needs of the companies for support. For example, entry thresholds have been lowered, and maximum amounts of support increased (up to €200,000 or €500,000 per month in Bridging Assistance III, cf. Overview 4). With additional sector-specific items of fixed costs, the revised Bridging Assistance III rules from January 2021 take particular account of the sectors hardest hit by the pandemic. The

Council of Economic Experts takes a positive view of the fact that the programme is targeted at falls in turnover (cf. GCEE Annual Report Item 126). The principle is: "the higher the loss in turnover, the higher the grant". By the end of the year, roughly 206,000 applications had been approved, and €2.56 billion paid out under the programme. Around 60% of all the funding applied for was for companies in the hotel and restaurants sector, the travel sector and the events industry.

50. Companies of all sizes and freelancers who have encountered difficulties can apply for low-interest loans from the KfW in order to safeguard their liquidity. The KfW Special Programme 2020 has significantly relaxed the previous eligibility criteria – for the KfW Entrepreneur Loan and the KfW Start-up Loan – and has extended the group of eligible parties. Here, the KfW grants the banks a liability release of up to 90%, backed by a federal guarantee. Furthermore, the KfW Instant Loan created a new programme variant in which, in order to facilitate and accelerate the provision of the loan, the banks handling the loan are fully released from liability. Beyond this, individually structured and tailored syndicated loans are possible, with the KfW covering up to 80% of the risk of the financing. By the end of the year, nearly 103,000 loans totalling €44.07 billion had been granted under this programme.

51. Changes to the Federation's guarantee programmes have also helped companies to take on loans. The companies have been able to benefit from guarantees for loans of up to €2.5 million (previously: €1.25 million); in the case of the guarantee programmes to strengthen the equity base of small and medium-sized enterprises, the possibility to cover holdings was raised to up to €2.5 million (previously: €1.25 million). Also, the 'large-scale guarantee programme' (in which both the Federal government and the Länder serve as guarantors), which had previously only been open for companies based in structurally-weak regions, is now opened up to companies based outside these regions from a guarantee amount of or exceeding €50 million. In all the guarantee programmes, the maximum guarantee rate was raised from 80% to 90% (in exceptional cases 100% for small amounts). By the end of 2020, the guarantee banks approved 5,189 guarantees covering loans totalling €1.46 billion. Also, nine large-scale guarantees were approved for loans totalling €2.7 billion (status: 31 December 2020).

In addition, a protective scheme for supplier credit was set up to maintain and stabilise supply chains and to control the risk of defaults on claims. Under this protective scheme, the Federation assumed a guarantee of up to €30 billion for compensation payments by credit insurers. The Federal Government and the credit insurers agreed to extend until 30 June 2021 the temporary coverage for supply chains under the joint protective scheme, which had initially been set to expire on 31 December 2020. The extension of the protective scheme was approved under State aid rules by the European Commission on 17 December 2020. Under the federal guarantee, the parties insuring credit for goods covered by the protective scheme can continue to provide appropriate insurance for their clients and guarantee credit lines to the existing amount of around €420 billion, thus supporting companies in this difficult period.

52. The purpose of the Economic Stabilisation Fund (WSF) is to stabilise companies in the real economy whose failure would have a significant impact on the economy, technological sovereignty, security of supply, critical infrastructure or the labour market. The fund helps them cope

Overview 4: Changes to Bridging Assistance

<table>
<tr><th>Bridging Assistance I</th><th>Bridging Assistance II</th><th>Bridging Assistance III*</th></tr>
<tr><th>June – August 2020</th><th>September – December 2020</th><th>January – June 2021</th></tr>
<tr><td colspan="2">Grants towards the fixed operating costs of companies in order to safeguard the economic survival of SMEs suffering considerable losses of sales due directly and indirectly to the pandemic.
(For companies which do not qualify for the Economic Stabilisation Fund (WSF). Ineligible if at least two of the following criteria are met in the two completed financial years before 1 January 2020:
a) total balance sheet of more than €43 million,
b) sales revenues of more than €50 million, or
c) annual average of more than 249 staff.)</td><td>Grants towards the fixed operating costs of companies in order to safeguard the economic survival of SMEs with annual sales in Germany of up to €500 million suffering considerable losses of sales due directly and indirectly to the pandemic.</td></tr>
<tr><td>Liquidity assistance totalling up to €50,000 per month / €150,000 for three months Maximum level can only be exceeded in justified exceptions</td><td>Liquidity assistance totalling up to €50,000 per month/€200,000 for four months</td><td>Liquidity assistance totalling up to €200,000 per month/€1.2 million for six months or up to €500,000 for companies directly and indirectly affected by the lockdown measures per month of closure</td></tr>
<tr><td>SME threshold:
• for companies with up to 5 employees, a maximum of €9,000 for three months,
• for companies with up to 10 employees, a maximum of €15,000 for three months</td><td>Deletion of the SME threshold</td><td></td></tr>
<tr><td>Sector-specific fixed cost arrangements for the travel sector</td><td>Sector-specific fixed cost arrangements for the travel sector</td><td>Sector-specific fixed cost arrangements for the travel sector

Extension of the catalogue of fixed costs, e.g. with up to 50% depreciation of assets by value

Additional points:
• One-off flat-rate amount for operating costs for own-account workers (Neustarthilfe) totalling 25% of the reference sales of up to €5,000 which is not deducted from welfare benefits (if no other claims for fixed costs are made in Bridging Assistance III).
• Sector-specific fixed cost rules for the events and cultural sector; in the context of the general grant rules, costs of cancellation and preparation for business activities (internal project-related and external costs) are eligible for funding in the March-December 2020 period.</td></tr>
</table>

* In the case of Bridging Assistance III, the list does not include changes made following the Federal-Länder decision of 19 January 2021.

Overview 4: Changes to Bridging Assistance

Bridging Assistance I	Bridging Assistance II	Bridging Assistance III*
June – August 2020	**September – December 2020**	**January – June 2021**
Eligibility criteria • Drop in sales of at least 60% in the months of April and May 2020 compared with April and May 2019 • Ongoing drop in sales of at least 40%	Eligibility criteria • Drop in sales of at least 50% in two consecutive months in the period April to August 2020 compared to the respective months in the previous year • or average fall in sales of at least 30% in the months April to August 2020 compared to the same period in the previous year.	Eligibility criteria • Drop in sales of at least 50% in two consecutive months in the period April to December 2020 compared to the respective months in the previous year • or average fall in sales of at least 30% in the months April to December 2020 compared to the same period in the previous year. Eligibility criteria in detail: • All companies which are at least directly affected during a month by state-imposed closure instructions, or are indirectly affected during a month, can apply for Bridging Assistance III for this month if the fall in sales was at least 30% during the month of closure. The maximum level of support for them is €500,000 per month. • Companies which suffered a drop in sales of at least 40% compared with the reference month in a month of closures imposed by the state can apply for Bridging Assistance III for that month. The maximum level of support is €200,000 per month.
Monthly reimbursement of fixed costs to the amount of: • 80% of the fixed costs for those having lost more than 70% of their turnover; • 50% of the fixed costs for those having lost between 50% and 70% of their turnover; • 40% of the fixed costs for those having lost more than 40% of their turnover in each case in the month for which the application is made compared to the same month in the preceding year. • Eligible fixed costs in line with a positive list	Monthly reimbursement of fixed costs to the amount of: • 90% of the fixed costs for those having lost more than 70% of their turnover; • 60% of the fixed costs for those having lost between 50% and 70% of their turnover; • 40% of the fixed costs for those having lost more than 30% of their turnover in each case in the month for which the application is made compared to the same month in the preceding year. • Eligible fixed costs in line with a positive list	Monthly reimbursement of fixed costs of • 90% of the fixed costs for those having lost more than 70% of their turnover; • 60% of the fixed costs for those having lost between 50% and 70% of their turnover; • 40% of the fixed costs for those having lost more than 30% of their turnover in each case in the month for which the application is made compared to the corresponding month of comparison in 2019 • Eligible fixed costs in line with a positive list
Flat-rate assistance towards staff costs of 10% of the eligible fixed costs	Flat-rate assistance towards staff costs of 20% of the eligible fixed costs	Flat-rate assistance towards staff costs of 20% of the eligible fixed costs
Only orders for repayments are possible in the context of the final settlement.	Both additional payments and orders for repayments are possible in the context of the final settlement.	Both additional payments and orders for repayments are possible in the context of the final settlement.
Applications via third parties scrutinising the application	Applications via third parties scrutinising the application	Applications via third parties scrutinising the application Own-account workers are entitled to apply directly for up to €5,000, subject to special identification requirement.

* In the case of Bridging Assistance III, the list does not include changes made following the Federal-Länder decision of 19 January 2021.

with liquidity squeezes and strengthens the equity base of companies. The fund has a total volume of €600 billion. Of this, €400 billion consists of federal guarantees which help companies to refinance themselves on the financial market, as well as €100 billion towards recapitalisation to directly strengthen the equity base of companies. A further €100 billion serves to refinance the KfW Special Programme (cf. Item 50). The fund has so far decided on and signed contracts with companies for nine measures with a total volume of €7.87 billion (cf. Overview 5).

53. As stressed by the Council of Economic Experts (cf. GCEE Annual Report Item 29), the COVID-19 crisis also has far-reaching consequences for the cultural and creative industries, particularly as a result of the hygiene and distancing rules and related low audience numbers. Like other companies and self-employed persons, those working in the cultural and media industries can draw on the cross-sectoral federal coronavirus assistance. In order to safeguard the future of cultural institutions, the Federal Government has set up the €1 billion New Start Culture rescue and future programme; it is already having a positive impact. It has also reoriented the work of the Federal Government's Centre of Excellence for the Cultural and Creative Industries. This ensures not least a rapid and direct sharing of practically relevant information during the crisis between all the central stakeholders in the creative industries (Federation, Länder, associations, initiatives).

54. At the proposal of the Federal Government, the legislature has therefore introduced various provisions in civil law, insolvency law, society, association, foundation and property-ownership law to alleviate negative economic effects of the pandemic.

Not least, the termination of rental and leasing contracts due to a failure to make rental or lease payments due to the pandemic has been temporarily suspended. Consumers were given a temporary right not to fulfil contracts.

Also, companies which were economically weakened by the pandemic and which were insolvent or had excessive debts in terms of insolvency law as a consequence, were relieved of their obligation to apply for insolvency up to 30 September 2020. They were given more time to avert an insolvency, e.g. by drawing on government assistance, obtaining new finance, and if necessary reorienting their activities. This made it much easier for many companies to keep their operations going during the crisis. This arrangement was extended until the end of 2020 for companies which had excessive debts but were not insolvent. In these cases, it was assumed that there are prospects of permanently averting the insolvency and that it is therefore possible to continue the business operations without endangering the necessary confidence in economic transactions.

At the beginning of 2021, and limited until the end of the year, further amendments for companies affected by the pandemic entered into force in the context of the Act to Develop Recovery and Insolvency Law: The continuation forecast to be made in the course of the examination of over-indebtedness is shortened to a period of four months as long as companies were not insolvent on 31 December 2019, they earned a positive result from normal business activities in the financial year concluded before 1 January 2020, and the drop in turnover in 2020 was more than 30% from the 2019 figure. Subject to the same preconditions, insolvent companies are to enjoy access to self-administration and protective schemes. Further to this, the obligation to file for insolvency was suspended for January 2021 for those debtors which applied or were eligible to apply for financial assistance in the period from 1 November until 31 December 2020.

55. Further temporary measures in the field of legislation on companies, cooperatives, associations, foundations, residential property and transformations make it easier to, for example, hold assemblies and adopt resolutions virtually by means of telecommunications technologies.

Adapting planning and authorisation procedures, accelerating investment in infrastructure

56. Beyond the assistance in response to the acute crisis, the Federal Government believes that further corporate regulations need to be improved and modernised. For example, it has launched a series of measures to expedite planning and approval procedures, particularly in the field of transport and digital infrastructure.

Overview 5: Measures decided on and contractually agreed with companies under the Stabilisation Fund Act (status. 14 January 2021)

Assisted company by type of measure	Level of the stabilisation measure	Contract signed
Guarantees (Section 21 Stabilisation Fund Act		
–	–	–
Recapitalisation (Section 22 Stabilisation Fund Act)		
Deutsche Lufthansa AG	€5,847.1 million	06/2020; 09/2020 (adapted)
FTI Touristik GmbH 1st measure	€235.0 million	09/2020
2nd measure	€250.0 million	12/2020
TUI AG 1st measure	€150.0 million	09/2020
2nd measure	€1,091.0 million*	01/2021
MV Werften Holding Ltd.	€193.0 million	10/2020
German Naval Yards Kiel GmbH	€35.0 million	10/2020
Schlote Holding GmbH	€25.5 million	11/2020
NOVUM Hospitality GmbH	€45.0 million	12/2020
TOTAL	**€7,871.6 million**	
KfW Special Programmes (Section 23 Stabilisation Fund Act)		
The fund can grant the KfW loans to refinance the special programmes assigned to it by the Federal Government due to the pandemic. As of 14 January 2021, €38,032.0 million had been called on by the KfW.		

* Consists of a Silent Participation I of €420 million and a Silent Participation II of up to €671 million. The Silent Participation II will be reduced by an amount (up to €200 million) if several Länder grant TUI AG a guarantee matching this amount.

An updated overview can be found here: https://www.deutsche-finanzagentur.de/de/wirtschafts-stabilisierung/

57. In spring 2020, statutory relaxations for new roads and railway lines replacing existing ones were launched, along with financial relief for municipalities with a view to a more rapid realisation of work to upgrade railway crossings. Further to this, a procedural basis for the approval of transport infrastructure projects by the Bundestag was established in appropriate cases. The Investment Acceleration Act, which has been in force since 10 December 2020, is to leverage further potential. This affects the approval of railway projects, the expansion of onshore wind energy, and spatial planning and judicial procedures relating to projects to build up digital infrastructure.

A rapid roll-out of broadband networks

58. The Federal Government shares the view of the Council of Economic Experts that the demands placed on the bandwidth and reliability of digital infrastructure will continue to rise (cf. GCEE Annual Report Item 571). The Federal Government is therefore aiming at nation-wide availability of gigabit-capable landlines by 2025. It expects the broadband roll-out to be primarily driven by private companies on a market basis. The Federal Government aims to revise the Telecommunications Act to provide incentives for investment and innovation.

59. Public funding will only play a role where the market-driven roll-out does not take place. The Federation's broadband support programme, which was launched in 2015 and updated in 2018, is providing around €8 billion of approved funding to date in support of the roll-out of broadband in nearly 2,000 expansion projects across Germany.

Whilst the previous programme was restricted to areas with no coverage (transmission rate of less than 30Mbit/s), in a next step a new funding programme will reach areas with coverage below 100 Mbit/s to the extent that it is apparent that no market-led expansion will take place. The Federation's Digital Infrastructure Fund is providing financial assistance. It remains the case that in both the initial and the extended eligible areas, funding is going exclusively to the expansion of gigabit networks.

Making rapid and sustainable improvements in mobile coverage

60. The Federal Government is aiming at nation-wide availability of mobile broadband voice and data services. The existing rules on coverage and contractual agreements will result in coverage of approximately 99.7% of households and 95% of

Box 2: Stimulus programme for the culture and media sector

The aim of the New Start Culture programme is to facilitate a fresh start for cultural life in Germany during and after the pandemic by enabling cultural institutions and stakeholders to reopen with new programmes and activities. The aim is not only to restore the urgently needed diversity of cultural services, but also to provide prospects of employment and earnings for many people working in the sector.

The billion euros of funding for New Start Culture represents important investment in the maintenance of the unique cultural and creative infrastructure and of cultural life in Germany. Parts of it that are lost cannot quickly be rebuilt. The top priority in cultural policy is therefore to maintain cultural institutions and venues and to secure the economic survival of those who earn their living from art and culture.

the territory. The coverage requirements of the last spectrum auction address 4G and entail a minimum level of coverage for households and a minimum level of coverage of main roads, waterways and railways. Coverage along the transport routes in particular will improve mobile communications availability in rural areas.

The planned federal mobile communications funding programme will provide the necessary incentives for the construction of sites for additional mobile communications masts in order to expedite the roll-out of at least 4G mobile communications networks and to close remaining gaps. The funding is to provide assistance where a lack of economic viability means that no market-driven roll-out will take place and where the coverage requirements have no effect. €1.1 billion will be available for the construction of up to 5,000 mobile communications sites (to be applied for by 31 December 2024). The nation-wide 4G roll-out will create the platform for corresponding 5G coverage. Like the Council of Economic Experts, the Federal Government is convinced that in future many of the digital applications being developed will require nation-wide availability of efficient 5G networks (cf. GCEE Annual Report Item 572).

61. In order to further speed up the expansion of mobile communications, the Federal Government has decided to set up a mobile infrastructure company (MIG) (cf. Annual Economic Report 2020 Item 35). It was established on 1 January 2021. In order to drive the 5G expansion to create a nation-wide network in Germany by 2025, the MIG – as stipulated in the stimulus programme (cf. Items 11 ff.) is to be equipped with €5 billion. Since the roll-out of the 5G network is just beginning and, as things stand, can in principle be market-driven, it is necessary to proceed cautiously when setting up new funding schemes.

62. The Federal Government has launched the 5G Innovation Competition in order to show local residents, businesses and administrations the opportunities afforded by 5G technology and to provide specific possibilities to try out innovative 5G applications in various regions. Also, spectrum was provided at the end of 2019 to allow companies and research institutions to operate their own 5G networks on their property and to implement digital process innovations. As of mid-December 2020, 97 such local campus networks were already in operation. Finally, the Federal Government is funding research into 5G, and going forward, into 6G. Its aim is for Germany to play a leading role as technology provider in the development of future communications technologies.

63. In the joint declaration on the Second Mobile Communications Summit on 16 June 2020, the Federation, Länder, municipal umbrella associations and mobile communications providers confirmed that they would continue to work together to drive the roll-out of mobile communications and to realise the Mobile Communications Strategy. In addition to the Mobile Communications Funding Programme, it was agreed that approval procedures should be expedited, public property be made more easily available for the roll-out, and a public relations campaign be launched, addressing not least health concerns.

Continuing investment in transport i nfrastructure at high level, shaping the mobility of the future

64. Reliable and efficient transport infrastructure forms an essential basis for personal freedom, social participation, prosperity and economic growth. Germany's transport network is one of the most developed in Europe and worldwide. The Federal Government aims to stabilise invest-

ment in the federal transport infrastructure at a high level. The federal budget provides for approximately €19.6 billion in 2021, roughly 14.3% up in year-on-year terms. In order to cushion the impact of the phase-out of coal-fired power generation, the Federal Government will in future also fund and realise infrastructure projects being pursued for structural policy reasons, using the additional funding made available for this in the context of the Structural Reinforcement Act for Mining Regions (cf. Item 137).

65. The Federal Government is providing billions in support of the transport sector to alleviate the effects of the pandemic and to foster investment in forward-looking technologies. As the owner of Deutsche Bahn AG, the Federation intends to offset 80% of the damage caused by the pandemic which still remains despite the company's efforts to tackle it; this is to take the form of an increase in the capitalisation in line with State aid rules. €5 billion is earmarked for this in the main points of the stimulus programme.

66. In order to ensure that the quality and quantity of local public transport services can be maintained in rural areas, the Federation increased the regionalisation funds in 2020 by a one-off amount of €2.5 billion to offset the financial impact of the pandemic. The Länder are responsible for handling the compensation payments.

67. Furthermore, the second 2020 supplementary budget included immediate assistance of €170 million for coach companies. The compensatory payments take the form of non-repayable grants. The immediate assistance programme is being continued in 2021.

68. In order to strengthen the shipping and ports industry, the Federal Government has launched support programmes not least for the modernisation of inland waterway vessels and coastal shipping, and for innovative port technologies and digital testbeds in the ports. Also, the fees for using the North Sea-Baltic Sea Canal have been suspended until the end of 2021.

69. The Federal Government's stimulus programme to tackle the coronavirus crisis includes additional investment in transport totalling €2.5 billion for research and development in the field of electric mobility and battery cell manufacturing, and for the roll-out of a modern and secure charging station infrastructure. Like the Council of Economic Experts, the Federal Government is convinced that, if electric vehicles are to become established as alternatives to vehicles with internal combustion engines over long distances, an important role will be played by a broad network of publicly accessible charging stations (cf. GCEE Annual Report Item 450). The originally planned funding of €50 million for private and commercial charging infrastructure was topped up by €500 million in the period up to 2023. Charging on non-public sites is of key importance for the overall charging infrastructure system and with a view to ensuring that it serves the grid to the greatest possible extent. A new funding guideline for private charging infrastructure is to promote charging points in and on residential buildings. In 2021, an additional programme, which needs to be notified to the European Commission, will cover commercial charging infrastructure. The Future Package is doubling the proportion of funding from the state for the innovation bonus for electric vehicles up to the end of 2021. The environmental bonus had already been increased before the pandemic and extended until the end of 2025. Also, the European Commission has been sent draft guidelines for technology-neutral funding

for buses and trucks with alternative drives, including the fuelling and charging infrastructure.

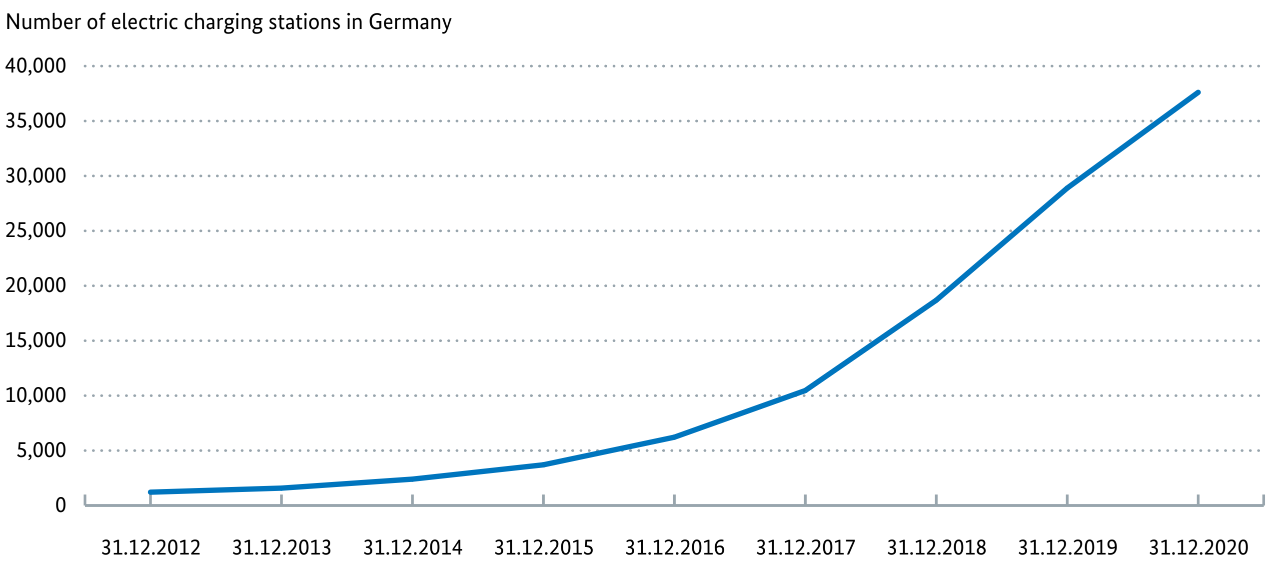
70. By modernising the law on passenger transport, the Federal Government will respond to changing mobility requirements and advances in technology by adapting the rules for public transport and innovative services in the field of shared use.

71. The Council of Economic Experts stresses that the number of patent registrations shows that Germany is playing a leading role in autonomous driving (cf. GCEE Annual Report Item 460). The Federal Government intends to maintain and build on this. To this end, it is necessary to drive forward research and development in order to make the mobility of the future more innovative, safer, more environmentally friendly and more user-oriented. Germany's draft legislation on autonomous driving aims to make it the first country to permit nation-wide regular operation of driverless vehicles.

Ensuring fair competition in the digital world

72. Functioning competition and free access to markets are central objectives for the Federal Government. It agrees with the Council of Economic Experts that competition law needs to address the special features of the highly dynamic digital economy (cf. GCEE Annual Report Item 585). Against this background, the ARC (Act against Restraints of Competition) Digitisation Act makes the Act against Restraints of Competition more digital, proactive and focused. It adapts national competition law to the challenges of the digital economy. Amongst other things, there are plans to introduce stricter rules for platforms of overriding cross-market significance and improved data access for competitors. Also, supervision of abuse of dominant positions is strengthened so that restraints of competition can be tackled

Diagram 6: Development of the charging infrastructure in Germany

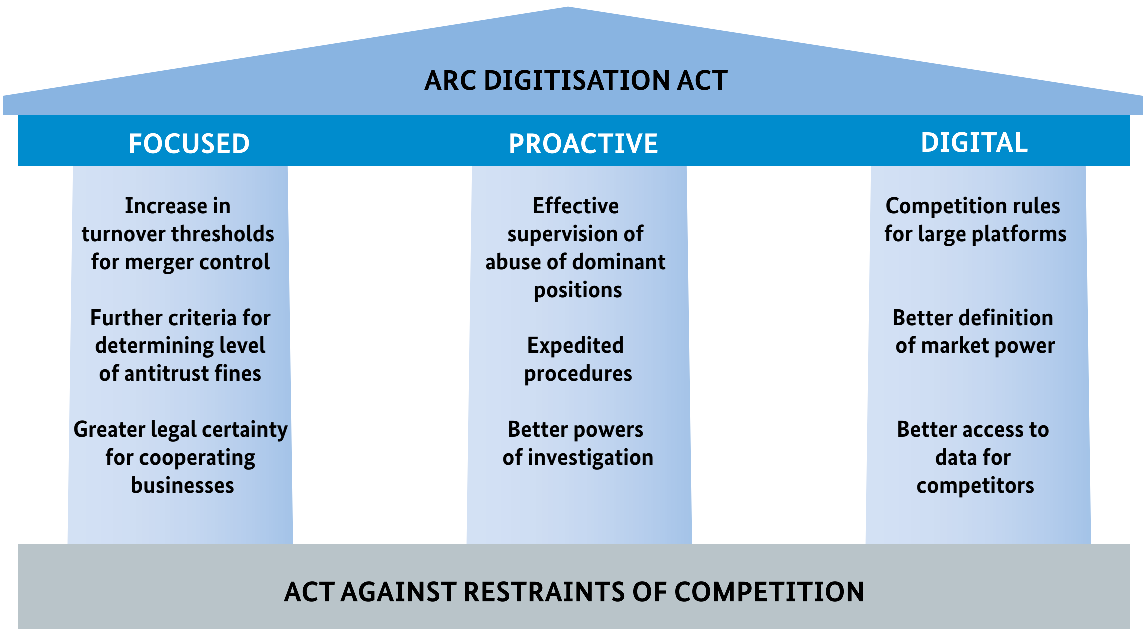


Source: Bundesnetzagentur.

more effectively and more quickly. In this way, the Bundeskartellamt (Federal Cartel Office) will be able to take interim measures more easily in future. Further to this, the draft transposes obligations contained in EU law (implementation of the ECN+ Directive), focuses merger control more on cases of relevance to competition, and delivers greater legal certainty for cooperating companies.

73. The Federal Government is also working to update competition law at European level. It had presented proposals for this together with other EU Member States. In 2020, the European Commission launched several initiatives to evaluate and adapt the European competition framework which address the main German demands as well as multilateral aspects. Amongst other things, an instrument against distortions of competition by companies subsidised or controlled by third countries (a "level playing field instrument") is to prevent non-European companies from gaining market shares and undertaking acquisitions with the aid of massive state support whilst European firms are subject to strict State aid controls. Further to this, the European Commission has presented a proposal for a new Digital Markets Act (DMA) as part of the EU's Digital Strategy. The DMA proposal covers directly applicable rules of conduct for large platforms with a gatekeeper function and aims to provide harmonised rules to ensure contestable and fair markets for digital services in the Single Market. The Federal Government will work constructively on the current proposals at European level: a modern EU legal framework will strengthen the competitiveness of European firms in an age of digitalisation and globalisation.

Diagram 7: ARC (Act against Restraints of Competition) Digitisation Act



Source: Federal Ministry for Economic Affairs and Energy.

Modernising procurement law and accelerating public procurement

74. The COVID-19 pandemic has highlighted the importance of public procurement: the temporary shortages of goods like face masks, medicines and medical equipment showed how important functioning procurement processes are for tackling the acute crisis. Also, swift and efficient public procurement is needed for a successful boost to investment to stabilise the European economy.

75. To enable the federal administration to award public contracts even more swiftly and easily, and thus to support the revival of the economy, the Federal Government has adopted detailed guidelines for the award of public contracts in order to speed up the efforts to alleviate the economic consequences of the pandemic.

76. During Germany's EU Council Presidency, the Federal Government launched a European discussion process. leading to an examination of potential for simplification and improvement in EU procurement law. The intention is to enable public investment promotion measures to feed more rapidly into specific investment projects.

77. The new nation-wide procurement statistics were launched on 1 October 2020. The aim of the statistics is the establishment of a valid data base which permits the first ever reliable measurement of the economic significance of contracts and concessions awarded by the public sector (cf. Annual Economic Report 2020 Item 51). This will permit conclusions to be drawn for strategic procurement and future legislation. An initial evaluation of the statistics will probably be available in mid-2021.

78. In future, contracting authorities are to be able to find out quickly and easily from a Federal Debarment Register whether there are reasons to exclude a bidder from the award of a public contract (cf. Diagram 8). The nationwide online Federal Debarment Register is currently being built up by the Bundeskartellamt and is to gradually take effect in the course of 2021.

79. Further statutory measures refer to security and defence with a view to expediting procurement and creating greater legal certainty. In particular, the new rules provide more details of the exemption from procurement law where essential security interests are affected.

80. The Federal Government also aims to boost sustainable procurement. Not least, the Federal Government plans to issue a general administrative provision on climate-friendly public procurement in order to implement the cabinet decisions on the Climate Action Programme.

81. The Ordinance on Prices/Price Formation in Public Contracts which currently applies has been revised by a working group and adapted to the economic situation, which has changed since the adoption of the ordinance in 1953. Following necessary coordination, the adapted ordinance will be adopted and published.

Strengthening legal clarity and fighting corruption

82. In its ruling of July 2019, the European Court decided that the binding minimum and maximum rates of fees in the statutory fee schedule for architects and engineers violate the EU Services Directive. In order to adapt national rules to the judgment, the legislature has amended the corresponding provisions. This means that fees for services by engineers and architects are in principle freely negotiable. The rules have been in force since 1 January 2021.

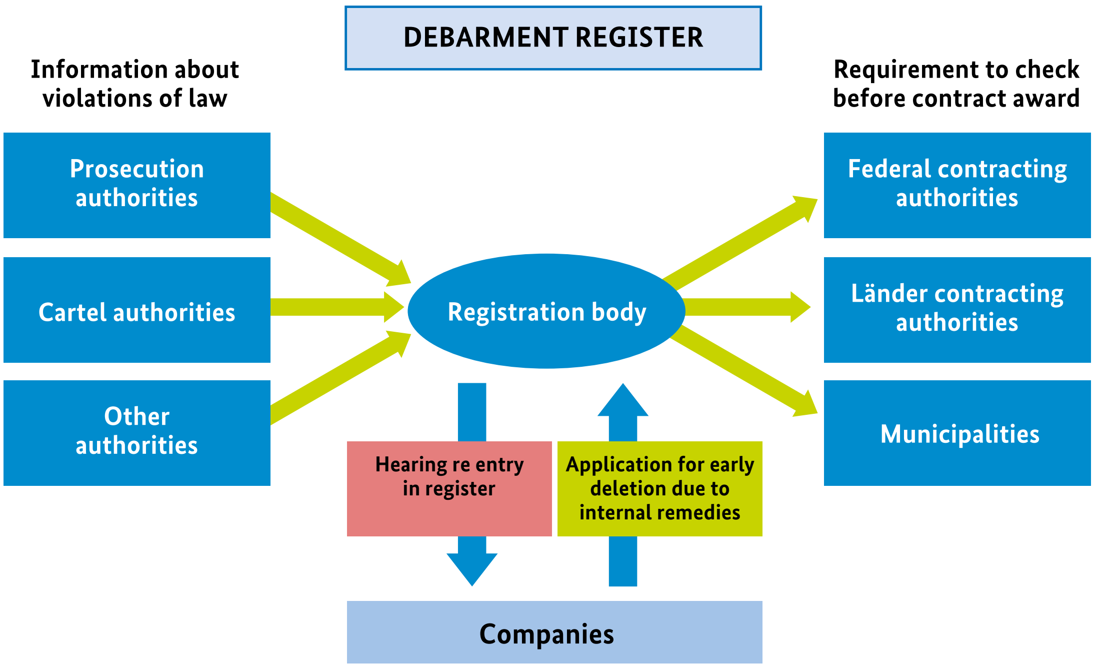
83. The Federal Government is working on a draft law to implement Directive (EU) 2019/1937 of 23 October 2019 on the protection of persons who report breaches of Union law. The identification of any such breaches is in the interest of the business community because it helps uncover potential problems and inefficiencies. Many companies already operate internal reporting channels.

Continuing the ambitious reduction in costs of bureaucracy

84. Relieving companies of the burden of unnecessary bureaucracy is a central aim of the Federal Government. For this reason, it has cut compliance costs for business by around €1.3 billion a year in the 19th legislative term thanks to the use of the bureaucracy brake. Even if the implementation of EU rules is discounted, the effects of which do not have to be offset by simultaneous reductions in bureaucracy elsewhere, the savings for the German economy still amount to €1.1 billion a year. Since the introduction of the bureaucracy brake in 2015, compliance costs for business have been cut by more than €3.1 billion.

85. Surveys by the Federal Statistical Office on behalf of the Federal Government show that citizens and companies remain largely satisfied with their experience with public administration. Their level of satisfaction was recently higher than that found in previous surveys. The Federal Government will continue to use the detailed findings to identify deficiencies and make proposals for improvements. A group of experts is currently drawing up proposals for a fourth Bureaucracy Reduction Act, to be adopted during this legislative term.

Diagram 8: Functioning of the Debarment Register



Source: Federal Ministry for Economic Affairs and Energy.

Making thorough use of digitalisation and thinking well ahead

86. The Council of Economic Experts rightly points out that the field of digitalisation still offers plenty of potential for growth. It is true that digital solutions have already helped alleviate the economic repercussions of the pandemic, e.g. as more people work from home, but problems have also manifested themselves, e.g. in the fields of education, health and public administration (cf. GCEE Annual Report Items 524 ff.). The Federal Government wants to deepen the current wave of digitisation and make sustainable use of it. Its "Shaping digitisation" implementation strategy presents the progress made on digital policy projects in five fields of action (digital skills, infrastructure and equipment, innovation and digital transformation, society in digital change, and modern government). Since autumn 2020, an interactive digital policy dashboard (available at www.digital-made-in.de) has presented all the projects of the implementation strategy (cf. Diagram 9).

87. In the revision of the Artificial Intelligence Strategy (AI Strategy), the Federal Government is focusing its measures in the light of current developments. The aim is to strengthen Germany's international competitiveness in the research, development and application of AI and to maintain and increase Germany's and Europe's technological sovereignty. The responsible development and application of AI systems which are oriented to the common good is to become a trademark of "AI Made in Europe". In the context of the stimulus programme's Future Package (cf. Items 20 ff.), the Federal Government has decided to increase the investment earmarked for AI from €3 billion to €5 billion.

88. Also, the Digital Europe programme is being expanded in the context of the Next Generation EU recovery plan (cf. Item 234). During its Council Presidency, the Federal Government worked successfully to ensure that the programme can start on schedule. The EU's Digital Strategy aims not least to modernise data protection rules with a view to giving European citizens greater control of their personal data and

Box 3: What is the bureaucracy brake?

The bureaucracy brake for business entered into force on 1 January 2015. The aim is to permanently limit the increase in burdens on business. The "one in, one out" rule basically applies to all the Federal Government's regulatory projects which impact compliance costs for business.

Exceptions are only provided for projects that precisely implement EU rules, international treaties, judgments of the Federal Constitutional Court and the European Court, that serve to avert considerable dangers, or that apply for less than a year.

Under the system, each federal ministry should remove burdens to the same extent that it imposes burdens on business through new rules. In general, measures to alleviate burdens should be presented with a year.

If a ministry is not in a position to offset new burdens during the 19th legislative term, another ministry can reduce its compliance costs instead. If no compensation is possible in this way either, the ministry can have recourse to "credit" from the preceding legislative term, once it has presented and justified this in the "Better regulation and bureaucracy reduction" committee of state secretaries.

ensuring that they are also protected by non-EU countries.

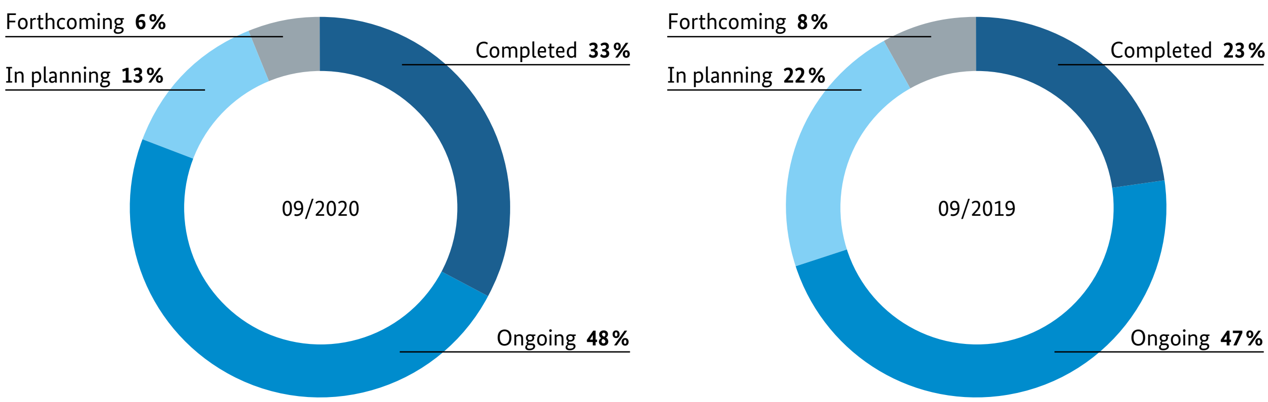
89. In order to bring copyright law into line with digitisation and networking and to take account of the growing importance of internet platforms in particular, two copyright directives were adopted in 2019: (EU) 2019/790 (DSM Directive) and (EU) 2019/789 (Online SatCab Directive). The Federal Government will transpose the new rules, e.g. on the responsibility of uploading platforms for copyright and on ancillary copyright rules for media publishers, into national law.

90. Further funding has been earmarked in the stimulus programme for boosting technological sovereignty. This enables the Federal Government to promote and build up skills for the research and development of forward-looking technologies and technology-based innovations. These include, for example, quantum technologies, for which an additional €2 billion has been allocated. This horizontal technology can initiate key innovations in important fields of industry and applications (e.g. digitisation, AI, cryptography, aerospace, transport, pharmaceuticals, medical technology, defence).

91. Secure information technology is fundamental for the dissemination and use of digital applications. For this reason, the Federal Government is boosting research and development in the field of IT security and, in the field of microelectronics, is also supporting measures like the manufacture of secure and trustworthy electronics components.

92. In the GAIA-X project, the Federal Government is continuing to promote the establishment of a networked European data and infrastructure ecosystem with the highest aspirations in terms of data protection, transparency, interoperability and openness. The goal is to establish an ecosystem that allows its users to provide, pool, share and use data and services in a trusted environment. In 2021, the Federal Government

Diagram 9: Status of the implementation strategy



Source: Implementation strategy "Shaping the course of digitisation"; base: 486 implementation steps.

is launching a GAIA-X funding competition to implement examples of applications and to build data spaces.

93. The Federal Government plans not least to permit for the first time the purely online establishment of limited-liability companies in certain cases. By so doing, it is implementing the EU Digitalisation Directive. Also, in many other cases, a new online procedure for registrations in the Commercial Register is being set up, and the digital sharing of information between the commercial and company registers of the EU Member States is being improved.

94. In the context of the Digital Pact for Schools, the Federation is providing €5 billion to help the Länder to build up and expand digital infrastructure at schools. The Länder and the municipalities are implementing digital education, training teachers as required, and ensuring that the equipment is maintained and functioning. As part of its measures to combat the pandemic, the Federation has topped up the Digital Pact for Schools by another €500 million for the purchase of mobile terminal equipment for school students which have no access to such devices at home, and has also provided an additional €500 million for the funding of the administration of educational infrastructure at schools. Further to this, the Federation plans to provide €500 million towards the funding of loaned equipment for teachers. All three programmes, and the Digital Pact for Schools, are being topped up by at least 10% in the form of additional funding from the Länder. With regard to the relatively low take-up of funding – at just 5% as of 30 June 2020 – identified by the Council of Economic Experts (cf. GCEE Annual Report Item 556), the Federal Government expects the take-up by the Länder to rise sharply over time.

95. The Act on the Protection of Patients' Data (PDSG) puts the conditions in place for the use of digital health services. The main core digitalisation application which can improve the sharing of health data is the electronic health file (ePA), which is being introduced in the statutory health insurance system in several stages starting on 1 January 2021. At the same time, rules are being stipulated which ensure a high level of data protection. An improved exchange of information in the health sector is intended to improve the quality, security and economic viability of medical care and to assist medical research. At the end of 2019, the Digital Healthcare Act introduced

Box 4: The electronic health file and the Act on the Protection of Patients' Data in Telematic Infrastructure)

The Act on the Protection of Patients' Data creates the basis for thorough use to be made of digitalisation in the health sector with a view to improving the quality of medical care. This is particularly true of the electronic health file.

The Act provides that, from 2022, at the request of the insured party, additional data on top of medical information like results and diagnoses can be documented in the electronic health file via the telematic infrastructure. This will then – subject to the patient's approval – be available to doctors and to other service providers in the public health system. In particular, the plan is for these additional data to include in particular the vaccination record, which so far has been paper-based, pregnancy records, children's regular check-ups, prophylactic dental checks, and services stored by the statutory health insurance fund.

the entitlement for insured persons to use digital health applications (cf. Annual Economic Report 2020 Item 70). The first health applications have successfully undergone the procedure of the Federal Institute for Drugs and Medical Devices to examine whether they were refundable, and can now be prescribed by doctors. The conditions are also being put in place for the use of digital health services in long-term care.

96. With regard to digitisation in the public administration, the introduction of the electronic invoice (eInvoice) in the federal administration represents a key milestone. The eInvoice makes it easier to work off-site and speeds up procedures and payments. This lays the foundation for complete digitisation of the process, from the invitation to bid or the order through to the invoice and the payment. The pandemic has shown clearly how important it is for citizens and businesses to have easy and secure electronic access to public services. In the Federal Government's stimulus programme, therefore, €3.3 billion is being provided to speed up the digitisation of the administration. Here, online services are to be developed once and then used by other government agencies as well ("one-for-all" principle). This ensures nationwide and efficient implementation.

Shaping the future of industry

97. The COVID-19 crisis has impacted on large sections of industry in Germany and Europe and on their international value chains. The economic repercussions are affecting almost all sectors of the economy. In order to ensure that the recession was as short as possible, the Federal Government took targeted cyclical and structural measures. These particularly include the promotion of investments in all main forward-looking areas of industry. Here, in the context of a supportive industrial policy, government has the task of setting the policy framework in such a way that companies can mobilise their potential for innovation and employment and bring more technical innovations through to the application stage. The Alliance for the "Future of Industry" with currently 17 partners from the social partners is a central dialogue forum for industrial policy issues and helps facilitate this process.

98. The industrial sector is also a key player when it comes to strengthening the European economy. For this reason, a central aim of Germany's EU Council Presidency was to provide the right policy stimulus for coping with the pandemic and its consequences and for the economic recovery. The Council of Economic Experts rightly makes the point (cf. GCEE Annual Report Item 283) that the shaping of the process of recovery should be regarded not merely as a challenge, but also as an opportunity to strengthen the long-term competitiveness and strategic sovereignty of the European economy. For example, the industrial sector in Germany and Europe should become greener, more digital and more resilient.

Here, the policy framework must be set in a way that allows industry to survive in the face of international competition and to win through with innovative, climate-friendly solutions on a level playing field. To this end, innovative and strategic value chains across Europe and key enabling technologies are of crucial importance. A significant instrument here is that of the Important Projects of Common European Interest (IPCEIs), which are used to realise cross-border innovative projects. Here, Germany is working at European level not least towards more industrial cooperation, e.g. in the field of hydrogen.

99. The current situation, dominated as it is by the pandemic, shows the importance of digital instru-

ments and networking for industry. Examples include digital after-sales service, smart control of logistics chains, remote maintenance tools, flexible production control and targeted online further training courses. International competition is very intense in the field of Industrie 4.0, as the Council of Economic Experts also points out (cf. GCEE Annual Report Items 529 ff.). At the same time, Germany has an international reputation as a lead provider and user of Industrie 4.0. The Federal Government is continuing to support research, development and application of digital technologies of companies in manufacturing and services. Regional centres of excellence of labour research are providing new insights into the shape of future work, trialling them and putting them into practice.

100. Like the Council of Economic Experts, the Federal Government is convinced that decarbonisation of industry can create opportunities for industry in Germany via the development of new technologies and the related emergence of new growth potential (cf. GCEE Annual Report Items 352 ff.). In line with Europe's climate targets and the European Green Deal, the Federal Government has set itself the goal of achieving far-reaching greenhouse gas neutrality across the economy by 2050 at the latest. A key role is played here by a reliable policy environment and certainty for planning. In the form of the 2030 Climate Action Programme and the Climate Action Act, the Federal Government has already put key preconditions in place for achieving the interim 2030 target (cf. Item 194). The climate targets in industry are primarily to be attained by market-based instruments, such as European emissions trading and national carbon pricing.

The Federal Government is providing funding to actively support and accelerate the process of transition to a greenhouse-gas-neutral industrial sector. Also, the Federal Government is examining potential options for designing "carbon contracts for difference" which address the operating costs of decarbonisation technologies. It is currently drawing up a concept for a pilot programme. The Council of Economic Experts also believes that carbon contracts for difference can be an instrument which can give companies a reliable basis on which to invest in lower-carbon manufacturing processes (cf. GCEE Annual Report Item 467).

101. The Federal Government would like the sector-specific initiatives stipulated for industry by the Green Deal to be expedited. For example, during its EU Council Presidency, it pressed ahead with the Circular Economy Action Plan. Other major challenges in the period up to 2030 are progress on swifter decarbonisation in the space, aviation and automotive industries, on the establishment of green lead markets and an industrial framework for climate-friendly and biodiversity-friendly materials and products, and on zero-carbon steel production.

102. In the Steel Action Concept of July 2020, the Federal Government set out an overall political strategy as to how in the long run the country's steel industry can remain strong, internationally competitive and become climate-neutral. The aim here is in particular to replace blast furnace technology and to switch to direct reduction (cf. Box 5) with an increasing use of green hydrogen (cf. Items 215 ff.). The Federal Government will establish appropriate funding programmes and policies for energy-intensive industries and improve or introduce necessary instruments at national and European level. An international level playing field is required if the steel industry is to remain competitive. The Federal Government is therefore working within the EU and in relations with third countries to ensure fair world trade. Further to this, it aims to avoid carbon leakage. Effective protection against carbon leakage for energy-intensive industry should help industry shift to low-carbon and ultimately zero-carbon manufacturing.

103. Germany is to remain open to new technology and a leading global base for the automotive industry of the future. For this reason, in the Concerted Action for Mobility, the Federal Government regularly holds top-level meetings with the stakeholders in the automotive industry with a view to rapidly identifying the need for policy responses and implementing measures in a sustainable strategy. Not least, agreement has been reached on setting up an Automotive Industry Future Fund worth a billion euros. In addition to fleet renewal programmes for commercial vehicles and municipal service vehicles, and funding for the expansion of charging infrastructure, the innovation premium is being extended until the end of 2025. This provides a reliable long-term funding envelope for a rapid roll-out of electric mobility. The package of measures takes up some recommendations for action which were drawn up in the Automotive Industry Transformation Dialogue. The Transformation Dialogue was set up as a dialogue platform for a joint debate with the relevant stakeholders from the Länder, the business community, research and particularly affected regions on the impact of structural change in the automotive industry and possible responses.

104. The Federal Government supports the establishment of research-based and sustainability-oriented battery manufacturing in Europe. Working together, 14 European Member States are using two IPCEIs to strengthen an innovation-based battery value chain in Europe. The Federal Government is providing up to €3 billion in funding under the two large-scale programmes for projects implemented in Germany and is coordinating the second battery IPCEI – the largest IPCEI so far, with nearly 50 companies on board.

105. As a globally active mobility sector, the aviation industry and the air traffic industry have been hit particularly hard by the COVID-19 pandemic. The Federal Government aims to help the sector cope with the crisis and take the necessary climate action measures. A technological priority in the current call for funding of the LuFo VI aviation research programme is placed on climate-friendly technologies. The aim is to make

Box 5: Preventing carbon emissions in the steel sector

The steel industry in Germany is working on the introduction of low-carbon, carbon-neutral and zero-carbon processes – for example, using hydrogen rather than carbon to reduce iron ore (carbon direct avoidance, CDA) – and, to some extent, on ways of making further use of carbon within the industrial value network (carbon capture and utilisation, CCU). CDA offers great potential for the steel sector in Europe and for climate change mitigation. In addition, carbon capture and storage (CCS) may be a possible option for industrial process emissions that cannot be avoided in other ways.

The use of hydrogen promises to offer particularly great potential for CO_2 reduction in the steel industry, not least because relatively large CO_2 reductions can be achieved here compared with other sectors per unit of green hydrogen deployed.

Also, the scrap-based production of steel via the electric arc furnace route already offers a lower-GHG process for around 30% of the crude steel produced. This share can be increased, but only to a certain extent due to the limited availability of steel scrap. Moreover, due to varying alloy metal contents for certain higher-quality steel products, the suitability of the process is limited.

zero-emissions flight possible in the long term. Key enabling technologies here are hybrid propulsion systems based on hydrogen in combination with fuel cells and battery systems. For this reason, the Federal Government will enhance the programme from 2021 not least with funding from the National Hydrogen Strategy (cf. Item 216) and further funding from the Strategy, as well as via the Structural Reinforcement Act, to encourage the production and use of electricity-based aviation fuels like Power-to-Liquid (PtL). The transition to carbon-neutral fuels and entirely new forward-looking propulsion systems opens up opportunities, especially in the former coal-mining areas.

106. In order to modernise the shipping industry, the Federal Government has provided an additional billion euros for the environmentally friendly use of shipping from the Stimulus and Crisis-relief Package. Not least, research, development and innovation are to be strengthened, with funding going towards aspects like a reduction in atmospheric pollutants via the construction of LNG fuelling vessels. Also, the Federal Government will support the construction of shoreside electricity installations to reduce greenhouse gas, atmospheric and noise emissions in ports. Further to this, it is supporting research and development projects of the maritime sector.

107. As a supplier of equipment to the police, other civilian security organisations and the Federal Armed Forces, the security and defence industry makes an indispensable contribution to our internal and external security. For this reason, the Federal Government adopted its new strategy paper on strengthening the security and defence industry in in February 2020. The paper sets out the principles for the Federal Government's policies on the security and defence industry.

108. Space flight and space applications are a driving force for innovations which benefit the entire economy. They have a major impact on other sectors via technology transfer and spin-offs. For this reason, the Federal Government is operating its own funding programmes to strengthen the German space industry and space technologies, e.g. via the National Programme for Space and Innovation, the institutional support for the German Aerospace Center (DLR), Germany's contribution to ESA, indirectly also via the German contribution to the EU budget, from which EU space programmes like Galileo and Copernicus are being funded, and via federal initiatives for transfers of innovation and technology like "Space moves!" and "INNOspace".

109. Here, geological data help environmentally acceptable use to be made of the sub-soil and geological hazards to be studied and assessed. The Geology Data Act has introduced a comprehensive obligation to secure geological data. In this way, it should be made and remain readable and available for all geological tasks of the Federation and the Länder. The public provision of geological data (open data) is a key element of the act.

Using venture capital to make Germany more attractive for start-ups

110. Sufficient venture capital is of crucial importance if innovative start-ups are to emerge in Germany and grow into international competitors. The Federal Government is therefore building on the successful tool-box in the field of venture capital finance. The Fund Domicile Act is to shape the tax conditions to improve the way in which staff of young companies can participate in the success of those companies. For young companies in particular, staff shareholdings are an important way to attract skilled workers and can also be a source of finance. Further to this, this act

also aims to ensure that venture capital funds can be exempted from value-added tax on administrative services in a manner that does not constitute State aid, and doubles the tax-exempt amount for staff shareholdings from €360 to €720. This will remove a significant competitive disadvantage for venture capital in Germany as of 1 July 2021.

In view of the low level of venture capital availability in Germany compared with other countries, the Council of Economic Experts welcomes the €2 billion package of measures to support start-ups and SMEs (cf. GCEE Annual Report Item 521). The Federal Government is thus mitigating the impact of the COVID-19 pandemic on start-ups and SMEs, and is promoting investment in digital technologies and digital expertise. In the decisions of 10 November 2019 and 25 August 2020, the coalition partners in the Federal Government decided to provide €10 billion for a venture capital fund for forward-looking technologies ("Future Fund") at the KfW. The adoption of the 2021 Budget Act creates the basis for this funding to be made available for a 10-year investment period. The Future Fund will help start-ups to grow throughout all the phases of their business development in Germany and beyond, and to attract new groups of investors to the German venture capital market.

Establishing a framework for more research, development and innovation

111. Research-driven innovation is a fundamental precondition for safeguarding the international competitiveness of German firms. In its High-tech Strategy 2025, the Federal Government has built a strategic umbrella under which all the key innovation policy measures are pooled together.

In times of economic crisis in particular, investment in research and development is especially important so that the economy can quickly start growing again. For this reason, the Federal Government has placed a clear focus on research and forward-looking technologies in its Stimulus Package (cf. Items 11 ff.). Not least, the 2nd Coronavirus Tax Relief Act doubles the maximum assessment basis for the tax research allowance for the period from 1 July 2020 until 30 June 2026.

112. The collapse of value chains and networks during the acute phase of the COVID-19 pandemic laid bare the vulnerability of today's value creation structures. This means that, as it forms the foundation of our prosperity, value creation needs to be thought through further in future, and options need to be developed for the shaping of sovereign and sustainable value creation. The Federal Government is working on this in 2021 in the "Future of Value Creation" research programme – which will also continue the existing "Future of Work" programme line. Also, its "Soci-

Box 6: Innovations in the German Sustainability Strategy

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Appropriate levels of spending on research and development are aimed at in the National Sustainable Development Strategy and the United Nations 2030 Agenda for Sustainable Development (as part of SDG Goal 9: industry, innovation and infrastructure). Up to 2025, the spending by the Federation, Länder and commerce on research and development is to rise from around 3.17% (2019) to 3.5% of GDP.

ety of Ideas" competition for innovations calls on civil society to develop social innovations.

113. The Council of Economic Experts rightly stresses the great importance of the transfer of knowledge and technology so that the full benefit to society of public research can be exploited (cf. GCEE Annual Report Item 591). The Federal Government has continued, improved and expanded the technology-neutral funding for innovation, which particularly aims to promote cooperation between the research community and SMEs. The aim is that research findings should be applied and marketed more quickly.

With the founding of SprinD GmbH, the Agency for Breakthrough Innovations has commenced its work. It helps to progress radical technological and market-changing innovations. Initial ideas for potential research projects in future subsidiaries were announced in July 2020. In September 2020, the supervisory board was set up, and it approved the founding of the first subsidiary.

114. In order to strengthen innovation in Germany, the Federal Government is making increased use of regulatory sandboxes, particularly as part of an ordo-liberal digital policy. Firstly, these testbeds for innovation and regulation are intended to trial new technologies and business models. Secondly, they are to deliver important experience for future regulations so that the rules can be developed responsibly with a view to encouraging greater openness to innovations. The Federal Government is further improving the preconditions for regulatory sandboxes, e.g. via guidance on legally secure wordings for experimentation clauses. At the same time, regulatory sandboxes are supported by established networking and information services like the Network for Regulatory Sandboxes, the Handbook for Regulatory Sandboxes and the Innovation Prize for Regulatory Sandboxes.

Box 7: Regulatory sandboxes in Europe

In the context of the German Council Presidency, Council conclusions on regulatory sandboxes and experimentation clauses were adopted on 16 November 2020 with a view to boosting innovation capacities and resilience in the EU. In their decision, the 27 EU Member States agreed for the first time on a common understanding of regulatory sandboxes and experimentation clauses and their potential, e.g. to improve innovative capacities and regulatory learning. The Council will support the European Commission as it makes more use of regulatory sandboxes and experimentation clauses in future legislation. Also, the EU Member States have initiated a sharing of experience and best practices, which the European Commission is to report on in 2021 – combined with specific recommendations of how the use of regulatory sandboxes and experimentation clauses are to be developed further in the EU and at EU level.

C. A suitable and responsible fiscal response to the crisis

115. The Federal Government responded to the challenges posed by the crisis by taking large-scale fiscal measures, which, as the German Council of Economic Experts confirms, have helped stabilise the economy. This action was possible thanks to the fiscal scope the Federal Government had achieved through its solid fiscal policy in recent years. Indeed, the Federation did not take on any new debt between 2014 and 2019. In 2019, for the first time since 2002, the level of overall government debt fell below the Maastricht reference value of 60% of GDP. In 2021, the Federal Government will continue its current fiscal policy, which is designed to stabilise the economy, for as long as this is required due to the COVID-19 crisis. Part of this policy to grow out of the crisis is to ease the burden on business caused by taxes and levies, and to avoid tax hikes for citizens. Later, as the COVID-19 crisis fades away, the focus will then gradually shift towards debt consolidation. It will continue to be important to strengthen our medium and long-term growth potential by setting the best possible framework for business and fostering forward-looking investments.

116. The overall budgetary situation has become significantly more complicated since the outbreak of COVID-19 and the crisis. In 2020, the Federal Government adopted two supplementary budgets to create the budgetary basis for financing the immediate crisis-relief measures and the measures taken under the stimulus programme (cf. Items 7 ff.). This resulted in the highest level of federal net borrowing ever (approx. €130 billion). Before the adoption of the supplementary budget, it was necessary to activate the 'emergency clause' for the debt brake, i.e. create the basis for borrowing beyond the normal limits. At the same time, a repayment schedule pursuant to Article 115(2) Sentence 7 German Basic Law was adopted by the German Bundestag. Under this schedule, the Federal Government is legally obligated to repay the loans assumed beyond the limits of the debt brake over a period of 20 years starting in 2023.

117. The federal budget for 2021 is also shaped by the needs arising from the COVID-19 pandemic. The comprehensive measures that need to be upheld for combating the pandemic make it necessary once again to assume unusually high levels of net borrowing in the 2021 budget year (a planned €179.8 billion). For the federal budget for 2021, the German Bundestag has decided that there continues to be an extraordinary emergency that justifies borrowing levels exceeding the limits set out in Article 115(2) German Basic Law. The repayment schedule adopted in this context obligates the Federal Government to repay the loans assumed beyond the limits of the debt brake over a period of 17 years starting in 2026. This repayment obligation applies in addition to the repayment obligation cited above.

118. For a considerable time now, the Federation's budgetary scope will be significantly restricted by the repayment schedules for the shares of new debt incurred in the supplementary budget for 2020 and the federal budget for 2021 that exceed the normal limits imposed by the debt brake. The German Council of Economic Experts considers the recourse made to the exemption clause in 2020 and 2021 to be justified (cf. GCEE Annual Report Item 216). However, they propose that the repayment schedules adopted as per Article 115(2) Sentence 7 German Basic Law ought to be designed in a way that affords greater flexibility. Furthermore, they recommend the introduction of a transitional period until 2024, during which

the rules for borrowing would be less restrictive that currently planned (cf. GCEE Annual Report Item 222). The Federal Government takes the view that withdrawals from the reserve envisaged for the relevant period will have a comparable effect, i.e. help overcome the fiscal challenges.

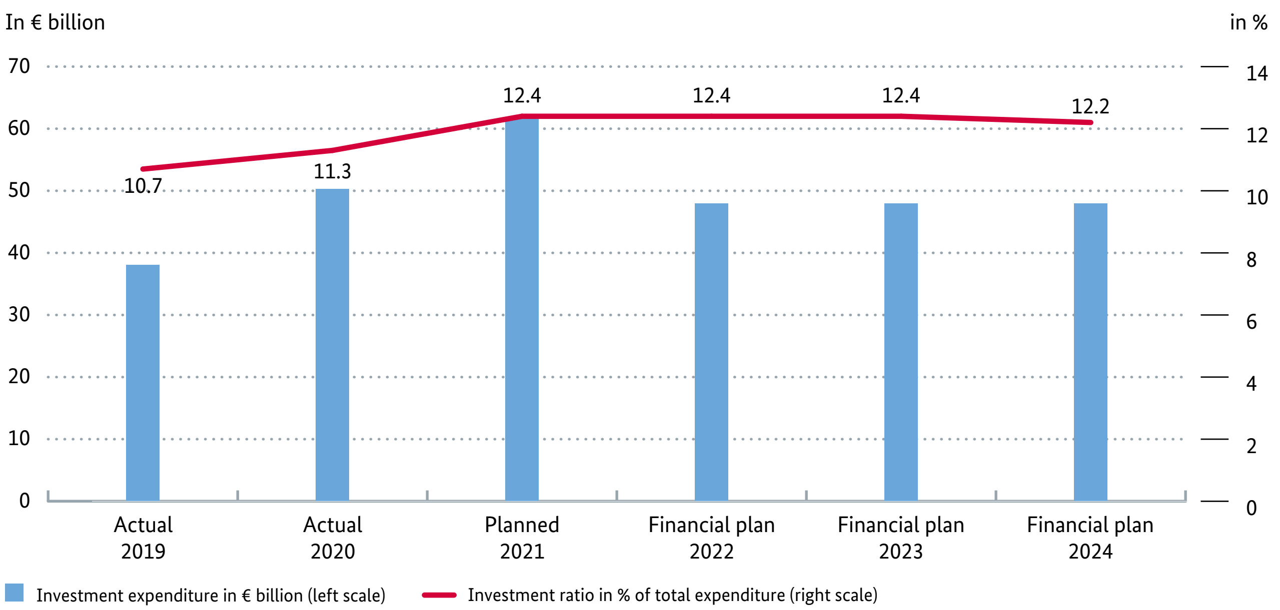
119. The German Council of Economic Experts argues that public-sector investment could strengthen the country's growth potential and give rise to positive expectations in a period of cyclical weakness (cf. GCEE Annual Report Item 177). The Federal Government shares this view. As it seeks to strengthen the foundations for long-term and sustainable future growth, it is continuing to incentivise important investments, particularly in the green and digital transition. Spending on investments as defined in the Federal Budget totals approx. €61.9 billion this budget year, and will be stabilised at approx. €48 billion per annum

Box 8: Public-sector finances and sustainability

8 DECENT WORK AND ECONOMIC GROWTH

Stable public finances and a positive investment environment are declared objectives of the German Sustainability Strategy and the United Nations 2030 Agenda for Sustainable Development (as part of SDG 8: decent work and economic growth). Germany complied with the European fiscal rules in terms of its deficit and debt ratios for 2019. In 2020, the COVID-19 pandemic caused the debt ratio to rise by a large margin.

Diagram 10: Volume of spending on federal investments from 2019 to 2024



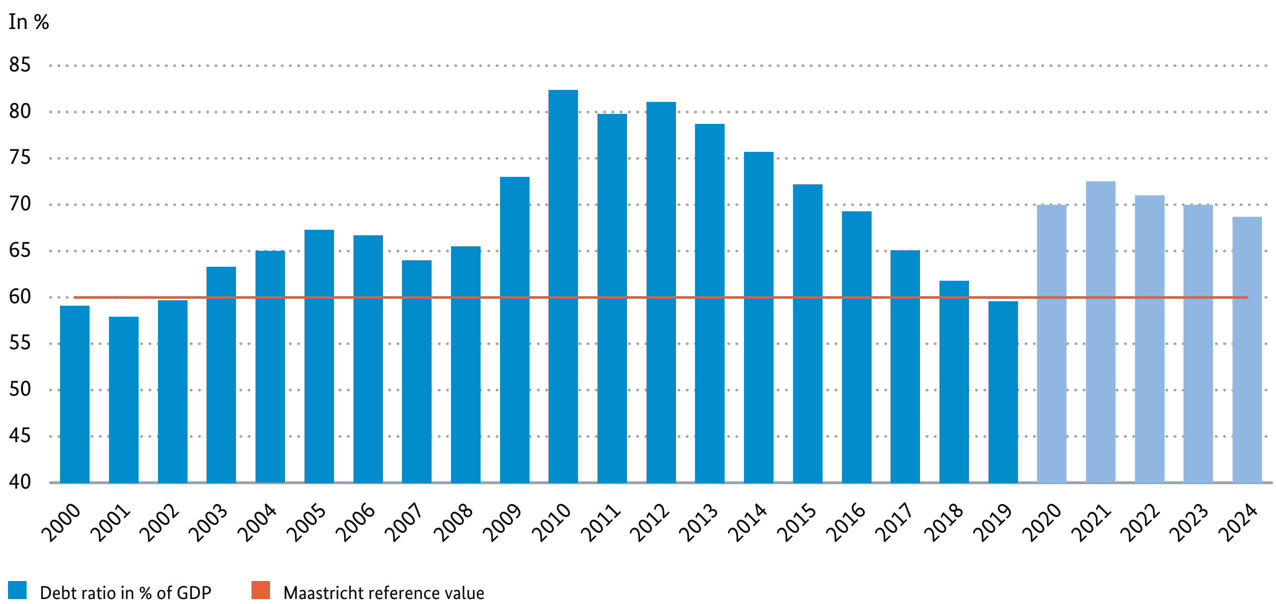
Source: Calculations by the Federal Ministry of Finance.

over the financial-planning period – a figure well above pre-crisis levels. Obstacles such as a lack of planning and administrative capacity and regulations standing in the way of a swift implementation of public-sector investments are being addressed both by the Stimulus and Crisis-relief Package and the Future Package (cf. Items 11 ff.).

120. As a result of a highly expansive financial policy and of lower tax revenues due to the significant loss of GDP growth last year, the Federation (including its extra budgets) posted a financial gap that the Federal Statistical Office, in its initial calculations for the National Accounts, estimates at €98.3 billion, meaning that the Federation has had a significant share in the overall public-sector financial gap of €158.2 billion. The large financing gap in the national budget, changes in stocks resulting from the provision of guarantees, and the fall in GDP caused Germany's 'Maastricht' debt ratio to rise to an estimated 70% by the end of 2020, which is, once again, higher than the allowed 'Maastricht' limit of 60% of GDP (cf. Diagram 11).

121. The COVID-19 pandemic will continue to have a significant impact on public finances this year. The latest projections show that the deficit could rise to around 7% of GDP. At the same time, the Federal Government's stimulus package is having a stabilising effect on growth and employment. The German Council of Economic Experts estimates that the Federal Government's stimulus package will have bolstered the country's GDP by 0.7% to 1.3% in 2020, and that the boost in 2021 will be between 0.4% and 0.7% (cf. GCEE Annual Report Items 163 f.). These figures correspond to a fiscal multiplier of somewhere between 0.6 and

Diagram 11: Development of the Maastricht debt ratio



Sources: Up to 2019: German Bundesbank; as of 2020: Projection by the Federal Ministry of Finance, as of December 2020, rounded to the nearest quarter of a percentage point.

1.0 each, and fit in with the Federal Government's current estimates. The Federal Government expects the long-term return of the growth-stimulating measures taken under the stimulus package to be higher than that.

Germany's fiscal policy will continue to be of an expansive nature in 2021. The Federal Government expects the debt ratio to raise again in 2021, to 72 ½% of GDP. In part, the effect the high public-sector deficit is having on the debt ratio is expected to be cancelled out by the expected GDP growth. In the following years, the debt ratio is then expected to be brought down continuously. This expected development should be the result of economic recovery, the return to lower levels of new debt, and the persistence of low interest rate levels. In 2024, the debt ratio is expected to have reached 68 ¾% of GDP.

Jumpstarting the economy, strengthening sustainable growth

122. The Federal Government has launched a comprehensive stimulus programme with an overall volume of approx. €180 billion earmarked in the budget plans for 2020 and 2021, of which some €40 billion is for COVID-19 business assistance in 2021. The programme is generating significant momentum in support of companies, jobs, and citizens' purchasing power. Some key instruments of the Stimulus and Crisis-relief Package (cf. Overview 2) entered into force as early as 1 July 2020 and have since contributed to swift economic recovery.

123. Parallel to this, the Federal Government is providing some €50 billion worth of measures and programmes as part of its Future Package, which is integrated into the stimulus programme (cf. Overview 3) and designed to support climate action and sustainability, deliver further improvements in education and research, and give a boost to the digital transformation.

Giving targeted support for Länder and municipalities

124. The Federation is also supporting the Länder and the municipalities as they tackle the financial impact of the COVID-19 pandemic and seek to finance important forward-looking tasks. This has allowed the municipalities, in particular, to go ahead with important investments, despite the negative toll the crisis is taking on their revenues. Notwithstanding this support in the crisis, the Federation is also continuing its efforts to significantly ease the financial burden on the Länder and municipalities in the fields of spending on welfare, families and education, investments and transport. Additionally, the Federation is continuing to reimburse the Länder and municipalities for parts of their spending on refugees.

125. The stimulus programme ushered in a number of measures to support the municipalities and ease their financial situation. For instance, the Federation and the Länder are each compensating the municipalities for half the losses in trade tax revenue they experienced in 2020 (additional federal spending of approx. €6.1 billion). In this way, they are massively helping to strengthen municipal budgets during the pandemic. The Federation also fully covers the revenue lost by the Länder and the municipalities as a result of child bonus payments (€2.5 billion, cf. Item 146) and the reduction of VAT rates in the second semester of 2020 (partial compensation worth €6.1 billion, cf. Item 146). The process of assessing the figures for losses of income that are occurring in the Länder and municipalities due to the reduction of VAT rates in the second semester of 2020 that will only become effective in the accounts in 2021 has yet to be conducted, prior to the actual compen-

sation. Furthermore, the amount in regionalisation funding available saw a one-off increase by €2.5 billion in 2020, a contribution designed to compensate for financial disadvantages suffered by the public transport organisations during the COVID-19 pandemic (cf. Item 66). Additional relief for the municipalities comes in the form of the Act implementing tax relief measures to tackle the COVID-19 crisis, which provides for a two-year extension of the transitional period for the new VAT regime that applies to legal persons governed by public law (cf. Item 145). The transitional period will now end on 31 December 2022.

126. Under the Act for financial relief for the municipalities and the New Länder, the Federation's share of accommodation costs for those with no or low income is being increased by 25 percentage points. This will have lowered the burden of rural districts and of towns and cities by approx. €3.4 billion in 2020. In 2021, this relief is expected to grow to €3.9 billion as it is likely that more people will have to rely on basic income payments for jobseekers. Also, the Federation is permanently taking care of an approx. €340 million in annual costs resulting from the special and supplementary pension schemes of the former GDR.

127. Under the 5th investment programme to fund child care services, another €1 billion will be added to the special fund for the expansion of childcare services by the end of 2021. The funding will be used to create additional capacity in kindergartens and crèches (cf. Item 167). The Federation also wants to speed up the expansion of all-day education and childcare services for children in primary school and is therefore adding up to €1.5 billion from the Stimulus and Crisis-relief Package to the €2 billion already agreed for investments in this area in the Coalition Agreement (cf. Item 167). Furthermore, the Federation is topping up the Digital Pact for Schools by €1.5 billion, which is to be used for a temporary scheme to train IT administrators and to provide teachers and students with mobile devices (cf. Item 94).

128. As part of its Future Package, the Federal Government seeks to promote climate-friendly public investments. This benefits the municipalities, which will see an increase in the budgets of the federal funding programmes for rendering municipal buildings more energy-efficient (cf. Item 213). There are two new funding programmes to support social services and institutions in their efforts to become more climate-friendly and to replace their vehicle fleets with electric vehicles. In addition to the support for urban development, the Federation also has a federal programme for retrofitting municipal facilities for sports, youth, and culture, and an investment pact to support sports facilities. These schemes all contribute to local authorities' efforts to develop their urban structures in a forward-looking way. Moreover, the budget for the "Funding for smart city model projects" programme is being increased by €500 million. The Federation also supports the Länder and municipalities as they implement the Online Access Act (cf. 2020 Annual Economic Report Item 61), provided that the Länder and municipalities roll out the joint concept for the technical architecture across their entire territories.

129. Over the coming years and as part of its efforts to strengthen the Public Health Service and to better protect citizens from the pandemic, the Federation will provide a total of €4 billion for additional staff and for the digital transformation of the structures in the Public Health Service and for its modernisation (cf. Item 186). Investments in modern emergency capacity in hospitals, their digital transformation and for IT secu-

rity in hospitals are supported via a new "Future Hospitals Fund". Another €3 billion in federal funding has been approved for this purpose (cf. Item 182).

130. In the interest of protection against infections, the Federation is providing up to €500 million for upgrades and retrofits of ventilation systems in public buildings and meeting venues.

131. The Federation has declared its willingness to contribute half of the additional cost for the improved benefits agreed as part of the Act on the Protection of the Population in the Event of an Epidemic Situation of National Significance (cf. Item 180) and the COVID-19 Tax Aid Act (cf. Item 146) for parents who are having to cope with income losses due to closures of childcare facilities or schools, and for those having to look after persons in need of care who have received an official order to self-isolate.

132. Since 2015, the Federation has used its Municipal Investment Promotion Fund (which acts as an umbrella for the Infrastructure Programme and the School Modernisation Programme) to provide the Länder with a combined total of €7 billion in financial aid to support investments made by municipalities that are financially weak. In April 2020, the funding periods for both programmes were extended by a year due to capacity shortfalls in the municipal building administration and especially in the construction industry that have resulted in delays in the implementation of municipal investment projects.

Developing regional policy, supporting regions undergoing structural change

133. The fall in economic activities which has resulted from the COVID-19 pandemic is also making itself felt at regional level. It is too early to say for certain if the pandemic will have a longer-term structural effect in certain regions. But even without taking into account these recent developments, there are still considerable regional differences in Germany in terms of economic strength, income levels, the proportion of people in work, and levels of unemployment. Not least owing to the objective of equivalent living conditions across Germany, the Federal Government brings its regional policy measures to all German regions that are lagging behind in structural terms.

134. In its efforts to better harness the potential of individual regions, the Federal Government has re-organised its system of regional funding to create a pan-German Federal Funding System that is designed to strengthen all regions that are structurally lagging behind - be they in the Old or New Länder. The new scheme took effect on 1 January 2020. The pan-German Federal Funding Scheme bundles together more than 20 programmes administered by 6 federal ministries, and which all focus on supporting regions that are structurally lagging behind. The regional distribution of the funding is guided by the map developed for the Joint Task "Improving the Regional Economic Structure" (GRW). Some individual projects use their own different maps. These programmes are autonomous in terms of their content and financing. With the European Commission's Guidelines for regional aid, which set the framework of the GRW map, expiring at the end of 2021, the Federal Government and the Länder are currently discussing which criteria should apply for the selection of areas to be

assisted under the Joint Task "Improving the Regional Economic Structure" (GRW) as of 2022. The demographic component of the criteria is to be significantly strengthened. The overall objective is to have adequate scope to continue to support regions that are structurally lagging behind throughout the next funding period (2022-2027).

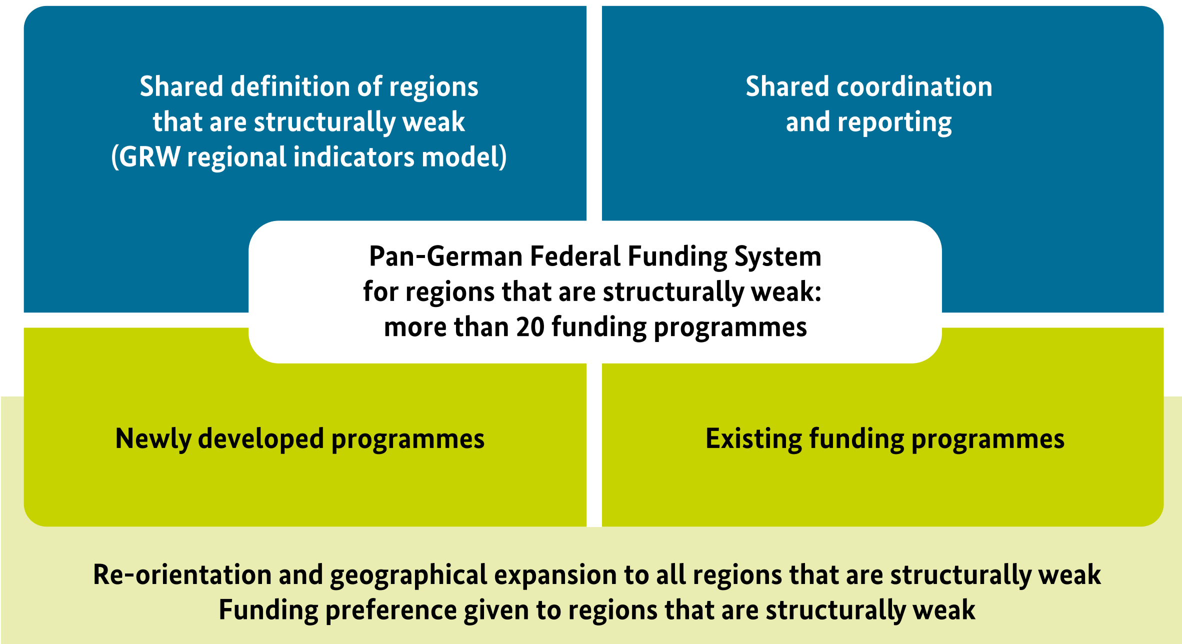
135. Under the stimulus package, the federal funding for the GRW in 2020 and 2021 was increased by €250 million for each of these years, and the innovation-funding aspect expanded. This tallies up to a total €919 million in federal funding for 2021, which is available for matching co-financing from the Länder. For a limited period of time, the criteria for funding for commercial investments in commerce-related infrastructure have been eased to create incentives for companies and municipalities to invest during the COVID-19 pandemic.

This spring and as part of the pan-German Federal Funding System, the Federal Government will launch its new "Future Region" programme, a competition for ideas for municipalities in regions that are structurally lagging behind. There is also some limited scope for a 'preventative' regional policy, under which regions located outside the GRW areas can receive structural funding.

136. The Act Amending the GRW Act is designed to help integrate industrial and commercial areas receiving GRW funding in the transregional road network.

137. The Structural Reinforcement Act for Mining Regions implements the structural-policy recommendations made by the Commission for Growth, Structural Change and Employment and came into force on 14 August 2020. Under this legislation, lignite-mining regions will receive up to

Diagram 12: Pan-German Federal Funding System



Source: Federal Ministry for Economic Affairs and Energy.

€14 billion in financial aid for crucial investments made by the relevant Länder and municipalities up to 2038. Furthermore, the Federation has also taken other action to support these regions with another €26 billion until 2038. These funds will be used in fields for which the Federation is responsible. Additionally, some selected hard-coal-mining regions and the former mining region of Helmstedt will receive up to €1.09 billion. A new coordination body of the Federation and the Länder will ensure that the funding is actually disbursed.

138. Under the Coal Phase-out Act, which entered into force on 14 August, and in conjunction with the Guideline on Re-adaptation Benefits, the Federal Government has introduced a re-adaptation benefit for employees 58 years or older to allow them to transition into retirement at an earlier point. The benefit can be claimed for a maximum of five years. Its purpose is to mitigate the social impact of the phase-out of lignite and coal for power generation.

139. Accounting for around a third of the EU budget (€354.7 billion for the 2014–2020 programming period), European Cohesion and Structural Policy is the central instrument of European economic and employment policy. Cohesion policy also plays a major role in Germany's economic and social policies. Over the last programming period, Germany received more than €19 billion from the European Structural Funds.

140. Under the agreement on the EU Multiannual Financial Framework 2021–2027 (MFF), which was reached under the German Presidency of the Council of the EU, Germany is to receive €16.4 billion in structural funding over that period (cf. Box 13). Of this funding, approx. €8.4 billion is intended for the country's 'transition regions' – mostly located in eastern Germany – and €7 billion for the 'more developed regions', predominantly in western Germany. The EU's cohesion policy will again focus on key policy objectives, such as innovative and smart economic change,

Diagram 13: Structural Reinforcement Act for Mining Regions

Pillar 1: Investment Act for Mining Regions

Financial assistance (as per Art. 104b Basic Law) of up to **€14 billion** until 2038 at the latest, for especially important investments of the Länder and municipalities.

The Länder select the projects.

Example: Expansion of commercial areas or environmental restoration

Pillar 2: Federal measures

Federal measures consist in topping up existing programmes by up to **€26 billion** until 2038 at the latest.

The Federal Ministries select the projects.

Example: Federal institutions and research institutes

+

- Up to €1 billion **for hard-coal mining regions particularly affected** and up to €90 million for the former mining area of Helmstedt
- Joint Federation-Länder **coordination body**
- Measures to speed up **planning process**
- Tied to exit from coal

Source: Federal Ministry for Economic Affairs and Energy.

climate action, environmental protection, and a Europe that is more socially just.

141. In addition to funding from the traditional structural funds (European Regional Development Fund, ERDF, and European Social Fund Plus, ESF+), Germany will also receive funding from Next Generation EU (NGEU), the EU recovery instrument established in response to the COVID-19 pandemic (cf. Item 234). From the new React EU programme, Germany will receive some €2.4 billion, which will be disbursed through the regular structural fund programmes (ERDF and ESF) and the Fund for European Aid to the most Deprived, and will be used to mitigate the economic and social impact of the COVID-19 pandemic. Germany will also receive approx. €2.2 billion from the newly created Just Transition Fund (JTF), which is part of the Green Deal. The funding from the JTF will be made available to the regions most affected by structural change, especially lignite-mining regions. Another approx. €710 million in recovery funding for Germany will come from NGEU and be disbursed through the European Agricultural Fund for Rural Development (ELER) 2021 and 2022. These additional funds have been earmarked for action to mitigate the effects the COVID-19 pandemic is having on agriculture and rural areas. This is to be done in a way that also benefits the objectives of the Green Deal.

Mitigating the crisis, designing a tax environment conducive to growth, international competitiveness and fairness

142. Targeted tax measures have been taken to ease the economic fallout of the pandemic for citizens, self-employed persons, and companies. These tax measures come in addition to the comprehensive tax adjustments made during this parliament to improve the financial situation of companies and especially families and low and middle-income citizens. The Second Act on Tax Relief for Families and Adjusting other Tax Rules (2nd Families Relief Act, cf. Item 144) and the changes made to the solidarity surcharge (cf. 2020 Annual Economic Report Item 106) will ease the tax burden on those paying income Tax by more than €17 billion in 2021 and by a solid €22 billion in 2022. These are the largest permanent tax cuts seen in recent years.

143. Other priorities for Germany's tax policy continue to include tax simplification, the modernisation of the tax collection system, and fair taxation in the national and international context. Beyond this, it is necessary to keep adjusting the system of corporate tax to changes in the overall framework to ensure that the tax system allows German companies and especially SMEs to remain competitive. This notably includes improvements in the tax rules for non-incorporated firms, via a new option these companies to pay corporation tax and be treated in the same way as corporations for tax purposes.

144. In immediate response to the COVID-19 pandemic, the Federal Government took a number of tax-related measures in March 2020 to safeguard jobs and support companies. Possibilities to defer tax payments and have advance payments of profit tax lowered were expanded. The Federal Government has plans to introduce a provision improving write-off possibilities on digital assets for those making private investments in digital products and applications.

145. The Act implementing tax relief measures to tackle the COVID-19 pandemic (Coronavirus Tax Relief Act) is helping those stakeholders who are particularly affected by the crisis. If certain conditions are met, payments made by employers to supplement employees' (seasonal) short-time

work allowances are exempt from tax. Furthermore, between 1 March 2020 and 30 June 2021, employers can grant their employees up to €1,500 aid and support to ease the additional financial burden they face during the COVID-19 pandemic. Provided that this aid and support is paid out in addition to owed wages or salaries, it is exempt from tax and social-security contributions or can be paid out in kind. Another instrument that has been deployed is a temporary application of Germany's reduced VAT rate to certain hospitality services.

146. The Second Act implementing tax relief measures to tackle the COVID-19 crisis (2nd Coronavirus Tax Relief Act) ushers in a package of mostly short-term tax relief measures intended to boost purchasing power and economic recovery. These notably include the temporary reduction of the 19% VAT rate to 16% and of the reduced VAT rate of 7% to 5%, a one-off child bonus worth €300, and an increase in the tax-free allowance for single parents by €2,100 to €4,008 per year. In addition to this, the maximum amount of losses that can be carried back for tax purposes has been increased for 2020 and 2021, and a new mechanism allows for losses being carried back from 2020 to become disposable and financially effective as soon as the 2019 Tax Declaration is processed. In other words, there are now more possibilities to carry back losses for tax purposes. The German Council of Economic Experts has confirmed that this extension of the carry-back for tax losses is a quick and effective way of supporting companies, and that it is easy to use and comes without red tape (cf. GCEE Annual Report Items 151 f.). Other key measures that have been taken include a temporary increase in the tax-based research allowance (cf. 2020 Annual Economic Report Item 107) and a temporary introduction of degressive write-offs for moveable assets purchased or produced in 2020 or 2021. As a permanent measure, the rules on tax reduction for income from commercial operations (Section 35 Income Tax Act) have been improved, the allowance of tax-free add-backs doubled for trade-taxation purposes, and the due date for import VAT postponed to a later date.

147. Under the Second Act on Tax Relief for Families and Adjusting other Tax Rules (2nd Families Relief Act), monthly rates of child benefit will increase by €15 per child as of 1 January 2021, and the tax-related child allowance will be adjusted accordingly. This means that the decision made in the Coalition Agreement to raise child benefit by a total of €25 per child and month has been fully implemented. In addition to this, the basic personal allowance for personal income tax will be raised as of 2021 and the other income threshold levels adjusted. This will ensure the constitutional right to a subsistence minimum and compensate for the effects of the fiscal drag in the tax schedule.

148. The 2020 Annual Tax Act includes tax provisions on short-time work and on living space provided at reduced rates. Provisions designed to promote the digital transformation have also been included. Under the improved and more targeted revised provision of Section 7g Income Tax Act, small and medium-sized enterprises now receive much greater tax deductions for investments. The various limits that used to apply to companies depending on their size and which determined what amounts of their investments they were able to deduct from their taxable income has been replaced by an overall profit margin of €200,000 for all types of income. This means that a much larger number of small and medium-sized enterprises will benefit from this provision. Furthermore, the proportion of investment costs for which deductions can be made

has been increased from 40% to 50% and it is now possible to fully include all assets that have been rented out. Also, a temporary flat-rate allowance has been introduced for those working from home. For 2020 and 2021, tax payers can deduct €5 per day on which he or she was exclusively working from home, up to a maximum of €600 per year. The overall sum can be deducted as operating expenses/professional costs.

149. The Seventh Act Amending the Motor Vehicle Tax Act notably implements two measures of the 2030 Climate Action Programme which are also part of the Stimulus and Future Packages. Under the Act, the amount of CO2 released by a vehicle is to be factored in more strongly as the tax rate for newly registered vehicles is determined. New cars with a combustion engine are to be subject to a progressive CO2 tax rate from 1 January 2021. These progressive tax rates were designed taking into account the WLTP emissions test, which is closer to reality. Furthermore, the tax exemption for newly registered pure electric vehicles is to be extended from 2020 to the end of 2025.

150. The Federal Government considers coordination on tax policy with European and international partners to be highly advantageous. Agreed standards developed by a large number of states will not only raise acceptance levels, they also offer greater transparency. Furthermore, they help avoid double taxation.

151. The recommendations made by the OECD and G20 'BEPS' initiative of 2015 to combat base erosion and profit shifting have been largely implemented. The fact that the number of member states and jurisdictions that have joined the Inclusive Framework on BEPS has risen to 137 shows the high level of interest on the part of both industrialised and developing countries in establishing shared standards and committing to them. An annual progress report on the implementation of the agreed standards confirms the success of the initiative. At present, one of the focal points of the work being conducted at international level is the development of a strategy on taxation of the digital economy. The Federal Government aims at a long-term and global solution. At OECD level, a two-pillar approach has been developed (cf. 2020 Annual Economic Report Item 114). Pillar 1 is to be used to adjust the way in which taxation rights for corporate profits are allocated. Under Pillar 2, Germany and France propose a global, effective minimum tax. This minimum tax is to be collected not only from the digital economy, but across all economic sectors. It is an effective means of addressing BEPS risks that remain, and of continuing the global combat against undesired tax avoidance.

152. The beginning of the automated exchange of financial account information using the Common Reporting Standard (CRS) between Germany and 49 other states and territories in 2017 was a milestone in the combat of cross-border tax fraud and tax evasion. By 2020, the number of participating states and territories had risen to more than 100. As part of its work within the OECD, Germany will continue to work towards having as many states and territories as possible participate in the exchange of information.

153. The first European exchange of information on cross-border tax design took place in October 2020. The EU Member States that introduced the requirement to notify cross-border tax arrangements for the first time on 1 July 2020 automatically exchanged information about certain cross-border tax arrangements. This measure further increases transparency levels in taxation (cf. 2020 Annual Economic Report Item 115). Beyond this, the Federal Government wants to

work towards an agreement in the negotiations on a new financial transaction tax to be introduced as part of greater cooperation at European level. On 1 December 2020, ECOFIN confirmed that the negotiations on revising the Council Directive on Administrative Cooperation in the field of taxation in the EU (DAC 7), which took place during the German Council Presidency, had been concluded. The new DAC 7 sets out rules stipulating the introduction of a standardised notification requirement, including the international exchange of information on suppliers conducting business on online platforms. Additionally, the legal framework governing joint inspections of companies is to be approved along with the level of efficacy of administrative cooperation between Member States.

154. The Federal Government is fully prepared for the tax-related changes resulting from the exit of the United Kingdom from the European Union ("Brexit"). The Brexit Transition Act, which entered into force on 1 February 2020, and the concomitant tax act, which took effect on 29 March 2019 (cf. 2020 Annual Economic Report Item 117), have averted impending tax disadvantages that would have automatically hit taxpayers connected to the United Kingdom as soon as Brexit or the transition period were completed.

155. On 31 July 2019, the Federal Government started the legislative project of an Act amending the Real Property Transfer Tax Act. The objective of this Act is to thwart abusive tax arrangements around Real Property Transfer Tax through a number of individual measures. The draft legislation for this Act is now being deliberated by parliament.

D. Securing employment, stabilising social insurance funds, strengthening the health sector

156. The German economy owes its success to the country's highly skilled workforce. The human capital it relies on is formed by millions of employees and self-employed professionals whose commitment and skills enable a high level of productivity and prosperity. Ensuring the continued success of this model in the face of demographic change constitutes a major challenge for Germany, with an increasingly ageing population threatening the future supply of skilled labour as well as the viability of social insurance systems. The COVID-19 pandemic has led to a need for urgent action in the field of labour market and social policy. Moreover, it has added considerable weight to structural challenges on the labour market and has highlighted the need for action to improve the overall conditions for work, for instance as regards the compatibility of work and family life and enhanced health care. The Federal Government is therefore taking a variety of prioritised measures to improve these conditions both in the short and in the long term.

Strengthening the labour market in the face of the pandemic, mitigating income losses

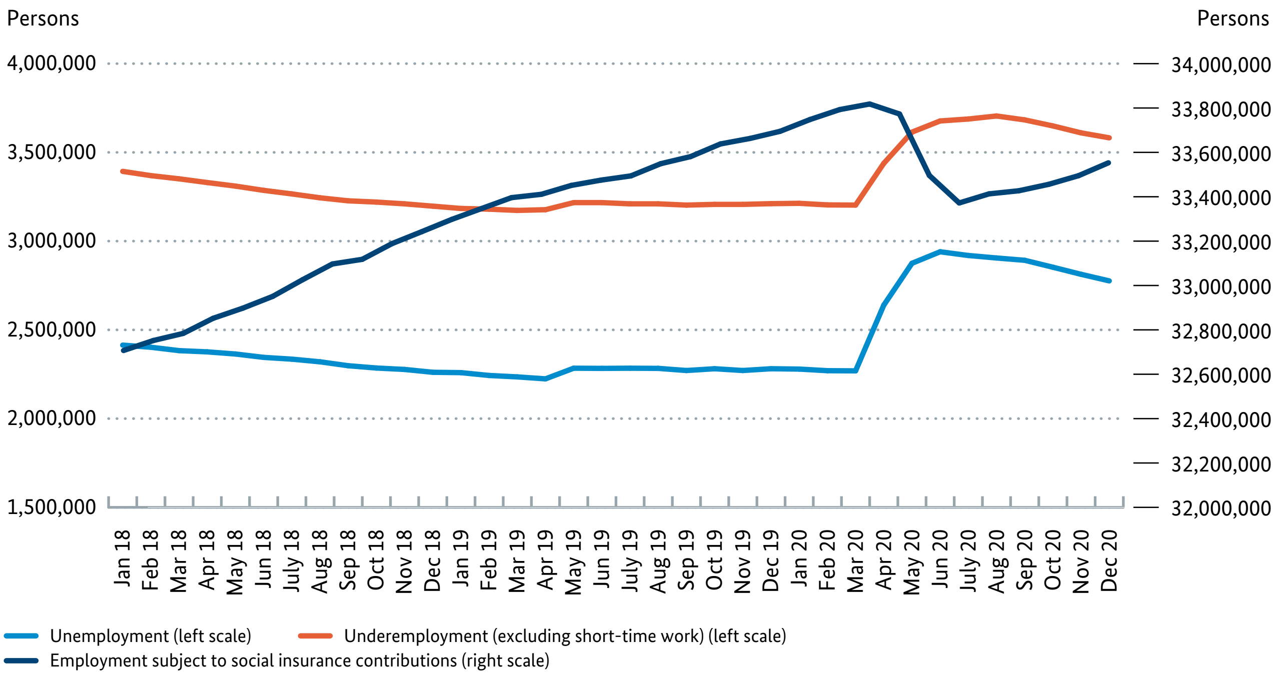
157. Until the outbreak of the COVID-19 pandemic, the labour market had been developing positively under the current government: while unemployment and underemployment had been falling, there had also been a marked increase in the number of jobs requiring social insurance contributions (cf. Diagram 14). In early 2020, however, restrictions imposed in the interest of public health caused an abrupt deterioration in labour market activity. Between March and May 2020, the level of short-time work reached a record high while employment decreased sharply and

unemployment was on the rise. From June 2020, the labour market started to stabilise again. In 2020, the number of gainfully active persons in Germany averaged 44.8 million, down from the previous year by about 477,000, i.e. 1.1%. The average unemployment rate in 2020 was 2.7 million people in total, i.e. 5.9% (+ 429,000 or 0.9 percentage points in the year-on-year comparison).

Due to the pandemic, long-term unemployment rose to an annual average of 817,000 (2019: 727,000), not least because fewer people took up a job, so that they remained unemployed. According to provisional data on processed notifications, cyclical short-time work was notified for 666,000 people in December 2020, after a peak of 8.02 million notifications in April 2020. The actual figure of short-time workers followed a similar pattern (cf. Diagram 15). In view of the current rate of infections and the restrictions imposed in response to the pandemic, the recovery of the labour market is unlikely to reach pre-crisis levels soon – although leading indicators are still largely positive. Furthermore, structural change and the external economic environment continue to pose major risks.

158. In individual sectors, the measures imposed in order to contain the spread of the COVID-19 pandemic led to significant temporary income losses across the population, particularly affecting small businesses and own-account workers. The provision of basic security benefits under the Second Book of the Social Code (SGB II) ensures that jobseekers are able to maintain themselves if no other assistance schemes apply. The Social Protection Package has therefore facilitated

Diagram 14: Development of the labour market (seasonally adjusted)



Source: Statistics from the Federal Employment Agency.

access to these basic security benefits for jobseekers under SGB II until 31 March 2021, ensuring that the benefits are made available quickly and in a non-bureaucratic manner. In particular, insubstantial assets are not being considered while actual expenses for housing and heating are now to be taken into account. In addition, any aid or support that employees may receive from their employers for the commitment they have displayed during the COVID-19 pandemic is to be exempted up to a limit of €1,500 from income assessments required for recipients of basic security benefits for jobseekers (cf. Item 145). Nor do these assessments take into account any payments received as part of the Federation's extraordinary economic assistance (November Assistance and December Assistance) or the New Start Assistance. Further to this, the rules governing parental allowance were temporarily adapted in order to mitigate the impact of the COVID-19 pandemic on families and continue providing effective financial support in the current situation. Thus, parents working in essential jobs may defer parental allowance months until June 2021. Parents do not lose their partnership bonus if they are working more or less than planned for reasons related to the pandemic. The rate of parental allowance is not reduced even if parents are receiving income replacement benefits, e.g. short-time working allowances or unemployment benefits, in compensation for income shortfalls caused by the COVID-19 pandemic. This applies to parents who previously worked part-time and are receiving a parental allowance. In addition, parents may be allowed upon request to exempt low-income months from the calculation of their parental allowance. This primarily applies to expectant parents who are experiencing losses in earnings due to the COVID-19 pandemic because they are working short-time or have been released from work.

159. During the economic and financial crisis in 2008 and 2009, the provision of short-time working allowance proved to be an effective instrument for securing employment. In March and April 2020, special regulations entered into force in order to mitigate the impact of the COVID-19 pandemic on the labour market and the economy. In particular, the requirements for access to short-time work were lowered and the scheme was opened up for temporary agency workers. Also, the entitlement period for short-time working allowances was extended. The special regulations also help to improve the liquidity of companies during work shortfalls by ensuring that the social insurance contributions to be paid for by the employer during short-time work are temporarily reimbursed. In order to provide greater financial security for employees affected by the lack of work as well as for their families, the amount of the short-time working allowance was raised to a maximum of 80 or 87%, graded according to the duration of entitlement and the extent of the work shortfall. Finally, it was settled that earnings from sideline activities taken up

Box 9: Employment and sustainability

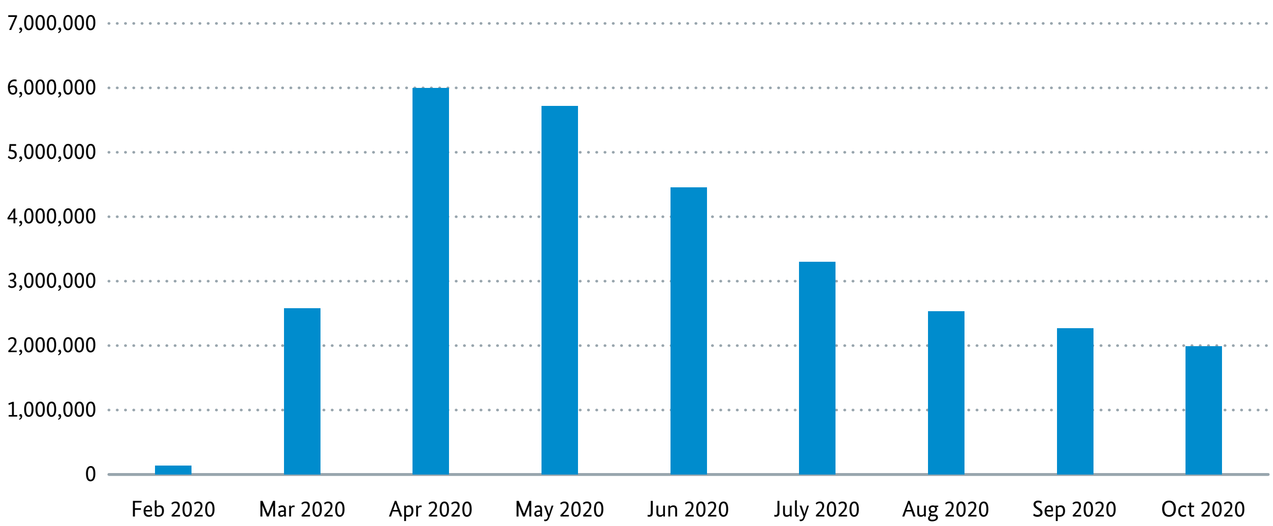
Increasing the level of employment and promoting decent work for all are declared objectives of Germany's National Sustainable Development Strategy and of the United Nations 2030 Agenda for Sustainable Development (as part of SDG 8: decent work and economic growth). The total employment rate as determined by Eurostat (20 to 64 years) stood at 80.6% in 2019, surpassing the target of 78% for 2030.

during short-time work should not be credited up to a certain amount; earnings from a low-paid job (mini-job) are not to be credited at all. These regulations have so far helped to keep employees in their jobs and to prevent a massive rise in unemployment in the wake of the pandemic. This positive effect is also highlighted by the Council of Economic Experts (cf. GCEE Annual Report Item 131). Moreover, the Council emphasises that short-time work periods should be used for further training and that incentives should be created accordingly (cf. GCEE Annual Report Items 131 and 214). The Federal Government shares this view. By paving the way for an Act on Opportunities to Gain Qualifications and the Act to Promote Advanced Vocational Training amid Structural Change and Enhance the Promotion of Training, the Federal Government has already greatly expanded the promotion of further training. In its Act to Secure Employment, it has recently put in place additional incentives for further training measures for short-time workers.

160. Even though the situation on the labour market is improving, economic output in Germany is unlikely to reach pre-crisis levels again before the middle of 2022. The special regulations on the short-time working allowance, originally limited until the end of 2020, have been partially extended until the end of 2021. From April to July 2021, the previous regulations which had applied before the COVID-19 pandemic are to be phased in again for companies taking up short-time work during this period. The current extended regulations also recognise that a return to the previous regime is necessary by the end of 2021, also with a view to counteracting the risk of a slowdown in structural change. Therefore, the simplified access and attractive benefits currently in place are to be phased out over the course of the year.

161. Within the framework of the Social Protection Package, an authorisation to issue ordinances was integrated into the Working Time Act, enabling temporary standardised exceptions for cer-

Diagram 15: Use of short-time work



Source: Statistics from the Federal Employment Agency.

tain occupations with regard to maximum working time, minimum rest time, as well as exceptions to the general ban on working on Sundays and public holidays. In the context of the COVID-19 pandemic, such exceptions are to help maintain public security and order, medical and nursing care services, the provision of public services and the supply of essential goods. Further to this, Social Protection Package II temporarily expanded insurance cover within the framework of employment promotion pursuant to Social Code III (SGB III). For those whose entitlement to unemployment benefits was due to expire between 1 May and 31 December 2020, the entitlement period was extended once by three months. The aim of the rule was to improve insurance cover for those who would otherwise have lost their unemployment protection during the labour market crisis caused by the economic impact of the COVID-19 pandemic.

162. From the outset of the COVID-19 pandemic, the Federal Government has attached great importance to investing in the maintenance of social infrastructure. Legal measures such as the Social Service Providers Deployment Act (SodEG), financial assistance such as the Children and Youth Education, Children and Youth Work Special Programme, as well as loan programmes such as KfW's special programme 'Global Loans to Länder Promotional Institutes for the Support of Non-profit Organisations' are targeted measures to stabilise and strengthen the existing social infrastructure.

Securing the skilled labour base, improving the compatibility of work and family life

163. As emphasised by the Council of Economic Experts (cf. GCEE Annual Report Item 12), securing the skilled labour base is one of the major challenges faced by Germany in the effort to remain an attractive location for business. The skills shortage is a structural problem for Germany's economy – driven to a great extent by demographic change – and represents an impediment to growth across many areas and sectors. The COVID-19 pandemic has not changed this situation in essence. Although demand for labour has temporarily declined in many sectors, the crisis has had little impact so far on occupations facing skills shortages. In some sectors (e.g. software and IT services), the way the pandemic has boosted digitalisation is in fact likely to aggravate the skills shortage even further. In order to ensure that companies will continue to be able to make full use of their potential, the Federal Government is intensifying its focus on measures to increase the supply of skilled workers from within Germany, including training and skills development programmes as well as measures to improve the compatibility of work and family life. The Centre of Excellence on Securing Skilled Labour (KOFA), which is funded by the Federal Government, provides guidance particularly for small and medium-sized enterprises on the specific challenges involved in trying to secure skilled labour.

164. The Alliance for Initial and Further Training remains the central political platform for supporting dual vocational training. Its joint declaration of 26 May 2020 addresses the impact of the COVID-19 pandemic on the training market. It was an important basis for the federal programme 'Safeguard vocational training places'. Funding worth €0.5 billion is available for this package of measures in 2021. The idea is to support companies offering vocational training during the current period of economic difficulties and encourage them to maintain or increase the number of training places on offer and allow young people to continue and successfully complete their training.

165. The Federal Government shares the view expressed by the Council of Economic Experts that structural and technological change creates an acute need to provide further training for employees in order to respond to the necessity of adapting to changing skills profiles (cf. GCEE Annual Report Item 668). By developing a National Further Training Strategy, the Federal Government has taken action in coordination with all relevant stakeholders (Federation, *Länder*, business, trade unions and the Federal Employment Agency) to improve the framework for a proactive handling of the upcoming structural changes. The National Further Training Strategy puts forward possible responses to the changing world of work and helps to stimulate a new culture of further education in Germany that promotes the value of self-determined educational and professional biographies and stresses the increased responsibility of all stakeholders involved in further training. The Act on Opportunities to Gain Qualifications, which was adopted prior to the National Further Training Strategy, strengthens the role of the Federal Employment Agency as a provider of advisory services on further training and skills development. It also expands publicly funded further training to include employees affected by structural change. The Act to Promote Advanced Vocational Training amid Structural Change and Enhance the Promotion of Training further improved the funding available from 1 October 2020 for employees and companies that are particularly affected by structural change. It is explicitly possible to receive further training while drawing short-time working allowances, with additional funding being available for this purpose. Further to this, low-skilled workers were given a basic legal entitle-

Diagram 16: National Further Training Strategy - Partners and fields of action

1. Supporting the transparency of further training services

2. Plugging gaps in funding, creating new incentives, adapting existing funding systems

3. Integrating lifelong guidance services and strengthening advisory services on training options, particularly for SMEs

4. Strengthening the responsibility of the social partners

5. Evaluating and strengthening the quality and quality assessment of further training options

6. Ensuring greater visibility and recognition for qualifications acquired by employees in vocational training

7. Developing advanced training certificates and further training options

8. Upgrading educational facilities to strategic centres of excellence for advanced vocational training

9. Empowering employees in further training and making them fit for the digital transformation

10. Strengthening strategic foresight and optimising further training statistics

Source: Federal Ministry for Economic Affairs and Energy.

ment to be supported by vocational skills upgrading measures. The federal programme 'Creating Further Training Alliances' helps the Federal Government to implement its National Further Training Strategy by supporting projects aimed at increasing further training activity particularly in SMEs and strengthening regional business and innovation networks.

166. Another key pillar of the Federal Government's efforts to secure skilled labour consists of measures to recruit workers from across the European Union. Since 2011, Germany has seen a consistently positive net migration rate averaging 270,000 people per year. The European Single Market, which guarantees freedom of movement for workers, constitutes the largest source of immigration in numerical terms. At its outset, however, the COVID-19 pandemic severely curtailed cross-border worker mobility. In the case of further measures which may be required to contain the spread of the COVID-19 pandemic, restrictions should be selective and should be coordinated among Member States in order to maintain the mobility of employees throughout the EU. In addition, it is vital to step up measures aimed at attracting labour from third countries. These include the 'Make it in Germany' web portal, a central contact point for skilled workers and companies, the advisory services provided by the Central Service Centre for the Recognition of Professional Qualifications for skilled workers from abroad who are interested in working in Germany, as well as pilot projects aimed at proactively recruiting skilled workers from third countries.

167. The expansion of day care helps to improve children's education and participation opportunities. It also provides a solid foundation for the compatibility of work and family life, thus helping to increase labour market participation and secure skilled labour. The challenges faced during the COVID-19 pandemic have shown once again that day care and nursing care facilities for children are important not only in terms of the services they provide for local communities, but also for the economy as a whole. In order to support the Länder in providing needs-based, quality day care services, the Federal Government has paved the way for the '5th investment programme to fund child care services in 2020-2021' as part of its Stimulus and Crisis-relief Package. The programme allocates funding worth €1 billion to the creation of up to 90,000 additional child day care places (cf. Item 127). Further to this, by 2025, a legal entitlement to all-day care for primary school age children is to be introduced into Social Code VIII (SGB VIII), with federal funding worth up to €3.5 billion to be made available for the necessary investments. When it comes to enabling skilled workers to combine work and family life, the COVID-19 pandemic has exposed the need for flexible, family-friendly working conditions in addition to adequate childcare services. The Federal Government's 'Success Factor Family' corporate programme is therefore intended to support employers in implementing a family-friendly personnel policy.

Making social insurance systems fit for the future

168. The need for viable social insurance systems, which is also highlighted by the Council of Economic Experts, is one of the Federal Government's key priorities (cf. GCEE Annual Report Item 13). At the same time, it is vital to limit the cost burden posed by labour. The COVID-19 pandemic and its impact have led to rising expenditure across all social insurance funds. In order to avoid a resultant increase in non-wage labour costs, the Federal Government has stabilised social insurance contributions at a maximum of

40% of gross wages as part of its 'Social Guarantee 2021'. Any financing needs in excess of that mark are to be covered by the federal budget, at least until 2021 (cf. Diagram 17). In the interest of employees and employers – and with a view to ensuring both continue to have sufficient leeway – the Federal Government wants to keep social insurance contributions below the mark of 40%. As legislation currently stands, the unemployment insurance contribution rate will remain at 2.4% until the end of 2022. With a view to the Social Guarantee, the federal budget for 2021 is to cushion any deficits run up by the Federal Employment Agency, enabling it to move into 2022 unencumbered by debt. In 2021, the average contribution rate for statutory health insurance stands at 15.9%. This figure is composed of a general contribution rate of 14.6% and an additional contribution rate averaging 1.3%. The contribution rate for long-term care insurance stands at 3.05% (3.3% for persons without children). In order to offset revenue shortfalls and rising expenditure in connection with the COVID-19 pandemic, the second supplementary budget for 2020 earmarked some €3.5 billion for the statutory health insurance system as well as €1.8 billion for the long-term care insurance compensation fund. Further to this, an additional federal grant totalling €5 billion is to be disbursed to the statutory health insurance funds in 2021 in order to stabilise the average additional contribution rate. At the same time, the statutory health insurance funds will be obliged, depending on their financial capacities, to pay savings worth some €8 billion to the Health Fund. These resources will be used to enable higher allocations to all health insurance funds. Also, with certain exceptions, health insurance funds with savings in excess of 0.8 monthly outlays are not allowed to raise their additional contribution rate. They remain obliged to gradually reduce savings that exceed the established cap.

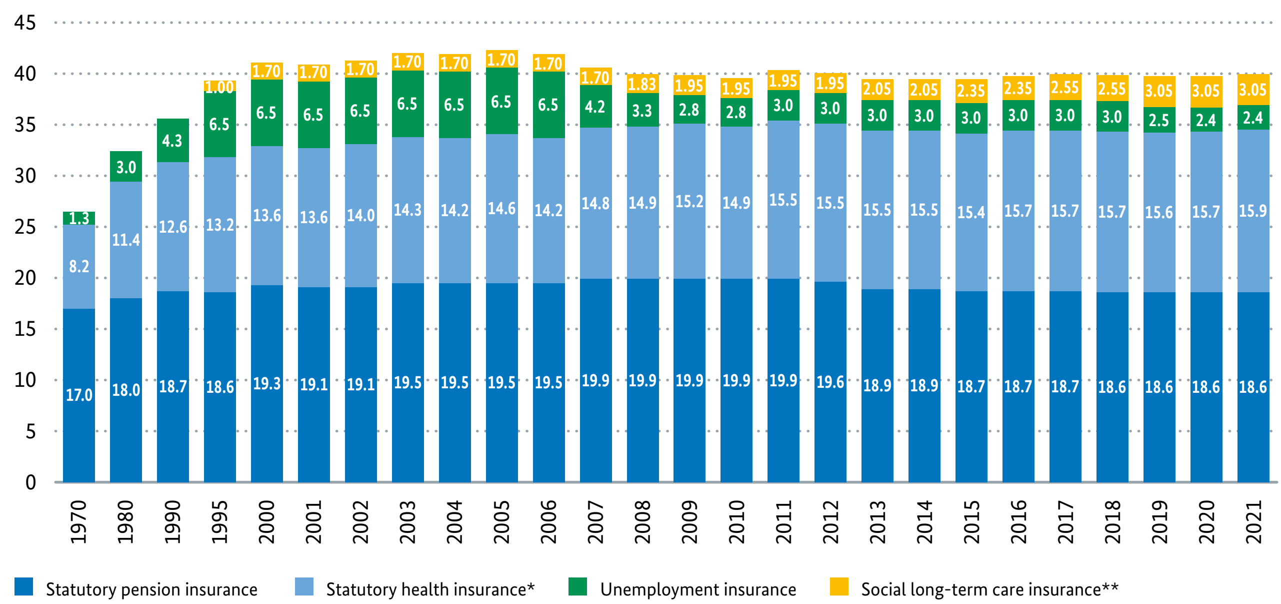
169. Further to this, the Federation will reimburse the liquidity reserve of the Health Fund for expenses related to protective masks for vulnerable patient groups (up to €2.5 billion) as well as revenue shortfalls experienced by prevention clinics and rehabilitation establishments (up to €150 million). Moreover, the Federation has allocated some €2.665 billion for the centralised procurement of SARS-CoV-2 vaccines in 2021, thus helping to reduce the expenditure burden on statutory health insurance funds while fulfilling important tasks for the whole of society.

170. In March 2020, the 'Reliable Intergenerational Contract' Commission set up by the Federal Government presented its recommendations on changes to be made to the old-age pension system from 2025. The Commission proposes maintaining the mechanism of legally binding stop lines for the pre-tax pension level and the contribution rate beyond 2025. The contribution rate for statutory pension insurance currently stands at 18.6%, which is 1.4 percentage points below the 20% stop line to apply until 2025. The Council of Economic Experts points out that the ageing of the population has a major impact on the viability of the statutory pension insurance system. In the long term, this viability problem could be reduced by linking retirement age to rising later life expectancy. A short-term remedy would be to reinstate the 'catch-up factor' which was suspended in 2018 for the period until 2025. According to the Council of Economic Experts, this would enable the increase in the pension level (i.e. the level of pensions relative to wages) caused by the pandemic to be reduced in stages over the coming years (cf. GCEE Annual Report Chapter 6). The recommendations made by the Council of Economic Experts and the Pension Commission will feed into the Federal Government's deliberations on the design of pension policy from 2025.

The effects of the pandemic will also be a matter of discussion.

171. From January 2021, the Federal Government is introducing a basic pension for long-time members of the statutory pension insurance scheme with a below-average income. It thus aims to give greater recognition to the life's work of pensioners who have worked for at least 33 years and paid contributions or who have raised children or cared for people close to them, and to increase the trust in the statutory pension insurance scheme among long-time compulsorily insured contributors with below-average earnings. The introduction of the basic pension is backed by further measures, including exempt amounts that apply to basic welfare benefits in old age, reduced earning capacity, and housing benefit. The basic pension is to be financed from tax revenue via an increase in the federal grant to the pension insurance scheme. According to the Council of Economic Experts, the basic pension scheme has a slightly positive impact on poverty reduction, particularly among lower income groups, but hardly serves as an appropriate measure in the overall fight against poverty (cf. GCEE Annual Report Items 691 f.). At present levels, the amount of the basic pension for those entitled averages €75 and can be as high as €418. The Council of Economic Experts concedes, however, that poverty reduction in itself is not the declared objective of the basic pension, which was introduced in pursuit of the goals mentioned above. The Federal Government shares the view expressed

Diagram 17: Annual median social security contribution rates as a percentage of gross assessable earnings



* including member-specific additional contribution(subject to parity funding since 2019)
** excluding the 0.25% contribution supplement for

Source: Federal Ministry for Economic Affairs and Energy.

by the Council that important general measures against old-age poverty include improving labour market integration and education opportunities (cf. GCEE Annual Report Items 698 f.).

Improving labour law and occupational safety and health

172. The COVID-19 pandemic has further increased the importance of remote work models such as working from home. The Federal Government aims to create a legal framework that promotes and facilitates remote work while leaving scope for operational arrangements and regulations under collective agreements.

173. The Act on the Equal Participation of Women and Men in Executive Positions in the Private and Public Service, which entered into force on 1 May 2015, has had a measurable impact. In the private sector, the proportion of women on the supervisory boards of currently 105 companies with parity codetermination that are listed on the stock exchange and are therefore subject to the fixed gender quota of 30% has risen to 35.2% (cf. Box 10). In today's 83 DAX-listed companies that are not subject to the quota, women account for 22.8% of supervisory board members. Over the past five years, the average proportion of women on the boards of all 188 of these companies has more than doubled and now stands at 10.7%. Women account for 11.5% of positions at senior management level in the 105 companies that are subject to the minimum quota for supervisory boards, and for 9.5% in the 83 companies that are not subject to the quota.

174. In the public service, the Act on the Proportion of Women in Executive Posts, which forms the basis for amendments to the Federal Act on Gender Equality and the Appointment to Federal Bodies Act, has enabled significant progress as well. As of 30 June 2019, according to the Equality Index of the Federal Statistical Office, women accounted for 36% of employees with supervisory and managerial tasks in supreme federal authorities. The proportion of women working in the higher service in supreme federal authorities, which forms a pool of executive positions, is as high as 46%. As of the end of 2018, women accounted for 45.4% of federal posts among a total of 239 bodies that are composed of at least three members to be appointed by the Federation and are subject to the provisions of the Appointment to the Federal Bodies Act.

175. A second Act on the Proportion of Women in Executive Posts is to further improve the effectiveness of the legislation.

176. The Occupational Safety and Health Control Act provides for amendments to the Act to Secure Employees' Rights in the Meat Industry.

Box 10: Gender equality and sustainability

5 GENDER EQUALITY

Gender equality is a declared objective of Germany's National Sustainable Development Strategy and the United Nations Agenda for Sustainable Development (SDG 5). The proportion of women on the supervisory boards of companies that are listed on the stock exchange and fully subject to codetermination is to amount to at least 30% in 2030. In April 2020, the average proportion of women on the supervisory boards of these 105 companies stood at 35.2% ('Women-on-Board Index').

In order to address grievances in the meat industry, the deployment of external staff, particularly via contracts for work and temporary agency employment, is to be largely ruled out. The butcher's trade is exempted from these regulations. Nor are other sectors deploying external staff affected by the rule.

Improving the conditions for affordable housing

177. One of the Federal Government's key objectives is to create and safeguard affordable housing. During the COVID-19 pandemic, rents and real estate prices have continued to rise in many regions. With a view to a joint housing campaign by the Federation, Länder and municipalities, a package of measures was adopted at the 2018 Housing Summit to increase the availability of affordable housing. All major decisions of this housing campaign have been put into effect or are in the process of implementation. The Federal Government has taken action to stimulate residential construction, particularly in the form of a special depreciation for privately financed rental housing construction, which will be available for the last time for new apartments for which the application for a building permit is submitted or the start of construction notified by the end of 2021 (cf. Diagram 18). The Basic Law has been expanded by Article 104d in order to enable the Federation to provide financial assistance for social housing – a responsibility of the Länder. For the period from 2020 to 2024, Federal Government funding totalling €5 billion has been allocated to social housing. The Federal Government has also paved the way for amendments to the Federal Building Code in order to give municipalities greater scope for action in mobilising land for construction.

178. Furthermore, the Federal Government supports families in acquiring residential property. For this legislative term, it has earmarked a total of €2.6 billion for building-related child benefit. Also, the house-building premium has been

Diagram 18: Selection of housing policy measures

Affordable housing	Provision of additional housing	Climate-friendly living
– Extension of the funding period for construction child benefit until 31 March 2021 (in response to the COVID-19 pandemic) – Increase in housing benefit, with dynamic adjustments to take place every two years; introduction of a carbon component – Extension of the reference period for the determination of the standard local comparative rent from four to six years	– Recommendations based on the deliberations of the Building Land Commission; implementation includes amendments to the Federal Building Code aimed at giving municipalities greater scope for action in mobilising land for construction – Special depreciation options for privately financed residential construction – Increase in the house-building premium, with income thresholds raised	– Improved incentives to switch over to climate-friendly heating systems – Tax breaks for the retrofitting of buildings to improve energy efficiency – Federal funding for energy efficiency in buildings

Source: Federal Ministry for Economic Affairs and Energy.

made more attractive from the 2021 savings year on (by raising the income thresholds, the amount eligible for funding and the premium rate). Further measures such as the housing benefit reform, which entered into force on 1 January 2020, and dynamic adjustments to the level of housing benefit that are to take place every two years from 2022 help to ensure that housing continues to be affordable for low-income households as well. During the COVID-19 pandemic, housing benefit also acts as a stabilising force that plays a vital role in keeping the housing cost burden on low-income households at an acceptable level. Finally, a funding programme for the purchase of cooperative shares for owner-occupied housing is to be launched in 2021.

179. The Act to Extend the Reference Period for Standard Local Comparative Rents from Four to Six Years entered into force on 1 January 2020. It is to mitigate the increase in standard local comparative rents on housing markets experiencing a sharp rise in rent levels. On 1 April 2020, the rent control mechanism was extended until the end of 2025 in order to counteract the sharp rise in rents on tight housing markets. Moreover, the Federal Government has decided to improve quality and legal certainty regarding rent level surveys, and to promote the production of such surveys. Finally, buyers of residential property can get relief on brokerage fees.

Strengthening the health sector and pandemic preparedness

180. In addition to measures to mitigate the economic impact of the COVID-19 pandemic, the epidemic also requires immediate action to strengthen the healthcare sector. The Act on the Protection of the Population in the Event of an Epidemic Situation of National Significance aims to ensure the functioning of society in an emergency in terms of infection protection law. To this end, the Infection Protection Act in particular has been expanded and fleshed out in more detail. Measures in this context are aimed, among other things, at ensuring a basic supply of pharmaceuticals, remedies and aids, and at strengthening personnel resources in the health sector. Moreover, the Infection Protection Act has been expanded to include an additional compensation rule. The aim is to mitigate losses in earnings suffered by gainfully active persons that are not able to work because they have to take care of their child due to the closure of a school or childcare facility that has been imposed in order to prevent the spread of infection or communicable diseases (cf. Chapter C, Item 131). The same applies to the closure of facilities for children or adults with disabilities who depend on assistance. In the field of cross-state health and health services research, it has been decided that federal law should apply. Also, an overall data protection supervision authority has been introduced, in line with the corresponding provisions of the EU General Data Protection Regulation.

181. The Second Act on the Protection of the Population in the Event of an Epidemic Situation of National Significance builds on and adds to the measures and regulations adopted on the basis of the Act on the Protection of the Population in the Event of an Epidemic Situation of National Significance. In particular, it expands the existing rules under infection protection law and contains measures that are to mitigate the negative impact on patients and the various stakeholders in the healthcare system. It also creates a framework for increasing the number of tests for SARS-CoV-2 infection. Further goals include ensuring greater financial reward for the staff of care facilities and care services, increasing the assistance available for those in need of care, particularly in the outpatient sector, giving more support to the Public

Health Service, ensuring greater flexibility for trainees and students in the healthcare sector for the duration of the epidemic, and cutting red tape while giving greater flexibility to insured persons, public administration and the healthcare system.

182. Both the Second Act on the Protection of the Population in the Event of an Epidemic Situation of National Significance and the COVID-19 Hospital Relief Act contain a large number of further measures aimed at supporting hospitals as well as care facilities, people in need of care and family caregivers in coping with the COVID-19 pandemic. Under the protective shield for the care sector, an estimated total of €1.4 billion in funds from the long-term care insurance system was spent in 2020 to offset additional expenditure and revenue shortfalls incurred by care facilities as a result of the pandemic. Moreover, a one-off bonus ('coronavirus premium') was disbursed in 2020 to all employees working in elderly care, leading to additional expenditure of €1 billion. In addition, the Federation allocated some €11.5 billion (of which approximately €9.4 billion was actually used) in 2020 to compensate hospitals for postponing non-essential surgery and treatment in order to reserve capacities for the treatment of patients infected with COVID-19. For 2021, a further €2 billion in federal funds has been made available to continue these compensation payments. On the basis of the Hospital Future Act, the Federation has earmarked a sum of €3 billion for 2021 to enable hospitals to invest in modern emergency capacities, digitalisation and IT security. The Council of Economic Experts particularly welcomes the investments in hospitals' digital infrastructure (cf. GCEE Annual Report Item 546). Considering further investments by the Länder and hospital operators, a total of up to €4.3 billion is available for this purpose. Hospitals that have had to provide healthcare services to a very large number of SARS-CoV 2 patients are to be awarded a total of €100 million for premium payments to be disbursed to nurses and employees who have come under particular strain. In addition, hospitals are to be given compensation for revenue shortfalls and extra costs related to the pandemic.

183. In view of the COVID-19 pandemic, a temporary urgent assistance scheme for family caregivers came into effect in 2020, making it possible to claim benefits for a short period of incapacity to work, up to a total of 20 working days. Likewise, it is possible to claim care support allowance for the same period of time. Moreover, the provisions of the Long-term Care Leave Act and the Family Care Leave Act have been made more flexible.

184. The Third Act on the Protection of the Population in the Event of an Epidemic Situation of National Significance builds on previous regulations adopted in response to the COVID-19 pandemic, for instance as regards the compensation rule for parents, tests and vaccines against SARS-CoV-2, and compensation payments for hospitals and inpatient prevention clinics and rehabilitation establishments, including facilities affiliated with the Maternal Health Care Foundation.

185. In November 2020, an initial report was presented on the state of implementation of the Concerted Action for Long-term Care (KAP). One of the major measures implemented under KAP is a training campaign that is geared towards the new training programmes in long-term care. Moreover, as a first step in the implementation of a procedure for assessing staff demand in elderly care, funds have been made available for the creation of up to 20,000 additional jobs for nursing assistants in full inpatient care facilities. A road map has been developed to guide the further

implementation of the new assessment procedure. Further to this, the Fourth Ordinance on Working Conditions in Long-term Care, which entered into force on 1 May 2020, introduces a set of nationwide minimum wages for a range of qualifications in elderly care, with pay gaps between western and eastern Germany to be gradually aligned by 1 September 2021.

186. By adopting the Public Health Pact, which is part of the economic stimulus package, the Federation, Länder and municipalities have taken far-reaching measures to strengthen the Public Health Service in a lasting way – in terms of both personnel resources and digital capacity (cf. Chapter C, Item 129). In the light of the COVID-19 pandemic, the aim is thus to strengthen and modernise the Public Health Service across the full range of tasks it performs – particularly its role in protecting against infection – and across all levels of administration. This is also in line with the recommendations of the Council of Economic Experts (cf. GCEE Annual Report Item 186). The Federation is providing a total of €4 billion for the implementation of the Pact.

187. The Federal Government shares the view of the Council of Economic Experts that stockpiling pharmaceuticals and personal protective equipment can help to increase resilience and prevent supply bottlenecks in healthcare crises (cf. GCEE Annual Report Item 343). The Federal Government has therefore decided to set up a National Health Protection Reserve. The implementation process also relies on decentralised structures, including healthcare facilities and disaster management entities in the individual Länder. By stockpiling goods and maintaining production capacity, the National Health Protection Reserve is to cover the health sector's and the Federation's demand for personal protective equipment for a period of up to six months, with physical stockpiles to last for at least one month. In 2021, the provision of initial equipment will be supported by a one-off federal grant worth €750 million. Going forward, personal protective equipment could also be supplied to the World Health Organisation and to third countries in the form of humanitarian aid. However, the maintenance of production capacity for protective masks and laboratory facilities entails permanent costs. To this end, a sum of €250 million is being made available by the Federal Government.

188. As a strong centre for research and development, it is Germany's responsibility to support the development of promising vaccine candidates in the country's research establishments. In mid-June 2020, a special programme was therefore launched to accelerate research and development in search of urgently needed vaccines against SARS-CoV-2. The funding is geared towards clinical vaccine development with a view to speeding up the availability of an effective and safe vaccine against SARS-CoV-2. Moreover, the programme is to expand development and production capacities in Germany and thus to strengthen the healthcare industry specifically in the field of vaccine development. As early as December 2020, a vaccine by one of the companies being funded was approved by the European Medicines Agency.

E. Moving forward on the energy transition and climate action in Germany and Europe by taking a market-based approach

Short-term and long-term challenges

189. Tackling climate change is a central challenge for this generation. At the same time, a secure and affordable energy supply also remains an essential basis for the German economy. It is therefore necessary to reconcile economic growth with the need to preserve natural resources and safeguard these for the coming generations. Achieving greenhouse gas neutrality by 2050 will require considerable efforts. Climate action is a horizontal task that is relevant for a wide range of policy areas. From an energy policy perspective, phasing out coal-fired power and devising policies that provide support for the ensuing structural change, expanding the grid and renewable energy are important priorities. Raising energy efficiency, strengthening sector coupling, energy research and the use of hydrogen are also a key focus.

190. In order to master these challenges in a way that is economically efficient, energy and climate policy first of all needs to prioritise market-based instruments. The goal is for Germany to achieve climate neutrality whilst maintaining a prosperous economy and society. The Federal Government has provided important impetus and taken important decisions to strengthen market-based instruments in this legislative term, not least by introducing a national carbon pricing scheme in the transport and heat sectors.

191. Secondly, tackling climate change is not only a global challenge, but also an opportunity. Energy and climate policy efforts therefore always need to be put into an international context, not least in order to ensure that the German economy remains competitive. This is why the Federal Government is also providing impetus on energy and climate policy beyond Germany.

192. The Federal Government supports the European Commission in its mission to make Europe the world's first climate-neutral continent whilst making it more competitive at the same time. This goal is underlined by the European Council's decision to reduce greenhouse gas emissions by at least 55% by 2030 compared with 1990 levels. According to the European Commission's impact assessment, the reinforced climate target for 2030 will require increasing the share of renewable energy and improving energy efficiency in the EU by 2030.

193. The Federal Government remains committed to the European energy and climate targets and the pledges made under the Paris Agreement. In this legislative term, it has made important progress towards meeting the existing ambitious climate targets at national, European and international level. For example, the expansion of

Box 11: Renewable energy and sustainability

7 AFFORDABLE AND CLEAN ENERGY

The goal of adopting a high share of renewable energy and reducing energy consumption forms part of Germany's National Sustainable Development Strategy and the United Nations Agenda for Sustainable Development (SDG 7: Affordable and clean energy). The share of renewable energy in gross electricity consumption has increased considerably in this legislative term, rising from 36.0% in 2017 to 45.7% in 2020, by far exceeding the target of 35% set for that year.

renewable energy is making swift progress (cf. Box 11 and Diagram 20) and renewable energy installations are being increasingly integrated into the market. The phase-out of coal-fired power has been put into law and energy efficiency further improved. The Federal Government takes stock of the progress made on the energy transition each year as part of its 'Energy of the Future' monitoring process. The far-reaching restructuring of the energy supply will be much easier to implement if the German economy remains strong and efficient and also provides an opportunity to make economic growth more sustainable overall. The Federal Government agrees with the German Council of Economic Experts that, despite all the challenges, tackling climate change and meeting the ensuing demand for low-emission technology will also open up opportunities for adding value to the economy and delivering growth and prosperity in Germany (cf. GCEE Annual Report Item 358).

194. In 2019, the Federal Government created the basis for implementing important measures adopted as part of its 2030 Climate Action Programme. The Federal Climate Change Act, which entered into force at the end of 2019, provides the legal framework for Germany's climate policy and for achieving the long-term goal of greenhouse gas neutrality by 2050. As an intermediate target, the Federal Climate Change Act sets out a reduction of greenhouse gas emissions of at least 55% by 2030 compared with 1990 levels. In order to achieve this, sector-specific reduction targets for the period from 2020 to 2030 will be set by stipulating annually decreasing annual emission budgets, compliance with which will be monitored on an annual basis (for the first time in March 2021). If the targets are missed, the federal ministry whose remit gives it primary competence for the sector in question is to present an immediate action programme and the Federal Government is to adopt sector-specific or cross-sector measures as quickly as possible. The Climate Action Programme makes available a total of €54 billion up until 2023. An additional two-digit billion sum has been added to this under the Stimulus and Future Packages, for example, to drive forward the market roll-out of hydrogen technology and the expansion of electric vehicle charging infrastructure. An essential element of the 2030 Climate Action Programme is the introduction of a new carbon pricing scheme for the transport and heat sectors as of 2021 (cf. Box 12). As is already the case with the energy sector and energy-intensive industries within the scope of the European Emissions Trading System, prices for carbon emissions have now been introduced for the transport and heating sectors. The Federal Government shares the view of the Council of Economic Experts that the price corridor set for fuel emissions trading in Germany is a credible and clear signal which provides economic stakeholders with the security they need to plan ahead (cf. GCEE Annual Report Item 376). The fuel emissions trading scheme is designed in a way that places no extra burden on the economy. The Federal Government will pass all of the proceeds generated from carbon pricing back on to citizens and companies, not only by reducing the EEG surcharge but also, for example, by investing in climate change mitigation measures, raising commuter tax allowances and providing funding for preventing carbon leakage, and helping affected companies remain internationally competitive.

Besides the national carbon pricing scheme, the measures adopted under the 2030 Climate Action Programme include, most importantly, the Coal Phase-out Act, the thorough revision of the Renewable Energy Sources Act (EEG 2021) and the revision of the Offshore Wind Energy Act (WindSeeG). The Federal Government has also adopted a comprehensive package of research and development measures that will help it harness additional innovation trends and new potential for meeting its climate targets.

195. On top of the more long-term goals, the energy transition is also facing a number of challenges in the short term. The COVID-19 pandemic has dealt a considerable blow to the German economy, resulting in a decline in electricity consumption and a considerable fall in prices on the electricity exchange. There was a risk that this would spark a substantial increase in the EEG surcharge. To address this, grants for financing the EEG worth €11 billion – which come on top of the funds earmarked from the national carbon pricing scheme – were approved as part of the decisions for the Stimulus and Future Packages. As a result, the EEG surcharge will fall to 6.5 ct/kWh in 2021 and to 6.0 ct/kWh in 2022.

196. Security of supply has been guaranteed at all times during the COVID-19 pandemic. Germany's energy supply is stable and reliable. In order to ensure that COVID-related social distancing rules do not delay the expansion of renewable energy and the grid, the Federal Government took swift and pragmatic action. It allowed the public to take part in the planning and approval procedures for important energy infrastructure projects by using virtual formats (cf. Item 57). It also adapted the statutory deadlines, for example regarding the implementation of renewable energy installations which have been awarded funding as production constraints prevented some companies from meeting these.

Consistent implementation of the coal phase-out

197. The German Bundestag voted in favour of phasing out coal-fired power in order to substantially reduce greenhouse gas emissions. In addition, the target for the share of renewables in gross electricity consumption was raised to 65% by 2030. However, this expansion schedule does currently not account for the reinforced EU climate target as the European Commission has yet to present legislative proposals on this. In light of the EU's reinforced climate target for 2030, the

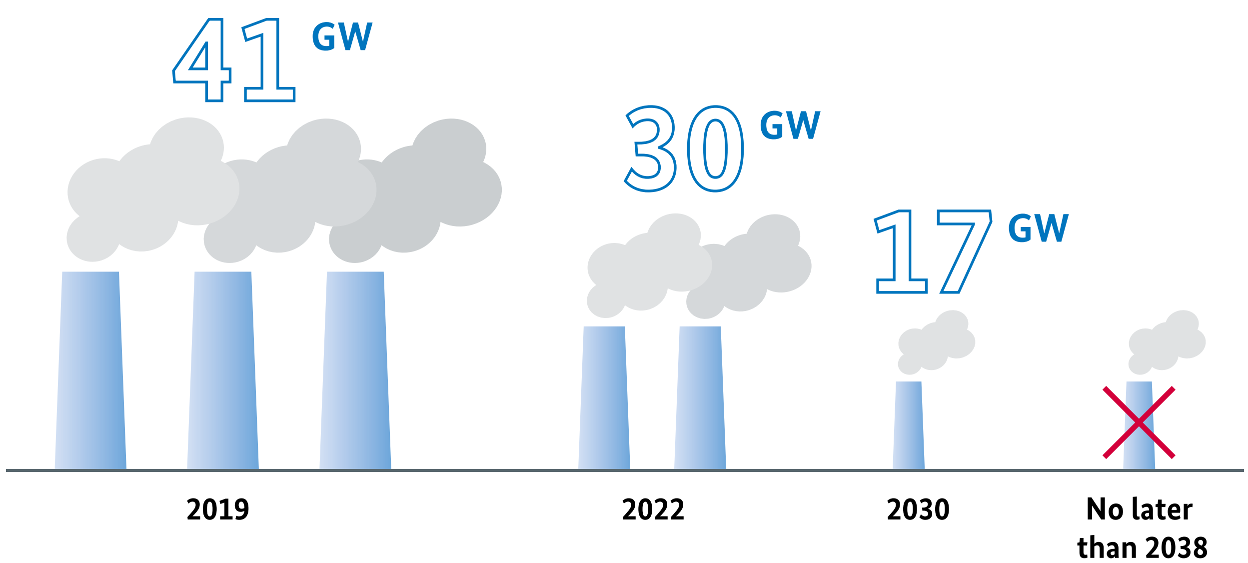
Box 12: National carbon pricing for the transport and heat sectors

By implementing the Fuel Emissions Trading Act (BEHG), the Federal Government is introducing an emission-budget based market-economy instrument for the transport and heat sectors (non-ETS sectors) – industries which are currently not covered by the EU ETS. Greenhouse gas emissions are thus being reduced at the lowest possible economic cost. The annual maximum emission budget is based on the emission budgets allocated to the German non-ETS sectors under the EU Effort Sharing Regulation. These sector-specific annual emission budgets decrease each year. During the introductory phase, the Federal Government will initially sell emissions allowances at a fixed price set by law, which will increase each year. If necessary, it will purchase additional emission allocations from other countries in accordance with the EU Effort Sharing Regulation. In contrast to the EU ETS, the Fuel Emissions Trading Act will target companies which are placing products on markets upstream. Companies are required to buy allowances for the carbon emissions which are released during the burning of the fuels they sell. The Fuel Emissions Trading Act specifies that double burdens on installations that are subject to the EU ETS are to be avoided from the outset, if possible by relieving installations of the duty to surrender allowances.

expansion schedules will need to be looked at once again, taking into account the motion for a resolution on the 2021 Renewable Energy Sources Act tabled by the coalition parties. However, increasing the EEG surcharge must be prevented in any case.

The Coal Phase-out Act which entered into force on 14 August 2020 essentially implements the energy policy recommendations made by the Commission for Growth, Structural Change and Employment set up by the Federal Government. It includes provisions on reducing and ending coal-fired power generation (for both hard coal and lignite) by 2038 at the latest and on the continuous monitoring of security of supply. It also sets out rules for the cancellation of the EU ETS emission allowances which will no longer be used after the coal phase-out, where these quantities are not eliminated from the carbon market via the market stability reserve. Coal-fired power will be reduced in several steps: the output of hard coal and lignite power plants is to decrease from around 41 gigawatts (GW) in 2019 to 15 GW each by 2022 and to eight or nine GW by 2030. The phase-out is to be completed by 2038 at the latest (cf. Diagram 19). In order to phase out power generation from hard coal, auctions for closures will be carried out for the years 2020 to 2026. The bidders proposing to reduce generation at the lowest cost will be awarded the compensation. From 2024 onwards, auction-based closures will be accompanied by regulatory closures, which will replace auction-based closures altogether in 2027. The phase-out of power generation from lignite is also regulated by law and is to be accompanied by a public law agreement negotiated between the Federal Government and the operators. The European Commission found the competitive auction mechanism for hard coal to be in line with State aid rules and approved it on 25 November 2020. It has yet to complete its assessment on whether

Diagram 19: Coal phase-out schedule



Source: Federal Ministry for Economic Affairs and Energy.

the rules governing the compensation for the closure of lignite plants are compatible with State aid rules and is expected to open a formal investigation procedure.

198. The coal phase-out is accompanied by the Federal Government's latest revision of the Combined Heat and Power Act (KWKG). Combined heat and power (CHP) installations need to adjust to an electricity market which is increasingly shaped by the volatile feed-in of renewables. This is why, going forward, CHP installations need to respond better to market signals and become more flexible to use. At the same time, CHP can only help meet the climate targets if installations are being increasingly decarbonised, particularly the heat generation component. More flexible use and decarbonisation are thus the guiding principles of the revised Combined Heat and Power Act, which has been extended up until 2029.

199. The Act Amending the Energy Industry Act adopted by the Bundestag on 8 October 2020 for the market-based procurement of system services introduces transparent, non-discriminatory and market-based procedures for the provision of system services, which are an important element in ensuring a secure supply of electricity. All potential market participants – generators, storage providers and consumers – can take part in these procedures. The new rules foster competition and allow for the harnessing of untapped economic potential in the provision of system services.

Continuing to expand renewable energy

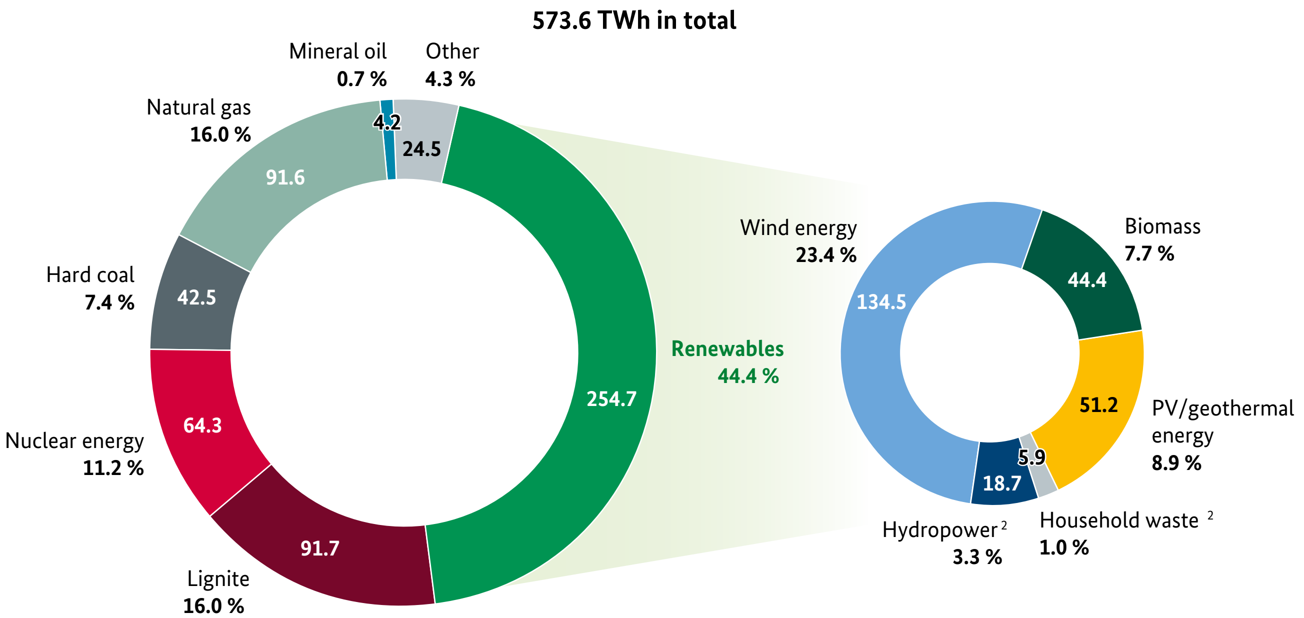
200. The Renewable Energy Sources Act (EEG) is the main tool for promoting renewable energy generation. It guarantees that generation facilities receive a market premium for the renewable electricity they provide, that grid operators give priority to the purchasing of this electricity and that renewable energy installations are first in line to be connected to the grid. A fundamental revision of the Renewable Energy Sources Act (EEG 2021) entered into force on 1 January 2021. It stipulates that all of the electricity generated and consumed in Germany is to be greenhouse-gas-neutral before 2050. The Offshore Wind Energy Act, which was revised in 2020, governs the expansion of offshore wind energy. The revised version of the Offshore Wind Energy Act entered into force on 10 December 2020.

The EEG 2021 sets out in a clear and transparent manner the technology-specific expansion schedules and auction volumes and an annual schedule for electricity volumes across all technologies up until 2030 (cf. Diagram 21) to ensure that by 2030, 65% of the electricity consumed will come from renewable sources. The EEG 2021 specifies annual auction volumes of between 2.9 and 5.8 GW for onshore wind energy, of between 1.95 and 2.15 GW for photovoltaics, and of 750 MW for biomass. The auction volumes for offshore wind energy have been set at around 1 GW for the years from 2021 to 2023, at around 3 GW for 2024 and at around 4 GW for 2025. Stringent monitoring of the actual expansion of the renewables share in terms of gross electricity consumption will be an additional safeguard for meeting the 65% target.

This is to bring the installed capacity of onshore wind energy to 54 GW by 2020 and 71 GW by 2030. The target for installed solar-PV capacity has also been increased, rising from 52 GW in 2020 to 100 GW in 2030. Innovation auctions have been extended and funding increased, thus providing strong impetus for innovation. Changes in auction design and technical modifications are currently being tested in order to improve the cost-effectiveness of the auctions and their ability to generate successful innovations. The Federal Government and the Länder have set up a cooperation committee which looks at issues surrounding target achievement, the availability of land and the planning and approval procedures for wind turbines in the Länder. The EEG 2021 also includes measures for further slowing the increase in costs, spreading the expansion more evenly across regions, strengthening landlord-to-tenant electricity supply and self-generation, ensuring continued acceptance for the further expansion of renewable energy, and strengthening grid and market integration.

Funding for installations which in 2000 received a statutory feed-in tariff for the duration of 20 years ended on 1 January 2021. As a general rule, installations which no longer receive funding are required under the EEG to sell their electricity directly on the market. The EEG 2021 stipulates that installations with a capacity of 100 kilowatts or less can continue to sell their electricity via the grid operator, even though they will no longer receive funding, and that the operators of these installations will receive the market price for the electricity they sell less the marketing cost. It also allows onshore wind turbines to take part in auctions and apply for follow-up funding during a transitional period. If their bid is successful, these wind turbines will receive follow-up funding up until 2022. If their bid is not successful, they can sell their electricity via the grid operator and will receive a slightly increased market price – albeit only in 2021. The rules governing follow-up funding for wind turbines are subject to approval under State aid rules.

Diagram 20: Gross electricity generation in Germany in 2020 in terawatt hours (TWh)[1]



1 preliminary figures
2 Renewable share
Geothermal energy included in photovoltaics (PV) due to very small amount

Source: Working Group on Energy Balances, status: December 2020.

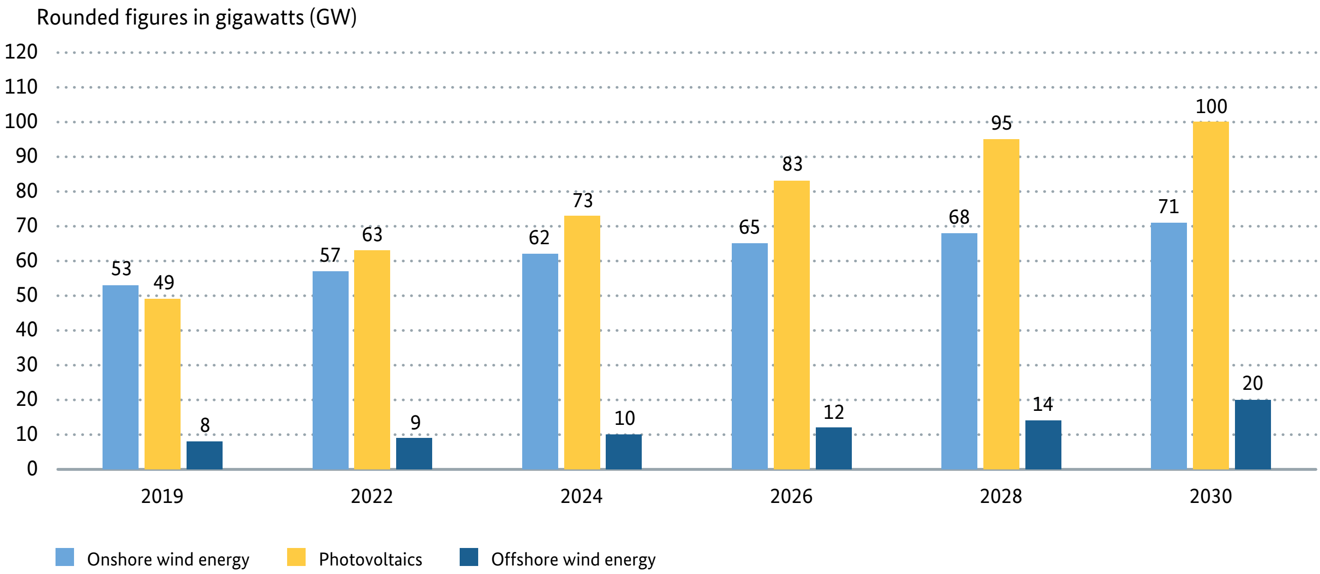
201. The cost of funding renewable energy under the EEG will be covered via the EEG surcharge. In 2020, the surcharge amounted to 6.756 cents. The Federal Government agrees with the German Council of Economic Experts that there is a need to ensure that no additional burden is placed on the electricity price, particularly not from the EEG surcharge (cf. GCEE Annual Report Item 391). Thanks to the proceeds from the national carbon pricing scheme and grants provided under the Stimulus and Future Packages, the EEG surcharge will fall to 6.5 ct/kWh in 2021 and to 6.0 ct/kWh in 2022. This is an important first step towards reforming taxes, levies and surcharges in the energy sector as requested by the Council of Economic Experts (cf. GCEE Annual Report Item 391).

202. A wide range of measures have been implemented in order to drive forward the expansion of onshore wind energy. Night-time lights on wind turbines are to only switch on in exceptional cases so as to not to unnecessarily disturb residents. In addition, the EEG 2021 stipulates that operators of new wind turbines can make a voluntary payment to the municipality in which their turbines are located and to municipalities within 2,500 metres of the turbine in order to contribute to making wind power expansion more acceptable. Provided they comply with immissions control rules, the Länder are free to determine a minimum distance between residential buildings and wind turbines. However, this minimum distance must not exceed 1,000 metres.

203. The planning permission procedures for wind turbines are becoming increasingly lengthy and complex. The number of procedures in which planning permission is refused and the project not pursued further is rising. Under the Investment Acceleration Act, the number of levels of appeal to appeal against planning permis-

Diagram 21: Expansion of renewable energy up until 2030

EEG 2021 and WindSeeG: Ambitious expansion targets for 2030



Sources: Federal Ministry for Economic Affairs and Energy; Offshore Wind Energy Act (WindSeeG); Renewable Energy Sources Act (EEG 2021).

sions for wind turbines has been reduced. At the same time, objections and appeals against planning permissions for wind turbines no longer have suspensive effect. This means that wind turbines can be realised more quickly. Good progress has also been made on reconciling species protection and wind energy. In December 2020, the conference of environment ministers adopted a uniform framework to be applied across Germany for assessing the impact of wind turbines on certain bird species. This framework is to provide planning permission authorities and other stakeholders with legal certainty for their actions, ensuring that species can be protected as the much-needed expansion of wind energy moves forward. The framework is an important first step towards adopting a uniform approach to enforcing species protection law. It now needs to be developed further as part of a follow-up process.

204. The Federal Government has revised the Offshore Wind Energy Act in order to further expand offshore wind energy. Installed wind energy capacity currently stands at 7.7 GW. The central element of the revision is an increase of the 2030 expansion target from 15 to 20 GW of installed capacity. The revision also contains a long-term goal, which is to bring on line 40 GW of offshore wind energy by 2040. It shortens a number of deadlines for the construction of wind turbines and necessary connection lines and improves integration with grid expansion. The revision also speeds up court procedures by extending the Federal Administrative Court's competence in first instance.

205. The 'PV cap' determined that newly installed small-scale solar PV installations of up to 750 kW were to no longer receive funding as soon as the installations' output reached 52 GW. This rule was eliminated by the Bundestag as part of its adoption of the Buildings Energy Act on 18 June 2020. The EEG 2021 establishes separate auctions for large roof-mounted PV installations so as to ensure that the potential of roofs and buildings can be better used. In addition to this, the landlord-to-tenant electricity supply scheme has been made more attractive and extended to neighbourhoods, and self-generation has been strengthened.

206. Through its export credit guarantees (Hermes guarantees), the Federal Government is promoting the expansion of renewable energy abroad. In May 2020, a special initiative was established which substantially improves the possibilities of coverage and the terms of financing for German exports in this area. The share of foreign content that exports related to renewable energy can contain in order to receive coverage has been raised from 49% to up to 70%. In addition to this, the Federal Government is expanding its advisory services, including in the target countries. This will help improve German companies' competitiveness in export markets around the world.

Accelerating the expansion of the grid

207. Renewable electricity needs to be transported over ever greater distances in Europe and Germany, for example to move electricity that is generated in the windy north to consumer centres in the west and south. To make this transport possible, the grid needs to be improved, strengthened and expanded. On 23 September 2020, the Federal Government adopted a bill on amending the Federal Requirements Plan Act. It updates the list of urgently needed grid expansion projects. The basis for this is the 2019-2030 Network Development Plan. The bill for the first time takes account of the Federal Government's reinforced target to achieve a 65% share of renewable

energy in gross electricity consumption by 2030. It also implements measures to address the grid problems in the tri-border area between Bavaria, Hesse and Thuringia.

208. Of the currently more than 7,500 grid kilometres to be expanded, around 2,200 are ready or under construction, whilst around 5,300 kilometres are undergoing spatial planning, federal sectoral planning or planning approval procedures (cf. Diagram 22). The expansion is based, firstly, on the Power Grid Expansion Act (covering around 1,800 kilometres), and, secondly, on the Federal Requirements Plan Act for grid reinforcement measures and new routes (5,700 kilometres up to now). An internal auditing mechanism has been put in place so that possible delays in the expansion process can be detected early on and measures initiated in order to prevent, make up for and reduce delays. The transmission system operators expect that the expansion of the grid could reduce by 50% the need for interventions into power plants' generation capacity as a means to protect certain line sections against congestion.

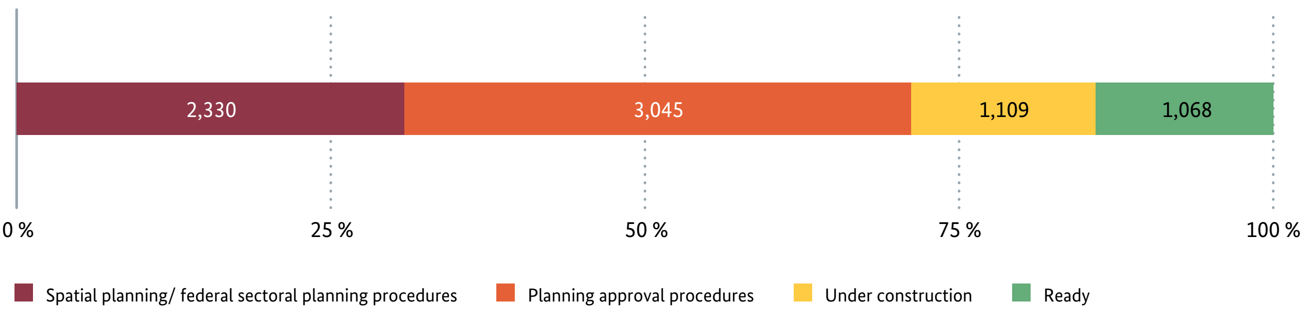
Leveraging the potential of energy efficiency and renewable heat

209. The Federal Government seeks to make Germany the world's most energy efficient economy and to halve primary energy consumption by 2050 compared with 2008. This is because it will be impossible to implement the energy transition and climate action in an effective, sustainable and cost-efficient manner without substantial increases in energy efficiency.

210. The Federal Government's 2050 Energy Efficiency Strategy, which was adopted at the end of 2019, therefore sets out a target to cut primary energy consumption by 30% by 2030 compared with 2008 levels. The 2050 Energy Efficiency Strategy thus paves the way for strengthening energy efficiency policy, whilst at the same time contributing to meeting the EU's energy efficiency target (a reduction of at least 32.5% of primary and final energy consumption by 2030). The Strategy not only sets the new energy efficiency target for 2030, it also combines the measures the government needs to take to achieve it into a new National Action Plan on Energy Efficiency (NAPE 2.0).

Diagram 22: Progress of grid expansion projects

In kilometres



Source: Federal Ministry for Economic Affairs and Energy.

211. The 'Energy Efficiency Roadmap up to 2050' dialogue process, which was adopted as part of the 2050 Energy Efficiency Strategy, is to serve as a forum for developing additional instruments and measures to promote energy efficiency in Germany together with scientists, business representatives and civil society. The Roadmap process is another element underpinning the Federal Government's objective to achieve greenhouse gas neutrality by 2050. The 'Energy Efficiency Roadmap up to 2050' dialogue process is to be completed in autumn 2022.

212. In order to take account of the increased demand for funding under the programmes for renewable energy and energy efficiency in the buildings sector (CO2 Building Rehabilitation Programme and Market Incentive Programme for heat from renewable sources), the Federal Government has topped up these programmes by another €2 billion as part of the Stimulus and Future Packages. By doing so, Germany is already making a contribution to the European Commission's renovation wave strategy that was announced on 14 October 2020. The continuing high demand for funding is also reflected in the revised Market Incentive Programme for heat from renewable sources. It includes a new bonus for replacing oil-fired boilers, which was introduced by the 2030 Climate Action Programme. The Federal Government's Long-term Renovation Strategy is another important instrument for greater energy efficiency in the buildings sector. It includes a roadmap setting out indicative milestones for meeting the energy and climate targets in Germany's buildings sector by 2030. The Strategy details that Germany will specify the indicative milestones for 2040 and 2050 once the necessary decisions have been taken at the national and European level.

213. The Buildings Energy Act, which was adopted by the Federal Government on 1 November 2020, unifies and streamlines energy conservation law. The Act combines the Energy Conservation Ordinance, the Energy Conservation Act and the Renewable Energies Heat Act. The current energy-related requirements for new and renovated buildings are maintained and not tightened. In addition, the Act provides an additional stimulus for using renewable energy. In 2023, the requirements for new and existing buildings will be revised in accordance with the principles of economic efficiency and technological neutrality. The affordability of buildings construction and housing is a key pillar that needs to be taken into account.

214. Under the Federal Government's 'Federal Funding for Efficient Buildings' scheme, parts of which have applied since 1 January, with others coming into effect on 1 July 2021, the energy-related funding landscape for buildings has been reorganised and adjusted to better suit beneficiaries' needs. The scheme implements a number of decisions made as part of the 2030 Climate Action Programme. It reduces the complexity of the funding landscape and provides even stronger incentives for investment into energy efficiency and the use of renewable energy in buildings. In 2020, the financing for energy audits for residential buildings was put on a more solid footing. As an additional tool, outreach activities will be used to disseminate even more specialised and targeted information about energy-efficient renovation measures so as to harness additional potential for energy efficiency and renewables use. This will make a contribution to meeting the energy and climate targets in the buildings sector by 2030.

Harnessing hydrogen as an energy source

215. Hydrogen plays a key role for the energy transition as it provides an alternative to fossil energy sources and raw materials. The Federal Government considers only hydrogen that has been produced using renewable energy (green hydrogen) to be sustainable in the long term. It therefore aims to use green hydrogen, promote its rapid market roll-out and establish the necessary value chains. The Federal Government believes that both a global and European hydrogen market will emerge in the coming ten years and that carbon-free (for example blue or turquoise) hydrogen will be traded on this market. Given Germany's close integration in the European energy supply infrastructure, carbon-neutral hydrogen will also be relevant for Germany and, if available, will be used on a transitional basis.

216. The Federal Government shares the view of the German Council of Economic Experts that hydrogen technologies are an important element for achieving greenhouse gas neutrality by 2050 and for opening up new opportunities for the industrial sector (cf. GCEE Annual Report Item 475). By adopting the National Hydrogen Strategy, the Federal Government has prepared the ground for the development of a market for hydrogen and hydrogen technologies. The Strategy provides a coherent framework for the generation, transport, use and processing of hydrogen, encouraging the relevant innovations and investment. It also sets out the steps that need to be taken in order to meet the climate targets, open up new value chains for German companies and advance international energy policy cooperation. In order for the National Hydrogen Strategy to be implemented, a total of €9 billion has been made available for the coming years. Under the Stimulus and Future Packages adopted in June 2020, €7 billion has been earmarked for funding hydrogen technology in Germany and another €2 billion for promoting international partnerships.

217. The National Hydrogen Strategy's main element is a national action plan of 38 measures geared towards supporting the roll-out of hydrogen and thus creating economies of scale which will ultimately result in lower production costs. A particular focus is being placed on areas that are already close to commercial viability and where major path dependencies are to be avoided, or which cannot be decarbonised in other ways, as is the case with process-related emissions in the steel or chemicals industry, or in certain parts of the transport sector.

Fostering energy and climate research

218. Under the Federal Government's 7th Energy Research Programme, energy research funding has been largely oriented towards the energy transition. In addition, the funds available for energy research were again considerably topped up when the Stimulus and Future Packages were adopted in June 2020. The annual Federal report on energy research sheds light on the Federal Government's funding policy on energy research and provides information on the energy technologies that receive funding.

219. Energy research is a strategic element in Germany's energy policy and is to not only help deliver on the energy transition but also strengthen Germany as an industrial hub. The Federal Government agrees with the German Council of Economic Experts that providing funding for research is a useful tool for meeting the objectives agreed as part of the National Hydrogen Strategy and for making access to and the use of green hydrogen more affordable (cf.

GCEE Annual Report Item 463). Multiple research initiatives have been launched in order to strengthen existing technologies in the hydrogen sector and make new technologies available.

220. In order to speed up the transfer of technology and innovation from the lab to the market, the Federal Government has used the new Energy Research Programme to strengthen practical research by introducing the format of the Regulatory Sandboxes for the Energy Transition. The aim is to test technical and non-technical innovation under real-life conditions and at industrial scale. Around €100 million will be made available for the Regulatory Sandboxes for the Energy Transition each year. The funding is to be continued and topped up. In the coming years, a total of up to €1 billion is to be invested in energy research on hydrogen.

221. Research and development are playing a central role for the energy transition and climate action. Without technological and social innovations, the energy and climate targets will not be met. The Federal Government welcomes the fact that the opinion presented by the German Council of Economic Experts highlights the importance of research and innovation funding as a means for complementing market-oriented mechanisms (cf. GCEE Annual Report Chapter 4.VI). As a concrete step, the Federal Government has adopted an extensive package of measures for funding climate-related research and innovation as part of its 2030 Climate Action Programme.

Digitisation of the energy transition

222. Smart networks and communication between all stakeholders of the energy system are a prerequisite for delivering on the energy transition and bringing electric mobility to scale without compromising on security of supply. The 450 MHz spectrum, which serves as the basis for wireless networks, allows for the rapid establishment of a network that is economically viable, blackout-resilient and secure in terms of supply. The 450 MHz spectrum is already being used in the energy sector to some extent. Devices which run on this spectrum (for example smart meter gateways) are available on the market. The decision made by the Bundesnetzagentur on 16 November 2020 to make the 450 MHz spectrum available primarily for critical infrastructure in the energy and water sector therefore serves as an important step to move forward on the energy transition, including in the transport sector.

223. The EEG 2021 provides for the deployment of smart meters in renewable energy and CHP installations in order to better integrate the rising number of distributed and volatile generation facilities into the grid. The new EEG thus makes a big contribution to digitising the energy transition, whilst at the same time protecting the legitimate expectations of the operators of existing installations. The overall goal of the Federal Government's digitisation strategy remains to equip as many metering points as possible with smart meters and to maximise the use of secure gateways for running energy transition-related applications.

224. The importance of digital solutions can also be seen in network operation. If the exact state of the network is known, utilisation can be increased in particular situations. In order to ensure that the network remains secure and reliable at higher degrees of utilisation, its state needs to be monitored closely and in real time. By confirming the grid boosters in the Network Development Plan, the Bundesnetzagentur has for the first time given approval for pilot projects

that will look into innovative operational management approaches.

A European approach to energy and climate policy

225. The Federal Government's economic policy focuses not only on addressing the direct economic impact of the COVID-19 pandemic but also on making the European economy sustainable in the medium and long term. A key element here is the European Green Deal presented by the European Commission, which centres around achieving climate neutrality in the EU by 2050 and introduces sector-specific initiatives for decarbonising the economy. Under its Presidency of the Council of the EU, the Federal Government actively supported and accompanied the implementation of the European Green Deal.

226. Cross-border offshore wind farms are making a contribution not only to meeting the EU's ambitious energy and climate targets by 2050 but also to security of supply and are opening up industrial policy options for Europe's economic recovery. During its Presidency of the Council of the EU, the Federal Government worked towards strengthening cooperation on offshore energy and other renewables between the EU Member States. The Council of the European Union adopted conclusions on this matter, picking up on the joint declaration of the energy ministers of the North Seas countries of July 2020 and in particular setting out requirements for an EU Enabling Framework for joint offshore projects of the Member States. According to the conclusions, the EU Enabling Framework should include guidelines for a fair sharing of costs and benefits between the Member States, greater coordination of offshore spatial and grid planning whilst observing national competence, strengthening EU financing instruments, and helpful EU electricity market rules. The European Commission has already fed some of the key requirements from the Council conclusions into its Strategy to harness the potential of offshore renewable energy. The EU's follow-up initiatives for 2021 have the potential to take the cross-border expansion of renewable energies to a new level.

227. Under the German Presidency of the Council, progress has also been made on promoting the use of hydrogen – a technology offering tremendous industrial and energy policy potential. Europe has a vital interest in a secure, sustainable and forward-looking energy supply which makes use of the decarbonisation potential of gaseous energy sources. On 8 July 2020, the European Commission presented the EU Hydrogen Strategy. Under the German Presidency, Council conclusions were adopted on moving towards a hydrogen market for Europe. In addition to this, the role of research and innovation for developing and utilising green hydrogen was picked up in the Council conclusions on the New European Research Area (ERA).

228. Under the German Presidency of the Council, it was also discussed which climate and energy policy instruments should be used to achieve the EU's climate and energy targets for 2030. Of particular importance here are the National Energy and Climate Plans (NECPs) which serve as an instrument for planning and monitoring achievement of the EU's targets for 2030. It needs to be ensured that the instruments and actions that are used are market-oriented, cost-effective, secure, sustainable and technology-neutral. The Federal Government shares the view of the German Council of Economic Experts that Germany's climate policy should be integrated into the European context in order to further strengthen the market's role for economic coordination (cf. GCEE

Annual Report Item 374). In this context, the Federal Government is advocating the introduction of an EU-wide carbon pricing scheme in the heat and transport sectors and the adoption of a moderate minimum price under the EU ETS. In addition, it in essence supports the European Commission's target to double the buildings renovation rate across the EU by 2030, move towards deeper renovations (renovation wave for Europe), and create a framework for activating investments in renewable energy projects.

229. The provision of a secure supply of energy is of fundamental importance in times of crisis. This applies of course not least to the electricity supply, which has proven its resilience and robustness during the COVID-19 pandemic. Under the German Presidency of the Council of the EU, the ongoing discussion on how the challenges faced by the European electricity sector can be even better addressed in future crises was continued.

230. Under the EU Strategy for Energy System Integration (ESI), the European Commission has presented its vision for a profound and accelerated energy transition to deliver a climate-neutral economy. Based on this strategy, the Member States have discussed priorities for further integrating the energy system, taking into account the legislative proposals on energy announced by the Commission and the potential reinforcement of the EU's energy targets for 2030.

F. Putting Europe on a sustainable growth path, making financial markets stable

231. Overcoming the effects of the coronavirus crisis also requires a coordinated and solidarity-based approach at the European level. It is important that the European Member States emerge stronger from the crisis. The aim is for the Member States to return to a sustainable growth path that combines a high level of international competitiveness with an ecologically and socially sustainable economy. The European Commission's proposals for a Green Deal play a prominent role in this (cf. Item 225). Strengthening economic growth will be an important building block for ensuring sustainable public finances. Securing financial market stability also requires coordinated measures in Europe. Under its Presidency of the Council of the EU, Germany and the other EU Member States created important impetus in numerous areas to make Europe fit for the future (cf. Box 13). Acting in the same spirit as Germany's Social Market Economy, the aim was to show solidarity in times of crisis. It is also about observing the principle of subsidiarity in the distribution of tasks between the EU and the Member States and combining individual responsibility and liability.

232. Work on the Banking Union, the Capital Markets Union and the European Stability Mechanism (ESM) have continued during the pandemic. with the aim of making the Economic and Monetary Union as a whole stronger and more resilient. On 30 November 2020, the enlarged Eurogroup meeting finalised the reform of the ESM. The Federal Government wants to complete the ratification process during the current legislative period. The amended ESM Treaty is scheduled to enter into force at the beginning of 2022. In addition to the final safeguard for the

Single Resolution Fund, the reform includes measures to strengthen the effectiveness of the precautionary financial instruments for ESM members with sound economic fundamentals. These Member States may nevertheless be affected by adverse shocks beyond their control. Among other things, the reform provides for strengthening the ESM vis-à-vis the negotiation and monitoring of reform requirements attached to ESM programmes and the analysis of the repayment capacity of euro member states applying for ESM stability assistance. Another important element of the reform is the obligation of Member States to introduce so-called 'single-limb collective action clauses (CACs)' for sovereign debt instruments with a maturity of more than one year as of 2022. Single-limb CACs are debt restructuring clauses according to which a single creditor vote is sufficient to launch debt restructuring.

Tackling the economic consequences of the pandemic together

233. Faced with the major economic challenges of the COVID-19 pandemic, the EU and its Member States acted promptly and in solidarity with one another. The Federal Government has advocated a joint approach and helped to ensure that the EU has established effective crisis instruments. The European Commission has adapted the legal framework for State aid, the general escape clause in the Stability and Growth Pact was activated, Member States can receive assistance from the European Union Solidarity Fund, and the legal framework for the European Cohesion Fund was adapted to provide immediate liquidity to Member States. The emergency measures were followed by the establishment of a protective shield for countries, businesses and workers. This comprises three elements: (1) the creation of an adapted Pandemic Crisis Support Instrument (PCSI) within the ESM, (2) the Pan-European Guarantee Fund of the European Investment Bank (EIB), and (3) the new Support Mitigating Unemployment Risks in Emergency (SURE) instrument. Worth a total volume of over €500 billion, these measures represent a powerful joint European response to the pandemic.

234. In December 2020, the EU adopted its 2021-2027 Multiannual Financial Framework (MFF), with a value of €1,074.3 billion (in 2018 prices). Some 30% of spending in this context is to be invested climate change mitigation. Likewise in December 2020, the Council of the European Union adopted the regulation for the temporary recovery instrument Next Generation EU (NGEU), the financing of which is governed by the Own Resources Decision of 14 December 2020. The Own Resources Decision still needs to be ratified in all EU Member States. NGEU is expected to allocate a total of €750 billion (€390 billion in grants and €360 billion in loans, both in 2018 prices) to EU spending programmes by the end of 2023. Exclusively for the purpose of financing NGEU, the European Commission is to be temporarily authorised in the Own Resources Decision to issue bonds up to a limited value on behalf of the EU. The core NGEU spending programme is the Recovery and Resilience Facility (RRF), with a volume of €672.5 billion (€312.5 billion in grants and €360 billion in loans). Furthermore, support for regional structural policy is provided by the programmes ReactEU, with a share of €47.5 billion in the NGEU, as well as the Just Transition Fund, with a share of €10 billion, in addition to €7.5 billion from the MFF (figures in constant 2018 prices; cf. Item 141). The InvestEU programme, with €4.2 billion provided by the MFF in addition to the €5.6 billion by the NGEU, will mobilise additional private and public investment (figures in constant 2018 prices).

Box 13: Germany's Presidency of the Council of the EU – key economic policy outcomes

Germany held the Presidency of the Council of the European Union in the second half of 2020. The motto of the German Council Presidency was 'Together for Europe's recovery'. Despite the challenges and restrictions linked to the COVID-19 pandemic, the Federal Government, together with the other Member States and institutions of the EU, succeeded in laying important groundwork for the route out of the crisis, towards a Europe that is competitive, digital, sustainable and based on solidarity.

A first milestone achieved during the German Presidency was the agreement of the Heads of State and Government in July 2020 on a common Council position on the next Multiannual Financial Framework (MFF) and the temporary European Recovery Instrument. Based upon this, the German Presidency reached a political agreement with the European Parliament (EP) on 10 November 2020. On 22 December 2020, the MFF Regulation and the conditionality mechanism for budgetary protection were published in the Official Journal of the EU; they will apply from 1 January 2021. Parallel to this, the 2021 EU annual budget was adopted to pave the way for a swift provision of funds for the next year. In addition, the negotiations on the individual sectoral funding programmes were largely concluded, including the legislative package for the EU structural funds. Common positions were also reached in the Council, for example on the EU's future common agricultural policy. This made a fundamental contribution to cohesion and the rapid economic recovery in the EU and laid the foundation for investments in digitalisation and climate neutrality. In addition, a political agreement was reached in the trilogue negotiations on the Recovery and Resilience Facility and the Capital Markets Recovery Package, which will facilitate capital-market-based financing, especially for small and medium-sized enterprises.

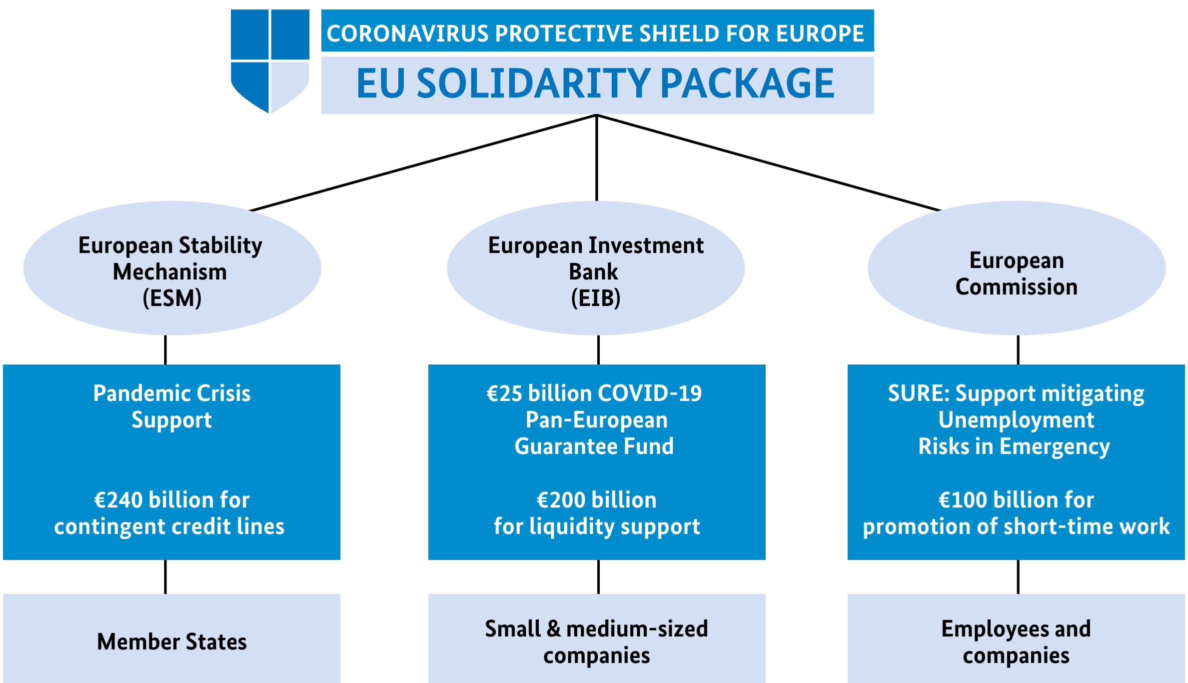
In order to ensure that the European economy remains competitive and to accelerate the EU's economic and social recovery, the Council under the German Council Presidency agreed common positions in many key areas. For example, it succeeded in laying the foundations for achieving the medium and long-term European climate and energy goals, which was another important goal of the German Presidency. Europe has set itself the target of becoming the first climate-neutral continent by 2050. With a view to providing the European economy with reliability and to promoting clean growth, the German Presidency of the Council of the EU was able to bring about a unified Council position on the European climate law leading to the adoption of a new 2030 climate target that is to enable the EU to achieve the Paris Climate Agreement. Council conclusions were adopted on the forward-looking technologies of hydrogen and offshore wind energy. The 'InvestEU' programme adopted under the German Presidency of the Council of the EU brings together and extends the 'European Fund for Strategic Investments' and 13 other EU financial instruments under one roof in order to mobilise additional private and public investments through the provision of EU guarantees. Council conclusions were also adopted on points such as strengthening Europe's industrial sector and giving it a future-oriented focus, on further deepening the single market, on the continued, long-term development of the Capital Markets Union and on combating money laundering and the financing of terrorism. Another focus of the German Presidency of the Council of the EU was to create a level playing field and improve the regulatory framework for the European economy, especially for small and medium-sized enterprises. In this regard, Council conclusions were adopted in the area of Better Regulation (cf. Box 7) and public procurement law, and important momentum was generated for adjusting EU competition policy to the needs arising from globalisation and digitisation.

The EU's technological and digital sovereignty was successfully strengthened, not least by deepening and broadening cooperation on Important Projects of Common European Interest (IPCEIs) and engaging in intensive consultations on artificial intelligence and European data policy, including the creation of common data spaces in strategic sectors, e.g. for health data. In addition, at the initiative of the German Council Presidency, the EU Member States have agreed to establish a European Cloud Federation, which, among other things, is intended to drive investment in trustworthy, secure and energy-efficient cloud and data processing technologies.

Important progress was also made in the implementation of the European Pillar of Social Rights, including strengthening the Youth Guarantee and gender equality.

A core concern of the Federal Government is to strengthen Europe's role in the world. At the end of December 2020, the European Commission and the United Kingdom agreed on a comprehensive trade and cooperation agreement that will put relations between the EU and the United Kingdom on a new footing and form the basis for the closest possible partnership in the future. In addition, substantial progress was made in the discussions on the EU's relationship with the United States of America and China. The EU's voice as an advocate of open markets and rules-based trade built around a reformed WTO was strengthened. In particular, a political agreement in principle was reached with China on an investment agreement. Negotiations on important trade policy legislative dossiers were also concluded, giving rise to the Dual-use and Enforcement Regulations.

Diagram 23: Coronavirus protective shield for Europe

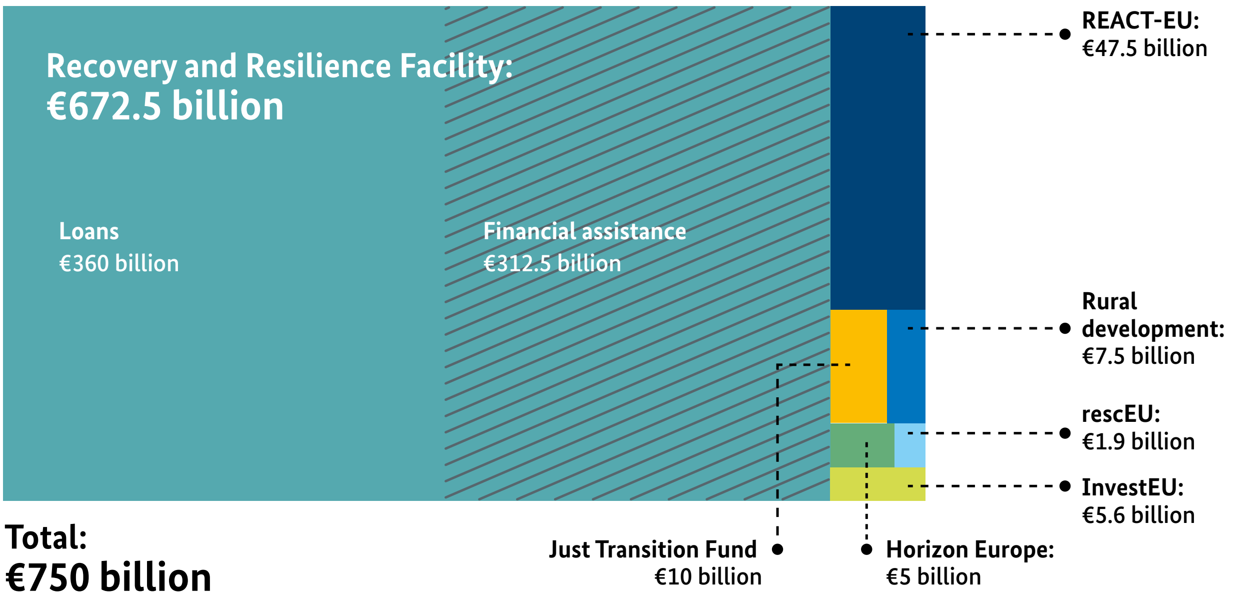


Source: Federal Ministry of Finance.

235. The NGEU recovery instrument will make an important contribution to the resilience and competitiveness of the European economies and is intended to support investments in digitalisation and climate-change mitigation in particular. This is also recognised by the Council of Economic Experts (cf. GCEE Annual Report Item 351). The council of experts rightly points out that the recovery instrument is a temporary measure that should not be made permanent (cf. GCEE Annual Report Item 256). Within the recovery instrument, the RRF will be the key instrument for promoting sustainable and inclusive growth and for strengthening the resilience of the EU economies through reform and investment. To be eligible for funding from the Facility, Member States must submit so-called Action and Resilience Plans (ARPs). These are to present coherent packages of investments and reforms that in particular advance the green and digital transformation and contribute to the implementation of the country-specific recommendations in the European Semester. The Federal Government sent a draft of the German ARP to the European Commission on 23 December 2020. This draft forms the basis for engaging in an intensive dialogue with the Commission on targets and milestones still to be defined for the individual measures set out in the ARP. The Federal Government will submit the agreed ARP by April 2021. The funds from the RRF are to be used for projects funded by the Stimulus and Future Package, which is to be financed by the Federal Government. A digital education campaign and Franco-German technology projects are to be financed from the RRF as well.

Diagram 24: NGEU recovery instrument

Investing in a green, digital and resilient EU



Total:
€750 billion

- **Legal commitments:** up to 31 December 2023
- **Payments:** up to 31 December 2026

Source: Council of the European Union.

236. During the economic recovery phase, European companies will also access financing via capital markets. In order to facilitate this process, the German Presidency negotiated the Capital Markets Recovery Package presented by the European Commission at the end of July 2020 in the Council, and was able to reach an agreement with the European Parliament in December. This means that the regulations, which are intended to improve the access of small and medium-sized enterprises in particular to the capital markets and strengthen the European securitisation market, can enter into force soon.

Deepening the Single Market for economic recovery and competitiveness

237. The COVID-19 pandemic is a challenge for the Single Market. Measures taken by Member States to combat the pandemic have led to disruptions such as border controls, waiting times and entry restrictions. Against this backdrop, the urgent goals are to restore the full functioning of the Single Market and to avoid new restrictions while strengthening the resilience of the Single Market. In addition, the Federal Government is committed to strengthening the Single Market through better implementation and enforcement of Single Market rules and the removal of unjustified barriers. Measures to achieve these goals are to be based, among other things, on a European Commission action plan of 10 March 2020 (Long term action plan for better implementation and enforcement of single market rules), which also includes a Single Market Enforcement Task Force (SMET) consisting of the EU Commission and Member States.

238. A deeper and forward-looking Single Market is essential for economic recovery and the long-term competitiveness of the EU. This is also emphasised by the Council of Economic Experts (cf. GCEE Annual Report Item 322). The conclusions adopted under the German Presidency of the Council of the EU, entitled 'A deepened Single Market for a strong recovery and a competitive, sustainable Europe', therefore define central fields of action for ensuring that the Single Market is forward-looking. These include making sure that the Single Market is an economic area that supports innovation and is open to new green and digital solutions and business models. Other important elements are an internal market for small and medium-sized enterprises, free and fair competition and a level playing field, including in relation to third countries, and structural reforms in the Member States to boost competitiveness. In addition, the conclusions call on the European Commission to present a strategic report that also examines the need for further measures.

239. In order to advance the long-term development of the Capital Markets Union as a further key component of the Single Market, Council conclusions were adopted during the German Presidency of the Council of the EU to prioritise the work that needs to be done. In the conclusions of 3 December 2020, the Member States acknowledged the need for further steps to be taken towards a true single market for financial services and prioritised the measures announced by the European Commission in the action plan published on 24 September 2020.

240. The Federal Government has initiated adjustments in national legislation and administrative action for Brexit. In order to cushion the effects of Brexit, legislative and sub-legislative measures have been taken (cf. Item 154 and 2020 GCEE Annual Report Item 194). The Federal Government will continue to aspire to a close partnership between the EU and the United Kingdom on the basis of the Trade and Cooperation Agreement.

Implementing the European Pillar of Social Rights

241. The Federal Government supports the desire to further develop and strengthen the social dimension of the European Union by implementing all 20 principles of the European Pillar of Social Rights (ESSR). The aim is to reduce unjustified inequality within the EU, mitigate disturbances in the labour markets owing to external shocks and improve social protection. The competence of the European Union and the principles of subsidiarity and proportionality must be respected. The Federal Government welcomes the fact that the European Commission will present an action plan for implementing the ESSR in 2021. It has taken part in a consultation process on this plan. The action plan can make a contribution to further countering poverty and social exclusion as a result of the COVID-19 pandemic. The implementation of the European Pillar of Social Rights will be supported by measures from the European Social Fund Plus in the 2021–2027 funding period.

Ensuring financial market stability

242. The financial markets have so far coped well with the challenges created by the COVID-19 pandemic. In contrast to the global financial crisis of 2008 and 2009, the financial sector has so far been affected by the COVID-19 pandemic only indirectly. German, European and global efforts to stabilise national economies are a key basis for ensuring that the financial markets remain stable. At the same time, the challenges in the real economy must be kept in view in order to avoid repercussions on the financial markets. It is still too early to make a final assessment of the impact of the COVID-19 pandemic on the German economy and the financial markets.

243. Thanks to the consistent reform of financial market regulation, the resilience of banks at the outbreak of the COVID-19 pandemic was significantly higher than at the beginning of the global financial crisis (cf. Diagram 25). As a result of the relevant reforms, German banks have significantly increased their capital and built up liquidity buffers. Capital buffers are to be used in stress periods to cushion losses and ensure the financing of the real economy.

On 29 July 2020, the Federal Government adopted draft legislation on reducing risks and strengthening proportionality in the banking sector. This legislation serves to implement the 2019 European banking package in a timely manner and entered into force on 28 December 2020. To reduce risk, the capital and liquidity requirements for banks are further strengthened in line with international standards. This is intended to provide banks with even better protection in periods of stress. In addition, an international standard on loss buffers will be implemented to improve bank resolution and better protect taxpayers.

244. The overall liquidity situation in the investment fund sector proved during the COVID-19 pandemic to be relaxed following initial difficulties in some segments, in line with the general calming of the financial markets. The amendment to the German Investment Code, which came into force on 28 March 2020, provided the industry with additional instruments for managing liquidity risks of investment funds.

245. The Federal Government is working at European and international level to create an appropriate regulatory framework for digital financial services. It is supporting the European Commission's digital finance package of September 2020 and is actively contributing to strengthening the

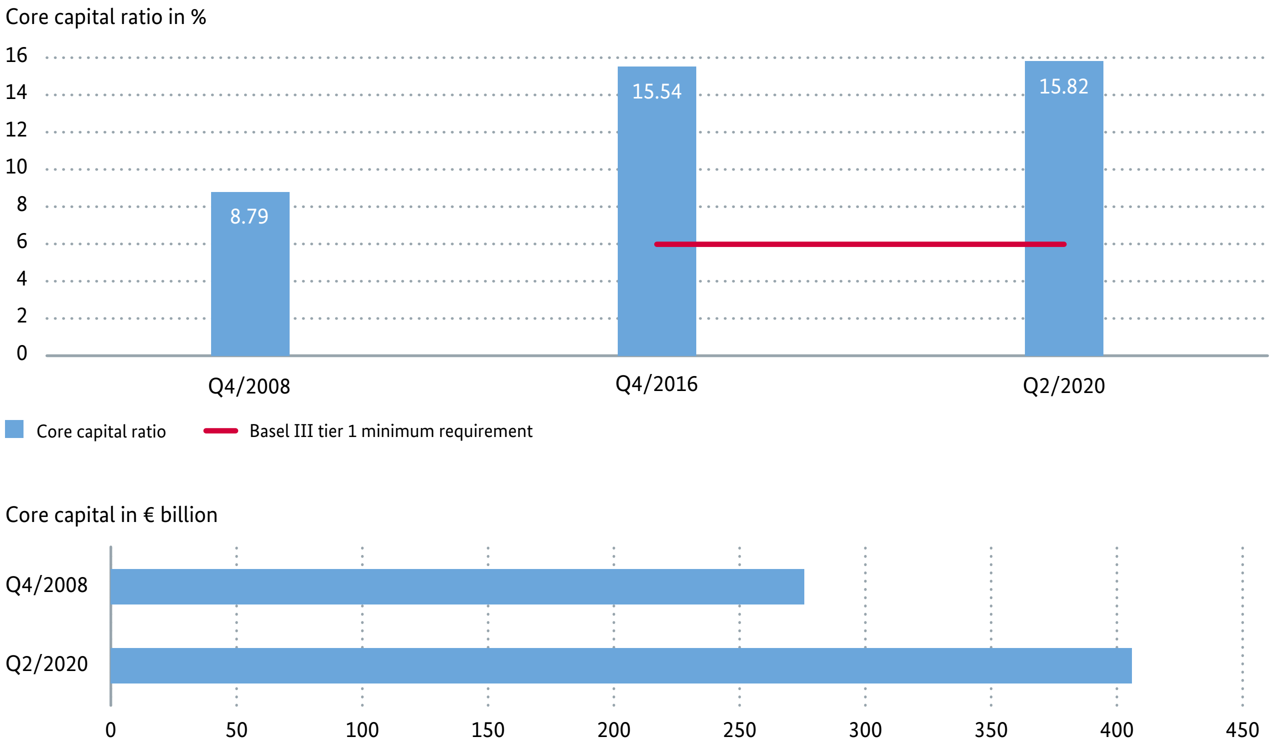
regulatory framework e.g. for crypto-assets, as well as cyber security in the financial sector. At national level, the Federal Government has created a solid legal framework for crypto custody business as of 1 January 2020. In addition, it has passed a bill to introduce electronic securities.

246. On 11 March 2020, the Federal Government adopted draft legislation transferring the supervision of investment advisers and financial investments to the Federal Financial Supervisory Authority (BaFin) as of 1 January 2021. In line with the requirements of the Coalition Agreement, the aim is to replace the fragmented supervision hitherto with a uniform, specialised and effective structure that takes account of the increasing complexity of supervisory law. The bundling of supervision is intended to increase its quality and effectiveness and to bring it into line with the supervision of investment services companies conducting comparable activities.

247. On 16 December 2020, the Federal Government adopted draft legislation implementing Directive (EU) 2019/2034 on the prudential supervision of investment firms. This will ensure adequate supervision of investment firms, which is in the interest of both the customers of such firms and of general financial stability.

248. Under the German Presidency of the Council of the EU, the Federal Government has rapidly advanced the negotiations on amendments to the so-called Benchmark Regulation at European

Diagram 25: Equity ratios and equity of German banks (core capital, tier 1)



Source: Graph by the Federal Ministry of Finance; data source: Statistical Data Warehouse of the European Central Bank.

level and was able to effect an agreement in the Council and with the European Parliament. The agreed changes are important in order to avoid systemic risks that could result from the discontinuation of LIBOR (London Inter-Bank Offered Rate) by June 2023. LIBOR reference rates and other important benchmarks are often used as references in a wide range of financial instruments and financial contracts.

Developing sustainable finance

249. Like the Council of Economic Experts, the Federal Government believes that the financial sector has an important role to play in mobilising capital flows for sustainable investment (cf. GCEE Annual Report Item 419). In addition, sustainability risks create new challenges for financial markets, which can also have an impact on their stability. Policy measures to strengthen the financial market against these risks are being taken at both European and national level. The Sustainable Finance Advisory Council of the Federal Government is developing recommendations to support financial market actors in taking greater account of sustainability aspects in their decisions. The Advisory Council's final report is expected in the first quarter of 2021. The recommendations made in the report will be fed into the development of a German sustainable finance strategy, with the aim of developing Germany into a leading location for sustainable finance. There is still a need for comprehensive research and innovation on the topic of sustainable finance. The Federal Government is addressing this topic as part of Germany's 2030 Climate Action Programme and its National Biodiversity Strategy in order to help improve risk management in financial institutions and thus increase financial market stability.

250. On 2 September 2020, Germany issued its first green federal bond as a 'green twin' (cf. Diagram 26 and Box 14Box 14). A total volume of €6.5 billion of green federal bonds was issued, with a maturity of 10 years. Having a yield discount of one basis point compared to their conventional twin and oversubscribed five times over, the green federal bonds enjoyed a very successful launch. On 4 November 2020, the second green federal bond was issued in the form of a federal bond with a maturity of five years. The issue volume of this second green bond was €5 billion. In the long term, new green federal bonds are to be issued regularly with the same maturities used by the Federal Government for conventional bonds. The aim is to build a green yield curve. The issue of these green bonds is being accompanied by the publication of allocation and impact reports that increase transparency on the use of federal budget funds in the areas of (a) transport, (b) international cooperation, (c) research, innovation and information, (d) energy and industry, and (e) agriculture, forestry, natural landscapes and biodiversity.

251. The Federal Government welcomes the fact that impetus is also being given to developing sustainable finance at European level. For example, implementation of the 'Financing Sustainable Growth' action plan is being driven forward. The 'EU taxonomy' (classification system for defining sustainable economic activities in a more detailed manner) was adopted by the European Parliament in mid-2020. In mid-November 2020, the European Commission presented its first drafts for two of six taxonomies (climate change mitigation and adaptation), setting out the technical details for defining sustainable economic activities. In addition, the directive on the disclosure of non-financial information by certain large companies and groups (so-called CSR

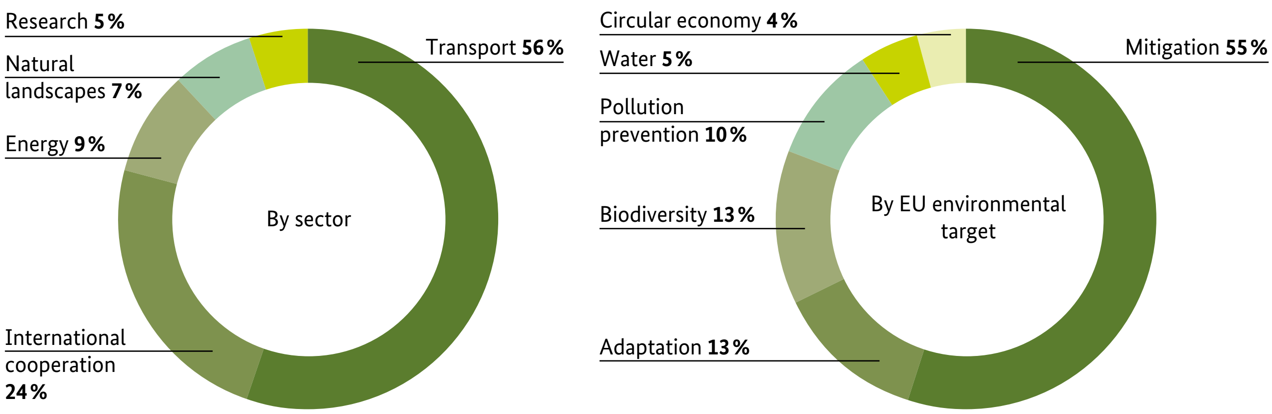
Directive) is to be amended. The European Commission will present a proposal on this in the first quarter of 2021. Other procedures currently underway include the consideration of sustainability in investment advice and the development of an EU Green Bond Standard. Finally, the European Commission has announced a renewed sustainable finance strategy for the first quarter of 2021, which will provide new impetus and replace the action plan.

Strengthening balance sheet controls and confidence in the financial market

252. The events surrounding the insolvency of Wirecard AG have damaged confidence in the German financial market. The Federal Government has agreed on an action plan to combat accounting fraud and to strengthen control over capital and financial markets. Among other things, the measures are intended to ensure that balance sheet controls are strengthened and existing protective mechanisms are further improved.

253. To implement these, the Federal Government has approved the draft of an Act to Strengthen Financial Market Integrity (FISG). The draft legislation contains comprehensive measures to improve the balance sheet control system as well as the audit of financial statements and corporate governance. It also provides for granting the Federal Financial Supervisory Authority (BaFin) more competencies in balance sheet control procedures and in the supervision of complex group structures, and for strengthening the independence of auditors. In addition, the liability rules for auditors are to be tightened and the companies' internal supervisory systems strengthened, which especially includes the audit committee. In order to prevent even the appearance of any conflict of interest on the part of supervisors, private trading in financial instruments will also be largely restricted for BaFin employees. In addition, the powers of the Financial Intelligence Unit will be expanded in order to be able to combat money laundering and terrorist financing more effectively.

Diagram 26: Revenue allocation of green federal bonds



Source: Federal Ministry of Finance, www.bundesfinanzministerium.de/gruenebundeswertpapiere, see investor presentation.

Box 14: Green twin

The green federal bond was issued as a so-called twin bond. This means that the issue of a green federal bond is coupled with that of a conventional bond. The green twin has its own bond identification number, but the same final maturity and coupon as its conventional twin. When the Finance Agency issues green bonds, it increases the portfolio of conventional bonds by the exact same amount. This facilitates combined and debt-neutral purchase/sales transactions between the two bonds. The aim is to offer investors in green federal bonds the same advantages which investors in conventional federal bonds enjoy, in particular a high level of liquidity. In addition, the concept of twin bonds allows the Federal Government to maintain its favourable refinancing costs.

254. Under the German Presidency of the Council of the EU, Council conclusions on combating money laundering and terrorist financing were adopted on 5 November 2020. These are to serve as guidelines for the Commission in the run-up to its legislative proposals in 2021. The German Presidency was able to achieve a commitment that the upcoming reform should i) significantly unify the European anti-money laundering framework, ii) create a European supervisory authority with the right to intervene, especially in serious cases, and iii) strengthen the coordination of the national Financial Intelligence Units (FIUs) and their cooperation with each other.

G. Keeping markets open, continuing to make use of the opportunities offered by the international division of labour

255. In recent decades, the international division of labour and specialisation have led to a global interdependence of supply chains. Governments have created an appropriate framework for it by introducing a multilateral, rules-based WTO trading system. This has opened markets worldwide, from which not only the industrialised countries but also the developing and emerging countries are benefiting to this day – in the form of cheaper products with greater diversity, innovation as well as growth, prosperity and employment. Today, nearly 60% fewer people live in extreme poverty compared to 1990. This is also emphasised by the Council of Economic Experts (cf. GCEE Annual Report Item 330). However, the COVID-19 pandemic, among other things, is impairing trade and endangering these positive developments.

Germany is closely involved in the international division of labour. An impressive example for this is its foreign trade ratio – the ratio of exports of goods and services to gross domestic product – of 88% in 2019. Measured by this ratio, Germany's trade openness has almost doubled since 1991.

256. The COVID-19 pandemic has revealed the vulnerabilities of supply chains in crisis situations as well as the risks of one-sided dependencies in supply relationships. Companies have already begun to revise and diversify their supply chain structures based on the experience gained from this crisis. The Federal Government shares the view of the Council of Economic Experts that being an integral part of international markets can be helpful as supplies can then be drawn from all regions of the world and not only from one location (cf. GCEE Annual Report Item 338).

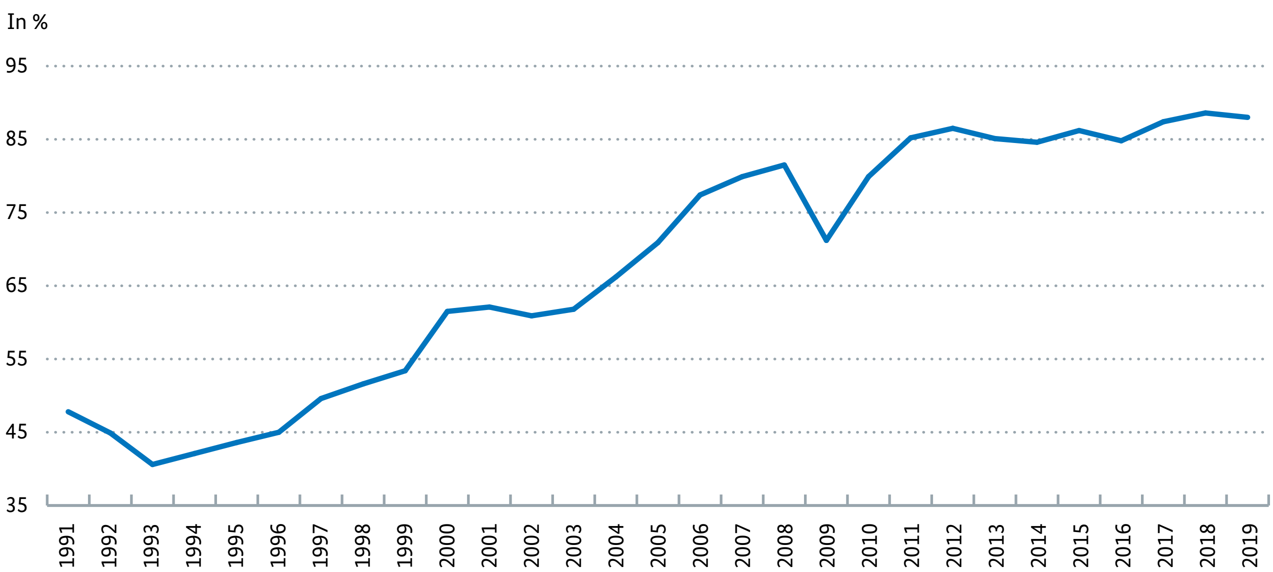
The Federal Government therefore continues to advocate open markets based on rules-based trade in order to open up options for companies to diversify their supply relationships and thus to strengthen the resilience of their economies.

Preserve and strengthen rules-based world trade

257. The Federal Government supports the EU's proposals to modernise the WTO with a view to strengthening the WTO as the focal point of a rules-based trading system. In addition to this, the Federal Government aims to conclude free trade agreements, as well as modern rules and institutions for investment protection, and consumer, environmental and social standards in multilateral and bilateral treaties. The Council of Economic Experts rightly emphasises that protectionist economic policies threaten the multilateral trading system and hamper growth worldwide. (cf. GCEE Annual Report Items 330 ff.) Not only do they restrict international trade: they also create problems when, for example, highly subsidised companies or state-owned enterprises take advantage of their access to the European market and distort competition. The Federal Government is in favour of a proactive approach by the EU against distortions of competition and discrimination on third markets, and calls for a level playing field (cf. Item 73).

258. Given the increasing protectionist tendencies, a strong bilateral EU trade agenda is very important. Tariff reductions, access to public procurement markets and the reduction of non-tariff trade barriers allow modern trade agreements to open up new opportunities for German and European companies in third countries. Free trade and investment protection agreements can secure market opportunities for German companies - especially in relation to competitors in countries in the Asia-Pacific region or Latin America.

Diagram 27: Development of foreign trade ratio since 1991



Source: Federal Statistical Office.

Together with the European Commission, the Federal Government was able to achieve important goals in recent years – especially with the entry into force of the free trade agreements with Japan (February 2019) and Singapore (November 2019) and the signing of the trade agreement with Vietnam in June 2019. In addition to this, negotiations on free trade agreements with Australia and New Zealand were launched in July 2018. At the end of 2020, the EU and China reached a political agreement to conclude negotiations on a bilateral investment agreement. With the EU-China Investment Agreement, the EU aims to achieve more reciprocity in economic relations with China and to create better market access conditions and a level playing field for EU companies on the Chinese market. Similarly, a modernised Global Agreement with Mexico is expected to be signed in 2021. Progress is also being sought in talks with Chile, Indonesia and Tunisia. The Federal Government continues to support the spirit and intention of the Agreement with MERCOSUR (Mercado Común del Sur or Common South American Market consisting of Argentina, Brazil, Paraguay and Uruguay). However, it will closely monitor the overall context and check whether the Agreement can be implemented as intended. From today's perspective, serious questions arise in this regard in view of current developments, especially in the Amazonas region.

259. The transatlantic relationship has run into difficult waters in various fields in recent years. It remains to be seen what trade policy priorities the new U.S. Administration will set. The Federal Government strongly supports the goals of the EU's positive trade agenda with the U.S. in order to gradually improve transatlantic trade relations to the benefit of both sides.

260. The Federal Government continues to be actively involved in the negotiations on an Inter-

Box 15: WTO dispute settlement

A central element of rules-based trade is to settle disputes between trading partners who accuse each other of non-compliance with agreed trade rules and of deviations from agreements made. For these cases, the World Trade Organization (WTO) has created a statutory arbitration procedure. At the end of 2019, however, the Appellate Body became inquorate. This is because the Appellate Body falls short of the minimum number of three members which is required to reach a quorum. The appointment of a new member requires the consent of all WTO members, which is currently lacking. All cases pending in the Appellate Body are therefore on hold.

In 2020, given the importance of the WTO dispute settlement mechanism for the rules-based trade order, the European Union agreed with its 23 other WTO members to create an interim arbitral second instance for trade disputes (the so-called Multi-party interim appeal arbitration arrangements, MPIA). Although this agreement was created exclusively for the purpose of dispute settlement among the acceding WTO members, WTO rules allow such an agreement to be concluded in order to solve trade disputes on the basis of the relevant WTO rules. All other WTO members can also participate in the agreement.

In the case of disputes between states that have not joined the MPIA, the amended Enforcement Regulation (regulation No. 654/2014) allows counter-measures to be taken against violations by third countries even if a binding dispute settlement decision cannot be reached in the appellate instance. This preserves the EU's ability to act in these cases as well.

national Procurement Instrument. The instrument is intended to encourage third countries to reciprocally open their procurement markets. The Federal Government is of the view that the European Commission's legislative proposal needs to be considerably adjusted in order to strike the right balance between the efficiency of the instrument on the one hand and the lowest possible administrative burden for public contractors and companies on the other.

Strengthening investment screening of corporate acquisitions

261. Corporate acquisitions generally happen due to private commercial decisions by the buyer and the target company. A foreign trade investment screening by government agencies happens only in a few, well justified cases: the amended provisions in the Foreign Trade and Payments Act (AWG – 1st AWG amendment) and the Foreign Trade and Payments Ordinance (AWV – 15th-16th AWV amendment), permit a more comprehensive and forward-looking examination of whether foreign direct investments impair public order or security or essential security interests.

262. The newly revised provisions are intended to ensure more transparency when implementing the investment screening: the new, binding time limit will provide the parties involved in the acquisition with greater planning certainty with regard to the expected duration of screening procedures in the future.

The reason for these amendments is the EU Regulation establishing a framework for screening of foreign direct investments into the European Union (the EU Screening Regulation), which entered into force on 11 October 2020. Under the new EU-wide cooperation mechanism, the effects at national level are no longer the only criteria: it is now also decisive whether the acquisition would have an impact on the public policy or security of one or more other EU Member States or on specific projects and programmes which are of Union interest. If the Federal Government receives corresponding indications from another EU Member State or the European Commission, it can and will take this into account in its future screening procedures. This also applies vice versa: the Federal Government can assert vis-à-vis other EU Member States or the European Commission that an investment in another EU Member State is likely to impair German public order or security.

Strengthening the foreign commitment of German companies in times of a pandemic

263. The Federal Government supports German companies that want to enter foreign markets, especially during the COVID-19 pandemic. To this end, it uses a broad range of instruments to promote foreign trade and investment, such as guarantees for export credits, for untied financial loans and for direct investments abroad as well as the ERP export financing programme; in addition, it can use its existing network of embassies and consulates-general worldwide, bilateral chambers of commerce and Germany Trade & Invest (GTAI).

264. The COVID-19 pandemic has significantly worsened the possibilities for exporting companies to obtain finance for their deals. Therefore, the Federation has adopted various measures in the field of export credit guarantees in order to improve the liquidity situation of exporters and importers, to facilitate the financing of transactions and to expand the refinancing possibilities of banks. The measures contribute to supporting the export economy and to securing jobs in Germany.

Box 16: The G7 and the G20 in 2020

In 2020, the G7 and G20 agenda were significantly marked by the COVID-19 pandemic.

The Saudi Arabian presidency of the G20

The G20 is a leading multilateral organisation which is assuming a particular role and special responsibilities during the pandemic, just as was the case during the 2008 financial crisis. An extraordinary virtual G20 meeting of heads of state and government took place on 26 March. In their Joint Declaration, the G20 agreed to work together in matters of global importance such as the health sector, the global economy, trade and global cooperation. The Declaration contains the following points:

- Support for the World Health Organization (WHO), the Coalition for Epidemic Preparedness Innovations (CEPI) and the Global Alliance for Vaccines and Immunisation (GAVI),
- Recognition of the special challenges that exist for refugees and developing countries,
- Support the IMF and World Bank crisis mechanisms,
- Request the WHO, together with other organisations, to examine gaps in the pandemic planning and preparedness in order to launch a global initiative for pandemic planning, preparedness and response,
- Willingness to introduce ambitious economic and financial measures,
- Commitment to open markets.

By implementing this Declaration, the ACT Accelerator was launched (Access to COVID-19 Tools) as a global platform for the development of a worldwide and fair distribution of therapies, diagnostic products and vaccines, to which the Federal Government is making a major financial contribution.

On 15 April, the G20 Member States decided on a G20 Action Plan to address the health and economic crisis. The Action Plan includes, among other things, comprehensive measures for economic stabilisation and a debt moratorium for the 77 poorest countries until the end of 2020. The G20 Action Plan was updated in mid-October to take into account the new pandemic situation. In addition, the debt moratorium was extended until 30 June 2021 and a framework was agreed to deal with debt rescheduling in the long-term (the Common Framework).

The virtual G20 summit took place on 21/22 November 2020. A consensus was reached to emphasise the importance of multilateral cooperation when dealing with important global challenges. The G20 Member States underlined their willingness to act decisively against the COVID-19 pandemic and to use all available political instruments as long as necessary, in order to protect human lives, secure jobs and income, support global economic recovery and improve the resilience of the financial system. At the same time the G20 Member states agree that they are committed to preserving the planet and working towards an ecologically sustainable and inclusive future for all.

Italy took over the G20 presidency on 1 December 2020 and is centring its agenda around the three p's: "people", "planet" and "prosperity"; the G20 summit is scheduled to take place in Rome on 30/31 October 2021. In addition, Italy and the European Commission are planning a G20 Global Health Summit to take place in Rome on 21 May 2021. Indonesia is to take over the G20 presidency in 2022.

The U.S. presidency of the G7

Extraordinary virtual meetings of the G7 heads of states and governments took place on 16 March and 16 April. A Joint Declaration regarding the COVID-19 pandemic was adopted on 16 March. In this declaration, the G7 reaffirmed their joint efforts to

- protect lives,
- secure jobs and income,
- re-establish trust, secure financial stability, revive growth,
- minimise trade disruptions and disruptions of global supply chains,
- offer help to all countries that require help,
- coordinate measures in the area of public health and finances.

On 1 January 2021 the United Kingdom took over the G7 presidency. It will focus on economic recovery and resilience, health policy, including response to the pandemic and antimicrobial resistences, fair trade, gender equality and climate change. The G7 summit is scheduled for June 2021. Germany will take over the G7 presidency in 2022.

In 2020, the Federal Government issued investment guarantees with a total volume of around €16.7 billion. That is 20.4% down in year-on-year terms. In addition, the Federal Government has issued guarantees in the form of untied financial loans amounting to around €632 million.

265. In 2020, the Federal Government issued investment guarantees with a total volume of around €1 billion. The main focus this year was on Asia and Eastern Europe. The Federation uses the instrument to insure direct investments by German companies against political risks in developing, emerging and former transition countries. In order to support direct investments of German companies abroad that have to operate in more difficult conditions due to the COVID-19 pandemic, the Bundestag, at the proposal of the Federal Government, increased the guarantee framework, which includes investment guarantees, from €58 billion to €80 billion.

266. The COVID-19 pandemic shows how important it is for companies engaged in foreign business to have reliable and up-to-date local information. The Federal Government is therefore continuously developing the instruments of foreign trade and investment promotion. Given worldwide travel restrictions, digital formats also play an increasingly important role. The network of bilateral chambers of commerce and the GTAI have adapted their products and services to the changing needs of businesses (e.g. webinars, digitals business trips). The SME Market Entry Programme and the participation in trade fairs at home and abroad have been flexibly adapted and digitalised, as has the Export Initiative for Environmental Technologies (www.exportinitiative-umweltschutz.de).

267. The Federal Government has further intensified its support for companies operating in Africa so that they can tap the continent's economic potential. The guidelines for this were laid down in the G20 investment initiative "Compact with Africa". An important step for Africa's economic prosperity is the African Continental Free Trade Area (AfCFTA), which came into force on 1 January 2021. The fragmentation of the African market is a challenge for German and European investors on the continent. The Federal Government supports the implementation of the AfCFTA so that African countries can increase their own economic potential. This can also be beneficial for German companies working in Africa.

268. Another central component for the support of German and African companies in Africa is the Development Investment Fund (DIF) with its three pillars "AfricaConnect", "AfricaGrow" and the Business Network Africa (BNA). The Federal Government adapted its advisory and support services in the COVID-19 pandemic in order to quickly develop solutions for crisis management and to maintain economic structures.

In response to the COVID-19 pandemic, "AfricaConnect" not only offers loans for investment financing but also loans to bridge liquidity bottlenecks that are not self-inflicted. "AfricaGrow" strengthens necessary private equity and venture capital investments, as investors have withdrawn from the market during the pandemic or are investing more restrictively and with fewer funds. Due to COVID-19 the Africa Business Network worked mainly digitally and expanded its advisory services, especially in the food processing, water and health sector. In addition, from 2021 onwards, the Africa Business Fund will facilitate exports by German companies to Africa that are eligible for support.

Making arms exports control transparent and effective

269. Restricting and controlling the international arms trade makes an important contribution towards a preventive and cooperative security policy. The Federal Government is boosting transparency in the sensitive area of military equipment exports by providing rapid and comprehensive information about licensed exports. The Federal Government published the Report on Military Equipment Exports for 2019 as early as June 2020. It presented the interim report on the export licences issued in the first half of 2020 in autumn 2020.

270. The Federal Government is sticking to its strict rules governing the export of military equipment. This is particularly true of small arms exports, which are measured against the benchmark of the tighter rules contained in the Small Arms Principles, and which can be subject to post-shipment controls. Nine such controls have been carried out so far during a pilot phase. The controls are intended to verify whether the weapons supplied are still in the country of destination and in the possession of the end-user cited in the end-use declaration.

Encouraging responsible corporate activity around the world

271. During this legislative period, the Federal Government has continuously implemented the "National Action Plan on Business and Human Rights 2016-2020" (NAP). This included verifying whether at least 50% of the approx. 7400 companies based in Germany and employing more than 500 employees had integrated the elements of human rights due diligence described in the NAP into their business processes by 2020. A company survey conducted on behalf of the Federal Government showed that far less than 50% of the responding companies adequately fulfil the requirements of the NAP (the decisive 2020 survey, according to the July 2020 monitoring report, shows that 13-17% of the companies are considered "compliant"). All the results of the NAP monitoring were published in a final report in autumn 2020. In light of these results and in order to implement the coalition agreement, the Federal Government has begun consultations on the cornerstones of a binding regulation of the human rights due diligence of companies. In 2021, the responsible Interministerial Committee on Business and Human Rights will publish a comprehensive final report on the implementation of the NAP 2016-2020, which will initiate a revision of the NAP.

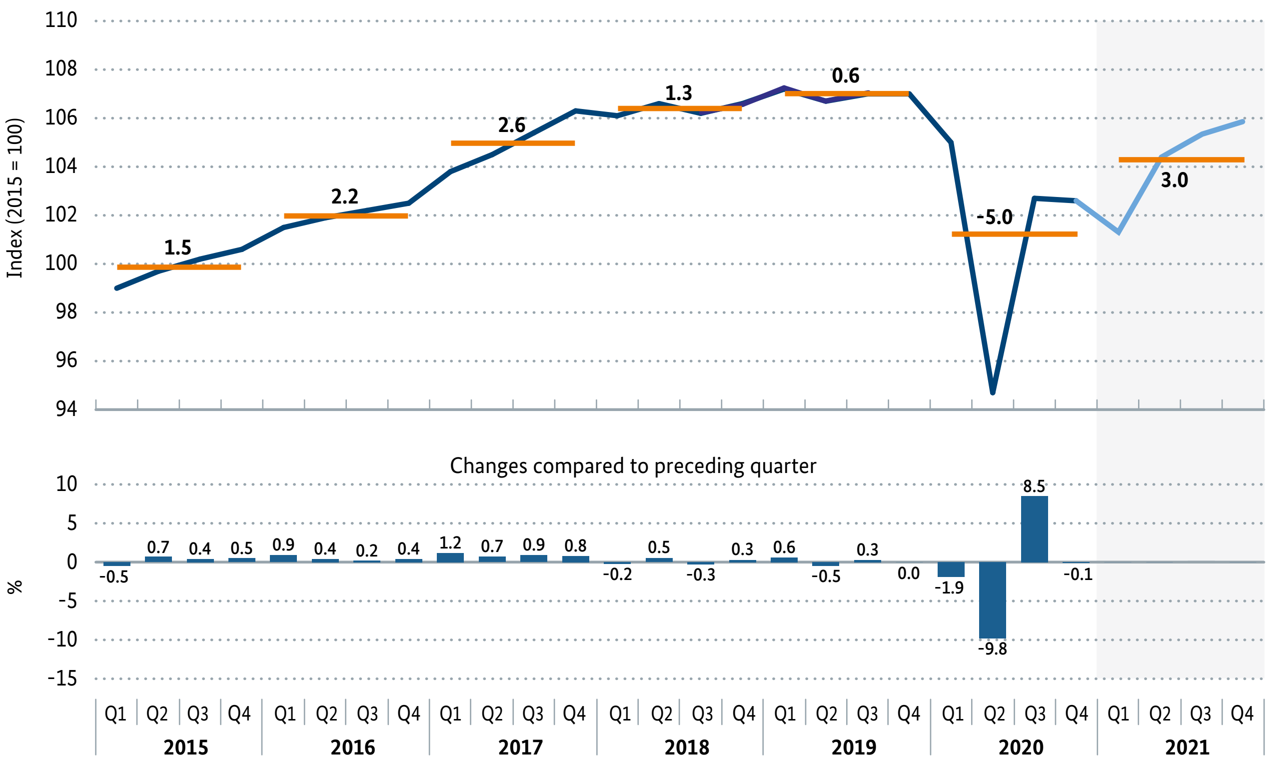
II. The Federal Government's 2021 Annual Projection

Overview: Economic recovery in the shadows of the pandemic

2020 was a turbulent year for the German economy. In the second quarter, the measures taken in the interest of containing the pandemic brought about a historic slump in economic output across almost all sectors, not least due to disruption in international supply chains that occurred at the same time. Once the spread of the infection had slowed down in the summer months and once the restrictions began to be gradually lifted, the economy was able to pick up speed again. However, this recovery lasted only until the beginning of the fourth quarter. A strong rise in infections in the winter months made it necessary to impose another lockdown, which saw services, in particular, being severely restricted. Germany's price-adjusted gross domestic product decreased by a rate of 5.0% in 2020. The lockdown, which has been in place since November, has considerably slowed down cyclical dynamism and thus caused a weak result for the final quarter of 2020 and put a damper on the beginning of the new year.

272. Overall for 2021, the Federal Government expects an annual average increase in gross domestic product (GDP) of 3.0% in price-adjusted terms. It is highly likely that the pandemic will

Diagram 28: Gross domestic product (price-adjusted)



Blue line: quarterly development, in prices of the preceding year, adjusted for season and calendar days
Black lines: annual averages in prices of the preceding year: changes compared to preceding year (in %)
Blue bar: changes in %, adjusted for season and calendar days

Sources: Federal Statistical Office; The Federal Government's 2021 Annual Projection.

continue to significantly curb economic output in the first quarter. Following a stabilisation of the pandemic situation once large segments of society have been inoculated and the restrictions on social interaction lifted, the economy is expected to pick up speed again. At first, however, economic development will continue to be split into a much-affected services sector, which is highly dependent on personal contact, and an industrial sector that is seeing robust development. In the course of the year, it is likely that the COVID-19 pandemic will be slowly overcome to make way for the services sector to recover.

The positive trend on the job market, which was observed before the second lockdown, is expected to continue from the spring. Once this has set in, growing numbers of people in work and rising wages will boost incomes and consumer spending. Government spending will also expand again, albeit at a slightly more moderate rate than last year. This year, gross fixed capital formation should see a significant rise due to the recovery of investments in machinery and equipment. Investment in construction will also increase and will boost the German economy.

As the containment measures are gradually eased and prospects of effective vaccines materialise, the global economic situation is likely to recovery by a palpable margin. This is likely to also result in a strong growth in German exports, which in turn should encourage companies to invest more.

273. The Federal Government's annual projection for 2021 is below the November 2020 forecast by the Council of Economic Experts. The Council predicted growth of 3.7% for 2021 (cf. GCEE Annual Report, Item 58). However, the tightened and prolonged measures to contain the pan-

Overview 6: Selected key indicators of overall economic development in the Federal Republic of Germany[1]

	2019	2020	Annual Projection 2021
	Change as compared to preceding year in %, unless indicated otherwise.		
FORMATION of gross domestic product (GDP)			
GDP (adjusted for price)	**0.6**	**-5.0**	**3.0**
Gainfully active (domestically)	0.9	-1.1	0.0
Unemployment rate in % (as classified by Federal Employment Agency)[2]	*5.0*	*5.9*	*5.8*
USE of GDP in price-adjusted terms (real)			
Consumer spending and priv. non-profit organisations	1.6	-6.0	3.6
Machinery and equipment	0.5	-12.5	6.5
Buildings	3.8	1.5	1.9
Domestic demand	1.2	-4.1	3.1
Exports	1.0	-9.9	6.4
Imports	2.6	-8.6	7.2
External component (momentum)[3]	*-0.6*	*-1.1*	*0.1*
Gross wages and salaries per employee	2.9	-0.4	3.0

Sources: Federal Statistical Office; The Federal Government's 2021 Annual Projection.

1 Until 2020, preliminary calculations by the Federal Statistical Office, as of January 2021.
2 Among all gainfully active persons.
3 Total changes in stocks kept/foreign contribution in % of GDP of the preceding year (= contribution to GDP growth).

Overview 7: Technical details of the annual projection 2021

	2019	2020[1]	2021
	In percent or percentage points		
GDP rate as an annual average	**0.6**	**-5.0**	**3.0**
Statistical overhang at the end of the year [2]	0.0	1.4	1.6
Development over the year [3]	0.4	-4.1	3.2
Average annual GDP rate, adjusted for work days	0.6	-5.3	3.0
Effect of the number of calendar days [4]	0.0	0.4	0.0

Sources: Federal Statistical Office; The Federal Government's 2021 Annual Projection.

1 Up to December 2020: preliminary calculations by the Federal Statistical Office.
2 Index adjusted for season and calendar days in Q4 of the preceding year as compared to the quarterly average (adjusted for calendar days) of the preceding year.
3 Rate of annual change in Q4, adjusted for season and calendar days.
4 in % of GDP.
5 Total sums may be affected by rounding differences.

Overview 8: Contribution to growth of gross domestic product

	2019	2020	2021
	Year-on-year contributions to growth (in %)		
Gross domestic product (growth) = (1)+(2)+(3)+(4)	0.6	-5.0	3.0
(1) Consumer spending	**0.8**	**-3.2**	**1.9**
(2) Public-sector spending	**0.5**	**0.7**	**0.2**
(3) Gross investment	**-0.2**	**-1.4**	**0.8**
(3a) Changes in stocks	*-0.7*	*-0.7*	*0.0*
(3b) Gross capital investment	0.5	-0.8	0.8
Investment in construction	0.4	0.2	0.2
Machinery and equipment	0.0	-0.9	0.4
Other capital investment	0.1	0.0	0.2
Domestic demand 0 (1)+(2)+(3)	**1.2**	**-3.9**	**2.9**
Exports of goods and services	0.5	-4.6	2.8
Goods	0.2	-3.3	2.2
Services	0.2	-1.3	0.5
Imports of goods and services	-1.1	3.5	-2.7
Goods	-0.8	1.6	-1.8
Services	-0.3	2.0	-1.0
(4) External contribution	***-0.6***	***-1.1***	***0.1***

Sources: Federal Statistical Office; own calculations.

demic, which the Council was unable to factor in at the time, are likely to have a stronger effect on economic development in the first quarter of 2021. The assessment as to what the driving forces of growth are is fairly similar in both cases: Both the annual projection and the Council's forecast expect strong impetus for growth to come from consumer spending and slightly positive figures for net foreign demand.

The 2021 annual projection is based on the following assumptions:

— The price for Brent crude oil will rise slightly to around USD50.7 a barrel as an average for 2021. This is derived from futures prices.

— The exchange rates in the projection period are assumed to be constant at their respective averages of the last six weeks before the production of the projection. This produces a euro rate of around USD1.22, or an appreciation of just under 7% from last year.

— The interest rate for main refinancing transactions of the European Central Bank will remain constant at 0.00% until the end of the projection period.

— The lockdown that was imposed in November and tightened in December will remain in place into February, before economic output in the sectors concerned can gradually resume. Further to this, there will be no more lockdowns in the projection period. Developments in the financial sector have also been assumed to remain stable. There will be no escalation of trade conflicts.

— All of the economic and fiscal policy measures (cf. Part I) adopted by the time of the finalisation of the Annual Economic Report have been fed into the projection.

274. In the view of the Federal Government, and given the assumptions cited above, the underlying course indicated by the annual projection is the most likely development of the German economy. Nevertheless, the estimate does involve major uncertainties. The main risks are assumed to lie in the future development of the pandemic, which might make further-reaching containment measures necessary. It is also possible that longer restrictions could have a negative effect on economic output in the manufacturing sector, which has so far proven robust. Other potential risks result from high debt levels in the corporate sector across the world, high levels of sovereign debt, and potential bubbles forming on the financial and real-estate markets. In the event that the pandemic can be overcome more quickly than is expected and that postponed expenditure can be resumed on a larger scale, overall economic development could turn out more favourable than the projection.

Global economy in recovery – pandemic situation dominant factor in the dynamics

275. The global economy is likely to continue its recovery this year, and will expand at a rate of 5.3%[1] year on year. Last year, global economic recovery suffered visibly from the COVID-19 pandemic. Whereas, in 2019, global GDP rose by 3.0% in price-adjusted terms, 2020 saw an unprecedented fall in GDP, of 3.4%. Global trade also fell by a historic margin of an estimated 9.3%. However, a strong recovery set in in the second half of 2020,

1 GDP of the global economy calculated on the basis of purchasing power parities.

allowing for significant portions of the losses accumulated in the first two quarters to be cancelled out. Towards the end of 2020, rising numbers of infections gave rise to new restrictions and a disruption of the positive trend, particularly in the advanced economies. It is expected that this year, progress on the vaccination drive and a (gradual) easing of the rules in the second quarter will set another global recovery in motion.

276. The eurozone was able to make up for a large part of the massive GDP losses suffered in the first two quarters of 2020 as early as in the third quarter. By the end of the third quarter, GDP had caught up from -15% year-on-year in the second quarter to just under -4%. But in the final quarter and in almost all Member States, the way in which the pandemic developed once again made it necessary to impose very significant containment measures. Consequently, persisting disruption of economic activity is to be expected throughout the winter semester. As case numbers fall, vaccination numbers rise, and measures are gradually lifted, a fresh economic recovery can be expected to set in in spring. Additional momentum for the European economy is coming from the fiscal-policy measures taken by the Member States. The persisting expansive course in monetary policy continues to facilitate low-cost financing options. Despite the turbulence caused by coronavirus, there has so far only been a slight rise in unemployment, not least due to broad-based use of short-time employment schemes.

Following the massive slump of an estimated 7.2% in 2020, the eurozone overall is expected to see a significant recovery in economic output (+4.3%) in 2021, albeit not to pre-crisis levels.

277. The U.S. economy did not experience quite as extreme a slump as the eurozone in 2020, but also suffered significant GDP losses in the first semester. Despite the vaccination campaign that has already begun, the infection continues to spread dynamically, standing in the way of further economic recovery. For instance, the pandemic is continuing to leave its mark on the job market, causing the unemployment rate to remain far above the average over many years. This will also make itself felt in terms of consumer spending – despite the fact that the recent stimulus package should be able to alleviate this effect. In addition, the trade conflicts with China and the EU continue to smoulder, dampening the figures of U.S. foreign trade and of investments. Following a projected decrease in GDP of 3.6% in 2020, the economic output of the United States will probably expand by roughly 3.8% this year.

The emerging economies have also been hit hard by the pandemic. In these countries, too, the dynamics of the economy are strongly shaped by infection numbers and containment measures. China, where the pandemic originated, saw its economy affected the most in the first quarter of 2020. However, according to official statements, China was able to recover to pre-crisis level as early as in the third quarter, meaning that its GDP did not shrink in 2020 as a whole. This year, the Chinese economy is expected to expand significantly, whereas India, Russia and Brazil will mainly catch up on the losses they posted last year. The catch-up process of oil-exporting countries, however, is likely to be slowed down by oil prices, which continue to be comparatively low. For the emerging economies in general, the Federal Government expects to see slightly higher growth in 2021, of 3.7% (compared to -1.4% in 2020).

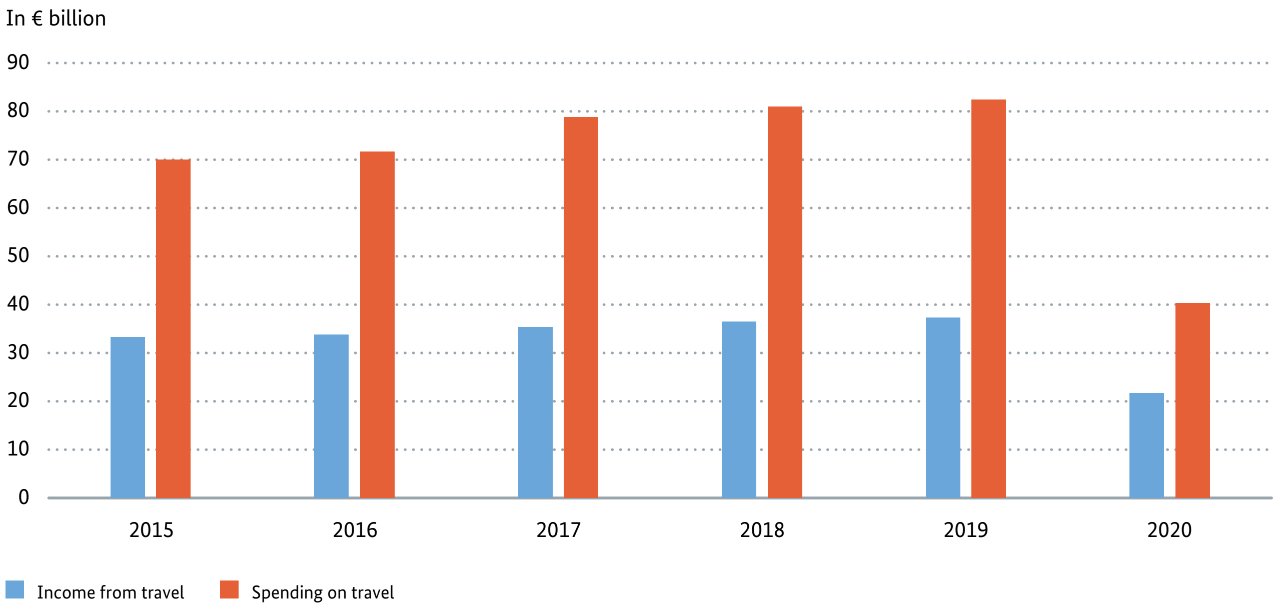
Significant revival of Germany's foreign trade

278. The negative impetus given by the global economy during the pandemic also had a negative effect on German exports. As the coronavirus crisis is being tackled and the global economy recovers, German exports are likely to see a marked increase during the projection period. This is also indicated by the cyclical dynamism observed in the German industrial sector at present – a sector which has been affected by the lockdown measures in a mostly indirect way. The effective exchange rate of the euro has increased considerably in recent months and can be expected to have a negative effect on exports.

Overall, exports of goods and services are set to rise considerably this year, by around 6.4%. Once the restrictions of public life are lifted, domestic demand is expected to see solid growth, which will also result in a steep increase in imports by approximately 7.2%. As global demand returns to normal, commodity prices will rise. This will mean that import prices will grow slightly more strongly than export prices. Consequently, the terms of trade will see a slight negative development after the significant improvement seen last year as a result of the slump in commodity prices.

Germany is an open economy in which exports make up an important share of overall demand and are therefore an important component in GDP development. Domestic absorption is covered partly by imports, which are likely to expand more quickly than exports in the relevant period. Despite a significant fall in exports, Germany's surplus dropped only slightly to 6.1% in 2020 as imports of services fell by a large margin because of the drastic reduction in cross-bor-

Diagram 29: Income and expenditure in cross-border travel



Source: Federal Statistical Office.

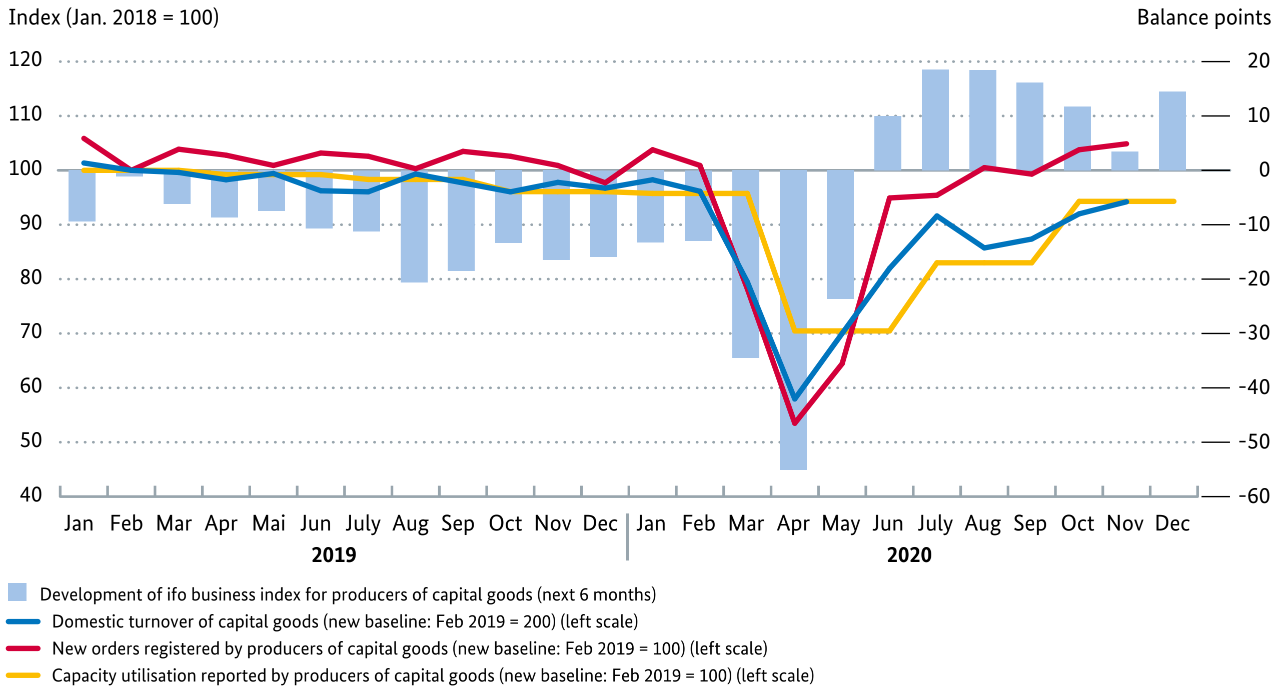
der travel undertaken by the domestic population (cf. Diagram 29). This year, the surplus is likely to rise only by a small margin to 6.3% as the robust industrial sector and its exports will only start to be offset as of the second half of the year, when cross-border travel resumes to a larger degree, resulting in imports of services.

Investment in equipment on the rise

279. For 2021, the Federal Government expects overall gross fixed capital formation to grow by 3.6%. This would not be enough to fully catch up on the losses of last year (-3.5%). As the infection is gradually being contained as a result of vaccine availability, an important driver of growth this year is likely to be the associated reduction in uncertainty, which has acted as a barrier to investment.

Until now, the investment indicators have continued their catch-up process begun after the first lockdown was eased in May 2020. So far, however, manufacturers of capital goods have only seen new orders return to a level similar to that before the crisis (even though the dynamism here has slowed down recently), whereas turnover and capacity utilisation have yet to catch up (cf. Diagram 30). The reason behind this recent downturn in the mood can be found in the recent rise in infections and the necessary tightening of measures taken to curb these. It is likely that this damper will continue in the first quarter. In the course of 2021, the investment climate should improve, not only because of the vaccines that become available. The enduring positive overall conditions, such as low-cost financing options and the projected recovery in the domestic economy, are other reasons to expect brighter developments.

Diagram 30: Indicators for investment in plant and equipment



Sources: Federal Statistical Office; ifo Institute; own calculations.

280. The close link that exists between German investment activity in machinery and equipment and the development of foreign trade is expected to have a decisive impact on the rebound of investment activity. This is because a large portion of investments is made by capital-intensive and export-driven industrial companies. The revival of the global industrial sector and of global trade should provide a palpable boost here. Pent-up demand will also play a role in this.

More than two thirds of all investment in equipment and machinery in recent years was in actual machinery and devices, with vehicles accounting for the remainder. Last year, turnover in these fields of the industrial sector fell by a drastic margin. Mechanical engineering companies, suppliers of electrical equipment, and manufacturers of electronic data processing and optical equipment saw their turnover fall by approximately 20% year on year. Turnover in the motor vehicle sector even dropped by 30%. For this year, this means that there is significant pent-up demand for investment. Taking all this into account, the Federal Government is expecting strong growth in investments in machinery and equipment this year (+6.5%). This comes after a 12.5% decline in the preceding year, as a result of the pandemic.

281. Unlike investment in machinery and equipment, investment in construction is less dependent on development in other economic sectors. Despite the coronavirus crisis, investment in construction rose by 1.5% in 2020. For 2021, the Federal Government is expecting a slightly stronger growth rate of 1.9%. Investments in construction continue to benefit from the low-cost financing options available and the high level of demand for housing, particularly in conurbations. On the supply side, however, high capacity utilisation is increasingly creating bottlenecks. The large number of unfilled positions in the sector has only come down a little against the backdrop of the crisis. The order books in construction show that demand is stable at a high level. Correspondingly, this is also boosting prices in the sector over the projection period.

Within the construction sector, commercial building remained weak (+0.5% in 2020), whereas housing construction has seen a more favourable development. Last year, the housing construction sector grew by 2.1%. This trend is likely to continue this year. On balance, the Federal Government is expecting housing construction to expand by 2.7%. After that, rising construction prices and worsening restrictions in supply are likely to put a damper on this trend. Public-sector construction, which acted as an important pillar of investment in construction last year, expanding by 3.3.%, will generate negative impetus in 2021 (-2.2%). The development in private non-residential construction is reflective of the economic situation of the manufacturing sector during the pandemic. Following a drop of 0.7% in 2020, the Federal Government is expecting an increase of no more than 1.9% this year, which is less than average.

The COVID-19 pandemic has highlighted the persisting need for further digitisation in the world of work and in the educational sector. A strong rise in investments in research and development and software and databases can therefore be expected. Consequently, the Federal Government expects investment in capital goods other than machinery and equipment to increase by 4.1%.

282. Altogether, gross fixed capital investment is expected to expand by 3.6% this year. The investment rate – i.e. nominal gross capital formation as a percentage of GDP – will increase to 22.2% in 2021. This compares to 20.3% five years ago.

Pandemic has left its mark on the job market

283. The COVID-19 pandemic is also making itself felt considerably on the job market. The number of gainfully employed persons fell for the first time in 2020 – after 14 years of growth. In response to the COVID-19 pandemic, the trend on the job market began to shift as early as in the first quarter of 2020. Gainful employment then fell considerably in the second quarter. However, this decline was markedly less pronounced that the slump in overall economic output. To a major degree, this is owed to extensive use of the short-time employment instrument. The number of people in work fell by 477,000 in the annual average. The number of unemployed rose by 429,000 to an average of 2.7 million people. There were an estimated 2.8 million people in short-time work in the annual average of 2020. The number of people in short-time work reached its peak in April, at 6 million.

284. Gainful employment is expected to rise only by a moderate margin in the beginning of 2021. Once cyclical recovery sets in in the second quarter, a slightly more pronounced increase can be expected. Overall for 2021, the Federal Government estimates that the number of gainfully active people will be flat. This is because the considerable decrease in 2020 causes a statistical underhang so strong that the increase expected over the year will not push the figure beyond the baseline. An increase in the number of jobs subject to social-security contributions contrasts with a fall in the number of self-employed people. This trend started years ago.

The number of registered unemployed is expected to go down slightly, by 76,000. Because of the lockdown, it is likely that the unemployment figure will not drop significantly at the beginning of the year, but later in the course of overall economic recovery.

Inflation rate influenced by rises in VAT rates and crude-oil price

285. Last year, the rise in the consumer price level in Germany slowed considerably, to an average of 0.5%. This means that the inflation rate was well below the target set by the European Central Bank for the entire eurozone. The low inflation rate resulted first from a strong fall in oil prices in spring 2020, which meant that prices for petroleum products also fell significantly. A second key factor was the temporary reduction in VAT rates that took effect on 1 July and was largely passed on to consumers. Beside these two factors, the base trend in terms of consumer price development was also weak, due to the coronavirus crisis.

It is likely that, as the economy recovers this year, consumer prices will slowly begin to rise again. However, overall economic capacity continues to be under-utilised. It is also likely that companies will see the cost of the containment measures fall again. Price levels for energy products, however, are likely to contribute to a rise in price levels this year. Future prices on the commodity exchanges at the beginning of 2021 suggest that an average oil price of approx. USD51 per barrel of Brent crude can be expected – well above the average price level of the preceding year (+15%). Furthermore, a number of measures introduced under the Climate Package entered into force at the beginning of 2021. These include CO2 emissions allowances in the fields of transport and heating for buildings. This will result in higher prices for petroleum products and natural gas – an increase which will be partially compensated for by a lower EEG surcharge on electricity. With the expiry of the temporarily reduced VAT rates as of the beginning of 2021, overall prices are expected to rise by approximately the same amount by which they were reduced in mid-2020.

The important component of rents is expected to have an average effect on the increase in overall price levels this year. Demand for living space tends not to be much affected by cyclical development and the rise in net rents excluding ancillary costs is largely determined by the comparatively slow development of rents in buildings that are not new. In view of the continuing high level of demand for housing in conurbations, however, the rise in the cost of rents excluding ancillary costs is likely to continue to rise.

All in all, at 1.5%, the rise in the consumer price level this year is likely to be significantly higher than in 2020. The core inflation rate (excluding energy and foodstuffs) expected for 2021 is 1.3%. The consumer spending deflator will rise by 1.6%, almost the same as the figure for consumer prices.

Economic recovery and government action prop up incomes

286. The recession that resulted from the pandemic also caused wages to fall last year. However, the decrease in wage levels was comparatively moderate given the pronounced slump in the overall economy. This was owed to factors including rises agreed in collective bargaining rounds in the previous years, but also a strong decline in marginal employment, which counteracted the average rate of wage decline. Despite the onset of the economic recovery and the comparatively resilient development of the industrial sector expected for this year, any collective wage agreements concluded this year can be assumed to be more moderate. However, actual wages are likely to rise somewhat more strongly given that the economic recovery is expected to go hand in hand with earnings not covered by collective wage agreements and that the number of people in short-time work will fall. Consequently, gross wages and salaries per employee (actual earnings) will rise by 3.0% in 2021 and therefore more strongly than earnings subject to collective wage agreements (+1.6%).

287. The overall decline in employment last year also had an effect on the total payroll, which was 1.1% smaller than that of the preceding year. This fall was, however, smaller than the one observed in corporate and investment income (-4.2%). A substantial portion of the income losses was compensated through social benefits other than social transfers in kind. These were significantly expanded by the Federal Government in response to the crisis (cf. Items 158 ff.). Furthermore, cuts in taxes and levies (cf. Items 142 ff.) caused net wages and salaries to see a considerably better development (-0.6%) than gross wages and salaries. Overall, it proved possible to stabilise personal disposable income levels in spite of the deep recession; in fact, this figure grew by 0.8% year on year.

288. This year, net wages and salaries are likely to see a strong rise as a result of measures such as the end of the solidarity surcharge for most income levels and the adjustments made to income tax as per the 2nd Act to reduce the burden on families. The 2021 'social guarantee' means that social security contributions will be largely stabilised at less than 40% of gross wages. Given the impending recovery, operating surpluses, incomes generated by self-employed persons and private-household incomes from assets should also grow (2021: +3.3%). Parallel to the recovery of wages and salaries, it is expected that pecuniary social benefits, which saw an extraordinary rise last year, will remain at a high level due to measures to support the job market and due to economic assistance. Overall, nominal disposable income of private households is likely to return to significant growth again this year (+2.7%).

The development in income is indicative of a continuing robust increase of 5.3% in consumer spending this year. Price-adjusted private consumption after the deduction of the inflation rate is expected to grow by 3.6%, following a strong drop of 6.0% last year.

Public-sector consumption growing more slowly, but still having a positive impact

289. In 2020, public-sector consumption grew by an extraordinary rate of 3.4%, acting as an important pillar of economic development. Among the most important drivers of public-sector consumption were the many measures taken to support business (cf. Items 7 ff. and Items 47 ff.). Another, albeit more moderate rise in public-sector spending (+1.1%) is also expected this year. As a result of the much higher expenditure and much lower tax revenue due to the pandemic, Germany's public-sector posted its first deficit since 2011, at a ratio of 4.8% of nominal GDP. This year, the gap will increase further because of the measures taken to combat the pandemic.

Overview 9: Key figures of the 2021 annual projection

Macroeconomic trends in the Federal Republic of Germany [1]	**2020**	**Annual projection 2021**
	Percentage change on preceding year, unless otherwise stated	
Gross domestic product (GDP). Output approach		
GDP (real)	**-5.0**	**3.0**
Total employment	-1.1	0.0
GDP per employee	-4.0	3.0
GDP per hour worked	-0.2	0.3
for information:		
Unemployment rate in % (ESA concept) [2]	4.0	*3.9*
Unemployment rate in % (Federal Employment Agency definition) [2]	*5.9*	*5.8*
GDP by expenditure (at current prices)		
Consumption expenditure		
Private consumption expenditure	-5.4	5.3
Public consumption expenditure	6.5	4.0
Gross fixed capital formation	-2.0	5.3
Change in stocks (€ billion)	*-52.1*	*-52.8*
Domestic demand	-3.3	5.1
Foreign balance of goods and services (€ billion)	*188.4*	*174.0*
Foreign balance of goods and services (as % of GDP)	*5.7*	*5.0*
Gross Domestic Product (nominal)	**-3.5**	**4.3**
GDP by expenditure (real)		
Consumption expenditure		
Private consumption expenditure	-6.0	3.6
Public consumption expenditure	3.4	1.1
Gross fixed capital formation	-3.5	3.6
Machinery and equipment	-12.5	6.5
Construction	1.5	1.9
Other plant and equipment	-1.1	4.1
Stockbuilding (GDP growth contribution) [3]	*-0.7*	*0.0*
Domestic demand	-4.1	3.1
Exports	-9.9	6.4
Imports	-8.6	7.2
External balance of goods and services (contribution to GDP growth) [3]	*-1.1*	*0.1*
Gross Domestic Product (volume)	**-5.0**	**3.0**
Prices (2015 = 100)		
Private consumption expenditure [4]	0.6	1.6
Domestic demand	0.8	1.9
Gross Domestic Product [5]	1.6	1.3
Distribution of gross national income		
(resident concept)		
Compensation of employees	-0.5	3.3
Income from self-employment and property	-7.5	7.2
National income	-2.5	4.4
Gross national income	-3.3	4.4
for information (resident concept):		
Employees	-0.7	0.2
Total gross wages and salaries	-1.1	3.2
Total gross wages and salaries per employee	-0.4	3.0
Disposible income of private households	0.8	2.7
Savings ratio in [6]	*16.3*	*14.1*

Sources: Federal Statistical Office; The Federal Government's 2021 Annual Projection.

1 Up to 2020 figures from the Federal Statistical Office; National Accounts Status: January 2021.
2 In relation to the total labour force.
3 Absolute change (stocks/external balance) in per cent of pre-year GDP (=contribution to change in GDP).
4 Consumer price index, percentage change on preceding year: 2020: 0.5 %; 2021: 1.5 %.
5 Unit labour costs, percentage change on preceding year: 2020: 4.3 %; 2021: 0.2 %.
6 Saving in per cent of private households' disposable income including occupational pension claims.

Box 17: Review of the 2020 Annual Projection

In 2020, Germany and the world's economic development was shaped by the COVID-19 pandemic. At the time when the annual projection was made in January 2020, the outbreak of the pandemic and the effect it would have could not be foreseen. The actual development thus deviated considerably from the predictions that had been made. According to provisional annual figures from the Federal Statistical Office, the price-adjusted gross domestic product fell by 5.0% in 2020. In contrast, the annual projection had predicted an increase of 1.1% in price-adjusted terms. Due to the pandemic, the German economy experienced an unprecedented slump in the first half of the year. The sharp decline in GDP in the second quarter was followed by strong growth in the third quarter, which lost momentum in the fourth.

The pandemic had a major impact on world trade. World trade declined overall in 2020, and this also had a negative impact on German exports. The disruption of worldwide supply chains, the global drop in demand and the increased uncertainty hit the export-oriented German economy particularly hard. However, the global economy, which started to pick up again in the summer, was able to mitigate the average annual decline somewhat. Nevertheless, exports declined significantly overall, falling by 9.9%. At the same time, imports declined somewhat less than exports, resulting in a negative net foreign demand (AP20: exports +2.0%, imports +3.2 %).

The pandemic-related recession and increased uncertainty also had an impact on investment. Investment in equipment saw a decline of 12.5% (AP20: +0.6%). Despite the difficult circumstances, investment in buildings was relatively robust (+1.5%; AP20: +2.1%). As a result, gross fixed capital formation declined by 3.5% in 2020. In this context, a strong expansion of investments by the Federal Government and the Länder counteracted the fall in private-sector investment.

In view of limited opportunities for consumption due to measures to contain the pandemic, real private consumer spending also developed negatively, shrinking -6.0%, contrary to the forecast in the annual projection (+0.3%). Public-sector consumption, on the other hand, increased by 3.4%, which was much more than expected (+0.5%). This was mainly due to the economic stimulus package and the Federal Government's support measures to combat the crisis.

Employment fell by an average of about 477,000 persons in 2020. The massive use of short-time work was able to support the number of gainfully active persons and prevent more extensive job losses. The instrument of short-time work was also so well accepted as companies tried to retain their employees given the general shortage of skilled workers. Unemployment rose by an annual average of 429,000 to an average of 2.7 million persons. The rate of unemployment rose by 0.9 percentage points to 5.9%. In the annual projection, the Federal Government had assumed a figure of around 2.3 million unemployed (5.0%) and a slight increase in employment of 0.4%.

The overall decline in employment in 2020 also had an effect on the total payroll, which was 1.1% smaller than that of the preceding year. Due to cuts in taxes and levies, net wages and salaries developed less negatively than gross wages and salaries, at -0.6%. Overall, the disposable income of private households increased only slightly, climbing by 0.8%. In the annual projection, gross wages and salaries were still expected to increase by 3.4% and disposable income by 2.8%.

Overview 10: Comparison between the 2020 annual projection and actual outcomes

Key figures for macroeconomic trends in the Federal Republic of Germany[1]	Annual projection 2020	Actual outcomes 2020
	Percentage change on preceding year, unless otherwise stated	
Gross domestic product (GDP). Output approach		
GDP (real)	**1.0**	**-5.0**
Total employment	0.9	-1.1
GDP per employee	0.2	-4.0
GDP per hour worked	0.5	-0.2
for information:		
Unemployment rate in % (ESA concept)[2]	*3.0*	*4.0*
Unemployment rate in % (Federal Employment Agency definition)[2]	*4.9*	*5.9*
GDP by expenditure (at current prices)		
Consumption expenditure		
Private consumption expenditure	2.7	-5.4
Public consumption expenditure	4.5	6.5
Gross fixed capital formation	5.3	-2.0
Change in stocks (€ billion	*1.0*	*-52.1*
Domestic demand	3.4	-3.3
Foreign balance of goods and services (€ billion)	*231.3*	*188.4*
Foreign balance of goods and services (as % of GDP)[7]	*6.6*	*5.7*
Gross Domestic Product (nominal)	**3.1**	**-3.5**
GDP by expenditure (real)		
Consumption expenditure		
Private consumption expenditure	1.3	-6.0
Public consumption expenditure	2.1	3.4
Gross fixed capital formation	2.4	-3.5
Machinery and equipment	2.3	-12.5
Construction	2.9	1.5
Other plant and equipment	1.4	-1.1
Stockbuilding (GDP growth contribution)[3]	*-0.2*	*-0.7*
Domestic demand	1.4	-4.1
Exports	2.7	-9.9
Imports	4.0	-8.6
External balance of goods and services (contribution to GDP growth)[3]	*-0.3*	*-1.1*
Gross Domestic Product (volume)	**1.0**	**-5.0**
Prices (2015 = 100)		
Private consumption expenditure[4]	1.4	0.6
Domestic demand	1.9	0.8
Gross Domestic Product[5]	2.1	1.6
Distribution of gross national income		
(resident concept)		
Compensation of employees	4.3	-0.5
Income from self-employment and property	0.2	-7.5
National income	3.1	-2.5
Gross national income	3.1	-3.3
for information (resident concept):		
Employees	1.1	-0.7
Total gross wages and salaries	4.2	-1.1
Total gross wages and salaries per employee	3.1	-0.4
Disposible income of private households	2.8	0.8
Savings ratio in %[6]	*10.4*	*16.3*

Sources: Federal Statistical Office; The Federal Government's 2021 Annual Projection.

1 Up to 2020 figures from the Federal Statistical Office; National Accounts Status: January 2021.
2 In relation to the total labour force.
3 Absolute change (stocks/external balance) in per cent of pre-year GDP (=contribution to change in GDP).
4 Consumer price index, percentage change on preceding year: annual projection 2020: 1.6 %; actual outcome 2020: 0.5 % .
5 Unit labour costs, percentage change on preceding year: annual projection 2020: 2.1 %; actual outcome 2020: 4.3 %.
6 Saving in per cent of private households' disposable income including occupational pension claims.
7 Current account balance: Annual projection 2020: +6.2 %; actual outcome 2020: +6.1 %.

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