

RHINE-NECKAR, GERMANY

A Territorial Approach to the Sustainable Development Goals in Rhine-Neckar, Germany



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Preface

The OECD and the Rhine-Neckar Metropolitan Region, Germany, are delighted to introduce the results of the policy dialogue that we conducted over the past 2 years with more than 100 stakeholders to strengthen a territorial approach to the United Nations (UN) Sustainable Development Goals (SDGs) in Rhine-Neckar.

In today's highly uncertain policy environment marked by the fallout from the COVID-19 crisis, Russia's war of aggression against Ukraine and the climate emergency, among other challenges, the SDGs offer a clear, stable and effective framework to help guide our collective efforts to build a more sustainable and resilient society.

To achieve its Vision 2025, the Rhine-Neckar Metropolitan Region put in place 11 fields of action that promote sustainability across policy areas, such as sustainable and needs-based mobility, regional innovation promotion, regional energy transition and education of the future. As part of its fields of action, the metropolitan region implemented several projects and strategies, including a mobility pact to foster sustainable transportation and a labour market and skills strategy to address demographic changes. It also participates in state-funded pilot projects to foster digitalisation and innovation.

The SDGs provide an integrated framework to address the main challenges the metropolitan region is confronted with, such as climate change, the impacts of digitalisation on the labour market, territorial disparities among urban and rural areas, as well as co-ordination of actors and policies across three different federal states (Baden-Württemberg, Hesse, Rhineland-Palatinate), including on funding. This report provides guidance on how to harness the implementation of the SDGs to respond to these challenges in a holistic and effective manner and, in turn, help the region drive its Vision 2025.

Throughout the policy dialogue underlying this report, we shared our experience with a wide variety of stakeholders in Rhine-Neckar and learned from peer policy makers from the province of Córdoba (Argentina), the region of Flanders (Belgium), the region of Southern Denmark (Denmark) and the city of Strasbourg (France). The OECD and the Rhine-Neckar Metropolitan Region worked with numerous municipalities and institutions from public, private and non-profit sectors to build consensus, discuss the policy recommendations and scale up success stories.

Both our institutions are proud of this journey and the results achieved. We now look forward to continued collaboration to translate the policy recommendations into action in the future.



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Acknowledgements

This report was prepared by the OECD Centre for Entrepreneurship, SMEs, Regions and Cities (CFE) led by Lamia Kamal-Chaoui, Director, as part of the Programme of Work and Budget of the Regional Development Policy Committee (RDPC). It is the result of a 2-year policy dialogue with more than 100 stakeholders from public, private and non-profit sectors across all levels of government in the Rhine-Neckar Metropolitan Region, Germany.

The report was drafted by Lorenz Gross, Junior Economist/Policy Analyst, and co-ordinated by Lorenz Gross and Stefano Marta, Co-ordinator of the OECD Programme on a Territorial Approach to the SDGs, under the supervision of Aziza Akhmouch, Head of the Cities, Urban Policies and Sustainable Development Division in the CFE, and Soo-Jin Kim, Deputy Head. The report benefitted from the statistical support of Marcos Díaz Ramírez, who helped analyse the local SDG data.

The OECD Secretariat is grateful for the high-level political impetus from and commitment of Stefan Dallinger, Chairman of the Rhine-Neckar Regional Association (Verband Region Rhein-Neckar). Special thanks are also conveyed to the excellent local team composed of Boris Schmitt, Head of Public Relations and Regional Management, Laura Hammer, Public Relations and Regional Management, Kristine Klev, European Affairs/Cross-Border Co-operation at the Rhine-Neckar Regional Association, and the managing directors of the three institutions that form the Rhine-Neckar Metropolitan Region: Peter Johann, Metropolregion Rhein-Neckar GmbH, Kirsten Korte, Verein Zukunft Metropolregion Rhein-Neckar, and Ralph Schlusche, Rhine-Neckar Regional Association.

Warm thanks are extended to the four international peer reviewers who participated in study missions and provided international best practices as well as guidance on the report based on their expertise: Melisa Gorondy Novak from the province of Córdoba, Argentina; Ine Baetens from the region of Flanders, Belgium; as well as Hailey Grace Haynes and Yves Zimmermann from the city of Strasbourg, France.

Thanks are extended to François Iglesias and Pilar Philip in the CFE for preparing the report for publication, as well as to Eleonore Morena for editing and formatting the report.

The report was approved by the OECD Working Party on Urban Policy on 29 November 2022 under the cote CFE/RDPC/URB(2022)18.

Table of contents

Preface	3
Acknowledgements	5
Abbreviations and acronyms	9
Executive summary	11
1 Policies and strategies for sustainable development	15
Key facts about the Rhine-Neckar Metropolitan Region, Germany	16
The administrative structure of the Rhine-Neckar Metropolitan Region	17
Policies and strategies for the 2030 Agenda and the SDGs	20
References	34
Notes	37
2 Sustainable development challenges and opportunities	39
The importance of data-driven policies: Rhine-Neckar's work on the SDG indicators	40
Measuring the distance to achieving the SDGs in the Rhine-Neckar Metropolitan Region	42
The SDGs to respond to interlinked sustainability challenges and megatrends	52
References	55
3 Multi-level governance and stakeholder engagement for the SDGs	59
Vertical and horizontal co-ordination to implement the SDGs	60
The SDGs as a tool to engage citizens, youth, the private sector and civil society	64
References	70
Notes	73
4 Policy recommendations	75
Policy recommendations	76
References	86

FIGURES

Figure 1.1. The Metropolitan Region Rhine-Neckar	16
Figure 1.2. The administrative structure of the Rhine-Neckar Metropolitan Region	18
Figure 1.3. Rhine-Neckar's Vision 2025	21
Figure 1.4. The OECD analytical framework for A Territorial Approach to the SDGs	23
Figure 1.5. Envisaged cycling highway infrastructure to be developed in Rhine-Neckar	27

Figure 2.1. Rhine-Neckar Metropolitan Atlas	40
Figure 2.2. The 17 Sustainable Development Goals	43
Figure 2.3. Hospital beds rate, 2016	45
Figure 2.4. Municipal waste rate, 2015	47
Figure 2.5. Modal split of journeys in the Rhine-Neckar Metropolitan Region	48
Figure 2.6. Unemployment rate, 2017	50
Figure 2.7. Broadband Internet access, 2016	52
Figure 2.8. Population forecast for the Rhine-Neckar Metropolitan Region	53
Figure 3.1. The metropolitan region's civic engagement <i>wir-schaffen-was</i> database	67
Figure 4.1. Eight key recommendations for a territorial approach to the SDGs in the Rhine-Neckar Metropolitan Region	78
Figure 4.2. Action plan to implement OECD Recommendation 1 to use the SDGs to strengthen policies that address the main challenges affecting the Rhine-Neckar Metropolitan Region	79
Figure 4.3. Action plan to implement OECD Recommendation 2 to create a holistic strategy for the implementation of the SDGs in the metropolitan region	80
Figure 4.4. Action plan to implement OECD Recommendation 3 to leverage the SDGs to address regional disparities across the Rhine-Neckar Metropolitan Region	81
Figure 4.5. Action plan to implement OECD Recommendation 4 to strengthen co-ordination between the Rhine-Neckar Metropolitan Region and federal states on sustainable development policies and SDG implementation	82
Figure 4.6. Action plan to implement OECD Recommendation 5 to guide municipalities on how to integrate the SDGs in budgeting processes and incentivise sustainable public procurement	83
Figure 4.7. Action plan to implement OECD Recommendation 6 to further develop the Rhine-Neckar Metropolitan Atlas	84
Figure 4.8. Action plan to implement OECD Recommendation 7 to establish a civil society forum for sustainable development	85
Figure 4.9. Action plan to implement OECD Recommendation 8 to set up a sustainable development platform for private sector actors	86

TABLES

Table 1.1. Organisation and competencies of the Rhine-Neckar Metropolitan Region	19
Table 2.1. OECD indicators used to assess the dimension People in the Rhine-Neckar Metropolitan Region	44
Table 2.2. OECD indicators used to assess the dimension Planet in the Rhine-Neckar Metropolitan Region	46
Table 2.3. OECD indicators used to assess the dimension Prosperity in the Rhine-Neckar Metropolitan Region	49
Table 2.4. OECD indicators used to assess the dimensions Peace and Partnerships in the Rhine-Neckar Metropolitan Region	51
Table 3.1. Examples of companies in the Rhine-Neckar Metropolitan Region working on the SDGs	68

BOXES

Box 1.1. The three main administrative bodies of the Rhine-Neckar Metropolitan Region	18
Box 1.2. Objectives of the Vision 2025 of the Metropolitan Region Rhine-Neckar	20
Box 1.3. Why a territorial approach to the SDGs?	22
Box 1.4. Linking decentralised development co-operation projects to the SDGs in the Rhine-Neckar Metropolitan Region	33
Box 2.1. SDG monitoring in the city of Mannheim	42
Box 2.2. OECD methodology for measuring cities' and regions' distance to achieving the SDGs	42
Box 3.1. Mannheim's first Voluntary Local Review	62
Box 3.2. Start-up infrastructure for sustainability in Mannheim	69
Box 4.1. OECD Checklist for Public Action to Localise the SDGs	76
Box 4.2. OECD action plan for a territorial approach to the SDGs in Rhine-Neckar	77

Abbreviations and acronyms

BMWK	Federal Ministry for Economic Affairs and Climate Action (<i>Bundesministerium für Wirtschaft und Klimaschutz</i>)
BUGA23	German National Garden Show 2023 (<i>Bundesgartenschau 2023</i>)
BULE	Federal Rural Development Scheme (<i>Bundesprogramm Ländliche Entwicklung</i>)
CNCPS	National Council for the Co-ordination of Social Policies (<i>Consejo Nacional de Coordinación de Políticas Sociales</i>)
CSO	Civil society organisation
EGTC	European Grouping of Territorial Cooperation
EUR	Euro
GDP	Gross domestic product
GGEW	<i>Gruppen-Gas- und Elektrizitätswerk Bergstraße Aktiengesellschaft</i> (informal translation: Group gas and electricity plant Bergstraße joint-stock company)
GmbH	Limited liability company (<i>Gesellschaft mit beschränkter Haftung</i>)
IKM	Group of European Metropolitan Regions in Germany (<i>Initiativkreis Europäische Metropolregionen in Deutschland</i>)
INKAR	Indicators and maps on spatial and urban development (<i>Indikatoren und Karten zur Raum- und Stadtentwicklung</i>)
IT	Information technology
ITF	International Transport Forum
Kg	Kilogram
KPI	Key performance indicator
METREX	Network of European Metropolitan Regions and Areas
MiTE	Ministry of Ecological Transition (<i>Ministero della transizione ecologica</i>)
MRN	Rhine-Neckar Metropolitan Region (<i>Metropolregion Rhein-Neckar</i>)
NGO	Non-governmental organisation
NSDS	National Sustainable Development Strategy
OECD	Organisation for Economic Co-operation and Development
PM	Particulate matter
POI	Point of interest
PPA	Multi-year Plan (<i>Plano Plurianual</i>)
PPP	Purchasing power parity
SDG	United Nations Sustainable Development Goal
SKEW	Service Agency Communities in One World (<i>Servicestelle Kommunen in der Einen Welt</i>)
SME	Small- and medium-sized enterprise
STEK	Urban development concept (<i>Stadtentwicklungskonzept</i>)
STEM	Science, technology, engineering and mathematics
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
USD	United States Dollar
VLR	Voluntary Local Review
VRN	Rhine-Neckar Transport Association (<i>Verkehrsverbund Rhein-Neckar</i>)
VRRN	Rhine-Neckar Regional Association (<i>Verband Metropolregion Rhein-Neckar</i>)
VSR	Voluntary Subnational Review
WHO	World Health Organization

Executive summary

Home to around 2.4 million people, the Rhine-Neckar Metropolitan Region is one of Germany's 11 metropolitan regions and has the particularity of spanning 3 federal states (Baden-Württemberg, Rhineland-Palatinate and Hesse). It performs strongly on health, employment, research, innovation and household income. At the same time, Rhine-Neckar is grappling with a number of challenges, including an ageing population, the impacts of digitalisation on the labour market, climate change, territorial disparities, as well as multi-level governance challenges related to its cross-state nature.

Key findings

Rhine-Neckar performs better than the average of OECD regions on the SDGs related to health, unemployment, research and disposable income levels...

- The metropolitan region registers a low infant mortality rate (3.2 deaths of children 1 year or younger, compared to the OECD average of 5.9), a relatively high hospital bed rate (62 per 10 000 people, more than 20 beds above the OECD average of 41) and good life expectancy (81.4 years, 2 years more than in OECD average) (SDG 3).
- In 2019, Rhine-Neckar's unemployment rate of 2.9% was far below the OECD average of 7.6. Youth unemployment (5.3%) was also less than a third of the OECD average (16.7%) (SDG 8).
- Rhine-Neckar devotes more than 4% of its gross domestic product (GDP) to research and development (R&D) expenditure, more than twice the average of OECD regions (1.6%) (SDG 9).
- Disposable income growth rates (around 2.6% per year in 2015-19) outperform the majority of OECD regions (0.5% on average) (SDGs 9 and 10).

... but is facing challenges with regard to ageing, digitalisation, climate change and territorial disparities

- The share of Rhine-Neckar's population aged 60 or more is expected to rise from 27% in 2015 to 35% by 2035. In the healthcare sector, which is already suffering from staff shortages, the share of employees above 50 years old exceeded 34% in 2016.
- The share of households who have access to broadband Internet in the metropolitan region (86% in 2017) remains below the national average (90%) (SDG 17). Expanding digital skills is also seen as a key factor to tackle the high share of long-term unemployment in the metropolitan region (29.4% in 2020, similar to the OECD regional average of 30.2% and Germany's national average of 30.3%).
- An important area where Rhine-Neckar has room for improvement compared to other OECD regions is responsible consumption and production (SDG 12). Air pollution levels are above World Health Organization (WHO) recommended levels and the dominance of individual cars (which account for 58% of the modal split in the metropolitan region vs. only 9% for public transport) is

reflected in the high number of motor road vehicles (59.4 per 100 people in Rhine-Neckar, i.e. about 20 more than in OECD regions on average) (SDG 12). The average municipal waste rate per capita (480 kg in 2016) in the metropolitan region is higher than in more than 70% of OECD regions, which average at 410 kg (SDG 12).

- The metropolitan region is characterised by territorial disparities, notably in terms of educational attainment and mobility. The share of workers with a tertiary degree is considerably higher in the central urban core where the main companies and higher education institutions are concentrated (31.9% in Heidelberg compared to 9.2% in Rhine-Palatinate). Accessibility to public transport is also lower in rural areas. For example, the frequency of public transport (measured by the number of possible bus/train departures per inhabitant per day) is more than three times lower in rural areas such as Odenwald and Palatinate compared to larger cities such as Ludwigshafen and Mannheim.

The Rhine-Neckar Metropolitan Region has identified 11 fields of action and related sectoral strategies to advance sustainable development

- The Rhine-Neckar Metropolitan Region has established a regional development strategy called Vision 2025, with the ambition to be recognised as one of the most attractive and competitive regions in Europe by 2025. The strategy has identified 11 fields of action: i) sustainable and needs-based mobility; ii) networking, co-operation and positioning in Europe; iii) needs-based and balanced settlement and spatial development; iv) regional innovation promotion; v) health; vi) interconnected public administration; vii) culture; viii) regional energy transition; ix) labour market; x) education of the future; and xi) civic engagement. Vision 2025 complements the region's unified regional plan, a binding spatial development plan across federal states.
- In addition to the 11 fields of action, Rhine-Neckar has developed a number of sectoral strategies. For example, it has established a network on demographic change to raise awareness about ageing and the future of the care sector. It has also set up an online platform called the KommunalCampus to train municipal employees in digitalisation. In 2021, it initiated a mobility pact with regional partners (such as the three federal states, chambers of commerce and industry, and public transport associations) to promote more sustainable mobility in the region (e.g. cycling, walking).

However, the lack of co-ordination with and among the three federal states creates multi-level governance challenges, notably in terms of access to and pooling of funding

- While the metropolitan region co-ordinates various SDG-related activities within its boundaries, and all three federal states have adopted their own sustainability strategy, they set different priorities and there is no co-ordination mechanism between the Rhine-Neckar Metropolitan Region and the states for sustainable development. Even though the metropolitan region has set up a digital platform called the Rhine-Neckar Metropolitan Atlas to make a large range of spatial and socio-economic data accessible to the public, there are different sustainable development indicators and monitoring systems across states, which makes it difficult to track the metropolitan region's overall SDG performance or progress.
- Despite the existence of a regional development strategy, its implementation is hampered by the fact that pooling of funding for projects that cut across the three states is usually not possible, since state funding can only be spent on projects in the corresponding state.

Rhine-Neckar has an active civil society landscape and global companies working on the SDGs but further efforts are needed

- Many civil society organisations (CSOs) in Rhine-Neckar have already integrated the SDGs into their core work. Through participatory processes and events such as the “volunteer day”, the metropolitan region has raised public awareness about the importance of civic engagement for sustainable development.
- Large companies based in Rhine-Neckar are increasingly integrating sustainability targets into their business strategies, partially driven by investors and customers. For example, the company BASF has developed a digital application that allows customers to calculate the carbon footprint for its 45 000 sales products as part of its effort to its 2050 objective to achieve net-zero CO₂ emissions (SDG 13 Climate Action). Software company SAP assesses the direct and indirect impact of its policies on 8 SDGs in its yearly integrated report, using key performance indicators (KPIs) and target assessments. Some initiatives also address specific SDGs, such as the network ETA-Metropol Rhine Main Neckar for energy efficiency and climate protection (SDGs 7 and 13). However, the level of awareness and uptake among SMEs is lower, as they often have no sustainability department and may perceive engagement in the SDGs as a burden with higher operational costs.

Policy recommendations

Planning, policies, strategies and indicators

- **Further develop the Rhine-Neckar Metropolitan Atlas by including an interactive SDG dashboard with an integrated indicator framework.** Link the existing range of indicators in the metropolitan atlas to the SDGs, so that the atlas can also serve as a monitoring tool over time.
- **Use the SDGs to strengthen policies that address the main challenges affecting the Rhine-Neckar Metropolitan Region.**
 - *Demography:* Update the regional strategy for demographic change by using the SDGs as a framework to bundle and co-ordinate activities in the areas of education and the labour market across the metropolitan region, i.e. assessing the impact of possible synergies of projects between the areas of SDG 4 Quality Education, SDG 9 Decent Work and Economic Growth and SDG 9 Industry, Innovation and Infrastructure.
 - *Digitalisation:* Seize the opportunities of digitalisation to nurture new drivers of growth and employment. In particular, develop joint programmes between Rhine-Neckar’s fields of action by using the SDGs as a framework to exploit synergies between digitalisation and to further improve skillsets across all ages (SDG 4) and better prepare the youth and active population for the future of work (SDG 8).
 - *Climate change:* Develop a dedicated strategy to tackle the impacts of climate change in the metropolitan region. This strategy should be aligned with the SDGs and existing sectoral efforts of the metropolitan region’s fields of action to foster clean energy (SDG 7), low-carbon mobility (SDGs 9 and 11) and technological innovation (SDG 9) to promote policy coherence and use synergies between them (e.g. expansion of renewable energy production to lower the carbon footprint of electric mobility) to reduce greenhouse gas emissions from transportation and Rhine-Neckar’s major industrial companies.
 - *Transport and mobility:* Promote the expansion of sustainable transport infrastructure, notably by scaling up the existing green hydrogen mobility model projects and the envisaged expansion of the cycling infrastructure, and assess the impact of new projects in the transport sector on different SDGs, including synergies and trade-offs between them.

- **Leverage the SDGs to address regional disparities across the Rhine-Neckar Metropolitan Region.** In particular, use the SDGs as a framework to monitor and target existing urban-rural disparities in Rhine-Neckar in terms of inequalities, the concentration of firms, the supply of basic services and care workers as well as accessibility and mobility.
- **Create a holistic strategy for the implementation of the SDGs in the metropolitan region.** It should incorporate Rhine-Neckar's Vision 2025, its 11 fields of action and the unified Rhine-Neckar Regional Plan. By considering the various existing strategies, it should help break policy silos and showcase concretely how the metropolitan region's 11 different fields of action contribute to the SDGs by setting specific sustainable development targets that Rhine-Neckar aims to achieve by 2030.

Multi-level governance, financing and budgeting, and stakeholder engagement

- **Strengthen co-ordination between the Rhine-Neckar Metropolitan Region and the three federal states on sustainable development policies and SDG implementation.** In particular, the metropolitan region and the states of Baden-Württemberg, Hesse and Rhineland-Palatinate should intensify their collaboration on the harmonisation and pooling of funding for sustainable development, e.g. in the first instance, by launching small-scale projects to pilot joint funding mechanisms provided by the three federal states and to allow spending of federal state funds across states in the metropolitan region, which is currently not possible for legal reasons.
- **Guide municipalities on how to integrate the SDGs in budgeting processes at the municipal level and incentivise sustainable public procurement (SPP) by identifying SPP guidelines and showcasing good practices.** Incentivising municipalities and districts in the region to use the SDGs in their budgeting processes could allow them to scale up existing efforts in the metropolitan region.
- **Establish a civil society forum for sustainable development in the Rhine-Neckar Metropolitan Region.** Building on the rich CSO landscape, such a forum should be open to all civil society actors to discuss ideas, funding opportunities, possible areas of collaboration and potential synergies between different NGOs and foundations to ensure their buy-in to advance the 2030 Agenda in Rhine-Neckar.
- **Set up a sustainable development platform for private sector actors from the region to promote the exchange of knowledge and good practices on the SDGs and facilitate their uptake among companies, including SMEs.** A platform for exchange between private companies, managed by the metropolitan region, could improve networking and co-ordination to create synergies among companies and further engage them in the SDG policies and actions implemented in the region.

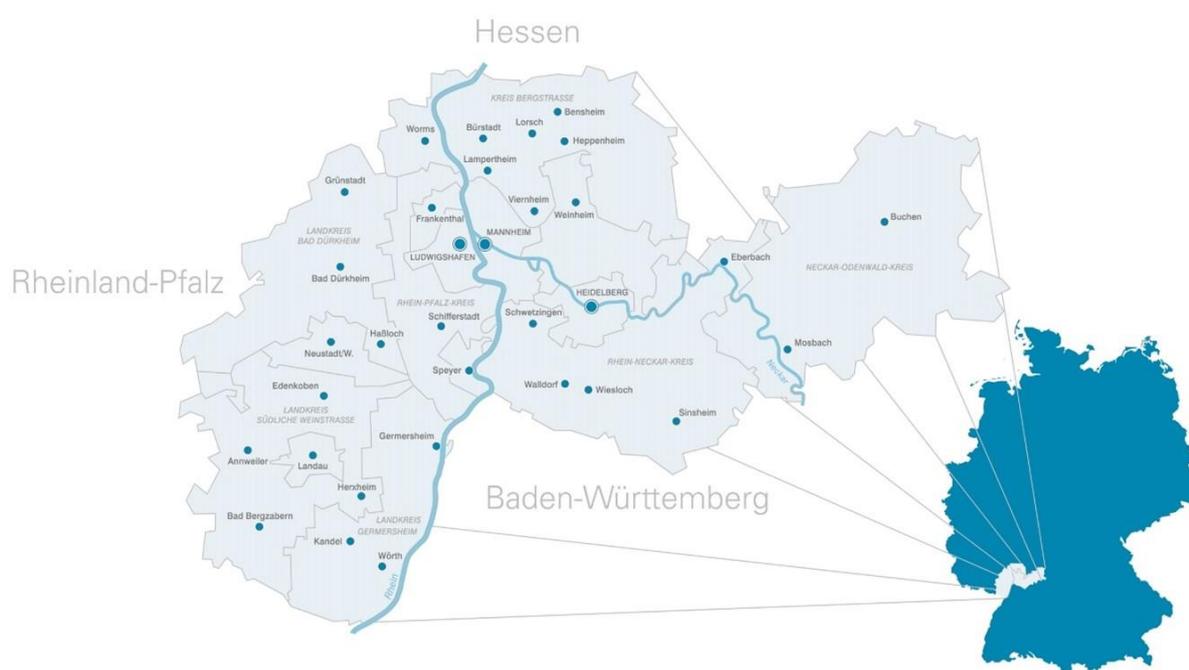
1 Policies and strategies for sustainable development

The Rhine-Neckar Metropolitan Region has established a regional development vision that consists of 11 fields of action ranging from mobility, labour, education and digitalisation to health, innovation and culture. The fields of action are conceived as a tool to promote sustainability across different policy areas. As part of its activities, the metropolitan region co-ordinates various policies such as a mobility pact to foster sustainable transportation, measures to address demographic changes such as a labour market and skills strategy and to foster digitalisation through the participation in federal and state-funded pilot projects. While most measures contribute to the achievement of the 2030 Agenda, the United Nations (UN) Sustainable Development Goals (SDGs) are not yet mainstreamed in all fields of action.

Key facts about the Rhine-Neckar Metropolitan Region, Germany

The Rhine-Neckar Metropolitan Region is located in southwest Germany spanning three federal states. The region, named after the rivers Rhine and Neckar, was officially declared a European Metropolitan Region in 2005. Approximately 2.4 million people live in an area of around 5 600 square kilometres (km²). Rhine-Neckar includes 7 counties, 8 independent cities and a total of 290 municipalities across the 3 federal states of Baden-Württemberg, Rhineland-Palatinate and Hesse (Figure 1.1). The largest cities are Mannheim, Ludwigshafen and Heidelberg, with 310 658, 172 253 and 161 485 inhabitants respectively in 2019 (Rhine-Neckar Metropolitan Region, 2022^[1]). In addition to these 3 major urban centres, there are 30 medium-sized cities spread throughout the region. Overall, around 72% of the population live in high-density urban areas and urbanised areas, whereas 28% of the population lives in peripheral rural areas (City of Nuremberg, 2019^[2]). The Odenwald and Palatinate regions in the east and west of Rhine-Neckar are rural areas, sometimes with fewer than 100 inhabitants per km². The Rhine-Neckar Metropolitan Region covers 1.6% of the total area in Germany, making it the smallest of the 11 metropolitan regions. However, it is also the region with the second-highest population density (422 inhabitants per km²) and the second-highest share of area for used settlement and transport (18.4%).

Figure 1.1. The Metropolitan Region Rhine-Neckar



Source: Verbandsgemeinde Bellheim (2022^[3]), *Metropolregion Rhein-Neckar [Rhine-Neckar Metropolitan Region]*, https://www.bellheim.de/vg_bellheim/Wirtschaft/Metropolregion%20Rhein-Neckar/ (accessed on 14 January 2022).

The metropolitan region is home to around 160 000 companies, including some global corporations in the fields of building materials, chemicals, construction and engineering, food processing, mechanical engineering and software. These large companies are mainly located in the urban core of the Rhine-Neckar region, in particular in the functional urban areas of Mannheim-Ludwigshafen and Heidelberg. Three firms headquartered in the Rhine-Neckar Metropolitan Region (BASF, HeidelbergCement, SAP) are part of the German stock index DAX, the index of the 40 major German companies listed on the stock market. The rural areas in the Rhine-Neckar Metropolitan Region are mostly characterised by small- and medium-sized

enterprises (SMEs). Key sectors of Rhine-Neckar's economy are the automotive sector, biotechnology, chemicals, energy, health and life science, information technology (IT and mechanical engineering (Rhine-Neckar Metropolitan Region, 2021^[4]). The export ratio of the region's manufacturing sector (60%) lies above the German average (40%). In 2019, Rhine-Neckar's gross regional product reached EUR 102.5 billion, primarily driven by the services sector (64.7%), followed by manufacturing (34.5%) and agriculture and forestry (0.8%). The metropolitan region's gross domestic product (GDP) per employed person in 2019 was EUR 79 351, slightly above the German average of EUR 76 190 (Rhine-Neckar Metropolitan Region, 2022^[11]).

Rhine-Neckar exhibits GDP growth rates above 3% and a disposable household income above the German average but these performances mask territorial disparities. Between 2014 and 2018, the gross regional product in the metropolitan region increased by an average of around 3.1%, just below the German average of 3.4%. However, growth rates varied within the metropolitan region, ranging from 1.3% in the district of Frankenthal to 4.0% in the city of Mannheim. The average disposable income of private households per capita of around EUR 24 000 in Rhine-Neckar in 2018 is higher than the German average of EUR 22 900 but there are again regional disparities of around EUR 7 000 between the district of Bad Dürkheim (EUR 26 900) and the city of Ludwigshafen (EUR 19 800). In 2020, the average unemployment rate in Rhine-Neckar was 5.4%, below the German average of 5.9% but ranging from 3.8% in the Neckar-Odenwald district to 9.7% in the city of Ludwigshafen (Rhine-Neckar Metropolitan Region, 2022^[11]).

The metropolitan region is a hub for higher education and research. In 2018, the metropolitan region counted around 88 000 students across 22 higher education institutions, with most of them enrolled at the universities of Heidelberg, Germany's oldest university, and Mannheim (IKM, 2021^[5]). In addition, the metropolitan region Rhine-Neckar hosts more than 30 research institutions. These include the Centre for European Economic Research (*Zentrum für Europäische Wirtschaftsförderung*), the European Molecular Biology Laboratory, the German Cancer Research Center and four Max Planck Institutes that belong to a non-profit association of German research institutes (Rhine-Neckar Metropolitan Region, 2021^[4]). Overall, 2.3% of employees in the metropolitan region work in research and development. Several industry clusters have been established in the region, where private companies, higher education institutions and research institutes collaborate in their respective field of expertise, notably life science (BioRN), organic electronics (Forum Organic Electronics) and biomedicine (*Centrum für Biomedizin und Medizintechnik Mannheim*) (Rhine-Neckar Metropolitan Region, 2017^[6]).

The administrative structure of the Rhine-Neckar Metropolitan Region

The Rhine-Neckar Metropolitan Region pursues a public-private partnership model that is unique in Germany. Created through a state treaty between the three federal states Baden-Württemberg, Rhineland-Palatinate and Hesse, the metropolitan region consists of three main entities: the Verband Region Rhein-Neckar (Rhine-Neckar Regional Association), the Rhein-Neckar GmbH (Rhine-Neckar limited liability company) and the Verein Zukunft Metropolregion Rhein-Neckar (Association for the Future of the Rhine-Neckar Metropolitan Region) (Figure 1.2 and Box 1.1). The state treaty assigns the metropolitan region the role of co-ordinator across 3 federal states, 7 counties and 290 municipalities in various policy areas, with a legally binding mandate in cross-border regional planning and spatial planning.

Figure 1.2. The administrative structure of the Rhine-Neckar Metropolitan Region

Verband Region Rhein-Neckar	Metropolregion Rhein-Neckar GmbH	Zukunft Metropolregion Rhein-Neckar
<p>Regional association</p> <ul style="list-style-type: none"> • <u>Responsibilities:</u> Cross-border regional planning, spatial planning, regional development • Assembly of the association is the highest decision making body • Financed by municipalities and districts in the metropolitan region 	<p>Development company</p> <ul style="list-style-type: none"> • <u>Responsibilities:</u> Further develop the region economically, socially and ecologically • Formed by the regional and non-profit association and chambers of commerce • Financed by shareholders, corporate sponsors and project-related subsidies from different levels of government 	<p>Non-profit association</p> <ul style="list-style-type: none"> • <u>Responsibilities:</u> Promote the metropolitan region and strengthen strategic dialogue between members and stakeholders • Board of the association determines strategic priorities • Financed by contributions and donations from members and sponsors (businesses, sciences, administration and civil society) as well as project funding

Source: OECD elaboration based on Rhine-Neckar Metropolitan Region (2021^[7]), "Response of the Metropolitan Region Rhine-Neckar to the OECD pilot project survey".

Box 1.1. The three main administrative bodies of the Rhine-Neckar Metropolitan Region

Verband Region Rhein-Neckar

The Verband Region Rhein-Neckar (VRRN) is a German regional association (merger of municipalities and associations of municipalities for the joint execution of regional planning) and is thus not part of the classic administrative hierarchy, although it constitutes a level between the urban and rural districts on the one hand and the federal states on the other. As a regional association, the VRRN is responsible for cross-border regional planning and spatial planning in the Rhine-Neckar Metropolitan Region, notably the development, update and realisation of the unified Rhine-Neckar Regional Plan, the region's spatial development plan. In addition to planning, the Verband Region Rhein-Neckar is responsible for a variety of regional development tasks that can contribute to the achievement of the SDGs, such as: European co-operation, energy transition, land use management, spatial monitoring, demographic change, tourism and inland marketing, recreation planning, business promotion, congresses and trade fairs, cultural and sporting events as well as the regional co-ordination in traffic planning, traffic management and energy supply. Its work is largely financed by its members.¹ The assembly of the association is the highest body of the VRRN. It takes all decisions in regional planning and regional development as well as on memberships. The assembly is composed of 97 members in total: 74 members who are seconded by the regional authorities, i.e. elected by the respective district council or city council, and the 23 district councils and mayors of the cities with more than 25 000 inhabitants.

Metropolregion Rhein-Neckar GmbH

The Metropolregion Rhein-Neckar GmbH is the metropolitan region's development company. It was founded in 2006 by the metropolitan region's non-profit association Zukunft Metropolregion Rhein-Neckar (Association for the Future of the Metropolitan Region), the Verband Metropolregion Rhein-Neckar and the Rhine-Neckar, Palatinate and Darmstadt Chambers of Commerce and Industry.

Its main task is to further develop the region economically, socially and ecologically in close co-operation with regional actors and to raise awareness of the metropolitan region in Germany and beyond. To that end, the company develops regional strategies in its areas of work, supports regional networks and provides a platform for regional stakeholders to advance joint projects and initiatives (Rhine-Neckar Metropolitan Region, 2021^[8]). Its work is financed by its shareholders and corporate sponsors as well as project-related subsidies from the states, the federal government and the European Union.

Zukunft Metropolregion Rhein-Neckar

The mission of the non-profit association Zukunft Metropolregion Rhein-Neckar (Future of the Metropolitan Region Rhine-Neckar) is to promote the Rhine-Neckar Metropolitan Region. In particular, the association aims to help make Rhine-Neckar known and recognised as one of the most attractive and competitive regions in Europe by 2025. The association brings together over 750 members from the private sector, the science community and politics. In particular, the association supports regional initiatives and collaboration for charitable purposes in a range of areas linked to the SDGs, namely research, education, health, art and culture, regional identity, environmental protection, civic engagement and regional co-operation. The association's work is financed by contributions (EUR 1 per day) and donations from its more than 750 members and sponsors from the business sector, science, administration and civil society as well as project-based funding. The board of the association, which determines the strategic orientation and regional development priorities, consists of up to 16 members from business, science and politics to account for the cross-sectoral nature of regional development. Zukunft Metropolregion Rhein-Neckar (Future of the Metropolitan Region Rhine-Neckar) and the Verband Region Rhein-Neckar are the main shareholders of the Metropolregion Rhein-Neckar GmbH.

Table 1.1. Organisation and competencies of the Rhine-Neckar Metropolitan Region

Legal mandate (yes/no)	Yes
Legal basis for co-operation	State treaty
Legal form	Public-private partnership: Public association (Verband Metropolregion Rhein-Neckar), private association (Zukunft Metropolregion Rhein-Neckar e.V.), limited company (Metropolregion Rhein-Neckar GmbH)
Central governing body	Yes
Determined/elected by (e.g. federal state)	General assembly (Verband Metropolregion Rhein-Neckar)
Composed of (e.g. municipality representatives)	Representatives of the general assembly (Verband Metropolregion Rhein-Neckar)
Ability to set own governing rules	Yes
Number of full-time staff	71 (Metropolregion Rhein-Neckar GmbH), 35 (Verband Metropolregion Rhein-Neckar), 3 (Zukunft Metropolregion Rhein-Neckar e.V.)
Budget	EUR 12.37 million in 2022 (Verband Metropolregion Rhein-Neckar and Metropolregion Rhein-Neckar GmbH), EUR 620 000 (Zukunft Metropolregion e.V.)
Budget cycle	1 year

Source: Rhine-Neckar Metropolitan Region (2021^[8]), *Aufgaben und Projekte [Responsibilities and Projects]*, <https://www.m-r-n.com/wer-wir-sind/metropolregion-rhein-neckar-gmbh/aufgaben-und-projekte> (accessed on 10 December 2021); Rhine-Neckar Metropolitan Region (2021^[7]), "Response of the Metropolitan Region Rhine-Neckar to the OECD pilot project survey"; OECD (2019^[9]), *OECD Territorial Reviews: Hamburg Metropolitan Region, Germany*, <https://doi.org/10.1787/29afa27f-en>.

Policies and strategies for the 2030 Agenda and the SDGs

Regional development objectives and Rhine-Neckar's Vision 2025

The overall regional development objective of the Metropolitan Region Rhine-Neckar is to be known and recognised as one of the most attractive and competitive regions in Europe by 2025. Vision 2025 is Rhine-Neckar's main regional development strategy, which was adopted in 2009 and last updated in 2019. Rhine-Neckar's Vision 2025 envisages the development of a progressive, committed and liveable region that offers ideal conditions for companies, skilled workers and innovative ideas.

Box 1.2. Objectives of the Vision 2025 of the Metropolitan Region Rhine-Neckar

- **Progress:** Rhine-Neckar's goal is to become an area with a strong industrial base positioning itself at the top of the field in all competitive location factors, with a high proportion of future technologies and a lively start-up scene. Taking advantage of a high density of universities, the region aims to become an educational magnet and improve public administration through efficient procedures and processes to act in a citizen- and business-friendly manner.
- **Commitment:** Rhine-Neckar's objective is to ensure that the region represents an open and committed community, openness to the world, liberal democratic values and cultural diversity, family orientation and social openness, as well as public spirit and solidarity.
- **Well-being:** The aim is to become a region that has attractive and affordable living conditions, uses resources sustainably and works on a reduction of its emissions. The region shall offer a wide variety of recreational areas and facilities, an intact and attractive natural environment as well as top-class sports and cultural offers.

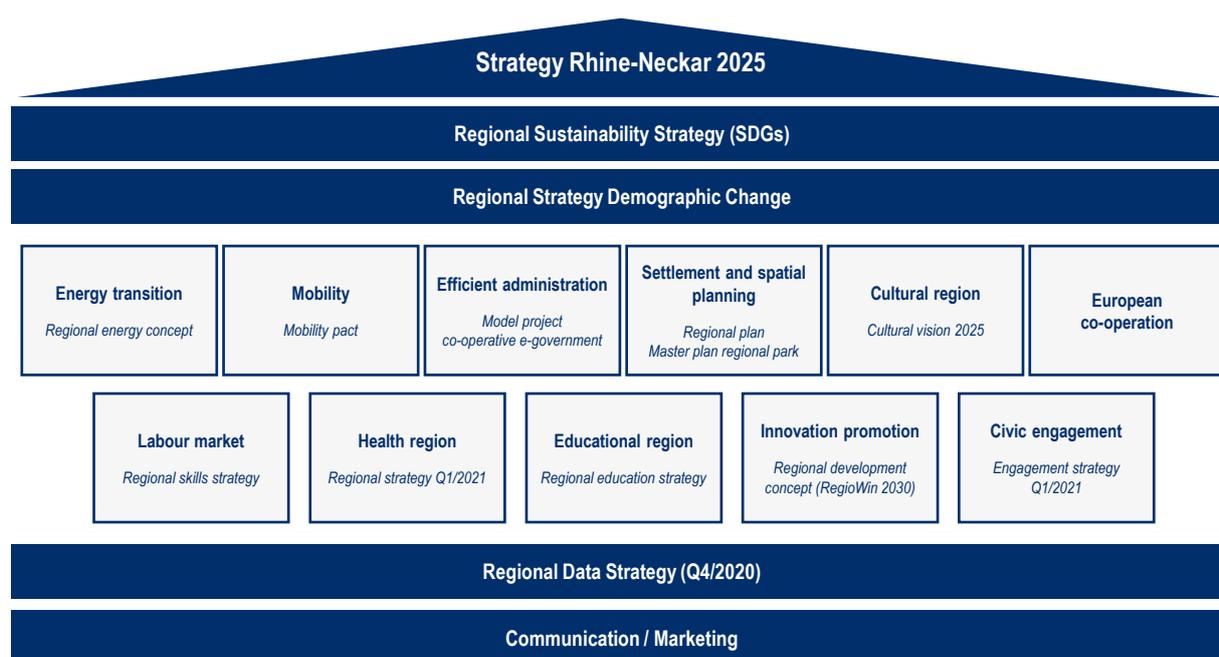
Source: Metropolregion Rhein-Neckar GmbH (2019^[10]), "Rhein-Neckar: fortschrittlich, engagiert und lebenswert [Rhine-Neckar: Progressive, committed and livable]", https://www.m-r-n.com/pressemitteilungen/2019/190207_PK_Strategie/02_PI_PK%20Strategie%20MRN%202025.pdf.

To achieve this vision for 2025, the regional development strategy focuses on 11 fields of action, which were developed based on an evaluation of regional development priorities by the board of Zukunft Metropolregion Rhein-Neckar. They are considered a tool to promote sustainability across different policy areas and include: i) sustainable and needs-based mobility; ii) networking, co-operation and positioning in Europe; iii) needs-based and balanced settlement and spatial development; iv) regional innovation promotion; v) health; vi) interconnected public administration; vii) culture; viii) regional energy transition; ix) vital labour market; x) education of the future; and xi) civic engagement (Figure 1.3). The SDGs, the regional strategy for demographic change as well as the regional data strategy are considered to be cross-cutting topics of relevance for all fields of action. The responsibilities for the implementation of the action fields are split between the three administrative bodies of the metropolitan region. The Verband Metropolregion Rhein-Neckar is responsible for the implementation of the strategy in the fields of mobility, networking and spatial development (i-iii). Metropolregion Rhein-Neckar GmbH manages the fields of actions related to innovation, health, public administration, culture, energy transition, labour market and education (iv-x). Lastly, Zukunft Metropolregion Rhein-Neckar is in charge of civic engagement (xi).

The 11 fields of action provide the framework for the future direction of regional development in Rhine-Neckar. The metropolitan region understands them as a set of instruments to be further developed and updated based on societal and technological changes. As of 2022, the metropolitan region has already developed several strategies in some of these fields of action to contribute to sustainable development. These are regional strategies for education and skills, a regional strategy to address demographic change

in Rhine-Neckar, notably to unlock the potential for sustainable economic growth, strengthen the performance of people and organisations, and shape the living environment for all generations at all stages of life (Rhine-Neckar Metropolitan Region, 2018^[11]), as well as a strategy to become a model region for co-operative e-government. Furthermore, the participation of the metropolitan region in Baden-Württemberg's competition RegioWIN 2030 (Baden-Württemberg), which aims to foster regional competitiveness through innovation and sustainability, led to the elaboration of a regional development concept for innovation called "Rhine-Neckar - Connect innovation!". The concept builds on four lighthouse projects and ten other related projects in the areas of: i) medical and biotechnology; ii) green technology; iii) digital economy; and iv) social economy. Strategies to foster civic engagement, support green hydrogen energy, a regional health strategy and a regional development project on open space and spatial planning and build up a regional bioeconomy cluster are currently under development, as well as mission statements for the ten different sub-regions within Rhine-Neckar.² The metropolitan region considered sustainability objectives in the development phase of its 2025 vision and strategy, notably when conducting qualitative interviews with the regional partners involved in the 11 areas of action. However, key performance indicators (KPIs), monitoring and impact measurement, in particular of their contribution to the 2030 Agenda, are still missing but in the development phase (see section on the importance of data-driven policies in Chapter 2).

Figure 1.3. Rhine-Neckar's Vision 2025



Source: OECD elaboration based on input from Rhine-Neckar Metropolitan Region (2021^[7]), "Response of the Metropolitan Region Rhine-Neckar to the OECD pilot project survey".

The Rhine-Neckar Metropolitan Region has initiated an in-depth analysis of the importance of sustainability for regional development. In October 2019, the Committee for Regional Development and Regional Management (*Ausschuss für Regionalentwicklung und Regionalmanagement*) of the Verband Region Rhein-Neckar decided to commission the association's administration as well as the board of Zukunft Metropolregion Rhein-Neckar with the elaboration of a development strategy for the implementation of the SDGs in the region of Rhine-Neckar. In addition, in 2022, Rhine-Neckar became the first metropolitan region in Germany to sign the German model resolution on the 2030 Agenda, developed by the German

Association of Cities and Towns and the German section of the Council of European Municipalities and Regions, through which the metropolitan region commits to sustainable development (SKEW, 2022^[12]).

The Committee for Regional Development and Regional Management reports and decides on sustainable development matters several times a year. In addition to reporting on sustainability projects, the committee is currently elaborating sustainability guidelines for the Rhine-Neckar Metropolitan Region. The sustainability guidelines could allow to break up policy siloes, promote synergies and manage trade-offs between Rhine-Neckar's 11 fields of action, including synergies between education (SDG 4) and innovation promotion (SDG 9), or between mobility and spatial development (SDG 11), e.g. housing and industrial development (SDGs 8 and 9) (Box 1.3).

Box 1.3. Why a territorial approach to the SDGs?

The 2030 Agenda was not designed specifically for cities and regions but the latter play a crucial role to achieve the SDGs. The OECD estimates that at least 105 of the 169 targets underlying the 17 SDGs will not be reached without proper engagement and co-ordination with local and regional governments, as cities and regions have core responsibilities that are central to sustainable development and well-being (e.g. water services, housing or transport). They also discharge a significant share of public investment (55% in OECD countries), which is critical to channel the required funding to meet the SDGs. Although the SDGs provide a global framework, the opportunities and challenges for sustainable development vary significantly across and within countries, regions and cities. However, the SDGs are also an integral part of the solution, as the varying nature of sustainable development challenges calls for place-based solutions, tailored to territorial specificities, needs and capacities. Place-based policies incorporate a set of co-ordinated actions specifically designed for a particular city or region and stress the need to shift from a sectoral to a multi-sectoral approach, from one-size-fits-all to context-specific measures and from a top-down to a bottom-up approach to policy making. Based on the idea of policy co-ordination across sectors and multi-level governance, whereby all levels of government and non-state actors should play a role in the policy process, they consider and analyse functional territories, build on the endogenous development potential of each territory and use a wide range of actions (OECD, 2019^[13]).

The SDGs can help advance conceptually the shift towards a new regional development policy paradigm and provide a framework to implement it, as:

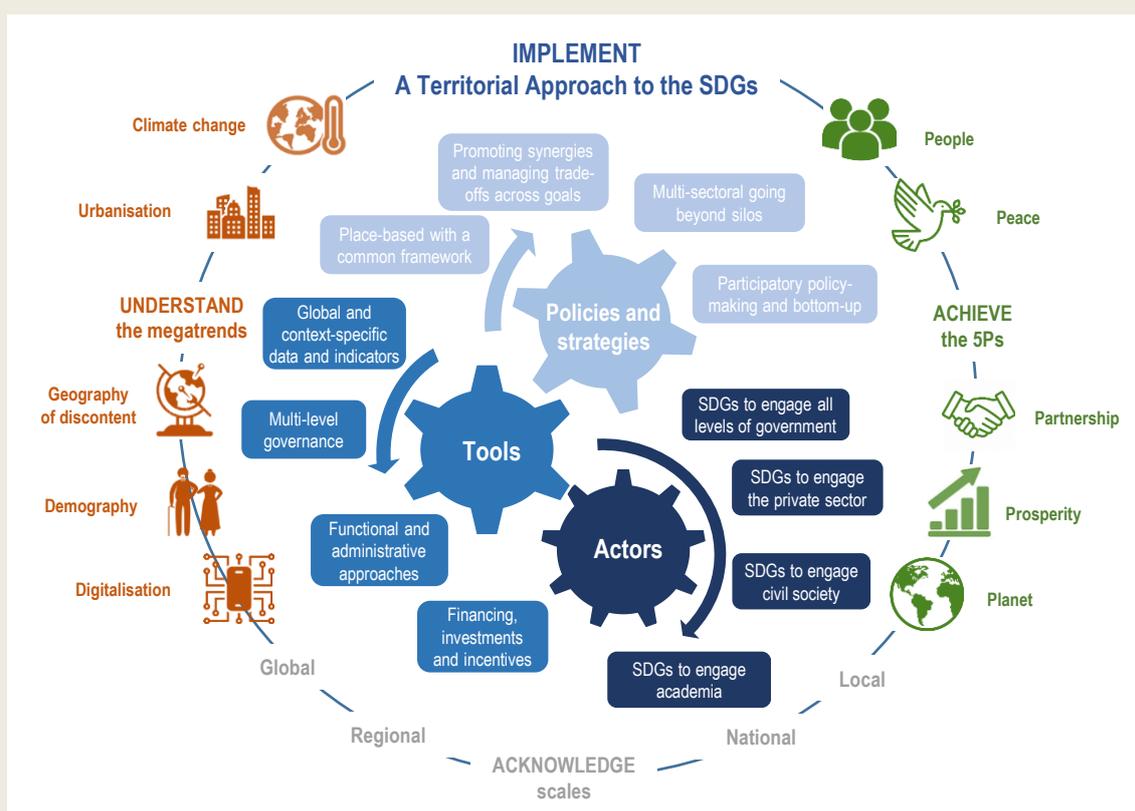
- The 2030 Agenda provides a long-term vision for strategies and policies with a common milestone in 2030 while acknowledging that targeted action is needed in different places, since their exposure to challenges and risks varies widely, as does their capacity to cope with them.
- The interconnected SDG framework allows the promotion of policy complementarities and the management of trade-offs across goals. Indeed, the SDGs enable policy makers to address the social, economic and environmental dimensions of sustainable development concomitantly, building on the synergies and taking interlinkages into account.
- The SDGs allow for better implementation of the concept of functional territories, a common framework that neighbouring municipalities can use to strengthen collaborations and co-ordinate actions.
- The SDGs can be used to promote multi-level governance and partnerships, including the engagement of various stakeholders in the policy-making process.

The OECD analytical framework for A Territorial Approach to the SDGs

The OECD has identified four critical megatrends influencing the achievement of the SDGs in cities and regions: i) demographic changes, in particular, urbanisation, ageing and migration; ii) climate change

and the need to transition to a low-carbon economy; iii) technological changes, such as digitalisation and the emergence of artificial intelligence; and iv) globalisation and the related geography of discontent. The SDGs provide a framework for cities and regions to respond systemically to such global megatrends. The OECD analytical framework helps cities and regions implement a territorial approach to the SDGs through: i) policies and strategies; ii) tools; and iii) actors – which will be discussed in further detail below.

Figure 1.4. The OECD analytical framework for A Territorial Approach to the SDGs



Source: OECD (2020^[14]) *A Territorial Approach to the Sustainable Development Goals: Synthesis Report*, <https://doi.org/10.1787/e86fa715-en>.

Policies and strategies

Cities and regions can use the SDGs as a means to shift from a sectoral to a multi-sectoral approach, both in the design and in the implementation of their policies. The SDGs can help bring various departments of a local administration together to strengthen collaboration. Regional policy aims to effectively address the diversity of economic, social, demographic, institutional and geographic conditions across cities and regions. It also ensures that sectoral policies are co-ordinated with each other and meet the specific needs of different regions and provides the tools that traditional structural policies often lack to address region-specific factors that cause economic and social stagnation (OECD, 2019^[13]).

Tools

The effective implementation of a territorial approach to the SDGs implies the combined use of a variety of tools. These range from a solid multi-level governance system to global and context-specific data for evidence-based policies. They also consist of combining functional and administrative approaches to

address territorial challenges and opportunities beyond borders, as well as investment and incentives, in particular for the private sector to contribute. Multi-level governance represents a key tool to promote vertical co-ordination (across levels of government) and horizontal co-ordination (across ministries and departments) – both within the local, regional and national governments and between the government and other key stakeholders. National governments can also use the SDGs as a framework to promote policy coherence across levels of government, align priorities and rethink sustainable development through a bottom-up approach.

Actors

A participatory policy-making and bottom-up process is one of the core elements of a territorial approach to the SDGs. Shifting from a top-down and hierarchical to a bottom-up and participatory approach to policy making and implementation is key to the achievement of the SDGs. The 2030 Agenda requires a more transparent and inclusive model that involves the public as well as non-state actors to co-design and jointly implement local development strategies and policies. The SDGs provide cities and regions with a tool to effectively engage in multi-stakeholder dialogues with actors from the private sector, civil society, as well as schools and academia.

Source: OECD (2019^[13]), *OECD Regional Outlook 2019: Leveraging Megatrends for Cities and Rural Areas*, <https://dx.doi.org/10.1787/9789264312838-en>.

Regional planning in Rhine-Neckar is one of the major tools to foster sustainable development in the metropolitan region. The metropolitan region is in charge of regional and spatial planning across federal state borders, notably through the development of a unified Rhine-Neckar Regional Plan. This plan forms a legally binding basis for the spatial development of the 15 urban and rural districts that constitute the region. The plan was first approved in 2014 after a multi-year comprehensive participation process that led to the harmonisation of legal regulation, planning processes and political requirements across state borders (Verband Region Rhein-Neckar, 2021^[15]). It covers a planning horizon of 15 years, starting from 2014, and targets 3 main policy areas: i) regional spatial and settlement structure (e.g. housing and industrial sites); ii) regional open-space structure and the protection of natural resources (e.g. green belt structures, protection of biodiversity, agriculture); and iii) regional transport infrastructure (e.g. transport and energy production). While municipalities are responsible for spatial development in their territory, they are still required to take into account the overall concept and requirements of the unified Rhine-Neckar Regional Plan.

The Verband Region Rhein-Neckar is responsible for updating the Rhine-Neckar Regional Plan. Possible updates are based on changing demographic conditions and other adjustments relevant to settlement and open space development. The Verband Region Rhein-Neckar is currently preparing the evaluation and revision of the 2014 plan, which is expected to be finalised by 2023/24. It will focus on a more sustainable provision of multifunctional spaces for housing and industrial sites as well as demand-driven logistic hubs, in particular since logistics and transport companies have opened new sites in the region. Updates of the regional plan also undergo an extensive public consultation process with the different partners, municipalities, regional and federal institutions and citizens. Over the past few years, there has been growing public awareness of the importance of regional planning, notably due to the impact of climate change. However, public participation is usually higher in and around urban areas compared to rural areas since these are the places where most of the regional planning projects are implemented.

The planning principles and provisions build on Rhine-Neckar's mission statement. The metropolitan region's mission statement, which is part of the unified Rhine-Neckar Regional Plan, takes into account Rhine-Neckar's Vision 2025. It aims to ensure a high attractiveness of the region as a place to live and do business and to further increase its development opportunities building on the *leitmotiv* of a sustainable

(i.e. ecologically viable, socially just and economically efficient) development of the region and synergies from urban and rural partnerships. The principle of economical use of natural and financial resources and the consideration of the social needs of all groups of the population shall guide settlement, transport and spatial development in the individual sub-regions to achieve equal living conditions. Resource-conserving and adaptable land use in urban and rural areas are Rhine-Neckar's crucial objectives to improve the quality of life in the region. Above all, this includes green and blue infrastructure networks that link ecosystems and protected area networks in the areas of spatial planning and land management to ensure the resilience and adaptability of habitats in the face of climate change. Rhine-Neckar's Unified Regional Plan also targets the topic of renewable energies and the creation of resilient infrastructure. In addition to a regional energy concept, the metropolitan region has elaborated a sub-regional plan for wind energy that foresees land designations for wind power (Verband Region Rhein-Neckar, 2021^[16]). Furthermore, the region has developed guidelines for the creation of photovoltaic plants to increase the usage of solar energy in Rhine-Neckar. In July 2022, the Rhine-Neckar Regional Association's assembly adopted a resolution on the update and revision of the Rhine-Neckar Unified Regional Plan on the subject of renewable energies, focusing on wind energy and the establishment of open-space photovoltaic plants.

Although the SDGs are not referenced in the Unified Regional Plan, the regional planning department of the Verband Region Rhein-Neckar considers and uses them as an awareness-raising tool. Rather than being seen as a planning tool, they are notably used in discussions with stakeholders to illustrate the impact of measures outlined in the plan and to show the interconnectedness of different policy areas in regional planning. This is also in line with the metropolitan region's guiding principle of sustainable spatial development, which aims to reconcile the social and economic demands for space with its ecological functions.

Sectoral policies for sustainable development in Rhine-Neckar

In addition to its Unified Regional Plan, the Metropolitan Region is developing sectoral development strategies as part of its 11 fields of action. For example, there are already sectoral strategies for sustainable mobility, education and the labour market, digitalisation and smart regions, demographic change and health, fair trade and sustainable procurement, and decentralised development co-operation amongst others. The following sections will briefly discuss these examples of sectoral strategies.

Transitioning Rhine-Neckar into a hub for sustainable mobility

To address regional transport challenges, the Rhine-Neckar Metropolitan Region together with regional partners has signed a mobility pact in 2021. Due to its central location and accessibility, the metropolitan region has a high level of traffic flows on roads, waterways and railways. This is notably the case around the functional urban areas of Mannheim-Ludwigshafen and Heidelberg, where large companies are located. The Verband Region Rhein-Neckar together with the three federal states, the cities of Ludwigshafen and Mannheim, the Palatinate and Rhine-Neckar chambers of industry and commerce, public transport associations and the company BASF have therefore decided to develop a mobility pact, which contains a holistic concept for the mobility requirements of the region. The mobility pact is co-ordinated by the Verband Region Rhein-Neckar and foresees thematic working groups for: i) public transportation; ii) traffic management; iii) commuter and freight traffic; and iv) regional mobility challenges. A fifth working group on cycling and walking was added in July 2022.

As part of the mobility pact, different partners jointly develop innovative solutions to address the identified challenges, including a plan with ten measures to contribute to a short-term optimisation of mobility in the region. Concrete measures and projects that the working groups have been collaborating on in 2021 and 2022 include the development of an integrated transport model for the entire region, which takes into account all modes of transport such as private and public transport, cycling as well as new forms of mobility such as car and bike sharing. The plan containing the ten measures also features a feasibility study for an

urban cable car as a supplementary mobility offer across the Rhine, an assessment of the CO₂ reduction potential of measures to achieve climate protection targets in the transport sector in the metropolitan region and a study on the extension of the light rail network in the surrounding area of Ludwigshafen amongst others (Verband Region Rhein-Neckar et al., 2021^[17]). The ten different measures were completed by July 2022. Follow-up actions to the mobility pact focus notably on cycling and walking as well as freight traffic. It is important to note that for the metropolitan region, the mobility pact does not represent a single solution to solve mobility challenges in the region but a compendium of good practices based on co-operation between different regional stakeholders.

As a next step, the metropolitan region is working on the further development of the mobility pact into an open-ended project with a long-term perspective. For example, the region is developing a mobility dashboard. This dashboard should facilitate the analysis of accessibility of different modes of transport, analyse the modal split in the metropolitan region more in depth and provide guidance for the planning of charging facilities for e-vehicles. It should also make the progress of Rhine-Neckar's different municipalities in the area of transportation measurable, comparable and available to the general public. Some smaller-scale activities are in place as well, such as the regional mobility pact Walldorf-Wiesloch, which takes a similar public-private approach as the overall mobility pact in the metropolitan region. It aims to develop a future-oriented mobility concept that considers all modes of transport but with a focus on corporate mobility management of the large companies SAP, Heidelberger Druckmaschinen and MLP located in Wiesloch and Walldorf, since a large part of the high traffic volume in the region is caused by commuter flows. Implemented measures include the expansion of the public transport supply, including an increase in seat capacities and the extension of cycling paths (Regierungspräsidium Karlsruhe, 2022^[18]).

A main challenge in terms of transportation planning is the role of the Rhine-Neckar Metropolitan Region as a co-ordinating body. Even though public transportation in the region is provided by the transport association of Rhine-Neckar (Verkehrsverbund Rhein-Neckar), which spans across the three federal states and covers the entire metropolitan region, goals and measures developed by the Verband Region Rhein-Neckar in the broader policy area of mobility are not binding. This means that municipalities can decide whether to implement them or not. Furthermore, all three states of Baden-Württemberg, Hesse and Rhineland-Palatinate have their own mobility strategies with different data and infrastructure. Despite the development of the cross-border mobility pact, there is currently no overall strategy for sustainable mobility in the metropolitan region. Effective communication and multi-level governance arrangements are therefore crucial to ensure sustainable mobility planning. The SDGs, which currently do not play a role in Rhine-Neckar's transportation planning, could be a way to bring different stakeholders together and provide a framework for the ongoing discussion on sustainable mobility in the metropolitan region, e.g. by allowing to communicate on the effects of different measures and projects on sustainable mobility objectives more effectively. They could also allow considering synergies and trade-offs of Rhine-Neckar's transport planning with other related policy areas and SDGs such as health (SDG 3), housing (SDG 11), spatial planning (SDGs 11 and 15) and economic development (SDG 8).

To provide climate-neutral, high-quality and safe infrastructure for commuters, the Rhine-Neckar Metropolitan Region envisages the construction of cycling highways to connect its main urban agglomerations. Together with counties and municipalities in the region, the metropolitan region has conducted feasibility studies for the construction of six cycling highways (200 km) across Rhine-Neckar (Figure 1.5). To further improve cycling infrastructure, Rhine-Neckar's public transport company VRN currently operates a bike-rental system, with approximately 396 locations and close to 1 900 bikes available in the major cities and several medium-sized towns that can be used across the metropolitan region (ifeu, 2020^[19]).

The metropolitan region is involved in two projects on sustainable mobility and green hydrogen energy. The Rhine-Neckar Metropolitan Region participates in the H2Rivers project (funded by the federal ministry for digitalisation and mobility) and the H2Rhein-Neckar project (funded by the government of Baden-Württemberg), launched in autumn 2020. The objective of these projects is to set up hydrogen-based

transport infrastructure, including green hydrogen generation by renewable energy or from low-carbon power, refuelling stations and fuel cell-based vehicles. Financially supported by the federal government and the government of Baden-Württemberg, Rhine-Neckar strives to become a model region for emission-free hydrogen and fuel cell technologies in the mobility sector. Sub-projects of H2Rivers and H2Rhein-Neckar cover the entire value chain from renewable energy production to short-distance distribution and use in mobility, through the acquisition of 109 passenger cars, 62 buses, 3 fuel cell waste-collection vehicles, 2 fuel cell road service vehicles and 5 fuel cell light commercial vehicles as well as through setting up the necessary infrastructure. This includes the construction of an H2 Hub in Mannheim and an electrolysis plant in Waiblingen for the production of green hydrogen energy (Rhine-Neckar Metropolitan Region, 2022^[20]).

Figure 1.5. Envisaged cycling highway infrastructure to be developed in Rhine-Neckar



Source: Figure provided by the Rhine-Neckar Metropolitan Region.

Through the H2Rivers and H2Rhein-Neckar projects, Rhine-Neckar aims to become a frontrunner in sustainable mobility. H2Rivers shall transform Rhine-Neckar into a hub for green hydrogen energy (SDG 7 Clean and Affordable Energy) thereby contributing to a reduction in CO₂ emissions (SDG 13 Climate Action), improving air quality (SDG 11 Sustainable Cities and Communities) and creating employment opportunities (SDG 8 Decent Work and Economic Work). The metropolitan region co-ordinates the implementation of the project and is responsible for the transfer of knowledge and experience across project partners (companies from the energy and automotive sector, universities and Rhine-Neckar's transport association) and municipalities – in particular those most affected such as Ludwigschafen, Heidelberg, which hosts the headquarters of the Rhine-Neckar public transportation company, and Mannheim, where the H2 hub for hydrogen hub will be located. In the H2Rhein-Neckar project, local public transport in the cities of Heidelberg and Mannheim is being converted to zero-emission vehicles. The

investments in fuel cell-powered buses and the corresponding infrastructure are supplemented by accompanying research to ensure a smooth conversion of the fleets. However, some challenges remain regarding the expansion of the hydrogen energy infrastructure. First, the H2Rivers project still relies on external funding (from the German federal government) and the currently high production costs of hydrogen make it difficult to integrate hydrogen into industrial applications without any external funding. Second, in terms of transformation processes, the automotive industry tends to use fossil fuel engines as long as possible and is reluctant to intensify the efforts to transition to hydrogen energy.

Education and labour market

In 2019, the metropolitan region has developed an education strategy for 2025, which is 1 of the 11 focus areas of its regional development vision. The strategy was developed together with 200 stakeholders from more than 100 institutions. It aims to position the region as a hub for education, represents a tool for networking and knowledge transfer within the region, strengthens the development of future-proof skills and promotes the potential of digitalisation. It provides the overall region with a common framework and aims to enable constructive collaboration across different actors. The strategy is structured around four components: i) the need to adapt to global trends and transformation; ii) participation; iii) key competencies for the future of work; and iv) life-long learning (Rhine-Neckar Metropolitan Region, 2018^[21]). It builds both on already established projects (e.g. a collaboration with the pedagogical university in Heidelberg to transfer educational research into practice) and on the creation of new projects (e.g. *KommunalCampus*, a platform to train municipal employees in digitalisation, and MINTcon, a regional cluster of measures to increase the youth's interest in science, technology, engineering and mathematics [STEM] professions). The metropolitan region has also set up a support programme to provide vulnerable children with language courses, offer learning camps and run a mentoring programme. In that mentoring programme, volunteers support children as a learning, reading and recreational companion. In the context of the war in Ukraine, this programme has also been opened to Ukrainian refugees.

The region's education strategy does not include education for sustainable development yet. However, sustainable development was one of the four main topics of the education summit EDUCON, organised by the metropolitan region in autumn 2021, which was attended by more than 1 500 participants. Education for sustainable development was also the focus of the region's EDUCON "education café" format, another public event, in which citizens and regional stakeholders discuss with education experts the future of education, possible challenges and opportunities to learn from peers. In the café's first edition at the beginning of 2022, the region and the OECD discussed with students, teaching staff and private sector representatives the relevant competencies and skills needed to achieve the SDGs (Rhine-Neckar Metropolitan Region, 2022^[22]). SDG training for youth exists in the three different federal states but is not co-ordinated across the metropolitan region.

In addition to its education strategy, the metropolitan region has been working on the elaboration of a labour market strategy together with a range of stakeholders from the private sector, academia and civil society. The size of the labour force size in the metropolitan region is estimated to drop by about 10% until 2035 and megatrends such as digitalisation are changing the requirements of the labour market. Against this backdrop, the main objective of the labour market strategy, which was presented to the public in December 2021, is to ensure a sufficient supply of skilled workers for the metropolitan region in the coming years. To that end, the metropolitan region aims to promote the attractiveness of the regional labour market, improve the labour market participation rate and provide the labour force with relevant skills for a digitalised labour market. These objectives will be monitored through KPIs that are currently under development. Concrete measures to achieve the objectives will be developed by several multi-stakeholder working groups. One of the measures that have already been put in place is the federal support programme *unternehmensWert:Mensch* (Corporate Value: People). The programme supports small and medium-sized enterprises in the metropolitan region to develop future-fit tailored human resources strategies. In particular, the programme provides financial subsidies for consultancy services in the areas of human

resources management, equal opportunities and diversity, health, and knowledge and skills transfer (Rhine-Neckar Metropolitan Region, 2022^[23]).

While the SDGs were not formally discussed in the development process of the education and labour market strategies, many of the objectives and projects of both strategies can be linked to the goals of the 2030 Agenda. This relates notably to three of the four objectives of the education strategy, which correspond to the targets of SDG 4 (Quality Education) and the objectives of the labour market strategy, which are closely related to targets of SDG 8 (Decent Work and Economic Growth). Furthermore, with regards to the achievement of its Vision 2025, Rhine-Neckar considers SDG 16 on strong institutions and SDG 17 on partnerships, in particular the multi-stakeholder and consensus-based approach and collaboration between different institutions and actors, as crucial to finding agreements and measures of common interest and with long-term effects.

Digitalisation and Smart Region Rhine-Neckar

The Rhine-Neckar Metropolitan Region has been working on the topics of digitalisation and ensuring digital participation of all generations, open data and data sovereignty for more than ten years when it joined the model project Cooperative e-Government in Federal Structures (*Kooperatives E-Government in föderalen Strukturen*). The objective of the model project is to facilitate IT processes between businesses and public administration and make them simpler, faster and more cost-effective, e.g. when it comes to construction or the digital provision of spatial data. In the metropolitan region, there are skills and capacity gaps in terms of e-government between larger and smaller administrative units, rather than between urban and rural areas. Rhine-Neckar aims to help smaller administrative units and municipalities benefit from a standardised digital infrastructure across the metropolitan regions and through respective capacity building. In collaboration with the Hessian Ministry for Digital Strategy and Development and the district Bergstraße, the metropolitan region has therefore set up the *KommunalCampus* (Municipal Campus), which is an online platform for digital competencies. It provides a comprehensive range of further education and advanced training courses to provide staff in public administration with future-oriented skills in digitalisation, as well as project and change management. Through this project, the metropolitan region aims to complement its education strategy and contribute to SDG 4 through continuing training for adults (KommunalCampus, 2022^[24]).

Beyond e-government, becoming a smart region is a key priority of Rhine-Neckar. In the summer of 2021, the Rhine-Neckar Metropolitan Region was selected among 28 smart city model projects funded by the Federal Ministry of the Interior, Building and Community. Rhine-Neckar's project targets a sustainable, smart and environmentally-conscious recovery after the COVID-19 pandemic, with a focus on smart and sustainable tourism, one of the sectors most affected by the crisis. The metropolitan region identified seven focus SDGs,³ taking into account the sub-goals of all SDGs relevant to tourism and the specific regional conditions, as well as the specifications of the German Smart City Charter (Rhine-Neckar Metropolitan Region, 2022^[23]).

As part of the smart city model project, the region uses the experience from the pandemic to reshape tourism in the region. Among other things, the Rhine-Neckar district and the city of Heidelberg have developed ideas for stronger urban-rural relationships through smart and sustainable tourism. For example, the partners are creating multifunctional spaces that combine co-working spaces and vacation in the countryside to use tourism as a tool to promote remote working and co-working opportunities in the region. A citizen survey conducted in May 2022 provided ideas for the development of innovative, digitally-supported and environmentally-conscious initiatives, especially for tourism as well as cultural and leisure activities, which will feed into a strategy paper to launch the implementation phase in autumn 2022. Among other things, the project strives to provide incentives for tourists and visitors to stay in the metropolitan region for longer than just a weekend. As part of its activities in the area of sustainable tourism, Rhine-Neckar started to offer seven different tours in collaboration with Engagement Global at different

locations in the metropolitan region for people to learn more about the SDGs. These tours shall provide a learning tool for residents and tourists to better understand how global problems are connected to the local level.

A sub-component of the smart city model project is a regional data marketplace to offer an individualised and demand-oriented service that bundles information, along with mobility offers. The data marketplace will provide users with easy and participatory access to cultural and recreational offerings, e.g. through an application to book accommodation, concert tickets or restaurant tables while at the same time digitising cultural co-operation and reducing individual traffic. The Rhine-Neckar transport association is one of the main stakeholders that are involved in the development of this platform. The implementation of the project started in September 2021 and will run for five years (Verband Region Rhein-Neckar, 2021^[25]).

Demography and health

The Rhine-Neckar Metropolitan Region is confronted with some demographic challenges, such as ageing, the shortage of skilled workers in the care sector or basic services in rural areas. The network Regional Strategy for Demographic Change in the Rhine-Neckar Metropolitan Region (*Netzwerk Regionalstrategie Demografischer Wandel*) has been addressing the opportunities and challenges of demographic change since 2012. Several projects have emerged from its engagement. One of them is the European Film Festival for Generations, which shows films on the topic of demographic change and ageing to sensitise the population to the topic of demographic change. The festival takes place in different municipalities and offers barrier-free access. It helps facilitate dialogue between generations in the Rhine-Neckar region about various topics treated in the films shown at the festival. The metropolitan region also addresses the increasing shortage of skilled workers in the care sector. For example, it has organised a specialist conference on the future of care for the past five years and a working group with the regional employment agencies and those responsible for care facilities and hospitals deal with the topic throughout the year. There are also several projects to promote the digital participation of elderly people. For example, digitally fit seniors who want to get involved in social activities are trained by members of the network and pass on their digital knowledge to others.

Health also ranks as a high priority in Rhine-Neckar's 2025 strategy. In 2020, the metropolitan region initiated the development of a health strategy in collaboration with around 80 experts. The strategy was approved in autumn 2021 and defines four fields of action: i) health promotion and prevention; ii) healthcare with a special focus on multi-morbid patients and rural areas; iii) health-related inequalities, where SDG 10 on equalities is used as a guiding concept; and iv) assuring the existence of healthcare providers, notably the need for the metropolitan region to be attractive for physicians and nurses.

The urban-rural divide in healthcare infrastructure is one of the major challenges in the metropolitan region. While there are sufficient healthcare providers in urban areas, young people in rural areas of the metropolitan region tend to study medicine or choose medical occupations in cities without necessarily returning after graduation, which is also linked to the topic of mobility and accessibility. The metropolitan region is therefore collaborating with a range of actors, including healthcare providers, universities, the network of physicians in rural areas and private companies to address health-related questions in Rhine-Neckar. The metropolitan region also works together with the education sector to sensitise the population to healthcare prevention and promotion.

The SDGs are used as a communication tool to raise awareness of the metropolitan region's work in the area of health. The metropolitan region also uses them to illustrate synergies and interlinkages with other policy areas, particularly since the COVID-19 pandemic underpinned the interconnectedness between health and other policy sectors (e.g. inequalities in housing conditions). Furthermore, Rhine-Neckar has initiated the development of a regional health indicator framework, which could draw inspiration from the official SDG indicators adapted to the regional context. However, the SDGs are not yet systematically applied in Rhine-Neckar's health-related activities.

Fair trade and sustainable procurement

Building on its decision to elaborate a development strategy to implement the SDGs, Rhine-Neckar has launched the project Rhein-Neckar Fair (Fair Rhine-Neckar) to promote fair trade in the metropolitan region. At the national level, the yearly German fair trade week usually targets a specific SDG and connects the topics of fair trade and sustainable development. As such, it is an important awareness-raising tool for municipalities in Germany. In the framework of the national fair trade week 2021, which focused on SDG 8 Decent Work and Economic Growth, the Verband Region Rhein-Neckar and the Eine-Welt-Zentrum Heidelberg (One World Centre Heidelberg) initiated a competition for municipalities, districts and schools to present projects and events through which they raise awareness about fair trade (Verband Region Rhein-Neckar, 2021^[26]). In 2020, the metropolitan region organised a digital city rally that introduced citizens to the issues of fair trade and sustainable consumption (SDG 12). This awareness-raising activity led to the creation of the Rhein-Neckar Fair initiative that aims to classify more municipalities in the region as Fair Trade Towns and to form a Fair Trade Region Rhine-Neckar.

There are currently more than 20 fair trade towns in Rhine-Neckar but further awareness raising is needed. In addition to its participation in the yearly fair trade week, the metropolitan region offers workshops for interested municipalities on becoming fair trade towns, conducting fair public procurement, improving the visibility of fair trade projects and improving stakeholder engagement. More than 20 municipalities in the metropolitan region have already been certified as fair trade towns.⁴ Yet, some others have difficulties finding a sufficient number of shops and restaurants that offer fair trade products, which is a prerequisite for the certification. This is mainly due to the lack of awareness about fair trade labels. Nevertheless, several fair trade shops exist in the major cities of Heidelberg and Mannheim but also in some smaller municipalities such as Buchen, Eberbach, Heppenheim and Lampertheim amongst others. The reduction of plastic waste also receives a lot of attention in the region, especially concerning reusable packaging for food and drinks to go. Regional campaigns such as “Stay true to your cup” started in Mannheim and are now replicated throughout the region. Citizens in Rhine-Neckar also increasingly recognise the importance of regional products for regional value chains. The regionally supported process of establishing the regional brand *Genial Regional* for products from the Bergstraße, Heidelberg, Kraichgau and Odenwald sub-regions serves as a model for other initiatives, such as micro-agriculture and solidarity-based agriculture projects.

Beyond fair trade, the metropolitan region considers fair public procurement and contracting to be practical instruments with a far-reaching impact on the sustainable use of public funds. Some initiatives are exploring fair public procurement approaches and co-operation in the region (e.g. the 4 Regions 4 Future project – see the section on horizontal co-ordination within and across the metropolitan region in Chapter 3). The metropolitan region also exchanges regularly with the network of German metropolitan regions, e.g. through two meetings per year that also target the topic of fair and sustainable procurement. In July 2022, the city of Mannheim introduced new procurement criteria that explicitly take the issue of sustainability into account as a formal evaluation criterion in public procurement. This involves the implementation of ecological and social sustainability criteria in the broader sense in municipal procurement. In addition to fair trade criteria, other requirements such as climate neutrality, plastic-free production, circular economy and energy efficiency will need to be taken into account in the future (City of Mannheim, 2022^[27]). The integration of fair trade and sustainability criteria in public procurement can have a direct impact on the supply chains of the private sector in Rhine-Neckar and thus represents one of the major levers for more sustainable production patterns (SDG 12). Going solely by the price and leaving aside social and environmental considerations does not provide companies with the incentive to pursue the SDGs. In contrast, it potentially encourages them to lower their social and environmental performance to be able to compete in public tenders, in particular when these companies rely mainly on public sector demand. Yet, there are also some municipalities in Rhine-Neckar where the transition to fair and sustainable procurement practices is constrained by financial barriers and the administrative capacity to assess the fulfilment of sustainability criteria of potential suppliers.

Cultural region Rhine-Neckar

There is potential to connect culture more strongly to the SDGs and regional development. Cultural policy plays an important role in the Rhine-Neckar Metropolitan Region. While the metropolitan region has not used the framework of the SDGs in its cultural policy activities, the topic of sustainability is gaining traction as an increasing number of cultural actors are becoming more interested. For example, the next edition of the *Denkfest*, the largest exchange platform for cultural actors in the Rhine-Neckar Metropolitan Region, will focus on the topic of sustainability through workshops for cultural workers and artists. Various cultural stakeholders, including festivals, theatres and cultural offices, have started to integrate the topic of sustainability into their core business. The Enjoy Jazz festival and the music festival Heidelberger Frühling already use the SDGs as a framework to map their activities in order to become more sustainable. Another example is the music festival Maifeld Derby, which takes place annually in Mannheim. In collaboration with students from the pop academy Baden-Württemberg, the festival has implemented several initiatives in the past years to contribute to sustainable development. These include a collaboration with local partners to foster regional development, a shift from conventional to renewable energy usage, donations of leftover food from the festival to people in need and a near gender-balanced line-up.

However, the cultural sector is not yet as strongly connected to other areas of regional development as the private sector or the science and research community. Such collaboration could help tap the region's full potential for innovation and provide food for thought on how to jointly contribute to a more sustainable region. The Bundesgartenschau 2023 (German National Garden Show 2023, BUGA23), which will take place in Mannheim from April to October 2023, could represent an opportunity to further connect actors from the cultural scene with other local actors like academia and the private sector. BUGA23 combines a flower show with cultural, leisure and sporting events, as well as lectures and presentations on topics of sustainable agriculture and food security, energy, climate and the environment. It aims to enhance quality of life and sustainability by offering new green spaces and walking paths to improve air quality (Bundesgartenschau Mannheim 2023 GgmbH, 2022^[28]).

Decentralised development co-operation

Many municipalities in the Rhine-Neckar region engage in decentralised development co-operation activities. The metropolitan region itself is not directly engaged in decentralised development co-operation with partners. However, for the last ten years, the Verband Region Rhein-Neckar has been co-ordinating a municipal partnerships network, which provides an information and communication platform for municipalities in the region that have national and especially international municipal partnerships in place. The network aims at supporting the exchange of experiences and good practices between municipalities, informing them about funding opportunities and jointly developing new projects. Furthermore, it organises networking events focusing on topics of relevance to the members' needs (e.g. the changing role of city partnerships, the importance of social media in city partnerships or how to motivate young people for partnership engagement). Sometimes, the annual events also have a specific geographical focus (e.g. partnerships with Eastern European municipalities). Nearly 30 municipalities in the network engage in partnerships at the municipal or association level with countries in the Global South. For example, the ties extend to Benin, Burkina Faso, Mali, Rwanda and South Africa, with which Rhineland-Palatinate maintains a state partnership (Box 1.4). The improvement of living and working conditions, the economic situation and environmental quality in line with the 2030 Agenda play a major role in these municipal partnerships. A crucial player supporting municipalities in their development co-operation activities through funding, knowledge transfer and capacity building is SKEW (Service Agency Communities in One World, *Servicestelle Kommunen in der Einen Welt*), Germany's competence centre for local development co-operation, which is part of the state-owned non-profit organisation with limited liability Engagement Global. Supported by SKEW, the municipality of Viernheim, for example, has put in place a mentoring programme for school education and training of children and young people in municipalities in Burkina Faso (SKEW, 2022^[29]).

Box 1.4. Linking decentralised development co-operation projects to the SDGs in the Rhine-Neckar Metropolitan Region

Some of the municipalities in Rhine-Neckar link their decentralised development co-operation activities to the SDGs.

The city of Mannheim, for example, has a network of 12 partner cities in the Global North and South. Following the adoption of the SDGs, Mannheim's city council made international co-operation a strategic goal, aligned its international relations objectives with the SDGs and set new priorities for its city partnerships. Among other things, Mannheim started to carry out an increasing number of decentralised development co-operation activities, e.g. a project in the Palestinian city Hebron to set up a business incubator for Palestinian female start-ups, and assesses their outcome and contribution to sustainable development. Furthermore, the city of Mannheim conducted a project with the city of El Viejo in Nicaragua to build seepage basins for rainwater. The basins serve as a climate impact adaptation mechanism to tackle extreme weather conditions on site. To ensure the sustainability of the infrastructure measures, employees of the city of El Viejo were also trained in the maintenance of the basins and the wastewater system as part of the project, as well as on the topic and climate protection. In response to the war in Ukraine, Mannheim signed a new city partnership with the Ukrainian city of Chernivtsi, located close to the border with Moldavia and Romania. The partners aim to promote local democracy and strengthen the right of local self-government through co-operation projects and exchanges at the level of administration and civil society.

Another example is the city of Ludwigshafen, which puts a strong emphasis on peer-to-peer learning. Its collaboration with the municipality of Sumgait in Azerbaijan focuses on the restoration of polluted industrial sites and contaminated soils (SDGs 13 and 15), a challenge the city of Ludwigshafen has also been facing for a long time. The city has linked its projects to the SDGs and uses them as a communication tool, as well as to raise awareness about the SDGs among the city administration and its stakeholders. For instance, the city of Ludwigshafen considers the SDGs in its environmental reporting, which also provides information about Ludwigshafen's environment-related development co-operation activities.

Source: Interviews with representatives from the cities of Ludwigshafen and Mannheim during the 1st and 2nd OECD mission to the Rhine-Neckar Metropolitan Region; City of Mannheim (2022^[30]), "Städtepartnerschaft von Mannheim und Czernowitz [Municipal partnership between Mannheim and Chernivtsij]", <https://www.mannheim.de/de/nachrichten/staedtepartnerschaft-von-mannheim-und-czernowitz> (accessed on 20 July 2022).

The Verband Region Rhein-Neckar promotes a partnership-based dialogue among its municipalities. To support the commitment to sustainability in the context of decentralised development co-operation, the Verband Region Rhein-Neckar organised a virtual SDG Partnership Conference in November 2021. The conference provided the opportunity to promote a partnership-based dialogue between municipalities from the Global South and municipalities in the Rhine-Neckar region on the 2030 Agenda. It also enabled topic-specific co-operation and networking opportunities for municipalities. Participants from 18 municipalities and 8 different countries jointly developed ideas for possible projects to contribute to the SDGs, notably those related to water, education, and energy and green transformation. By promoting inter-community exchange and establishing networking structures, the project contributes directly to SDG 17 Partnership for the Goals and strengthens global solidarity. As a result of the conference, the metropolitan region together with the city of Mannheim and the other participating municipalities adopted a joint declaration to strengthen the Model Region for Global Sustainability. Through this declaration, the municipalities have pledged to set a visible sign of the importance of development co-operation in the region and establish new structures to promote inter-municipal exchange (City of Mannheim, 2021^[31]).

Through its SDG Partnership Conference, the Verband Region Rhein-Neckar has set the ground for a new Global South Partnerships network. The new network aims to foster the exchange of experiences, ideas and policies to further develop existing and stimulate new North-South partnerships at the local level (Rhine-Neckar Metropolitan Region, 2022^[32]). The first constitutional meeting took place in the autumn of 2022. Another development co-operation initiative in the metropolitan region is Mannheim's development policy roundtable. The roundtable, which was established in 2021, promotes co-operation and exchange of information on development policy issues between politicians, the local administration and civil society. It covers projects abroad but also intercultural activities and awareness raising, for example on fair trade or sustainability in Mannheim. Membership is open to all civil society groups (initiatives, associations, religious groups, companies) based in Mannheim that are committed to development policy (City of Mannheim, 2022^[33]).

However, several decentralised development co-operation challenges remain to be solved in the metropolitan region. Overall, municipalities in the Rhine-Neckar Metropolitan Region are facing three main challenges in terms of decentralised development co-operation activities: i) lack of a clear strategy and political leadership for development co-operation; ii) little awareness that decentralised development co-operation is part of integrated sustainable urban development; and iii) insufficient financial and staff resources. In this context of growing financial constraints, civil society actors and private donations have become increasingly important players and sources of funding for public development co-operation projects.

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Notes

¹ According to the state treaty, the members are the municipalities of Heidelberg and Mannheim, the Rhine-Neckar district and the Neckar-Odenwald district in Baden-Württemberg, the Bergstraße district in Hesse, and the independent cities of Frankenthal, Landau, Ludwigshafen am Rhein, Neustadt an der Weinstrasse, Speyer and Worms as well as the districts of Bad Dürkheim, Germersheim, Rhein-Pfalz district and Südliche Weinstrasse in Rhineland-Palatinate.

² For more information: https://www.m-n.com/themen/landschaft/Die_praechtigen_10_web.pdf.

³ SDG 8 Decent Work and Economic Growth, SDG 10 Reduced Inequalities, SDG 11 Sustainable Communities, SDG 12 Responsible Consumption and Production, SDG 13 Climate Action, SDG 15 Life on Land and SDG 17 Partnerships for the Goals.

⁴ Fair trade towns include Bad Dürkheim, Bensheim, Buchen (Odenwald), Dossenheim, Eisenberg (Pfalz), Frankenthal (Pfalz), Germersheim, Heidelberg, Heppenheim, Hirschberg an der Bergstraße, Hockenheim, Lampertheim, Landau in der Pfalz, Ludwigshafen, Mannheim, Mutterstadt, Schifferstadt, Schriesheim, Speyer, Osterburken, Viernheim, Walldorf, Weinheim.

2 Sustainable development challenges and opportunities

The metropolitan region's performance towards the United Nations (UN) Sustainable Development Goals (SDGs) is higher than in OECD regions on average, albeit showing internal territorial disparities. Results are particularly good regarding health, e.g. low infant mortality rates (SDG 3), low levels of unemployment overall (SDG 8), research and development (R&D) expenditure (SDG 9) and disposable incomes (SDG 10). Policy areas with room for improvement are SDG 12, notably its high waste production rate and per capita number of motor road vehicles, as well as high shares of part-time employment and long-term unemployment (SDG 8).

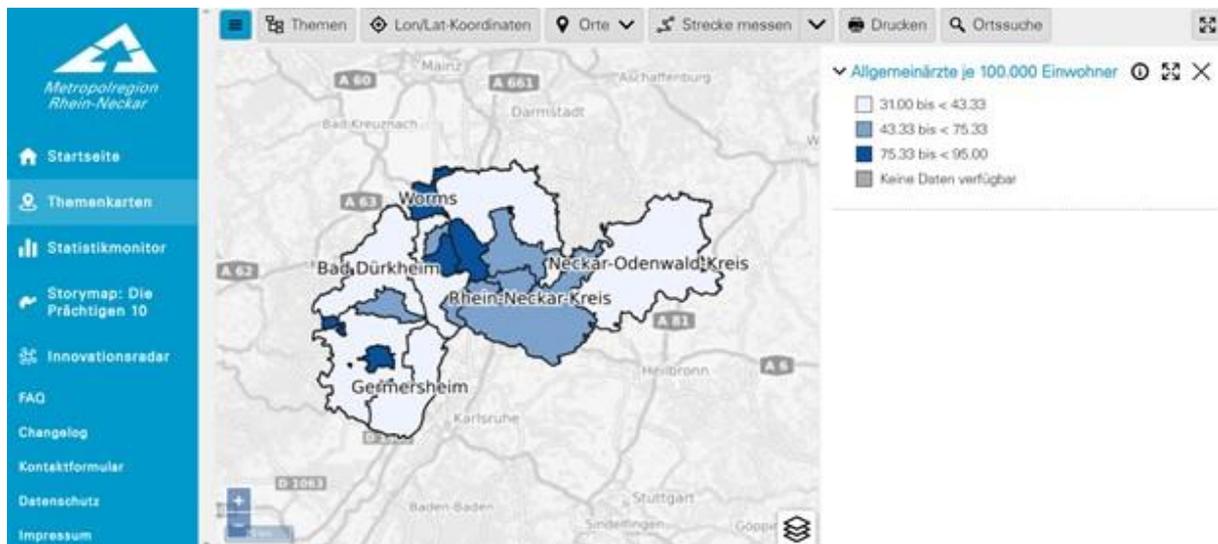
The importance of data-driven policies: Rhine-Neckar's work on the SDG indicators

To make greater use of the social and economic potential of data, the Rhine-Neckar Metropolitan Region has established a regional data strategy. Up until now, the metropolitan region has lacked an overview of existing data as well as applications and projects grounded in it. The new data strategy is based on co-operation between actors and stakeholders in the metropolitan region. In this respect, the availability and interoperability of digital data play a central role in the future of urban and regional development. As the volume of data grows, the demands on data management increase and aspects such as data ethics and data protection must be taken into account. In particular, this requires new organisational, technical and legal frameworks (Rhine-Neckar Metropolitan Region, 2022^[1]).

The Rhine-Neckar Metropolitan Region has set up a digital platform to make spatial and socio-economic data accessible to the public. To improve the provision, processing and analysis of spatial data, the metropolitan region remodelled its regional spatial observation system as part of the funding initiative of the Federal Ministry for Economic Affairs and Climate Action (BMWK) Model Regions of Intelligent Networking. The result of these efforts is the *Metropolatlas Rhein-Neckar* (Rhine-Neckar Metropolitan Atlas), an Internet-based geographic information system released in 2019. The Rhine-Neckar Metropolitan Atlas consists of two components: i) a statistics monitor that allows for displaying various statistical indicators as tables or diagrams, including comparisons over time for selected indicators; and ii) a visualisation tool that illustrates the indicators and comparisons across cities and districts through different topical maps (Figure 2.1). The underlying datasets that are showcased in the metropolitan atlas can be accessed through the data portal of the Rhine-Neckar Metropolitan Region¹ in various formats. The main target audience is municipalities in the metropolitan region, regional stakeholders, the press and students.

Figure 2.1. Rhine-Neckar Metropolitan Atlas

Example of visualisation of the Rhine-Neckar Metropolitan Atlas



Source: Rhine-Neckar Metropolitan Region (2022^[2]), *Metropolatlas Rhein-Neckar* (Metropolitan Atlas Rhine-Neckar), <https://metropolatlas.digitale-mrn.de/#/cms/-dashboards-startseite~> (accessed on 7 December 2021).

In its current version, the digital data platform does not make a direct reference to the SDGs. To date, the metropolitan atlas covers the following topics: population data and relevant socio-economic indicators, mobility (commuting behaviour), land use, accessibility analyses, purchase and rental prices, consumer

market data, digital infrastructure, points of interest (POIs) - with no explicit reference to the SDGs yet. However, it already contains a number of indicators that could serve to monitor progress on the SDGs. Examples include locations of public charging stations for electric vehicles, bicycle and public transport infrastructure, and air quality measurements. These indicators come from data sources such as official statistics, OpenStreetMap and sensors, and allow to measure progress over time. In addition, the atlas contains various topical maps that illustrate a range of indicators that were categorised by the metropolitan region as sustainability indicators. These are divided into the four sub-topics of: i) nutrition (e.g. number of vegetarian restaurants); ii) fair trade (e.g. one world stores); iii) clothing (e.g. number of used clothing containers); and iv) resource efficiency (e.g. number of “recup” stores, number of public libraries). Overall, the atlas offers interactive and interdisciplinary access to more than 200 data sets and indicators of spatial development covering the entire area of the Rhine-Neckar Metropolitan Region. It was designed based on open-source software to create a co-operative and publicly accessible data infrastructure for the Rhine-Neckar Metropolitan Region. Yet, the portal does not contain any key performance indicators or objectives, which could be used to measure the achievement of policy objectives. There is also no systematic involvement of the national-level statistics office in the work with municipal and regional indicators (e.g. through the Bertelsmann Foundation SDG indicators for municipalities). Furthermore, data are only available at the metropolitan region level, at the city level for the eight largest cities and at district level for the seven districts of the Rhine-Neckar Metropolitan Region (*Landkreise*). The atlas does not feature municipal-level data, a main reason being the lack of harmonised indicators at the municipal level across the three federal states that the metropolitan region spans, which undermines comparability. However, municipalities such as Mannheim have started to develop their own indicator systems to measure their progress on the SDGs (Box 2.1). Moreover, municipalities above 5 000 inhabitants in the metropolitan region have the opportunity to monitor and compare their achievements on the 2030 Agenda through the SDG Portal of the Bertelsmann Foundation with its more than 50 indicators that are harmonised across Germany.

The atlas integrates the gradual automation of processes of data procurement and preparation. Data from various sources are increasingly fed into the atlas in an automated manner to allow for higher topicality. A second current development focus is the increased integration of sensor data, e.g. measuring air quality or the number of available bikes at bike rental stations. This type of data plays an important role in particular in the area of mobility, which is one of the priorities for the municipalities in Rhine-Neckar. It can be accessed in near real-time and thus forms the basis for a variety of new data-based applications, for example to provide an up-to-date map of charging stations for electric vehicles in the region (814 charging stations in 2022). Concerning technical and thematic further development, the Metropolregion Rhein-Neckar GmbH is pursuing an innovation-oriented approach in close co-ordination with the Verband Metropolregion Rhein-Neckar and aligned with the strategic goals of regional development. During regular meetings, a steering committee discusses which indicator or dataset can provide a practical benefit in a specific topical area. The integration of user-generated data (e.g. OpenStreetMap) also opens up an opportunity for the metropolitan region to involve actors from civil society (e.g. associations and initiatives) in the process of data collection.

Going further, the metropolitan region is planning to add an SDG dashboard to the atlas. The metropolitan region considers the SDGs as a useful framework to structure existing datasets in a better way and to attribute existing indicators to the various goals. The metropolitan region is therefore currently working on an update of the atlas to present concrete regional development projects and their contribution to specific SDGs. Furthermore, the metropolitan region is working on adding an analysis and monitoring tool to the atlas to raise awareness about municipal sustainable development by helping visualise different datasets via an SDG dashboard. To that end, the metropolitan region is currently working on combining comparative SDG indicators from different sources (e.g. OECD, UN, INKAR, Bertelsmann Foundation, federal states' statistical offices, OpenStreetMap) as well as region-specific indicators. The metropolitan region has already released a prototype of the SDG dashboard, which focuses on sustainable mobility for now and includes indicators for SDGs 9, 11 and 17, which shall later be expanded to indicators across all SDGs.

Through the dashboard, the metropolitan region aims to raise awareness about local sustainable development and visualise its progress on the SDGs, while creating a local and regional knowledge management system based on the latest technical standards.

Box 2.1. SDG monitoring in the city of Mannheim

The SDG monitoring in the city of Mannheim is based on the Mission Statement Mannheim 2030 mission statement. The vision was adopted in 2019 following a participatory process. More than 2 500 residents, institutions and associations developed 7 strategic objectives and a large number of proposals and suggestions on how the 17 SDGs could be implemented in Mannheim by 2030. After the approval of the 2030 Vision, the city of Mannheim started to analyse existing municipal, national and international sustainability indicator frameworks to come up with a selection of around 50 indicators to best assess the city's strategic objectives.

The indicators were published in 2021 and represent a central component of the budget plan of the city of Mannheim. The selected SDG indicators across the seven strategic objectives of the vision statement contain: i) indicators that are widely used and are also featured in the Bertelsmann Foundation's SDG Portal for German municipalities; ii) indicators from official sources, which can be slightly adjusted to suit the specific context of the city of Mannheim; and iii) subjective indicators from the European urban audit surveys measuring citizens' perception. As a next step, the city is working on the illustration of the indicators in a user-friendly and comprehensive manner, which should serve as a basis for annual sustainability monitoring and eventually feed into local policy making.

Source: Interview with the city of Mannheim during the 1st OECD mission to the Rhine-Neckar Metropolitan Region, 20 April 2021.

Measuring the distance to achieving the SDGs in the Rhine-Neckar Metropolitan Region

The OECD localised indicator framework for the SDGs allows for international comparisons across several dimensions of sustainable development. Building on this framework, the following section provides a first overview of the performance of the Rhine-Neckar Metropolitan Region towards the SDGs, compared to around 400 OECD regions. The structure of the section follows the 5 critical dimensions or "5Ps" of the 2030 Agenda (i.e. People, Prosperity, Planet, Peace and Partnerships) and is based on a selection of 26 indicators covering relevant aspects of 12 out of the 17 SDGs (Figure 2.2). Further information on the methodology of the assessment can be found in Box 2.2.

Box 2.2. OECD methodology for measuring cities' and regions' distance to achieving the SDGs

The OECD has developed a framework to localise the SDG targets and indicators and measure the distance of regions and cities to reaching each of the 17 SDGs. This consensual, comparable and standardised framework allows benchmarking performances within countries and across regions and cities to support public action across levels of government.

In the context of OECD countries, around 105 out of the 169 SDG targets have been identified as very relevant for regions and cities. Through an extensive literature review and expert consultation, the 169 SDGs targets from the UN indicator framework have been classified according to their level of

relevance for subnational levels of government (place-relevant). Subsequently, a subset of these SDG targets has been selected based on their applicability to the context and specificities of OECD countries (OECD relevant). The result is a selection of 105 SDG targets and 135 indicators for OECD regions and cities (also referred to as the “OECD subnational SDG targets and indicators”).

With its 135 indicators, the OECD localised framework covers at least 1 aspect of each of the 17 SDGs for both regions and cities. Nevertheless, the coverage in terms of indicators and targets is higher for regions than for cities. Although the set of indicators aims to cover the broad spectrum of all 17 SDGs, the coverage in terms of indicators also varies widely across SDGs.

To evaluate the achievements of a city or region on the SDGs, the OECD localised framework defines end values to shed light on the global trends in OECD regions and cities towards the SDGs, based on available indicators and to provide technical guidance for governments on a possible way to use the SDG indicator framework as a tool to advance local development plans and sustain evidence-based policies. By defining end values for 2030, regions and cities can assess where they stand today and seize how much distance they have to travel to reach the intended end value. When they are not inferable from the UN framework, the OECD defines end values for indicators based on the knowledge of experts in the field or based on the best performance of regions and cities in that indicator. The OECD localised indicator framework attributes end values to 88% of its indicators, of which 65% are defined using the criteria of “best performers”. The framework also normalises the SDG indicators from 0 to 100 – where 100 is the suggested end value of an indicator to be achieved by 2030 – and aggregates headline indicators that belong to the same SDG to provide an index score for each of the 17 SDGs. The distance to the target or goal is the number of units the index needs to travel to reach the maximal score of 100.

Source: OECD (2020^[4]), *A Territorial Approach to the Sustainable Development Goals: Synthesis Report*, <https://doi.org/10.1787/e86fa715-en>; OECD (2020^[3]), *Measuring the Distance to the SDGs in Regions and Cities (visualisation tool)*, <http://www.oecd-local-sdgs.org> (accessed on 1 September 2020).

Figure 2.2. The 17 Sustainable Development Goals



Source: UN (2022^[5]), *Sustainable Development Goals*, <https://www.un.org/en/sustainable-development-goals>.

Overall, the Rhine-Neckar Metropolitan Region's performance towards the SDGs is higher than in OECD regions on average. The region's results are particularly good regarding indicators of SDG 3 Good Health, such as its high hospital beds rate and low infant and transport mortality. The metropolitan region also displays low levels of unemployment, particularly youth unemployment (SDG 8), high levels of R&D expenditure (SDG 9) and disposable incomes above the average level in OECD regions (SDG 10). Policy areas with room for improvement compared to other OECD regions are SDG 12 Responsible Consumption and Production, notably Rhine-Neckar's waste production rate and the number of motor road vehicles, a high share of part-time employment (SDG 8) and its long-term unemployment rate (SDG 8).

People

Regarding SDG 2 and its goal to end hunger and ensure food security by 2030, the Rhine-Neckar Metropolitan Region possesses a larger share of agricultural space (in percentage of the total area) than the majority of OECD regions. In 2019, about 41% of the total area of the metropolitan region was used as agricultural space (only considering cropland as a percentage of the total area). This is slightly lower than the national average of German regions (around 46%) but above the average of OECD regions (about 32%).

Table 2.1. OECD indicators used to assess the dimension People in the Rhine-Neckar Metropolitan Region

SDG	Indicator	Source
	Cropland as a percentage of the total area in 2015	Regional Atlas Germany by the German Federal Statistical Office
	Infant mortality rate (number of deaths of children one-year-old or younger per 1 000 live births)	OECD Regional Database ¹
	Life expectancy at birth	OECD Regional Database
	Transport-related mortality rates (deaths per 100 000 people)	German Federal Institute for Research on Building, Urban Affairs and Spatial Development
	Hospital beds rate (hospital beds per 10 000 people)	German Federal Institute for Research on Building, Urban Affairs and Spatial Development
	Percentage of early leavers from education and training, for the 18-24 year-old population/Share of students leaving school without a degree	German Federal Institute for Research on Building, Urban Affairs and Spatial Development
	Gender gap in employment rate (male-female, percentage points)	Regional Atlas Germany by the German Federal Statistical Office

1. Data for the Rhine-Neckar Metropolitan Region from the OECD Regional Database were computed as the population-weighted average of the following German TL3 regions: Heidelberg (Stadtkreis); Mannheim (Stadtkreis); Neckar-Odenwald-Kreis; Rhein-Neckar-Kreis; Worms, Kreisfreie Stadt; Frankenthal (Pfalz), Kreisfreie Stadt; Landau in der Pfalz, Kreisfreie Stadt; Ludwigshafen am Rhein, Kreisfreie Stadt; Neustadt an der Weinstraße, Kreisfreie Stadt; Speyer, Kreisfreie Stadt; Bad Dürkheim; Germersheim; Südliche Weinstraße; Rhein-Pfalz-Kreis.

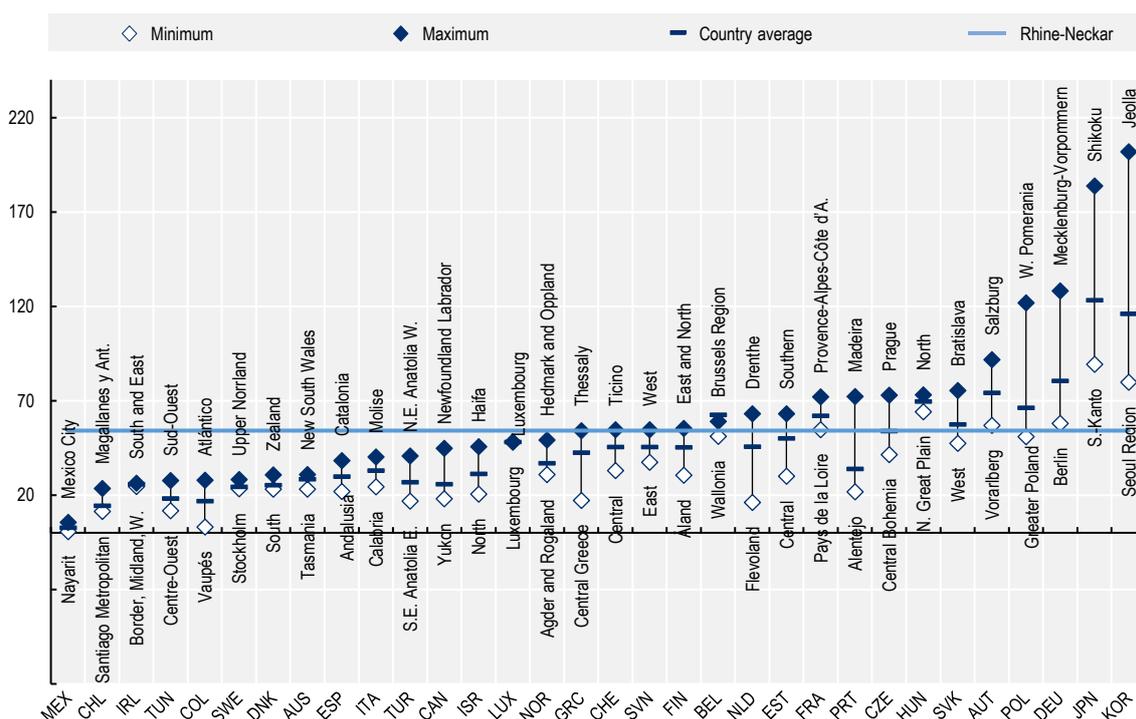
The metropolitan region shows a strong performance in health-related indicators. Ensuring good health and well-being (SDG 3) is at the core of the 2030 Agenda. This SDG is also one of the core strengths of the Rhine-Neckar Metropolitan Region. Its infant mortality rate (3.2 deaths of children 1 year or younger per 1 000 live births in 2017) lies considerably below the OECD regional average (5.9). It is overall lower than in more than 60% of OECD regions. At the same time, it roughly corresponds to the German average (3.3 deaths of children 1 year or younger per 1 000 live births). The indicator of life expectancy at birth shows a similar pattern. Rhine-Neckar's life expectancy of 81.4 years in 2017 is very close to the end value of 81.5 years suggested by the OECD for 2030. It was higher than in around two-thirds of OECD regions,

which averaged 79.6 years. At the same time, it was in line with the average of German regions (81.1 years).

Rhine-Neckar’s achievements in transport safety and the availability of hospital beds exceed the average of OECD regions. Rhine-Neckar’s transport mortality, an indicator measuring the achievement of SDG Target 3.6 to halve the number of global deaths and road traffic accidents, is lower than in OECD regions on average. Its road traffic mortality rate in 2017 reached 3.5 deaths per 100 000 people whilst the average of OECD regions was 9.4 deaths. However, it has to be noted that the figures for the OECD rates consider all types of transport, while the figures for Rhine-Neckar only take into account road traffic. Transport mortality rates of the states of Baden-Württemberg, Rhineland-Palatinate and Hesse were 5.3, 4.8 and 4.5 deaths respectively, while the average of German regions was slightly below 5 – all significantly higher than in Rhine-Neckar. Between 2011 and 2021, the number of people who died in road traffic accidents in Rhine-Neckar decreased by 43% (Rhine-Neckar Metropolitan Region, 2022^[6]). Similarly, the hospital bed rate in the metropolitan region exceeds the OECD average. In 2016, the rate of hospital beds per 10 000 people in Rhine-Neckar was about 62 compared to the average of 41 across OECD regions (Figure 2.3). The metropolitan region’s hospital beds rate is higher than in 80% of OECD regions and close to the suggested end value of around 64 beds per 10 000 people. However, it remains below the average of German regions, which was 81 hospital beds per 10 000 people in 2016.

Figure 2.3. Hospital beds rate, 2016

Hospital beds per 10 000 people



Note: Netherlands (2002); Australia (2012); Belgium, Italy, Slovenia (2013); Estonia, Finland, France, Ireland, Türkiye (2014); Canada, Czech Republic, Denmark, Greece, Japan, Korea, Luxembourg, Poland, Portugal, Slovak Republic, Spain, Sweden, Tunisia (2015).

Source: OECD (2022^[7]), *OECD Regional Statistics (database)*, <http://dx.doi.org/10.1787/region-data-en>; the data source for the Rhine-Neckar Metropolitan Region is the German Federal Institute for Research on Building, Urban Affairs and Spatial Development.

The share of students in the Rhine-Neckar Metropolitan Region leaving school without a degree is slightly below the national average. SDG 4 Quality Education aims to ensure inclusive quality education and the promotion of lifelong learning opportunities for all. One of the OECD indicators to measure achievements in SDG 4 is the share of early leavers from education and training for the 18-24 year-old population. This indicator averages at 10% in OECD regions. While this specific indicator is not available for the metropolitan region, a proxy can be the share of students leaving school without a degree. In Rhine-Neckar, around 6.7% of students left school without a degree in 2017, which is slightly lower than the unweighted average of German districts and municipalities of 6.9%.

Rhine-Neckar's gender gap in employment is below the average of OECD regions, yet it exceeds the German average. SDG 5 aims to achieve gender equality and empower all women and girls. One of the indicators where most OECD regions are lagging in this regard is the gender gap in employment rate (male-female, percentage points). Despite outperforming the majority of OECD regions, the Rhine-Neckar Metropolitan Region had a gender gap of 9.5 percentage points in its employment rate in 2020, in comparison to the suggested end value of 0 percentage point. Its gender gap is lower than in 58% of OECD regions but is slightly higher than the average of regions in Germany, which reached 6.9 percentage points in 2020.

Planet

Two percent of the area of Rhine-Neckar is covered by water bodies. Water as the basis of human life is one of the preconditions of human development. The UN has therefore reflected its importance in SDG 6, which has the objective to ensure the availability and sustainable management of water and sanitation for all. While the Rhine-Neckar Metropolitan Region lacks access to the coast and major lakes, 2% of Rhine-Neckar's area is covered by water bodies. Although this share is lower than the average in OECD regions (3.1%), it exceeds the average in German regions (1.4%). This can be explained by the fact that two major German rivers after which the metropolitan region is named, the Rhine and the Neckar, are flowing through the centre of the metropolitan region.

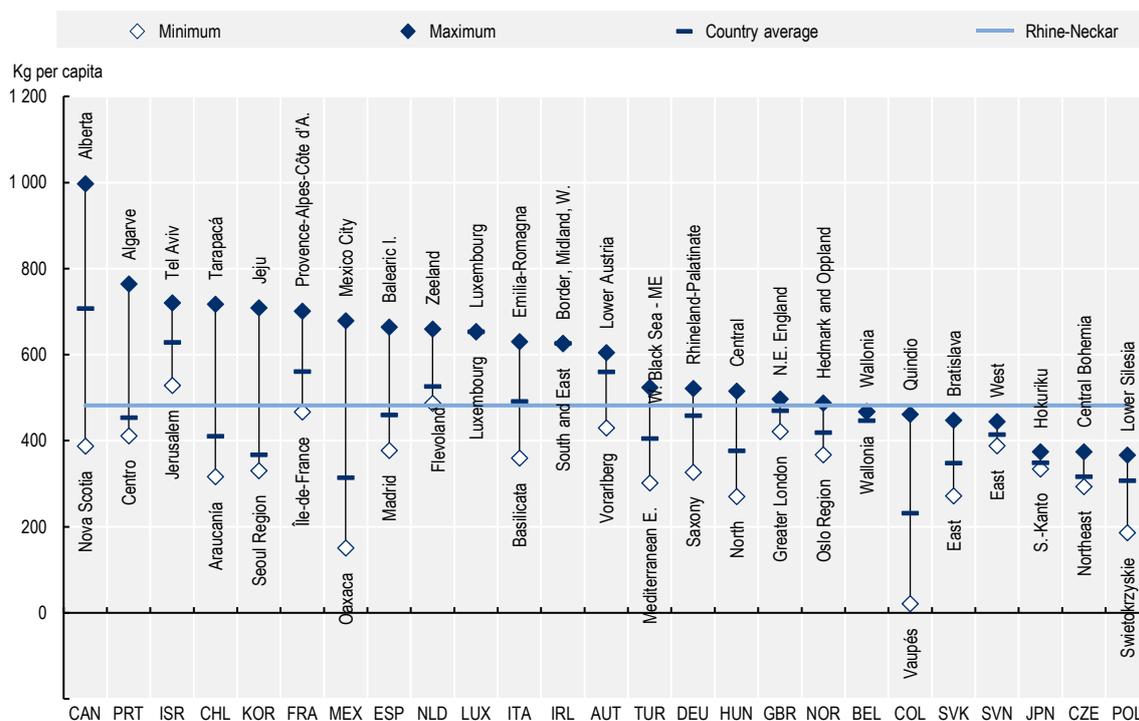
Table 2.2. OECD indicators used to assess the dimension Planet in the Rhine-Neckar Metropolitan Region

SDG	Indicator	Source
	Water bodies as a percentage of the total area in 2015	Rhine-Neckar Metropolitan Atlas
	Municipal waste rate (kilos per capita)	OECD Regional Database
	Number of motor road vehicles per 100 people	OECD Regional Database
	Coastal area as a percentage of the total area	OECD Regional Database
	Tree cover as a percentage of the total area in 2015	German Federal Institute for Research on Building, Urban Affairs and Spatial Development

The Rhine-Neckar Metropolitan Region has potential for improvement regarding SDG 12 Responsible Production and Consumption. Decoupling economic growth from environmental degradation and increasing resource efficiency are two main objectives that SDG 12 pursues. Relating to consumers' and producers' material footprint, which should be reduced as much as possible to protect natural resources and limit pollution, the OECD localised indicator framework uses the municipal waste rate and the number of motor road vehicles per 100 people to capture 2 of the key aspects of SDG 12. In the metropolitan region, the municipal waste rate (in kilos per capita), an indicator capturing the SDG Target 12.5 to substantially reduce waste generation, was more than 480 kg in 2016. This value was more than 17%

higher than the average of OECD regions (410 kg) and higher than in more than 70% of OECD regions. There is a considerable gap to bridge to the suggested end value for 2030, which is set at around 370 kg. In a national comparison, Rhine-Neckar's municipal waste rate is about 5% above the average of German regions (458 kg) (Figure 2.4).

Figure 2.4. Municipal waste rate, 2015



Note: Ireland (2010); France (2011); Belgium (2012); Italy, Luxemburg, Netherlands, Slovenia (2013); Canada, Japan, Mexico, Portugal, Spain, Türkiye (2014); Israel, Poland, Slovak Republic (2016); Rhine-Neckar Metropolitan Region (2016).

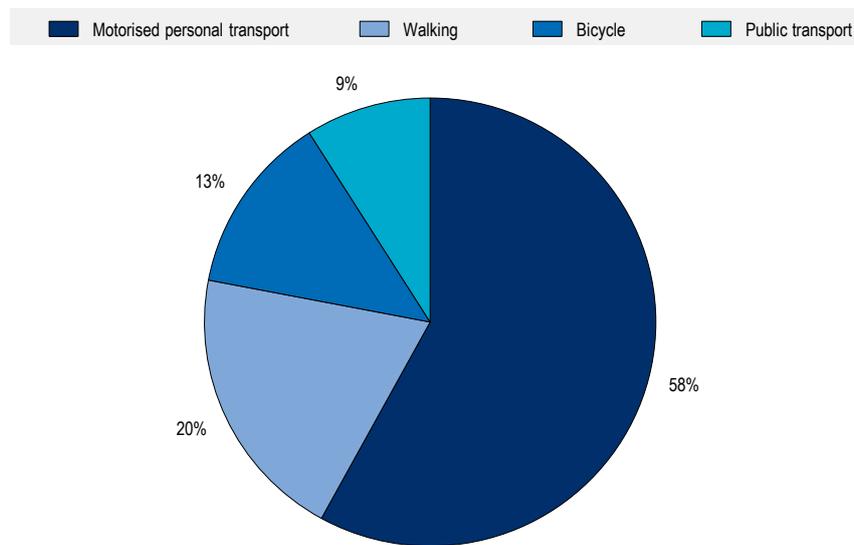
Source: OECD (2022^[7]), *OECD Regional Statistics (database)*, <http://dx.doi.org/10.1787/region-data-en>.

High car dependency is a challenge in the metropolitan region. To achieve SDG 12, people also need to have sufficient awareness of sustainable development and adapt lifestyles accordingly (SDG Target 12.8). Transportation and mobility are key factors in this respect. In the metropolitan region, however, private individual car usage is still the dominant means of transportation. In 2020, there were 59.4 motor road vehicles registered per 100 people in Rhine-Neckar, about 20 more than in OECD regions on average. The per rate of motor road vehicles per 100 people in the metropolitan region also exceeded the average of regions in Germany (54). Motorised individual transportation is the most common means of transport, accounting for 58% of the modal split and 73% of transport volumes in the metropolitan region (Figure 2.5) (ifeu, 2020^[8]). Small- and mid-sized cities with a population between 30 000 and 80 000 people are responsible for about 80% of transport-related greenhouse gas (GHG) emissions in the Rhine-Neckar Metropolitan Region (ifeu, 2020^[8]).

Public transport supply is characterised by territorial disparities across the metropolitan region, which might reinforce the preference for individual car usage. Overall, 94% of the population in Rhine-Neckar lives within 600 m from a bus stop and 1.2 km from a train station (Rhine-Neckar Metropolitan Region, 2022^[6]). Around 75% of public transport stops register more than 20 departures per day. However, the number of possible departures per day by public transport per inhabitant is up to more than three times lower in rural areas such as in the Odenwald and Palatinate regions than in larger cities such as Heidelberg,

Ludwigshafen and Mannheim (ifeu, 2020^[8]). In this context, around two-thirds of journeys in villages and smaller cities in rural areas occur via motorised individual transport. Even in municipalities with a good public transport supply, there is a preference for individual car usage. This pattern is also incentivised by large companies that often supply large free parking spaces around their offices and production sites. A further challenge for the metropolitan region is that both the main roads and public transport routes in the core area are saturated during rush hours and the connections across the Rhine in particular can no longer accommodate additional traffic during these times. In the coming decade, construction and renovation measures around Ludwigshafen will impose an additional burden on companies in terms of accessibility and transport of goods (Verband Region Rhein-Neckar et al., 2021^[9]).

Figure 2.5. Modal split of journeys in the Rhine-Neckar Metropolitan Region



Source: OECD elaboration based on ifeu (2020^[8]), *Analyse der Ausgangssituation für Klimaschutzaktivitäten im Verkehr für die Metropolregion Rhein-Neckar* (Analysis of the Initial Situation for Climate Protection Activities in Transport for the Rhine-Neckar Metropolitan Region), <https://www.m-r-n.com/publikationen/ifeuMRN.pdf> (accessed on 7 January 2022).

In the Rhine-Neckar Metropolitan Region, the share of tree cover as a percentage of the total area is 10 percentage points below the OECD average. One of the main targets of SDG 15 Life on Land is to ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands. In the metropolitan region, forests accounted for about 28% of the total area in 2016, which is relatively similar to the average of German regions (32%). Nevertheless, OECD regions on average have a higher share (38%). The share of tree cover also bears implications for SDG 13 Climate Action, as the restoration of trees is one of the most effective strategies for climate change mitigation (Bastin et al., 2019^[10]). The recreational area per inhabitant in m² has remained broadly stable in the metropolitan region between 2016 and 2020 at around 51 m² (Rhine-Neckar Metropolitan Region, 2022^[6]).

Prosperity

Unemployment rates in Rhine-Neckar are low compared to the average of OECD regions. SDG 8 Decent Work and Economic Growth is one of the key areas of the 2030 Agenda dimension Prosperity. Among other things, it aims at promoting full and productive employment and decent work for all. Different types of unemployment and part-time employment need to be considered in that regard. In 2019, Rhine-Neckar's

unemployment rate (percentage of unemployed with respect to the labour force as defined by the OECD) was about 2.9% (Figure 2.6), less than half of the OECD average (7.6%). Rhine-Neckar's unemployment rate also compares favourably to the German average of 3.9%. Overall, the metropolitan region belongs to the top 10% of OECD regions with the lowest unemployment rate. In its metropolitan data atlas, Rhine-Neckar also provides information about the region's unemployment rate but using a different methodology.² The metropolitan region's average unemployment rate in 2020 as stated in the metropolitan atlas was 5.4%, slightly below the national average of 5.9%. Despite the difference in the methodology and therefore the data, the ratio of the two unemployment rates as stated in the Rhine-Neckar Metropolitan Atlas is in line with the OECD figures. In 2019, the Rhine-Neckar Metropolitan Region also registered a gender gap (female-male) in unemployment rates close to zero (around -0.6 percentage points), similar to the German average (-0.8 percentage points). In comparison, the average gender gap in OECD regions is close to 2 percentage points.

Table 2.3. OECD indicators used to assess the dimension Prosperity in the Rhine-Neckar Metropolitan Region

SDG	Indicator	Source
	Firm creation rate (%)	OECD Regional Database
	Employment rate (%)	OECD Regional Database
	Unemployment rate (%)	OECD Regional Database/ Rhine-Neckar Metropolitan Atlas
	Gender gap in unemployment rate (percentage points)	OECD Regional Database
	Long-term unemployment incidence (%)	OECD Regional Database/ Rhine-Neckar Metropolitan Atlas
	Youth unemployment rate (%)	OECD Regional Database
	R&D expenditure as a proportion of gross domestic product (GDP) (%)	Rhine-Neckar Metropolitan Atlas
	Growth in disposable income per capita (%)	Rhine-Neckar Metropolitan Atlas
	Average disposable income per equivalised household (in USD purchasing price parity [PPP], constant prices of 2010)	OECD Regional Database

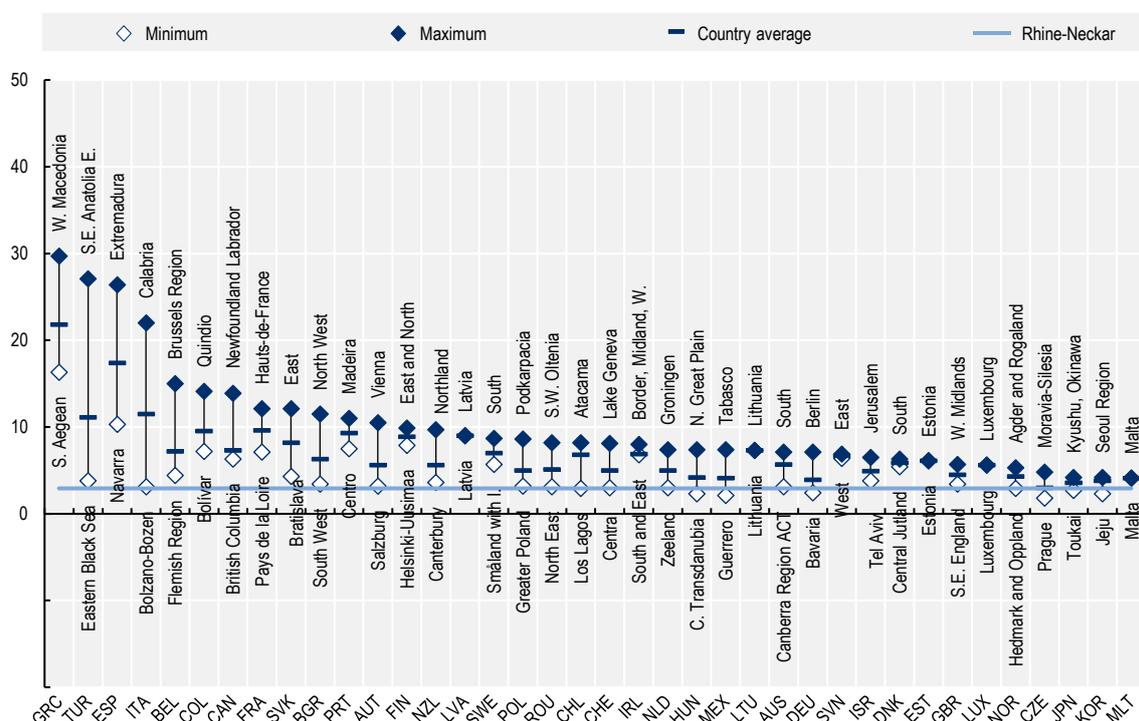
Despite a relatively low unemployment rate in general, long-term unemployment remains a challenge for the metropolitan region. In 2019, 32.4% of unemployment in the Rhine-Neckar Metropolitan Region fell into the category of long-term unemployment incidences of 12 months or more (29.4% in 2020 according to the metropolitan atlas). This share is similar to the average of OECD regions (30.2%) and the average of German regions in 2020 (30.3%). Almost half of OECD regions have a lower rate of long-term unemployment incidences, indicating a potential area for improvement for the Rhine-Neckar Metropolitan Region.

The Rhine-Neckar Metropolitan Region has one of the lowest youth unemployment rates across all OECD regions. Another core challenge raised by SDG 8 is the integration of young people into the labour market. In many regions in OECD countries, youth unemployment is persistently higher than overall unemployment. This is also the case in the Rhine-Neckar Metropolitan Region, albeit at moderate levels. In 2019, the metropolitan region's youth unemployment rate reached 5.3%, lower than the average of German regions (6.8%) and more than 3 times lower than the average in OECD regions (16.7%). The metropolitan region has already achieved the suggested end value for 2030 based on the best-performing OECD regions.

Part-time employment is very common in the metropolitan region. The overall employment rate in the metropolitan region reached 76% in 2019, which corresponds to the national average in Germany (76.7% in 2019). However, in 2020, 28.4% of employment in Rhine-Neckar was part-time,³ about the same as the average of German regions (28.0%) but considerably higher than the average of OECD regions (17.9%). Only about 10% of OECD regions exhibit a higher share of part-time employment than Rhine-Neckar. While part-time employment comes with more flexibility for employees, it also leads to lower salaries and can mean a higher risk of poverty (Horemans, 2017^[11]). The suggested end value to be reached by 2030 is therefore considerably lower, set at 15% based on the best-performing regions in OECD countries.

Figure 2.6. Unemployment rate, 2017

Percentage of unemployed with respect to the labour force



Note: Japan (2015); Australia, Canada, Chile, Colombia, Israel, Korea, Mexico, New Zealand (2016); Rhine-Neckar Metropolitan Region (2019).
Source: OECD (2022^[7]), *OECD Regional Statistics (database)*, <http://dx.doi.org/10.1787/region-data-en>.

Firm creation rates in Rhine-Neckar are high. An important prerequisite for the generation of employment is the creation and growth of firms. SDG Target 8.3, therefore, aims to promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalisation and growth of micro enterprises and small- and medium-sized enterprises (SMEs). In the Rhine-Neckar Metropolitan Region, the firm creation rate (in percentage of all establishments in the same sector and the same size class) in 2014 was around 15.4%, above the average of OECD regions of 11.2%.

The metropolitan region devotes more than 4% of its GDP to R&D expenditure. SDG 9 emphasises the role of R&D as expressed through Target 9.5 that aims to enhance scientific research and encourage innovation. In 2015, R&D expenditure⁴ accounted for about 4.1% of GDP in Rhine-Neckar, considerably higher than the average of OECD regions (1.6%). It was also higher than the average R&D expenditure in German regions (2.9%) and the suggested end value for 2030 (2.9%). The metropolitan region is home to

the world's largest site of industrial chemical research and is also the largest industrial information technology (IT) research location in Europe. Among the 11 German metropolitan regions, Rhine-Neckar has the third highest R&D expenditure as a share of GDP (ZEW, 2021^[12]).

Disposable household income and income growth rates exceed the average of OECD regions. Reducing inequalities and ensuring no one is left behind are integral to achieving the SDGs. This objective is specifically set out in SDG 10, which calls for reducing inequality within and among countries. Income is one of the determinants measuring inequality. The average disposable income per equivalised household (in USD PPP, constant prices of 2010) in 2017 was USD 27 742. It exceeded the average disposable household income in German regions by about USD 400 and the average of OECD regions (USD 23 052) by more than USD 4 500. Around two-thirds of OECD regions exhibit a lower average disposable income per equivalised household than the Rhine-Neckar Metropolitan Region. According to the metropolitan atlas, the disposable per capita income has increased by 10.2% between 2015 and 2019, which means an annual growth rate of 2.46%. The corresponding increase in Germany overall was 12.3%, which is equivalent to a yearly increase of more than 3%. In comparison, the average growth rate of disposable income in OECD regions between 2015 and 2016 was 0.5%.

Peace and Partnership

Voter turnout in the metropolitan region in the 2017 federal elections was slightly higher than in Germany overall. SDG 16 promotes peaceful and inclusive societies for sustainable development both through access to justice for all and through effective, accountable and inclusive institutions at all levels. Target 16.7 aims to ensure responsive, inclusive, participatory and representative decision-making at all levels. One way to contribute to participatory and representative decision-making can be through voting. In the 2017 German federal elections, voter turnout in the Rhine-Neckar Metropolitan Region was 78.2%, slightly above the overall national turnout of 76.2%.

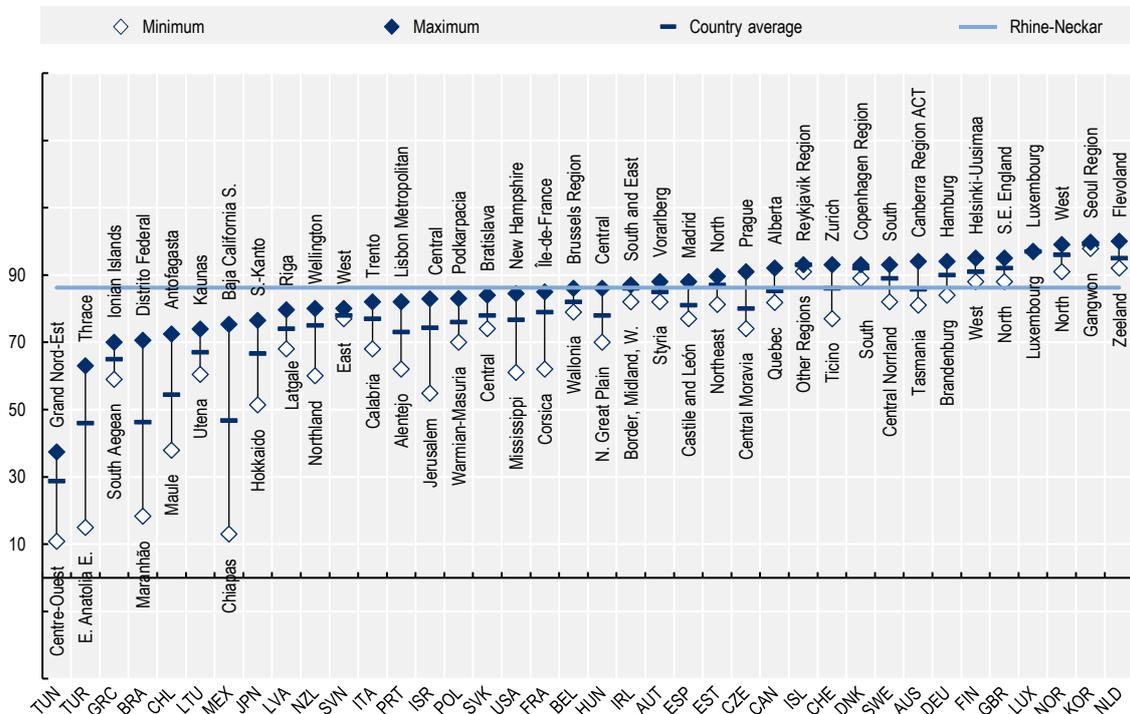
Table 2.4. OECD indicators used to assess the dimensions Peace and Partnerships in the Rhine-Neckar Metropolitan Region

SDG	Indicator	Source
 16	Voter turnout	OECD Regional Database
 17	Percentage of households with broadband Internet access	German Federal Institute for Research on Building, Urban Affairs and Spatial Development

Almost nine out of ten households in the metropolitan region have access to broadband Internet. The SDGs are a shared responsibility both within and across countries. SDG 17 aims to strengthen the means of implementation and realise a global partnership for sustainable development. To measure how advanced a region is on the pathway to achieving that goal, the OECD uses the indicator of the percentage of households with broadband Internet access, which captures the use of “enabling technologies” (Target 17.8) that favours the emergence of new sustainable development models and partnerships between stakeholders and citizens. In the Rhine-Neckar Metropolitan Region, more than 86% of households had access to broadband Internet in 2017, well above the average of OECD regions of around 74% (Figure 2.7). The metropolitan region ranks among the top 25% of OECD regions with the highest share of broadband connectivity. Yet, it lags slightly behind the average of German regions (90%).

Figure 2.7. Broadband Internet access, 2016

Percentage of households with broadband Internet access



Note: Iceland, New Zealand (2012); Brazil, Chile, Switzerland, Türkiye (2013); Greece, Tunisia (2014); Australia, Canada, Estonia, Israel, Japan, Latvia, Lithuania, United States (2015); Rhine-Neckar Metropolitan Region (2017).

Source: OECD (2022^[7]), *OECD Regional Statistics (database)*, <http://dx.doi.org/10.1787/region-data-en>; the data source for the Rhine-Neckar Metropolitan Region is the German Federal Institute for Research on Building, Urban Affairs and Spatial Development.

The SDGs to respond to interlinked sustainability challenges and megatrends

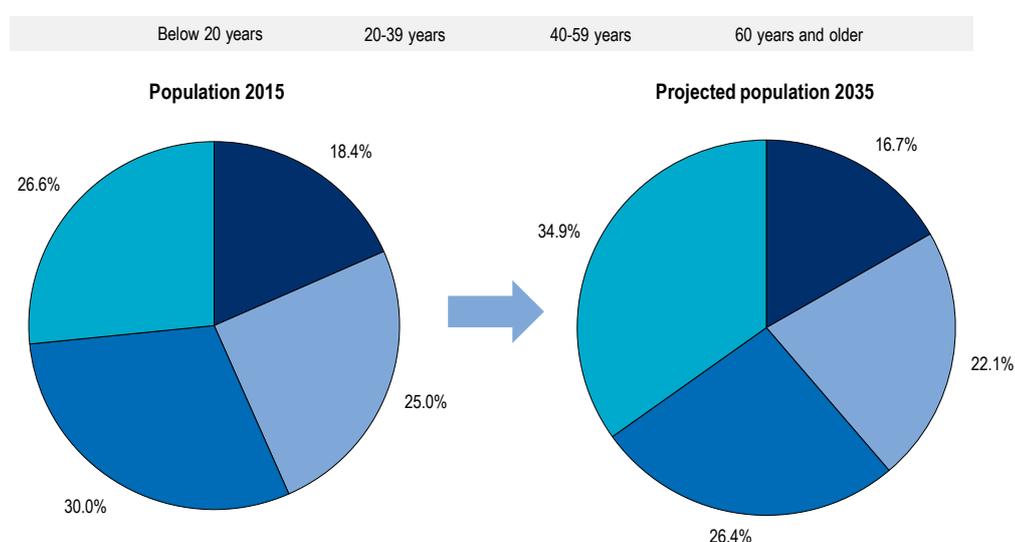
The SDGs can provide a forward-looking vision for the metropolitan area to respond to global challenges and trends that impact the regional policy environment. Among the critical megatrends influencing the achievement of the SDGs in Rhine-Neckar, this section will explore four megatrends in particular: i) demographic changes; ii) technological changes, such as digitalisation; iii) environmental protection, climate change and the need to transition to a low-carbon economy; and iv) urban-rural disparities. The impact of these megatrends on the metropolitan region is context-specific and therefore requires place-based policy responses to capture the opportunities related to those trends locally.

Demography

The metropolitan region is characterised by an ageing population. While about 27% of Rhine-Neckar's population was 60 or more years old in 2015, this share is projected to reach 35% by 2035 (Figure 2.8). Over the same period, the share of the population aged below 20 is expected to decrease from 18.4% to 16.7%. The share of younger adults (20-39 years old) is also forecasted to go down by 3 percentage points, while the share of adults between 40 and 60 will grow by 3 percentage points (Rhine-Neckar Metropolitan Region, 2018^[13]). Population ageing will have an increasing impact on Rhine-Neckar's labour market. In the healthcare sector, which is already suffering from staff shortages, the share of employees above 50 years old exceeded 34% in 2016. The share of those between 55 and 64 was close to 20%. Public

administration displays a similar ageing picture. A quarter of employees in public administration were 55 years and older already back in 2013 (Rhine-Neckar Metropolitan Region, 2018^[13]). To address the issue of a declining working-age population, the metropolitan region has developed a regional strategy for demographic change, which was published in 2018). Among other projects, the metropolitan region has established a working group for the future of care, notably to help attract workers from the healthcare sector to the metropolitan region, including from abroad. Other initiatives include the Rhine-Neckar Skilled Workers Alliance, which helps SMEs compete for young talents. The SDGs provide an opportunity for the metropolitan region to bundle and co-ordinate activities in the areas of education and labour market to seize synergies between SDGs 4 Quality Education, 8 Decent Work and Economic Growth and 9 Industry, Innovation and Infrastructure.

Figure 2.8. Population forecast for the Rhine-Neckar Metropolitan Region



Source: Rhine-Neckar Metropolitan Region based on Statistical Offices of the Federal Government and the Federal States (Regional Database Germany); Federal Institute for Research on Building, Urban Affairs and Spatial Development (spatial planning forecast 2035).

Digitalisation

The metropolitan region is facing and addressing the impacts of digitalisation. In an increasingly digitalised world, it is critical to develop a technology-savvy labour force and simplify the administrative and business processes. For Rhine-Neckar, fostering digitalisation in public infrastructure, i.e. education, energy, health, transport and administration, is a key challenge to secure competitiveness and innovative strength. As mentioned before, the region is therefore implementing several digitalisation-related projects such as the Cooperative e-Government in Federal Structures project and its online platform for digital competencies KommunalCampus. Upskilling will also be an important tool to tackle the large share of long-term unemployment incidences (around 30%) in the metropolitan region. Initiatives such as the KommunalCampus align with two main components of the region's education strategy, namely the need to adapt to global trends and transformation and key competencies for the future of work.

Joint programmes between Rhine-Neckar's fields of action education and digitalisation could help further improve skillsets across all ages (SDG 4) while better preparing the youth and active population for the future of work (SDG 8). Digitalisation can also be used as a tool to strengthen partnerships (SDG 17). As part of the new Global South Partnerships network and Rhine-Neckar's Smart City Strategy, for example, the metropolitan region is using digitalisation as a mechanism to better connect different stakeholders. For the Smart City Strategy, the metropolitan region has developed an online tool that provides information to

entrepreneurs about the promotion of regional innovation, such as potential business partners, support schemes and initiatives in Rhine-Neckar. Further expanding the access to broadband Internet (86% of households currently connected) to catch up with the national average (90%) could be an enabling factor to increase the number of people benefitting from digital tools.

Climate change

The impacts of climate change are already visible in the metropolitan region. The Rhine Valley, around which the Rhine-Neckar Metropolitan Region is located, has one of the warmest climates in Germany. The frequency of tropical nights, where the temperature remains above 20°C, has been increasing over the last few years. Periods of droughts also occur more frequently. Such climate change effects have an impact on the regional economy. In the summer of 2018, for example, low levels of precipitation led to a lower water level of the Rhine. Consequently, companies located along the Rhine, such as BASF, could not use their regular shipping routes on the river for around six weeks, which calls for the need to rethink transport logistics (SDGs 9 and 11). Even though energy and mobility are part of Rhine-Neckar's 11 fields of action, there is no dedicated overarching strategy yet to tackle the impact of climate change on the metropolitan region. Such a strategy could go hand in hand with sectoral efforts to foster clean energy (SDG 7), low-carbon mobility (SDGs 9 and 11) and technological innovation (SDG 9) to reduce emissions from Rhine-Neckar's major industrial companies like BASF, FuchsPetrolub, HeidelbergCement and Roche.

Reducing air pollution to tackle climate change is a challenge for the metropolitan region. In the functional urban areas of Mannheim-Ludwigshafen and Heidelberg, the average annual level of exposure to small particulate matter with a diameter of 2.5 microns or less (PM_{2.5}) was 12.4 and 12.2 µg/m³ respectively (population-weighted, micrograms per cubic metre). Despite being slightly lower than the average of OECD cities (12.7 µg/m³), air pollution levels remain above the World Health Organization (WHO) Air Quality Guidelines value of 5 µg/m³ average annual exposure. The strong preference for individual car usage, which accounts for 58% of the modal split in the metropolitan region, impedes the reduction of air pollution levels and undermines its performance on SDGs 11 and 13. In particular, small- and mid-sized cities with a population between 30 000 and 80 000 people need to be targeted as they are responsible for about 80% of transport-related GHG emissions in the Rhine-Neckar Metropolitan Region. Improving and incentivising the use of public transport in areas through better accessibility and low-carbon means of transport could help reduce transport-related emissions. The measures outlined in Rhine-Neckar's mobility pact, the envisaged construction of cycling highways in the metropolitan region and the H2Rivers project already provide a first step in that direction. Other measures that can help reduce road congestion include ride-sharing options. The OECD International Transport Forum (ITF) has conducted shared mobility simulations in several cities in OECD countries, showing how they can drastically improve equality of access to services and job opportunities while reducing individual car use (OECD, 2022^[14]). Reducing the municipal waste rate of 480 kg per capita could be another way to reduce air pollution in the metropolitan region. Reduced waste production would mean less waste getting incinerated, thus lowering the amount of particulate matter released into the atmosphere (National Research Council, 2000^[15]).

Territorial disparities

There are large territorial disparities in Rhine-Neckar between urban and rural areas in terms of job opportunities, education and mobility. The main companies and higher education institutions are mostly located in the central urban core around Heidelberg and Mannheim-Ludwigshafen. Accordingly, the share of employees with a tertiary degree is considerably higher in Heidelberg (31.9%), Mannheim (21.9%) and the Rhine-Neckar district (22.3%), compared to the more rural areas of Neckar-Odenwald (8.9%) and Rhine-Palatinate (9.2%). At the same time, the rural areas in the Rhine-Neckar Metropolitan Region are mostly characterised by SMEs. Gross-income levels per employee are the highest in Ludwigshafen (EUR 49 932) and Mannheim (EUR 43 389) compared to more rural districts such as Bergstraße

(EUR 35 264) and Rhine-Palatinate (EUR 28 885). Rural areas also face challenges such as higher car dependency due to lower accessibility by public transport. As discussed earlier, in the Odenwald and Palatinate regions, the number of possible departures per day by public transport per inhabitant is only about a third compared to the major hubs of Ludwigshafen and Mannheim. As indicated above, there is also a shortage of skilled workers and a lack of care or basic services in rural areas. In the rural district of Neckar-Odenwald, for example, the share of employees with a tertiary degree in 2017 (8.8%) is much lower than in the city of Heidelberg (42.9%), and the less rural districts Bergstraße (15.0%) and Rhine-Neckar (18.5%) (DiFA Research, 2022^[16]). This is often linked to the migration of the young population to urban centres for tertiary education purposes. Projections indicate a need for filling medical and nursing care positions in rural areas of the metropolitan region, where demand for such services is on the rise (DiFA Research, 2022^[16]). Furthermore, the population size of the rural district Neckar-Odenwald for example is expected to decrease by around 5% until 2040 (Rhine-Neckar Metropolitan Region, 2022^[17]). In this context, the SDGs can serve as an important framework to monitor and target urban-rural disparities in terms of the concentration of firms, the supply of basic services and care workers, as well as accessibility and mobility. A territorial approach to the SDGs warrants a closer look at such intra-regional disparities in order to ensure balanced regional development and find a common strategy to address existing disparities. Analysing the interlinkages and trade-offs between different policy goals and applying a functional approach can help understand how to foster long-term sustainability in the region.

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Notes

¹ See <https://daten.digitale-mrn.de>.

² In the metropolitan atlas, the unemployment rate indicates the relative underutilisation of labour supply by relating the (registered) unemployed to the labour force (employed + unemployed) as ratios. The denominator is referred to as the reference variable. All civilian employees are the sum of dependent civilian employees as well as self-employed persons and family workers. The OECD defines unemployment rate as follows: the unemployed are people of working age who are without work, are available for work and have taken specific steps to find work. The uniform application of this definition results in estimates of unemployment rates that are more internationally comparable than estimates based on national definitions of unemployment. This indicator is measured in numbers of unemployed people as a percentage of the labour force and it is seasonally adjusted. The labour force is defined as the total number of unemployed people plus those in employment.

³ Part-time employment is defined as people in employment (whether employees or self-employed) who usually work less than 30 hours per week in their main job. Employed people are those aged 15 and over who report that they have worked in gainful employment for at least one hour in the previous week or who had a job but were absent from work during the reference week while having a formal job attachment.

⁴ Weighted by regional GDP.

3

Multi-level governance and stakeholder engagement for the SDGs

The metropolitan region plays a co-ordinating role in various United Nations (UN) Sustainable Development Goal (SDG)-related activities and collaborates with municipalities and districts from Rhine-Neckar and beyond. However, there is no formal co-ordination mechanism between the metropolitan region and its three federal states regarding sustainable development, while the inability to spend federal state funds across the metropolitan region and in cross-border education is limiting the region's integrated approach. Civil society and participatory processes are making a major contribution to Rhine-Neckar's action towards the UN 2030 Agenda and some CSOs have already integrated the SDGs into their core work. Similarly, large global companies are increasingly integrating sustainability targets into their core business strategy, while the uptake is less advanced among SMEs.

Vertical and horizontal co-ordination to implement the SDGs

Vertical co-ordination in Germany

In the German multi-level governance context, the federal states and local governments are important actors that translate national policy objectives into local action. They hold essential competencies to pass and enforce legislation relevant to sustainable development, including in energy, mobility and housing (OECD, 2020^[1]). The federal government's sustainability strategy, last updated in 2021, acknowledges that the federal states and local governments "should be able to set their own priorities in the interests of federalism" (German Federal Government, 2021, p. 111^[2]). At the same time, the strategy recognises the challenge coming from the diversity of sustainability processes, tools and contents across states and calls for aligning sustainable development strategies with the national one (German Federal Government, 2021^[2]). However, Germany's Sustainable Development Strategy (*Deutsche Nachhaltigkeitsstrategie*) does not refer to the level of metropolitan regions and thus also does not include them in its multi-level governance framework.

The three states of Baden-Württemberg, Hesse and Rhineland-Palatinate that the Rhine-Neckar Metropolitan Region spans across are among the 11 German states that have published sustainability strategies. All three strategies contain state-specific sustainability objectives, guiding principles and indicator frameworks to measure the states' progress on sustainable development. While all three strategies take the SDGs into account, they set different priorities. Baden-Württemberg's sustainability strategy focuses on three topics: climate and energy, sustainable consumption and education for sustainable development (State of Baden-Württemberg, 2022^[3]). It is managed by the state's Ministry for the Environment, Climate and Energy. The state has developed indicators that take into account the comparability with other federal states and the federal level (German Federal Government, 2016^[4]). In Rhineland-Palatinate, the sustainability strategy is under the responsibility of the state's chancellor. Relevant fields of action are derived from the six principles of sustainable development of Germany's Sustainable Development Strategy (sustainable development as a guiding principle; taking global responsibility; preserving natural foundations of life; strengthening sustainable economies; maintaining and improving social cohesion; using education, science and innovation as drivers of sustainable development) (Ministry of Economy, Transport, Agriculture and Viticulture of the State of Rhineland-Palatinate, 2019^[5]). In Hesse, sustainable development is considered an interdepartmental task under the auspices of the prime minister, implemented by the different ministries and co-ordinated by the Hessian Ministry for the Environment, Climate Protection, Agriculture and Consumer Protection. The state has integrated the concept of sustainable development into its constitution. Through its sustainability strategy, Hesse pursues 22 guiding principles across the social, economic and ecological dimensions of sustainability and has set 13 target indicators that are aligned with the SDGs and the Germany's Sustainable Development Strategy (Hessian State Statistical Office, 2020^[6]). The three sustainability strategies emphasise the role of municipalities in the achievement of the SDGs but do not refer to metropolitan regions.

There is no co-ordination mechanism between the states and the Rhine-Neckar region regarding sustainable development. At the state level, there is an ongoing exchange in Baden-Württemberg, Hesse and Rhineland-Palatinate with the federal government, other states in Germany and the respective municipalities within the state boundaries on the topic of sustainable development. Municipalities and districts within the different states develop their own sustainable development strategies, while the state level assists with financial support, intellectual assistance and methodologies. As the topic of sustainable development falls under the responsibility of the individual states, Baden-Württemberg, Hesse and Rhineland-Palatinate do not have a particular focus on the Rhine-Neckar Metropolitan Region that spans the three states. The metropolitan region has regular exchanges with the municipalities and districts as well as ministries of the three federal states of Baden-Württemberg, Hesse and Rhineland-Palatinate. However, there is no institutionalised process for the exchange between the three states and the Rhine-Neckar Metropolitan Region. As Rhine-Neckar crosses three different states, the metropolitan

region is generally not part of the German multi-level governance framework for sustainability. For instance, the Rhine-Neckar Metropolitan Region was only indirectly involved in the preparation of Germany's Voluntary National Review to the High-Level Political Forum released in 2021 via the municipalities in the region. Another co-ordination challenge relates to sustainability monitoring. Even though the content of the sustainable development strategies in Baden-Württemberg, Hesse and Rhineland-Palatinate is broadly comparable and could provide a basis for the elaboration of a sustainable development strategy in Rhine-Neckar, monitoring differs considerably between the three states. This relates to the indicators used but also to data collection gaps at the granular level, which constrains data comparability across the three states.

Differences in education systems across Baden-Württemberg, Hesse and Rhineland-Palatinate are one example of horizontal co-ordination challenges for the metropolitan region. Measures in the education sector historically fall under the responsibility of the federal states and are thus not harmonised across Germany. Consequently, there are differences between the education systems of the three states of Baden-Württemberg, Hesse and Rhineland-Palatinate with regard to funding, teacher training and curricula. This challenge is particularly visible in light of Germany's dual apprenticeship system, where young people get trained for a job at a company but also need to attend a vocational school. It is usually not possible to begin professional vocational training with a company in a different state than the one where the vocational school is located, which can often impede integration within cross-state regions such as Rhine-Neckar.

Overall, it is particularly challenging for Rhine-Neckar to pool funding for projects that cut across states. Although a metropolitan regionwide development strategy is in place, securing funding for projects that are part of this strategy remains difficult. Federal funds can be spent across the three states of the metropolitan region but state funding is restricted to projects in the specific state that provides the funds. This represents an obstacle to an integrated implementation of development projects across the entire metropolitan region. For example, two regionwide development projects in Rhine-Neckar received an award in Baden-Württemberg's state contest "RegioWIN 2030 – Regional competitiveness through innovation and sustainability". Despite the projects' cross-state development nature, the allocated funds had to be used exclusively in the state of Baden-Württemberg. In 2015, ten years after the State Treaty between the three states came into force, a joint declaration signed by the states of Baden-Württemberg, Hesse and Rhineland-Palatinate called for further co-operation and regional development in the Rhine-Neckar Metropolitan Region, including on European Union (EU) funding. Yet the problem persists, mainly because establishing a joint funding programme or simplifying access to cross-state funding would involve administratively complex and time-consuming procedures. Nonetheless, vertical co-ordination across levels of government exists for projects that are funded by the federal government. One example is the Open Government Lab Rhine-Neckar model project, which aims to foster sustainability in regional and urban development to contribute to the SDGs in the metropolitan region (see the section on the metropolitan region's engagement with the civil society for more details). The project includes regular exchanges between the metropolitan region and the German Federal Ministry of the Interior and Community.

Horizontal co-ordination within and across the metropolitan region

In the Rhine-Neckar Metropolitan Region, sustainable development challenges such as housing, mobility and climate protection can only be solved at an inter-municipal level. One advantage of the governance structure of the metropolitan region is that different municipalities are part of the institutions that form the metropolitan region, which facilitates collaboration on key topics of sustainable development. The majority of the regional association's assembly members are seconded by the regional authorities, i.e. elected by the respective district council or city council. The mayors of the cities of Heidelberg, Ludwigshafen and Mannheim as well as other representatives of the districts and municipalities from all three federal states are represented in the board of the association and head different steering committees for specific fields

of action. For example, the mayor of Ludwigshafen is part of the board of the Verein Zukunft Metropolregion and is responsible for the topic of labour markets. In addition to the different municipalities and districts, there is a wide range of stakeholders that the metropolitan region considers as relevant partners that need to be involved to address sustainable development. Such stakeholders include the Sustainable Heidelberg Action Alliance (*Aktionsbündnis "Nachhaltiges Heidelberg"*), Heidelberg University, the Centre for Social Investment and Innovation (*Centrum für Soziale Investitionen und Innovationen*), partners from the business community, associations and community foundations and stakeholders from the Open Government movement. These actors already contribute to a variety of projects implemented by the metropolitan region, for example through its engagement strategy, the Open Government Labs and the Rhine-Neckar-Fair Project among others.

There are, however, notable disparities between the different districts and municipalities in Rhine-Neckar when it comes to their SDG engagement. The majority of municipalities in the Rhine-Neckar Metropolitan Region are aware of the SDGs but further efforts are needed to sensitise the public administration to the concept of the 2030 Agenda as a policy-making tool. Only the metropolitan region itself and four of its municipalities (Bad Bergzabern, Heidelberg, Mannheim and Speyer) have signed the model resolution "2030 Agenda for Sustainable Development: Shaping Sustainability at the Municipal Level". In large cities like Mannheim, where the administration has developed a 2030 Vision for its local sustainable development together with its citizens through a participatory approach, the public has become much more aware of the SDGs (Box 3.1). The city's efforts to target sustainable development holistically beyond policy silos and to integrate the SDGs into the city's budget have also led to a more comprehensive policy approach, which could inspire other municipalities and districts in the metropolitan region.

Box 3.1. Mannheim's first Voluntary Local Review

In 2020, the city of Mannheim published its first Voluntary Local Review (VLR). The VLR presented the Mannheim 2030 Mission Statement, which was developed through a large-scale public participation process. It is based on the SDGs and sets out a vision for Mannheim in 2030.

The VLR consists of seven strategic goals that Mannheim wants to achieve by 2030, notably linked to social and cultural integration, health and well-being, equality and diversity, democracy, digitalisation and innovation, climate change and international co-operation. As part of the VLR, the city identified key milestones on the way to achieving the goals. Furthermore, Mannheim uses the VLR to report its progress on the seven goals from the mission statement. To that end, the city uses 48 indicators that are linked to different SDGs in relation to the specific strategic goals. The VLR also describes the measures the city has already put in place to contribute to those goals.

As a follow-up to its 2020 VLR, Mannheim is currently developing the second edition of its VLR, which will put even further emphasis on the monitoring and implementation part and shall in the future be integrated into the city's decision-making processes.

Source: City of Mannheim (2020^[7]), *The Implementation of the United Nations Sustainable Development Goals in Mannheim 2030 - Voluntary Local Review*, <https://www.local2030.org/pdf/vlr/mannheim-vlr-2020.pdf>.

The city of Heidelberg is also updating its Heidelberg 2035 urban development concept (STEK 2035) based on the SDGs. The city has analysed the initial situation of the planning for the STEK 2035, assessed existing municipal plans, concepts and strategies regarding their relevance and alignment with the SDGs and is expected to initiate public participation processes to define specific goals and indicators, including the development of priority measures. Furthermore, with support from the Service Agency Communities in One World (SKEW), six municipalities from the metropolitan region¹ participated in the project Pfälzerwald: SDG-Modellregion (Pfälzerwald SDG Model Region). In this project that ran from 2019 to 2021, local governments developed municipal sustainable development strategies aligned with the 2030 Agenda in a participatory process defining areas of action, targets and concrete measures (Biosphärenreservat Pfälzerwald-Nordvogesen, 2022^[8]). Some other municipalities, such as the district Bergstraße, have established sustainability councils, where different stakeholder groups exchange their ideas for sustainable regional development. Their work is primarily focused on selected priority SDGs. However, smaller municipalities tend to lack sufficient human and/or financial resources to work on the SDGs specifically. Consequently, various municipalities might implicitly contribute to the SDGs but do not report on the 2030 Agenda. Furthermore, most of the SDG localisation processes have been initiated by larger municipalities without necessarily consulting the rural areas around them, thus preventing more co-ordinated planning, for instance when it comes to the production of green energy.

In most cases, collaboration between municipalities in the Rhine-Neckar on the 2030 Agenda focuses on fair trade, fair procurement and partnerships with the Global South. Such co-operation is often led by corresponding municipal steering committees or municipal agenda offices. In various projects, municipalities in the Rhine-Neckar Metropolitan Region are collaborating to ensure a future-proof development of municipalities and the region and following sustainability guidelines, which are now to be supplemented by the SDGs. Examples of such projects include the Rhine-Neckar Fair project, the establishment of fair trade districts and volunteer days and the appointment of a co-ordinator for local development policy in the metropolitan region. Another example in the Bergstraße-Odenwald district, home to a UN Educational, Scientific and Cultural Organization (UNESCO) Global Geopark, is the co-operation of tourism departments from different municipalities that have established a sustainability platform to exchange information on their SDG contribution to the region.

The Rhine-Neckar Metropolitan Region is also actively co-operating on a variety of SDG-related topics with other regions and metropolitan regions in several networks. Inter-state co-operation plays an important role in the Rhine-Neckar Metropolitan Region, both within its territorial boundaries and beyond. To co-ordinate and harmonise regional planning, projects and measures, the association of the Rhine-Neckar region promotes cross-border co-operation of public and private bodies that are relevant to realise the implementation of the Unified Regional Plan's objectives. The metropolitan region is part of the German-French-Swiss Upper Rhine Conference and participates in some of its working groups on a range of topics linked to the SDGs, in particular economy, transport and spatial planning. It also collaborates with neighbouring regions like the Karlsruhe Technology Region, in particular with regard to sustainable mobility, and the West Palatinate Region of the Future (Rhein-Neckar GmbH, 2018^[9]; Zukunftsregion Westpfalz e.V., 2022^[10]). Rhine-Neckar is also a member of the Interregional Alliance for the Rhine-Alpine Corridor European Grouping of Territorial Cooperation (EGTC), whose main objective is to facilitate and promote territorial co-operation along the corridor between Milan and Rotterdam and to jointly strengthen and co-ordinate integrated sustainable territorial development (EGTC, 2022^[11]).

Rhine-Neckar's cross-border projects cover a variety of topics including innovation, biodiversity and spatial planning. The region is a founding member of the Eurodistrict Pamina, one of the European Groupings of Territorial Co-operation, which is co-ordinating the cross-border co-operation in the Baden-North Alsace-South Palatinate border region at the local and regional levels, notably in the areas of transport, tourism, education, culture and labour market. To foster research and innovation in Europe, the metropolitan region became a member of the European Regions Research and Innovation Network, which fosters exchange among European regions with regard to topics such as climate change, energy, the

creative economy, transport and logistics, and supports its members in strengthening their respective competency in the field of research and innovation. Spatial planning collaborations exist with the Planning Community Western Palatinate and the Central Upper Rhine Region. Furthermore, Rhine-Neckar is part of the Network of European Metropolitan Regions and Areas (METREX), and a member of the group of European Metropolitan Regions in Germany (IKM) (Verband Region Rhein-Neckar, 2021^[12]). There are also cross-border co-operation projects at the local level, for example along the Palatinate Forest-North Vosges Biosphere Reserve. In this UNESCO reserve, a Franco-German working group has been working on measures to preserve biodiversity for more than 20 years and municipalities organise joint markets to promote local food production (German Commission for UNESCO, 2022^[13]). Interested citizens can also participate in various education for sustainable development projects.

The Rhine-Neckar Metropolitan Region is collaborating with Karlsruhe, Flanders and Flemish Brabant on the governance of sustainability in public administrations. The Verband Region Rhein-Neckar is currently assessing its internal administrative sustainability performance as part of a joint project called 4 Regions 4 Future, conducted with the Regierungspräsidium Karlsruhe (Karlsruhe Regional Council) as well as the province of Flemish Brabant, which is an official partner region of the metropolitan region and the region of Flanders in Belgium. The goal of the overall project is to improve and strengthen sustainable (public) administrative action in Europe. It consists of several peer-to-peer exchange workshops between the administrative staff of the project partners on the implementation of sustainability goals and requirements in public administration. It focuses on four areas of activity in which the application of sustainability criteria is becoming increasingly important: sustainable procurement, staff management, mobility management and energy/resource management. For the metropolitan region, this project also provides an opportunity to partner with various municipalities in terms of expertise and to report on the project results back to the region. A final event is intended to share the project experiences and results at the European level as well as to consolidate and expand co-operation across various European regions.

The SDGs as a tool to engage citizens, youth, the private sector and civil society

The metropolitan region's engagement with the civil society

Rhine-Neckar uses its participation in government-funded projects to engage with citizens and civil society on sustainable development topics. As part of the Regional Open Government Labs funding project of the Federal Rural Development Scheme (BULE) of the Federal Ministry of the Interior and Community, the Verband Region Rhein-Neckar, together with the city of Heidelberg and civil society partners, have launched a project called Sustainability in Regional and Urban Development. The metropolitan region conducted a survey among citizens about their vision for Rhine-Neckar in 2030, goals to be set for the region and relevant levers for sustainable development and quality of life. Around 1 000 people participated in the survey. The results of the survey, presented in November 2020, highlighted the top three priorities of people in Rhine-Neckar: SDG 12 Sustainable Consumption and Production, SDG 13 Climate Action and SDG 7 Affordable and Clean Energy. Other important SDGs for the population of Rhine-Neckar included SDG 8 Decent Work and Economic Growth, SDG 6 Clean Water and Sanitation and SDG 11 Sustainable Cities and Communities (Verband Region Rhein-Neckar, 2020^[14]).

The metropolitan region initiated an online citizen participation process to develop a regional sustainability monitoring platform. In March 2021, the region launched a blog² as part of the Rhine-Neckar Open Government Lab. In that blog, the region reports on sustainability goals and progress made in Rhine-Neckar. It also informs citizens about the importance of the SDGs through video interviews with different regional actors and people working for the metropolitan region on SDG-related topics. Furthermore, the Rhine-Neckar Metropolitan Region has initiated an online citizen participation process to contribute to the development of regional sustainability monitoring (Rhine-Neckar Metropolitan Region, 2021^[15]).³ The survey results informed a first pre-selection of indicators that provided the basis for the

development of the region's sustainability monitoring through the SDG dashboard (see Chapter 2), e.g. an indicator on the reachability of urban and rural areas via private and public transport.

This participatory process revealed the importance of the local economy, civil society and climate and transport expertise as the main drivers to elaborate solutions for regional sustainable development. Participants highlighted, in particular, the role of five groups of main actors:

- The local economy, including both international companies (such as BASF or SAP) and small- and medium-sized enterprises (SMEs).
- Local and regional political administration in the metropolitan region and beyond.
- Civil society, such as youth representatives, neighbourhood initiatives, (higher) education, anti-racism initiatives.
- Environmental and climate experts, such as local climate protection agencies, non-government organisations (NGOs), environmental departments of the public administration and political parties.
- Transport experts, such as logistics companies, transport associations and transport planning authorities.

Regarding items to be included in a personal checklist on how individuals can contribute to sustainability, respondents named a variety of criteria such as sustainable consumption, in particular nutrition, water consumption, emissions reductions through alternative modes of transport and waste management. In terms of indicators, the participation process pointed to several indicators that could be integrated into a sustainability monitoring for the region, in particular in the areas of: i) mobility (e.g. ticket prices for public transport, availability of cycling paths, number of charging stations for electric vehicles, private car usage); ii) energy (e.g. share of housing with solar panels); iii) consumption and local production (e.g. share of companies respecting social and ecological sustainability criteria); iv) urban and regional planning (e.g. share of green spaces); v) awareness-raising activities; vii) waste management; viii) nutrition; and ix) housing.

The landscape of civil society organisations for sustainable development in Rhine-Neckar

Overall, the Rhine-Neckar Metropolitan Region has a very active civil society organisation (CSO) landscape. Many of them are using the SDGs in their daily work, while others work on topics linked to the 2030 Agenda without making direct reference to the SDGs. CSOs in Rhine-Neckar cover a wide spectrum of topics, ranging from food and nutrition (SDG 2), health (SDG 3), youth and education (SDG 4), water and sanitation (SDG 6), sustainable cities and communities (SDG 11) to culture and sports.⁴

Some CSOs in the Rhine-Neckar Metropolitan Region have integrated the SDGs into their core work. They use the SDGs, among other things, as an awareness-raising mechanism and a tool for public education. For example, the Karl-Kübel Stiftung für Kind und Familie (Karl Kübel-Foundation for Children and Families) is implementing various projects with a focus on SDG 4 Quality Education. A traditional development-oriented NGO with projects in the metropolitan region, Germany and abroad, the foundation has taken several initiatives on education for sustainable development. It is promoting Japanese old paper theatre art in kindergartens as a means to engage with children and their parents on topics such as climate, forests, water and waste management, and to raise their awareness about the SDGs. The foundation is collaborating with the federal government to raise awareness about the SDGs in schools, for instance through the design of SDG summer camps. The foundation is also developing learning material that teachers can use in schools to integrate the 2030 Agenda into their lessons. The Stiftung für Ökologie und Demokratie e.V. (Foundation for Ecology and Democracy) is another CSO engaged in activities such as education for sustainability and municipal climate change adaptation (Stiftung Ökologie und Demokratie e.V., 2022^[16]). Another example from the metropolitan region is the Water is Right Foundation, founded in Mannheim in 2011. The CSO advocates for access to sanitation and affordable, clean drinking water

around the world. Over the last years, Water is Right has implemented water projects in Africa, Asia and Latin America, notably through the expansion of water infrastructure systems and sanitation devices that contribute to SDG 6 Clean Water and Sanitation. The foundation also develops business plans for the project and trains the local communities so that they can run the water infrastructure themselves. Moreover, the association set up a public water dispenser in Mannheim to raise awareness about water as a human right. Revenues from the dispenser are used to finance further water-related projects abroad.

Other CSOs contribute to the SDGs without making an explicit reference to them in their daily work. For instance, the non-profit organisation (NPO) Anpfiff ins Leben (Kick into Life) helps young athletes and people with amputations to create the best possible prospects for their private and professional futures. Together with various partners such as sports clubs, educational institutions and the private sector, the NPO assists young athletes through sports training, individual educational support and vocational preparation programmes, thus contributing to SDG 4 Quality Education and SDG 8 Decent Work and Economic Growth. The existence of the SDGs has not changed the way the association is working but has had an impact on the collaboration with the association's partners, notably as a means to raise awareness about sustainability. Another association in the metropolitan region that does not work directly with the SDGs but contributes to their achievement is the Neckartal-Odenwald Regional Development Association. The association implements the EU funding programme LEADER for the development of rural areas. It promotes bottom-up initiatives developed by the local population on the topics of local development, healthcare, culture and food. Although one of the goals of the association is to contribute to sustainability, the SDGs have yet to be considered in their projects' assessment criteria. However, there have been discussions exploring this option. Similarly, in the LEADER region Kraichgau, the regional development association finances projects with partners in the areas of cultural development, demographic change and youth entrepreneurship. While there is no explicit reference to the 2030 Agenda, the SDGs are present as a background concept in the association's work.

Since 2008, the Rhine-Neckar Metropolitan Region has been organising a "volunteer day" to strengthen voluntary work and raise awareness about the diversity of civic engagement. The biannual event is held on the third Saturday of September and is embedded in the nationwide week of civic engagement. The volunteer day is the largest of its kind in Germany, with more than 370 projects and 7 500 volunteers in over 60 municipalities participating in the last in-person edition that took place in 2018. The volunteer day aims to bring citizens together and encourage participation in charitable clubs, associations and other CSOs. Projects cover a broad range of thematic areas ranging from the environment, culture, sport and health to educational support, care for the elderly or migration and integration. Several companies in the metropolitan region take part in the volunteer day and support engagement in the metropolitan region more broadly, e.g. by allowing employees to spend one day per month working on a civic engagement project. The metropolitan region's municipalities are responsible for the organisation of the event on site and actively call for participation. In addition, the metropolitan region uses a broad-based marketing campaign to raise awareness about the volunteer day, including via social media, posters, postcards, banners and t-shirts that all participants receive for their participation.

There is also a database for civic engagement supporting the volunteer day (Figure 3.1). The website and database *wir-schaffen-was* was redesigned in 2021 to simplify access to various sources of information about civic engagement opportunities in the entire metropolitan region. CSOs as well as companies and municipalities can use the database to attract citizens willing to join the volunteer day and support their activities. However, these offers are almost exclusively limited to the volunteer day itself. They do not provide information about more long-term possible engagements, even though this is the metropolitan region's overall objective. Evaluations have shown that the volunteer day provides a starting point for people to become interested in contributing to CSO activities in Rhine-Neckar and remain active on a more long-term basis. To increase the visibility of volunteering and the *wir-schaffen-was* website, an ambassador campaign was launched in July 2021 to showcase testimonials from volunteers across the region.

Figure 3.1. The metropolitan region's civic engagement *wir-schaffen-was* database

The screenshot shows the 'Engagementsuche' (Engagement Search) interface on the website [wir-schaffen-was.de](https://www.wir-schaffen-was.de). The page is titled 'Engagementsuche' and includes a search bar for keywords (e.g., profession or location). Below the search bar are two date pickers for 'Projekt startet nach' (Project starts after) and 'Projekt endet vor' (Project ends before), both set to 'dd/mm/yyyy'. A dropdown menu asks 'Soll das Projekt im Rahmen des Freiwilgentags stattfinden?' (Should the project take place within the framework of the volunteer day?) with the option '- Bitte wählen -'. At the bottom, there are five category tiles under the heading 'Handlungsfelder' (Action Fields): 'Büro & Organisation', 'Engagiert für Integration', 'Natur, Umwelt & Tiere', 'Menschen mit Behinderung', and 'Lern- & Leseförderung'.

Source: Zukunft Metropolregion Rhein-Neckar (2022_[17]), *Engagementsuche* [Engagement Search], <https://www.wir-schaffen-was.de/engagementsuche.html> (accessed on 25 July 2022).

In early 2022, the metropolitan region also established a network of more than 60 foundations. The network aims to promote the exchange of know-how and make the work of the foundations more visible, as well as to engage them in regional development and strengthen cross-sectoral co-operation by exploiting synergies between different projects, discussing joint fields of action and joint funding priorities (Verein Zukunft Metropolregion Rhein-Neckar, 2022_[18]). Moreover, seven municipalities⁵ from the metropolitan region are members of the German-wide programme *Engagierte Stadt* (Engaged Municipality), which supports the development of lasting civic engagement in German municipalities and promotes co-operation between civil society, municipalities and the private sector (Verein Zukunft Metropolregion Rhein-Neckar, 2022_[19]).

A key remaining challenge for Rhine-Neckar is the facilitation of an organised exchange on sustainable development between different CSOs, citizens and the private sector. More than 300 foundations and several thousand clubs and CSOs in the region work in areas such as culture, education and sports. However, the existing database does not yet contain a platform for exchange on sustainable development between different CSOs, which could help discuss ideas, funding opportunities, possible areas of collaboration and the exploitation of synergies between different NGOs and foundations to advance the 2030 Agenda in Rhine-Neckar. A first step could be to expand the volunteer day *wir-schaffen-was* database into a platform for exchange, connect it to the network of foundations and link it to the 2030 Agenda, e.g. by categorising the CSO activities according to the various SDGs.

Private sector engagement for the SDGs

Large, global companies are increasingly integrating sustainability targets into their core business strategy in the Rhine-Neckar Metropolitan Region. These companies are often well equipped to deploy sufficient financial resources and to manage stricter regulations and reporting requirements as well as increasing demand from investors to consider sustainability targets. Examples of companies that are already active in the SDGs in the Rhine-Neckar Metropolitan Region include BASF, GGEW, MVV and SAP and the

football club TSG 1899 Hoffenheim, among others (Table 3.1). The adoption of the SDG framework occurs less frequently in mid-size companies of 50 to 250 employees, which often have no sustainability department and no obligation to act in line with national or international sustainability objectives. Some companies still perceive engagement in the SDGs as an economic penalty associated with higher operational costs. Nevertheless, in recent years, a growing number of start-ups and social enterprises have expressed increasing interest in the SDGs and started integrating the SDGs into their business strategies. In particular, since Russia's invasion of Ukraine, SDG 7 on clean and affordable energy has become a major concern for companies in the metropolitan region, notably due to the high energy demand from companies such as BASF. The challenges are twofold: first, energy-intensive companies are facing a significant increase in energy costs and, second, alternative energy sources need to be transferred to Rhine-Neckar since renewable energy in Germany is mostly produced in the northern part of the country.

Table 3.1. Examples of companies in the Rhine-Neckar Metropolitan Region working on the SDGs

Company	Activity
BASF	The multinational chemical company BASF targets various SDGs in its business operations and has aligned its corporate targets with them. As part of its 2050 objective to achieve net-zero CO ₂ emissions (SDG 13 Climate Action) for example, BASF has developed a digital application that allows customers to calculate the carbon footprint for its 45 000 sales products. BASF has also co-founded the Value Balancing Alliance. This initiative has developed a methodology for standardised accounting of corporate value contributions under consideration of the SDGs to capture and monetise the economic, environmental and social impact of business activities along the value chain. The BASF foundation contributes to the SDGs through its involvement in more than 60 projects in the area of international development disaster relief targeting long-term improvement in the living conditions of disadvantaged people, especially children and youth.
GGEW	The Gruppen-Gas- und Elektrizitätswerk Bergstraße Aktiengesellschaft (GGEW), a service provider for energy, telecommunications, mobility and infrastructure, uses the SDGs as a framework for its actions, particularly by linking projects and initiatives to the different targets of the SDGs, notably in the areas of SDG 7 Clean and Affordable Energy and SDG 13 Climate Action. For example, the company has built several new photovoltaic systems in recent years and increased the output of renewable energy. The company also uses the SDGs as a communication tool <i>vis-à-vis</i> clients and stakeholders.
MVV Energie	MVV Energie, one of Germany's largest energy suppliers, uses the SDGs as a strategic guideline and considers sustainability as a key criterion for successful business operations in the long run. MVV focuses its activities on six priority SDGs, mainly linked to energy, economic sustainability, sustainable production and consumption and climate action. The company has a strong regional commitment. Through its sponsoring fund, MVV supports associations, institutions and initiatives in Mannheim and the Rhine-Neckar Metropolitan Region in the areas of civic engagement, youth and education and innovation amongst others. Together with the Wuppertal Institute, MVV has compiled an energy framework study for Mannheim to assess how the city can achieve its climate protection targets.
SAP	For SAP, the SDGs provide a tool to manage and steer its business more holistically, improve resilience and future success through better preparation for risks, opportunities and increasing regulation. SAP also sees the SDGs as a tool to increase employee engagement, as more than 90% of SAP employees believe it is important that their company pursues sustainability objectives. The company focuses on eight specific SDGs with the strongest link between its operational activities and use of its software by customers and its impact as a company. These include several economic SDGs and SDGs on inequality through different social inclusion and mentorship programmes, health, education, in particular skills development, climate action and collaboration, as well as SDG 12 Responsible Consumption and

Company	Activity
	Production in line with its aspiration of a zero waste and circular economy. SAP assesses the direct and indirect impact of its policies and selected activities and programmes on these goals in its yearly integrated report, using key performance indicators (KPIs) and target assessments. The company also makes an overview of its activities on the SDGs available via an online webbook.
TSG 1899 Hoffenheim	The professional football club TSG 1899 Hoffenheim has developed a forward-looking strategy that combines the development of the club and social benefits. The club has defined five action fields related to the SDGs: innovation; employees and players; youth and fans; ecology; and Africa. TSG 1899 Hoffenheim uses the SDGs as a communication tool for specific projects and stakeholders. The club is furthermore involved in development co-operation activities in Kenya and Namibia together with the Federal Ministry for Economic Co-operation and Development, focusing on SDG 3 Health, SDG 4 Education and SDG 12 Sustainable Consumption and Production.

Sources: Interviews with representatives and written responses from private sector representatives during the 1st and 2nd OECD missions to the Rhine-Neckar Metropolitan Region; BASF (2021^[20]), "BASF's value contributions accounted for by Value Balancing Alliance for the first time", <https://www.basf.com/global/en/who-we-are/sustainability/whats-new/sustainability-news/2021/basfs-value-contributions-accounted-for-by-value-balancing-alliance-for-the-first-time.html> (accessed on 5 January 2022); BASF (2022^[21]), *BASF Stiftung [BASF Foundation]*, <https://www.basf.com/global/en/who-we-are/sustainability/we-value-people-and-treat-them-with-respect/societal-commitment/basf-stiftung.html> (accessed on 5 January 2022); MVV (2022^[22]), *Der MVV-Sponsoringfonds [The MVV Sponsoring Fund]*, <https://www.mvv.de/ueber-uns/strategie/engagement-fuer-die-region/sponsoringfonds> (accessed on 5 January 2022); SAP (2021^[23]), *17 Global Goals to Achieve a Sustainable Future*, <https://www.sap.com/dmc/exp/2021-04-74301-unglobalgoals/> (accessed on 12 January 2023).

There is also external demand for companies to contribute to the SDGs. Private companies in Rhine-Neckar are facing an increasing level of expectations from customers to act in line with and contribute to SDG 12 Sustainable Consumption, for example by shifting from a linear to a circular economy model. To foster the engagement of the private sector in sustainable development and to accelerate the development of future-proof environment and energy technology in the metropolitan region, the city of Mannheim is currently constructing a green technology innovation centre. This centre, which will be opened in 2025, aims to provide a cluster for innovative environmental and energy technologies. As such, it should become a place where start-ups, SMEs and scientific institutions collaborate on joint projects (City of Mannheim, 2022^[24]). Another start-up and innovation centre that is already active in the city and puts increasing emphasis on the importance of sustainability is NEXT MANNHEIM (Box 3.2). In contrast, smaller traditional family-owned businesses in the region are less aware of the SDGs, although they often do have a strong commitment to sustainability and related values and concepts.

Box 3.2. Start-up infrastructure for sustainability in Mannheim

NEXT MANNHEIM is a public-private company, partially owned by the city of Mannheim and overseen by its mayor. Its main objective is to foster Mannheim's local start-up ecosystem, with a focus on urban innovation. The company was created in 2002 and is home to seven start-up centres. These encompass more than 300 companies active in a variety of areas including cultural innovation, the creative economy (e.g. music and fashion), industry, medical technology, information technology (IT) and artificial intelligence, as well as a competence centre for female entrepreneurship. In addition, NEXT MANNHEIM is home to the project Women Tech Founders, which aims to increase the number of female founders in the technology sector and to shape a sustainable start-up and innovation scene in Mannheim, contributing notably to SDG 5 Gender Equality.

In recent years, NEXT MANNHEIM has put an increasing focus on the topics of social entrepreneurship and e-commerce. NEXT MANNHEIM has been active in raising awareness about the SDGs, especially among e-commerce companies to incentivise them to adjust their value chains more sustainably. As part of the city of Mannheim and its mission statement aligned with the SDGs, NEXT MANNHEIM has produced a balance sheet of the common good to measure and report to which extent its activities contribute to economic, social and environmental sustainability. Its objective for the coming years is to work only with start-ups that explicitly focus their activities on the SDGs.

Source: Interviews conducted during the 2nd OECD mission to the Rhine-Neckar Metropolitan Region, 6 April 2022.

The business development department of the Rhine-Neckar Metropolitan Region is in the process of integrating the SDGs into its overall strategy. The metropolitan region considers the SDGs to be an important driver for maintaining an economically viable region. Its business development department is a key actor when it comes to raising awareness about sustainability in the private sector. In particular, the department is currently mapping its sustainability projects against the SDGs, with a focus on clean and affordable energy (SDG 7), decent work and economic growth (SDG 8), infrastructure (SDG 9), responsible production and consumption (SDG 12) and climate action (SDG 13). Building on this initiative, the department has started to promote companies that are very active on the SDGs as best practices and a source of inspiration for other private sector actors from the region. To expand these activities, the business development department is planning on expanding the uptake of sustainable public procurement practices to incentivise companies to act in a socially and environmentally responsible manner and reward frontrunners. Here, it will be important to develop clear criteria that avoid overly complex requirements that might represent a burden for companies, as municipalities in the region have already experienced a decline in the number of companies participating in public procurement procedures in the past years.

The chambers of commerce and industry are key actors to raise awareness about the SDGs and promote co-operation between private companies in Rhine-Neckar. To support companies on their path towards improving their carbon footprint and contributing to SDG 13 Climate Action, several chambers of commerce and industry from the Rhine-Neckar and Frankfurt-Rhine-Main Metropolitan Regions have jointly created the network ETA-Metropol Rhine Main Neckar for Energy Efficiency and Climate Protection. This platform provides an opportunity for large companies to exchange experiences and collaborate on energy and sustainability issues, including corporate governance questions related to the climate and energy SDGs (ETA-Metropol Rhine Main Neckar, 2022^[25]). A similar platform also exists for SMEs, which targets their specific demands, requirements and limitations to become climate-neutral. However, overall, there are few initiatives aimed at creating synergies across companies' activities on the SDGs and no regionwide platform that could bring together key actors from the private sector and the chambers of commerce and industry to exchange on how they integrate sustainability aspects into their core business. The public-private nature of Rhine-Neckar represents a valuable asset for such a platform as the metropolitan region and private companies are already in close contact and co-operate.

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Notes

¹ These municipalities include Bad Bergzabern, Kallstadt, Klingenstein, Lambrecht, Maikammer, Neustadt an der Weinstrasse.

² See www.nachhaltig-im-dialog.de.

³ Between March and May 2021, around 100 citizens provided their thoughts and feedback on three main questions linked to the achievement of the SDGs:

- Which persons, organisations or offices would need to be involved in developing solutions for sustainable development in Rhine-Neckar?
- What indicators or items would need to be included in a personal checklist that you could use in the future to review your own lifestyle and make it more sustainable?
- How sustainable is the metropolitan region in the three areas of action climate protection, energy and consumption? What benchmarks, indicators or data could feed into the evaluation to map strengths and weaknesses?

⁴ The CSOs mentioned in Chapter 3 are examples selected based on bilateral interviews and do not claim to be representative or to cover the whole spectrum of CSOs in the metropolitan region.

⁵ These municipalities include Heidelberg, Lampertheim, Landau, Neustadt (Weinstrasse), Speyer, Viernheim, Weinheim.

4 Policy recommendations

This chapter offers policy recommendations and an action plan to enhance the territorial approach to the United Nations (UN) Sustainable Development Goals (SDGs) in the Rhine-Neckar Metropolitan Region, based on the OECD Checklist for Public Action to Localise the SDGs. The recommendations range from creating a holistic strategy for the implementation of the SDGs in the metropolitan region to using the SDGs to address the main challenges affecting the Rhine-Neckar Metropolitan Region and strengthening co-ordination between the metropolitan region and the three federal states on sustainable development policies and SDG implementation, notably with regards to funding.

Policy recommendations

The following policy recommendations were developed through the policy dialogue with a wide range of stakeholders in the Rhine-Neckar Metropolitan Region. They follow the OECD Checklist for Public Action to implement A Territorial Approach to the SDGs (Box 4.1). The key recommendations and associated actions outlined in this chapter provide the metropolitan region with strategic directions and a menu of options for the implementation of the OECD recommendations. While some measures constitute actions that the region can take in the short run, some require joint efforts with key stakeholders, from different levels of government, but also civil society and the private sector.

Box 4.1. OECD Checklist for Public Action to Localise the SDGs

The OECD Checklist for Public Action is directed at all levels of government to facilitate the implementation of a territorial approach to the SDGs. The checklist provides action-oriented recommendations around five main categories:

- **Planning, policies and strategies:** Use the SDGs to define and shape local and regional development visions, strategies and plans, and re-orient existing ones. Cities and regions should use the SDGs to address local challenges that require a holistic approach, such as clean forms of urban mobility, affordable housing, gender equality, access to green spaces, balanced urban development, clean water and sanitation, air quality, solid waste management, territorial inequalities or service delivery.
- **Multi-level governance:** Use the SDGs as a framework to align policy priorities, incentives and objectives across all levels of government as well as to manage trade-offs and promote synergies across policy areas. In particular, regions and cities should be engaged in the process of Voluntary National Reviews to reflect progress at the subnational level and address regional disparities. Voluntary Local Reviews can also drive better multi-level governance of the SDGs and shed light on local initiatives.
- **Financing and budgeting:** Mainstream the SDGs in budgeting processes to ensure adequate resources are allocated for the implementation of the 2030 Agenda and foster policy continuity across political cycles. Governments should allocate financial resources based on the identified place-based policy priorities and local challenges, and use the SDGs framework to foster multi-sectoral programmes and priorities.
- **Data and information:** Leverage SDG data and localised indicator systems to guide policies and actions to better people's lives and showcase the performance and positive stories of cities and regions. In particular, for more comprehensive assessment and policy responses, cities and regions should combine data and indicators at different scales, including administrative boundaries (unit for political and administrative action) and functional approaches (economic geography of where people live and work).
- **Engagement:** Use the SDGs as a vehicle to enhance accountability and transparency through engaging all territorial stakeholders, including civil society, citizens, youth, academia and private companies, in the policy-making process. Cities and regions should use a combination of various tools to engage local stakeholders, such as awareness-raising campaigns and networking opportunities, but also de-risking investments in SDG solutions through grants or loans, as well as a fiscal incentive for innovative solutions towards sustainability.

Source: OECD (2020^[11]), *A Territorial Approach to the Sustainable Development Goals - Policy Highlights*, OECD, Paris.

Box 4.2. OECD action plan for a territorial approach to the SDGs in Rhine-Neckar

The main objective of the action plan is to provide the Rhine-Neckar Metropolitan Region with a menu of options for the implementation of the OECD recommendations contained in this report. The action plan sets out a series of specific actions aiming to support the implementation of the SDGs in the Rhine-Neckar Metropolitan Region. In particular, it identifies:

- **Objectives:** The action plan presents several objectives for each of the recommendations, in terms of expected outcomes.
- **Practical steps:** The action plan includes a set of actions that can be useful in advancing toward the achievement of the objectives.
- **Possible champions and partners:** This section refers to the stakeholders, institutions or organisations that can play a (leading) role in the execution of the actions.
- **International experiences:** These experiences include relevant practices carried out in the field of localising the SDGs by cities, regions and national governments as well as international organisations that can serve as inspiration. These experiences are not expected to be implemented as such but to provide the region/municipality with a set of examples for the design and development of the suggested actions.
- **Timeline:** To implement the recommendations efficiently, it is necessary to prioritise the recommendations within the short, medium and long terms. These time scales are indicative and should be updated as actions are being implemented.

It is important to note that:

- *Actions are neither compulsory nor binding:* Identified actions address a variety of ways in which recommendations can be implemented and objectives achieved. They represent suggestions, whose adequacy and feasibility should be carefully evaluated inclusively, involving stakeholders as appropriate. In turn, the combination of more than one action can be explored, if necessary.
- *Resources for implementation should be assessed:* The implementation of the actions will require human, technical and financial resources. When prioritising and assessing the adequacy and feasibility of the suggested actions, the resources needed to put them into practice should be carefully evaluated, as well as the role of stakeholders that can contribute to the implementation phase.
- *The action plan is a dynamic tool:* It requires to be updated as new potential steps and objectives may emerge as actions start to be implemented.

Planning, policies and strategies

Figure 4.1. Eight key recommendations for a territorial approach to the SDGs in the Rhine-Neckar Metropolitan Region

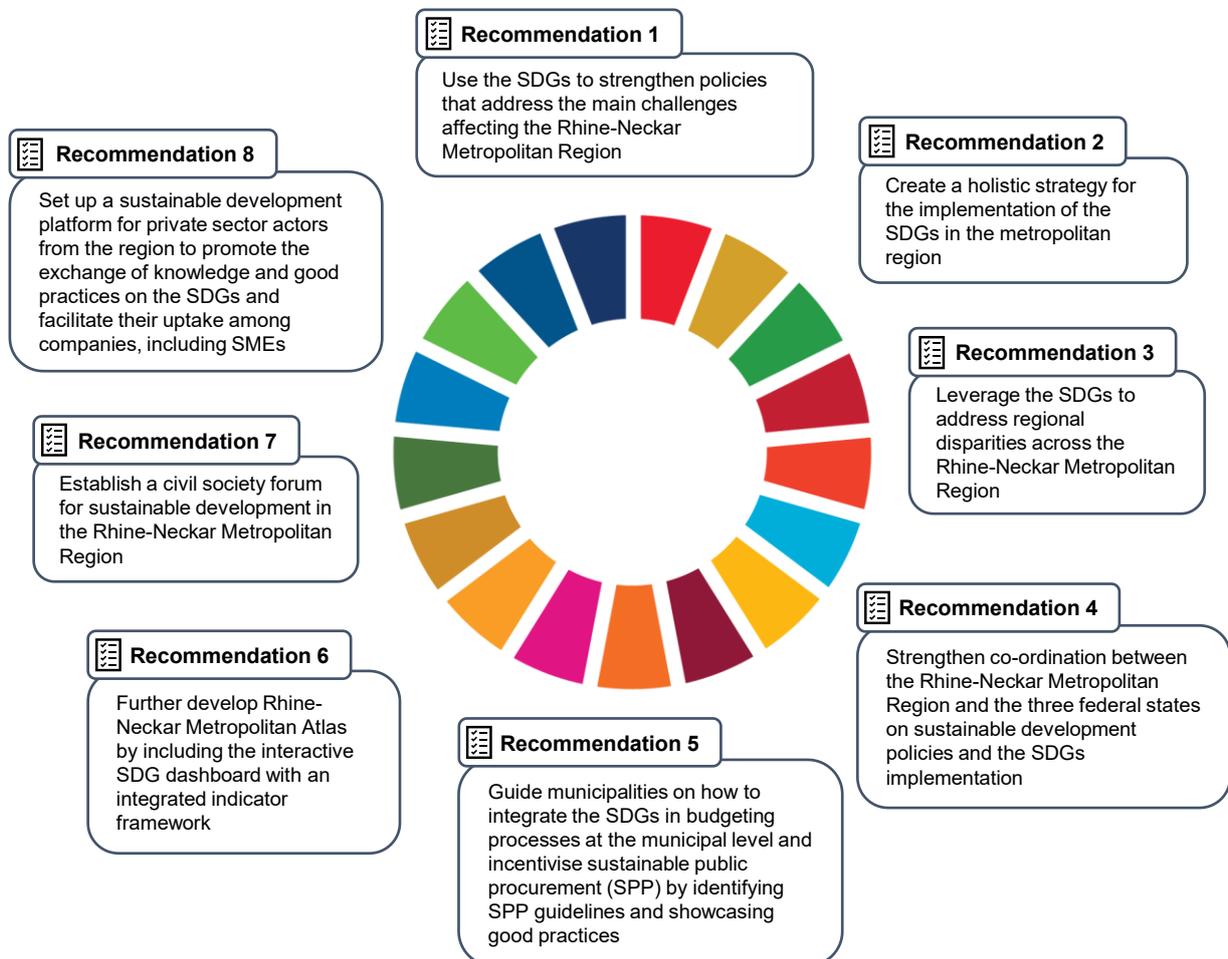


Figure 4.2. Action plan to implement OECD Recommendation 1 to use the SDGs to strengthen policies that address the main challenges affecting the Rhine-Neckar Metropolitan Region

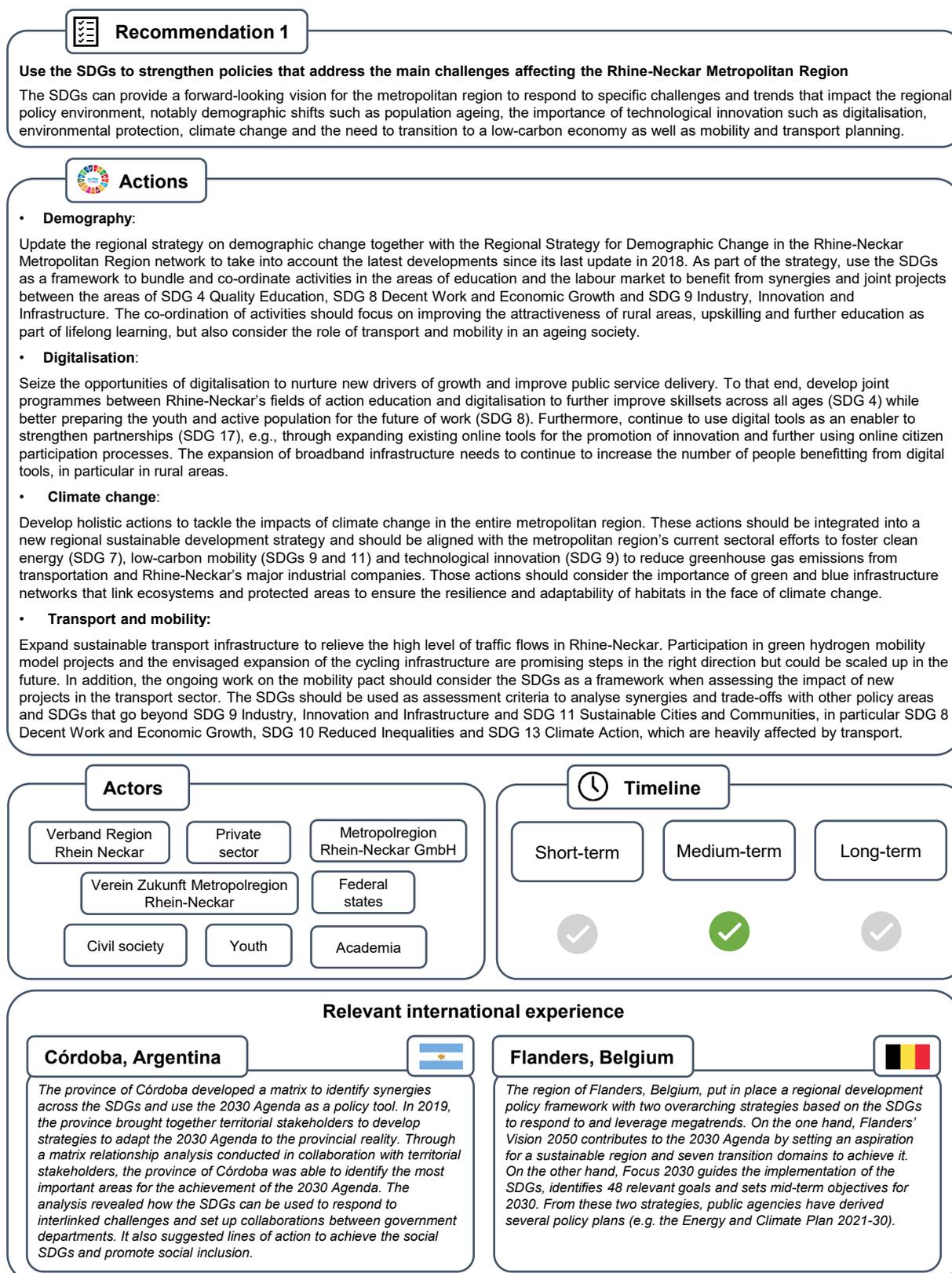


Figure 4.3. Action plan to implement OECD Recommendation 2 to create a holistic strategy for the implementation of the SDGs in the metropolitan region

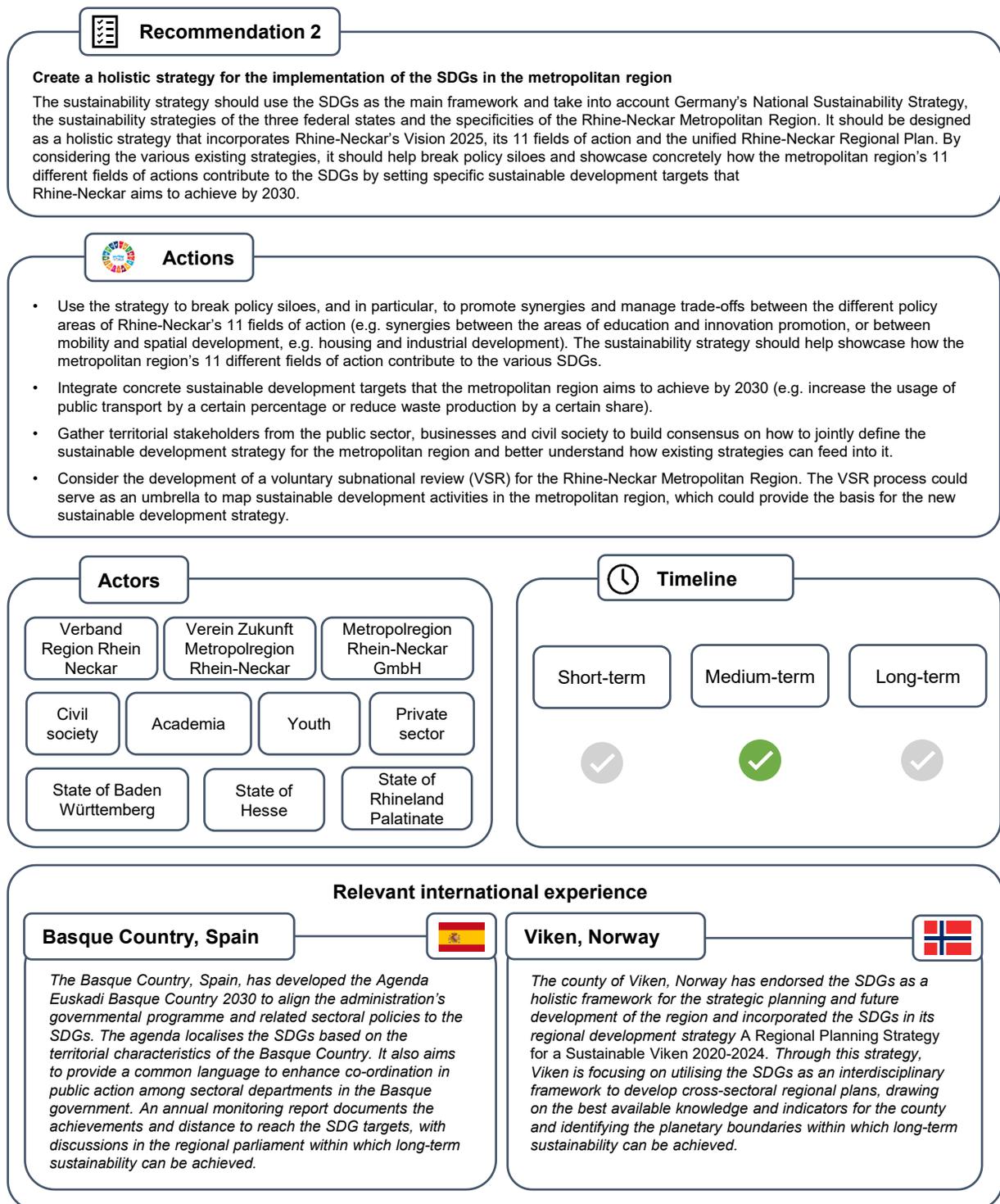
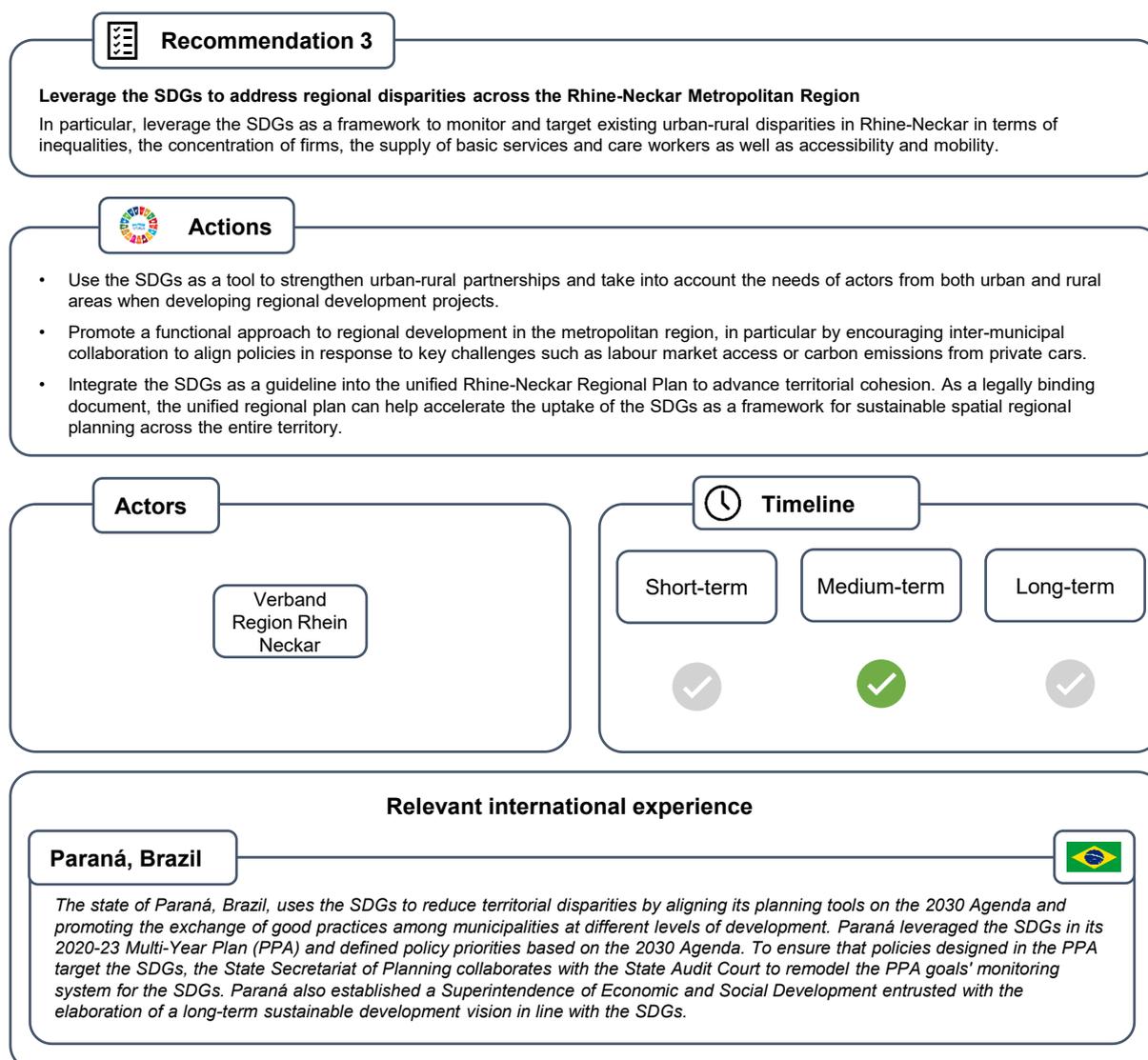
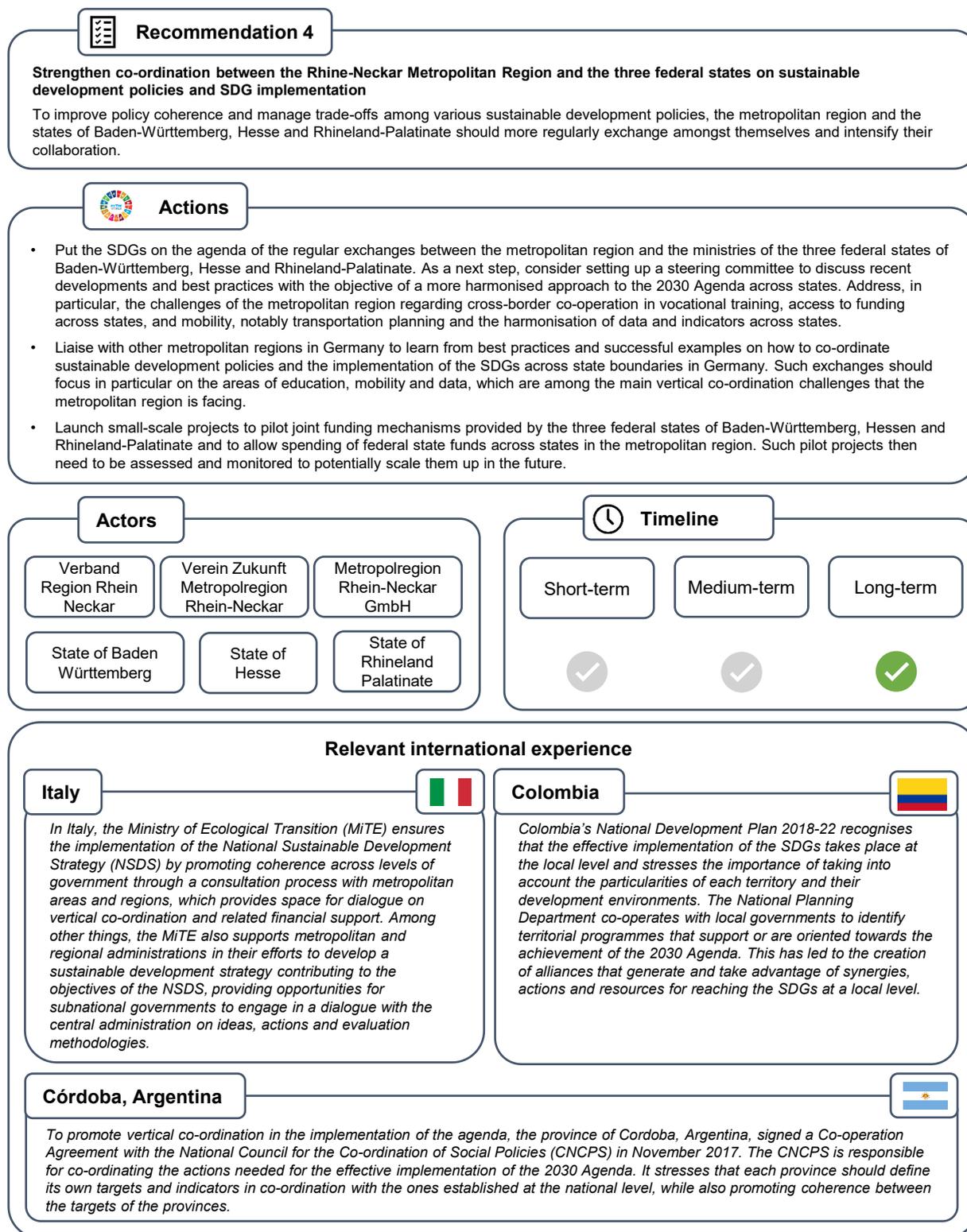


Figure 4.4. Action plan to implement OECD Recommendation 3 to leverage the SDGs to address regional disparities across the Rhine-Neckar Metropolitan Region



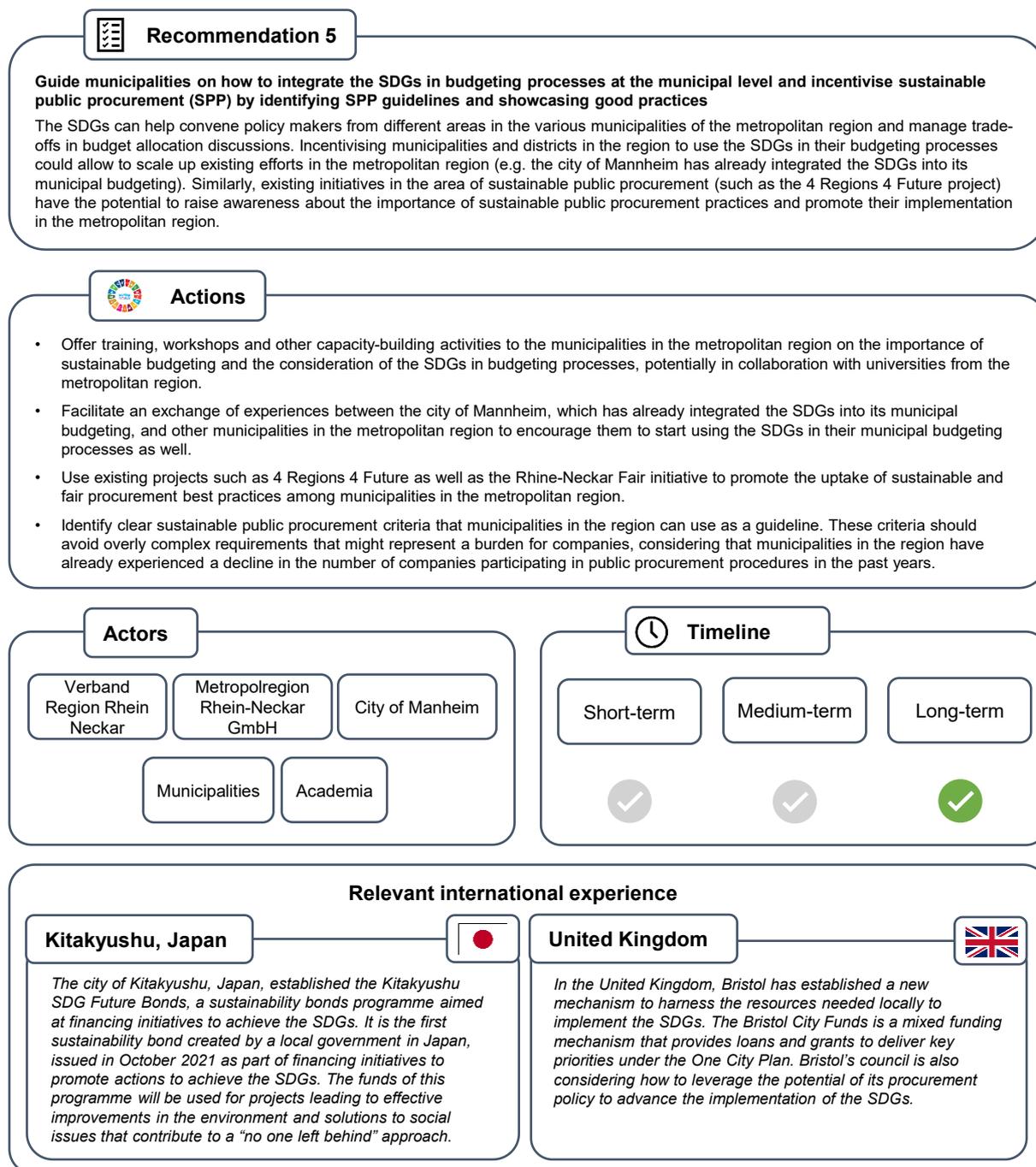
Multi-level governance

Figure 4.5. Action plan to implement OECD Recommendation 4 to strengthen co-ordination between the Rhine-Neckar Metropolitan Region and federal states on sustainable development policies and SDG implementation



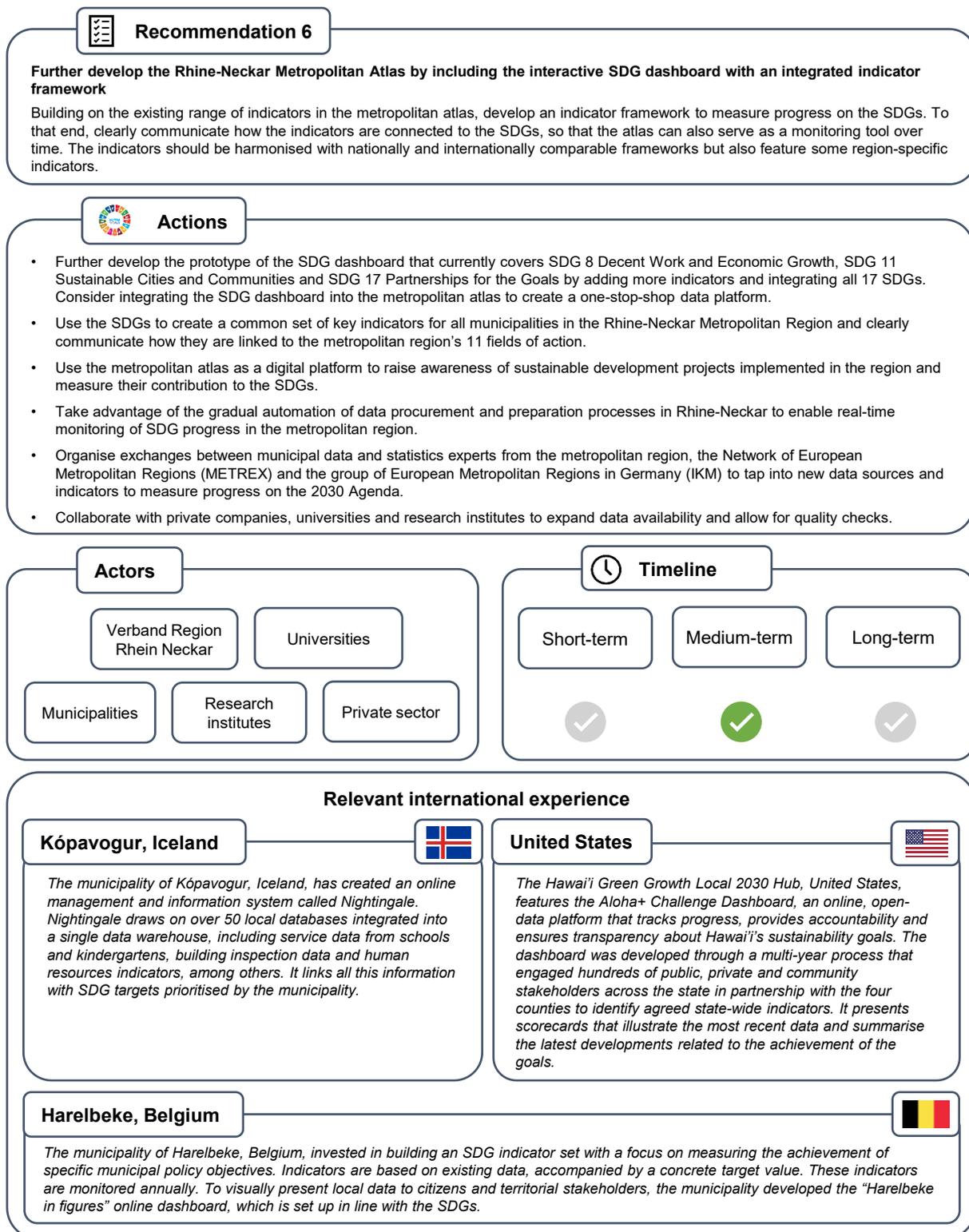
Financing and budgeting

Figure 4.6. Action plan to implement OECD Recommendation 5 to guide municipalities on how to integrate the SDGs in budgeting processes and incentivise sustainable public procurement



Data and information

Figure 4.7. Action plan to implement OECD Recommendation 6 to further develop the Rhine-Neckar Metropolitan Atlas



Engagement

Figure 4.8. Action plan to implement OECD Recommendation 7 to establish a civil society forum for sustainable development

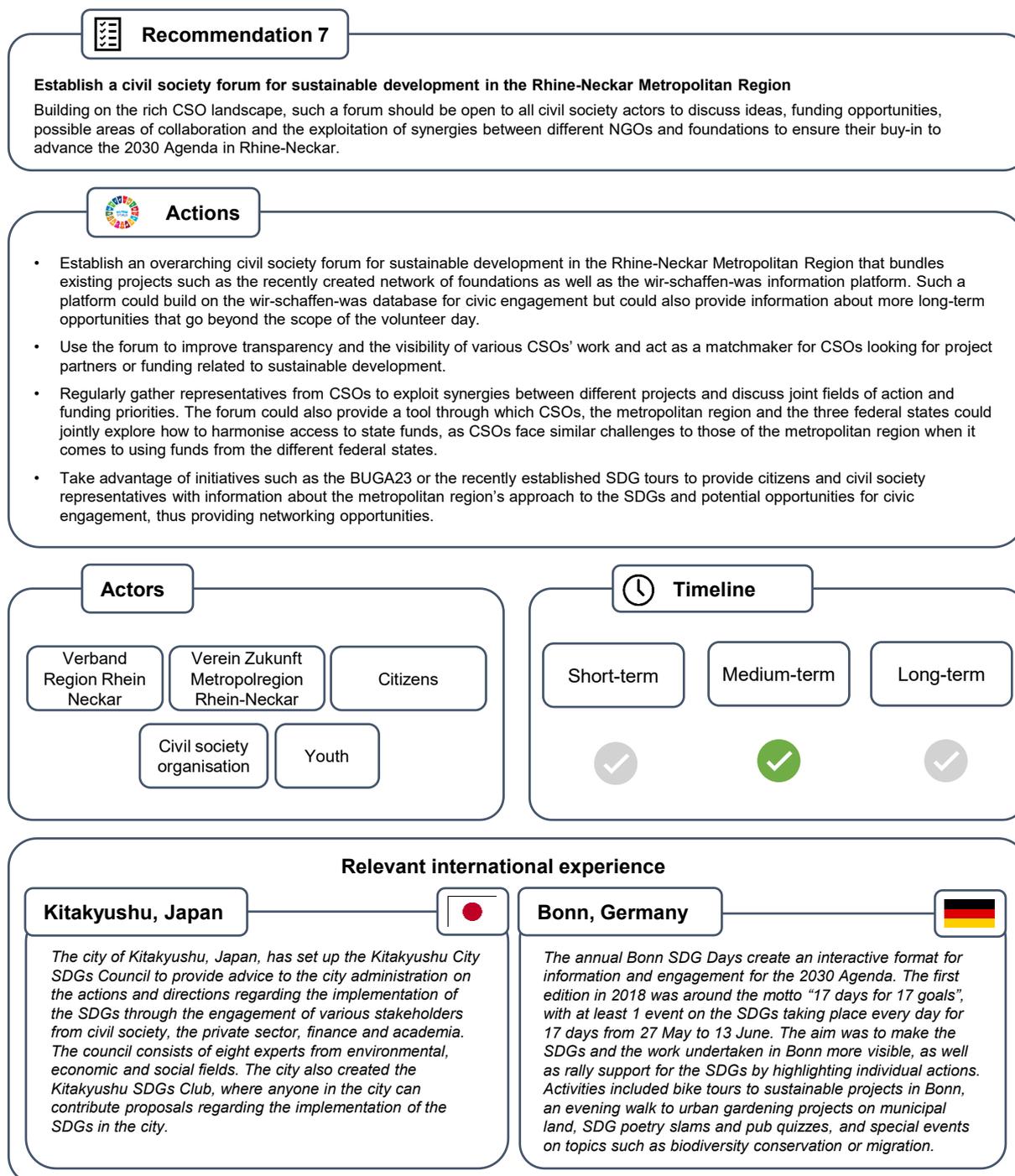
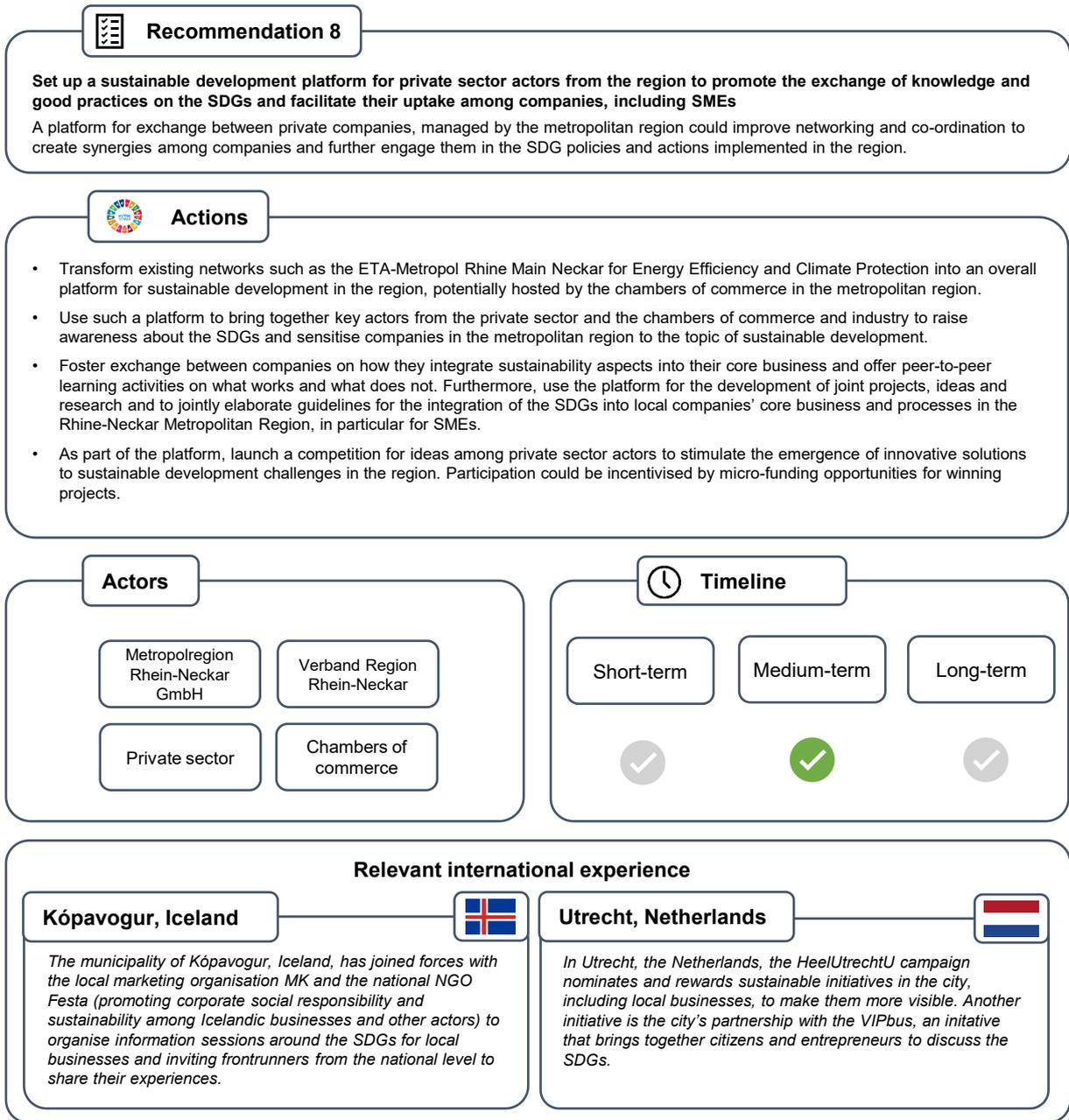


Figure 4.9. Action plan to implement OECD Recommendation 8 to set up a sustainable development platform for private sector actors



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