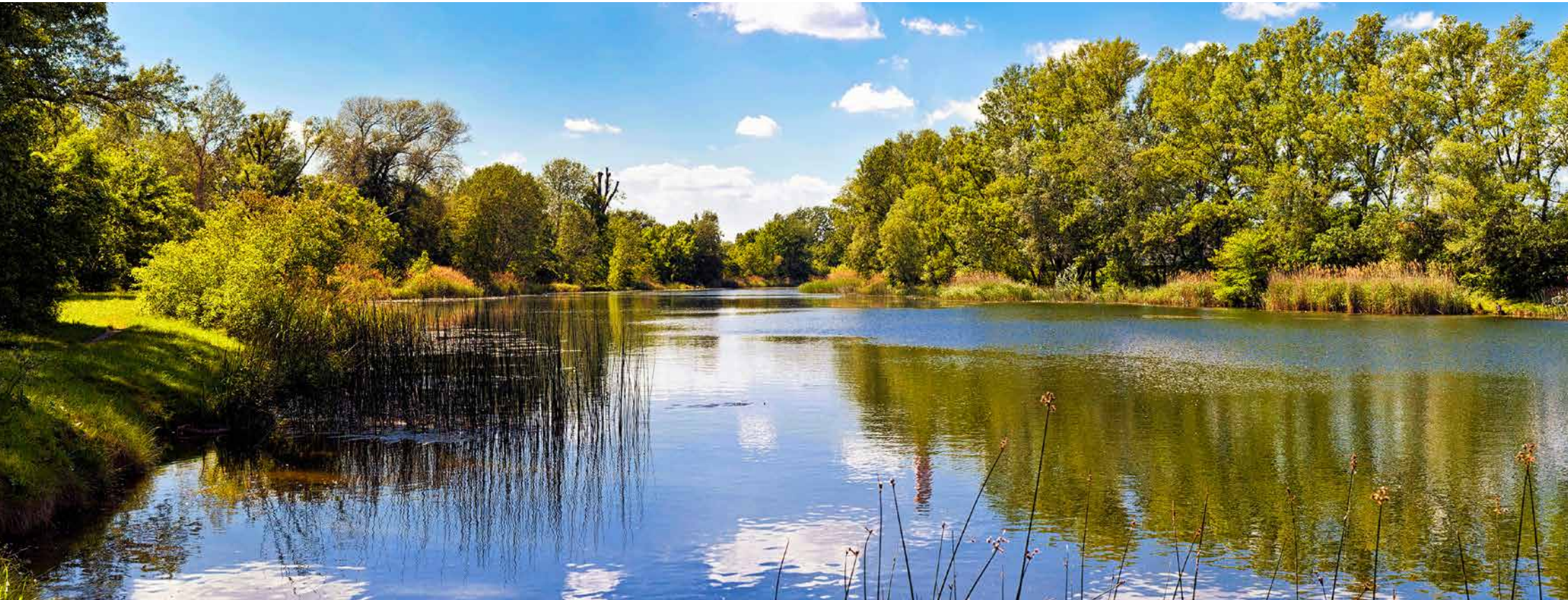
OeBFA
Austrian Treasury

Federal Ministry
Republic of Austria
Finance

Federal Ministry
Republic of Austria
Climate Action, Environment,
Energy, Mobility,
Innovation and Technology

Republic of Austria
Green Investor Report 2022

June 2023



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Austrian Treasury

Content

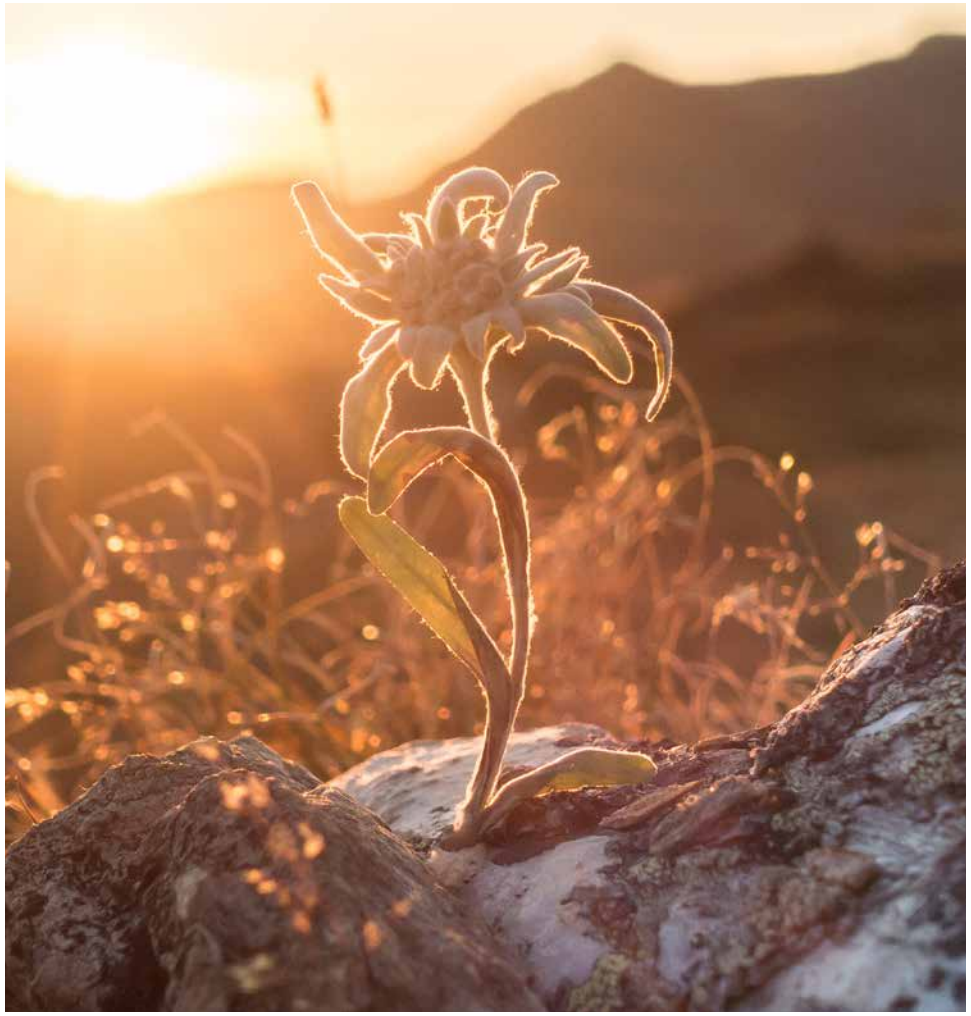
1 Preamble

This document is the first Green Investor Report of the Republic of Austria, which is being published in accordance with our commitments under the Green Framework (April 2022) and to comply with the principles of transparency laid out in the Green Bond Principles 2021 as published by the International Capital Market Association (ICMA), as well as the Green Loan Principles 2023 as published by the Loan Market Association (LMA).

In the course of 2022, the Republic of Austria issued Green financial instruments under the above-mentioned framework in the amount of EUR 5.1 bn. It is intended to precisely define the allocation of these funds and to identify their sustainable impact on the environment. Hence, the Republic of Austria decided to publish the allocation and impact of proceeds within this documentation together. Although we have committed ourselves in our framework to publish the first impact report only in 2024, we have now decided on a combined approach together with the allocation report. We intend to continue with this approach and plan to publish a combined allocation and impact report on an annual basis also in the future until further notice. This emphasises our commitment towards transparency and demonstrates a proactive approach for reporting based on the internal processes established for the framework. This timely reporting is of particular importance for us, given the uniqueness of our green short-term financing instruments, and in order to satisfy the reporting needs of these investors.

This report was confirmed by the external verification provider ISS Corporate Solutions (ISS-ESG). Particular attention was paid to the entry obligations, the alignment with market standards and the appropriate choice of impact metrics.

As this is our first Green Investor Report, we would like to invite you to provide feedback and comments for improvement. This is essential because the Republic of Austria is constantly striving for further refinement of the following reports and, if necessary, improve the methodology. We believe this will result in the best outcome for investors and other stakeholders, as well as for reaching the environmental goals.



The edelweiss is a mountain flower, preferring rocky limestone places at about 1,800–3,000 meters altitude. The edelweiss is used as a symbol for alpinism, for rugged beauty and purity associated with the Alps, and is also a national symbol of Austria.
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2 Introduction

Environmental protection and valuing nature have a long history in Austria, building an integral part of the national identity. Already in 1913, the Austrian Viktor Kaplan invented the Kaplan turbine which has since then been an essential component in thousands of hydropower stations around the world. Austria's strong dedication to renewable power is today demonstrated, for example, by the fact that it ranks as number one in the EU in terms of the share of renewable energy sources in electricity. This is at an impressive 76.2% (2021) of the gross final electricity consumption and hence more than double the figure of the EU average (37.5%)[1]. Furthermore, Austria ranks first in the European Union in matters of inland water quality[2], has the second highest recycling rate of municipal waste[3] and the highest overall agricultural area utilised under organic farming[4]. In its strive for clean, safe and long-term sustainable energy sources, Austria also prides itself on not running any coal or nuclear power stations. Finally, Austria combines its efforts for diversified, environmentally friendly production with high incomes embedded into a sound fiscal framework.

Austria is committed to achieve climate neutrality by 2040, ahead of the EU's 2050 target. It intends to guarantee a clean environment by e.g. embracing a green growth approach, promoting modern technologies and climate relevant research, and decarbonising its cities and industries. It considers policies to ensure a clean and safe en-vironment as a prerequisite to provide for prosperity of subsequent generations and for a future-oriented, attractive business location.

The objectives of Austria's climate and environmental policy are, among others, to reduce its greenhouse gas emissions in order to mitigate climate change and to prepare for its adverse effects, to reduce emissions of air and water pollutants, to preserve and improve biodiversity and ecosystems, to foster the sustainable use of natural resources and to reduce waste.

[1] Eurostat, Share of renewable energy in gross final energy consumption, January 2023
[2] European Environment Agency, State of bathing waters in 2021, June 2022
[3] Eurostat, Recycling rate of municipal waste, February 2023
[4] Eurostat, Organic farming statistics, February 2022

2.1 Austria's climate strategy and environmental objectives: National action embedded in international agreements

On the international level, Austria's climate change policies and targets are embedded in the *Paris Agreement* of 2015, in which the international community commits to limit global warming to well below two degrees and pursue efforts to limit the temperature increase to 1.5 degrees Celsius, compared to pre-industrial levels. The Austrian climate policy is also strongly influenced by the European Union which seeks to become climate neutral by 2050 and to cut greenhouse gas emissions by at least 55% by 2030 compared to 1990. At the beginning of 2020, the federal government announced its commitment for Austria to be climate-neutral as early as 2040[5]. To govern respective climate action on the national level, Austria has developed several detailed road maps and strategies.

2.1.1 Climate change mitigation and adaptation strategy: Tangible goals and targeted action plans

The National Energy and Climate Plan[6] which was submitted to the European Commission in 2019 defines Austria's climate and energy targets for 2030 and outlines the roadmap to achieving those targets. This document lays out plans to achieve the relevant climate targets governed by EU legislation. The legally binding targets for Austria mandate a 36% reduction of greenhouse gas emissions by 2030 relative to 2005 in sectors not covered by the EU Emissions Trading Scheme, while in the *Fit for 55 programme* the European Commission proposes an even more ambitious target of a 48% reduction. In accordance with Regulation (EU) 2018/1999 of the European Parliament and of the Council on the system of governance, Austria´s National Energy and Climate Plan (NECP) is to be updated in 2023, taking into account the increased target of a 48% CO_2 reduction. Austria has also set itself the ambitious target to achieve 100% net renewable electricity by 2030.

In 2012, Austria became one of the first EU Member States to combine a strategic approach to climate change adaptation with a comprehensive action plan[7]. This plan contains a detailed catalogue

[5] Austrian Federal Chancellery, Government Programme 2020 – 2024, January 2020
[6] Federal Ministry for Sustainability and Tourism, Integrated National Energy and Climate Plan for Austria, December 2019
[7] Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology, Austrian Strategy for Adaptation to Climate Change, January 2017

of recommendations for 14 sector-specific areas of action. The key message is that the potential consequences of climate change should be considered in all relevant planning and decision-making processes in Austria (mainstreaming). Based on new scientific results, major findings from the 2015 progress report and current political developments, this strategy was fundamentally revised and further developed in 2016 and 2017. Since then, the implementation of the measures has been ongoing. The second progress report was published in September 2021[8]. The *Austrian Adaptation Strategy* explicitly refers to the increasing importance of adaptation to climate change at the regional and local level, with the goal of offering more local support. With the *Climate Change Adaptation Model Regions Programme*[9] (Klimawandel-Anpassungsmodellregionen, "KLAR!"), a European-wide flagship initiative was created in 2016. There are currently 79 Austrian regions (as of February 2023) which are implementing corresponding adaptation measures or developing adaptation concepts.

As a response to the COVID-19 pandemic, the European Union designed the *Recovery and Resilience Facility (RRF)*. In this context, Austria submitted its recovery and resilience plan to the European Commission in 2021. According to the European Commission, 58.7% of the plan's investments are geared towards the green transition (EU-average is 39.9%). The plan supports the green transition through investments of more than EUR 2bn in a wide range of projects. In addition, Austria currently defines green projects with a volume of EUR 210 mn in the context of REPower EU under the Recovery and Resilience Facility. Clean transportation will be pushed by investments in sustainable mobility with zero-emission transport and the expansion of the electrified trans-European rail network, while companies' investments in low-emission buildings and vehicles as well as the phase-out of oil and gas heating in private homes will also be supported. This will be complemented by important reforms, such as the eco-social tax reform and the renewables expansion act, setting a 100% renewable electricity target by 2030, while it also includes the so-called "Climate Ticket" *(KlimaTicket)* to encourage the use of public transport via a flat rate season ticket, as well as introducing a soil protection strategy. In terms of this Allocation report, it shall be emphasised that double counting of measures notified for the RRF-programme has been avoided.

The eco-social tax reform, implemented in 2022, will reduce carbon emissions by estimated 2.6 million tonnes as of 2030, while reducing the overall tax burden. The wide-ranging reform package includes a gradually increasing price for CO_2 emissions for buildings, transport, agricultural fuels, and SMEs, which are not yet covered by the EU emission trading scheme. At the same time, a regional climate bonus was introduced in 2022 to compensate the carbon tax burden.

In addition to Austria´s ambitious goals, the long-term climate policy objectives have to align Austria's economic and energy system with a carbon neutral future in the context of Article 2.1c of the *Paris Agreement* (making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development) and climate targets have to be achieved in line with European legislation.

2.1.2 Thematic strategies and action plans: Driving change across key sectors

To reach its envisaged environmental targets, Austria has developed numerous strategies and action plans. These strategies and plans cover a large number of issues. The most relevant ones are outlined below. One essential cornerstone is the Austrian *Bioeconomy strategy*[10] from 2019. Covering all industrial and economic sectors that produce, process, handle or use biological resources seek to replace fossil resources (raw materials and energy sources) with renewable raw materials in as many areas and applications as possible.

In a circular economy, the value of products, materials and resources within the economy is preserved for as long as possible to reduce waste and negative environmental impacts. To this end, the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK), in cooperation with Federal Ministry of Social Affairs, Health, Care and Consumer Protection (BMSGPK), Federal Ministry of Labour and Economy (BMAW) and Federal Ministry of Agriculture, Forestry, Regions and Water Management (BML), has developed a national *circular economy strategy*, which was adopted by the Council of Ministers in December 2022.[11]

[8] Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology, Second progress report on the Austrian Strategy for Adaptation to Climate Change (only available in German), September 2021
[9] KLAR!, KLAR! Climate Change Adaptation Model Regions for Austria, July 2021
[10] Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology, Bioeconomy – A Strategy for Austria, 2019
[11] Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology, Circular Economy Strategy (only available in German), December 2022

A step-by-step approach for legislative provisions is envisaged to substitute building heating systems based on fossil oil, coal, coke or gas. In 2021 and 2022, the federal government, partly through the *Recovery and Resilience Facility*, provided up to EUR 800 mn for related programmes, plus an additional EUR 140 mn for low-income households, receiving up to 100% reimbursements for investments in climate-friendly heating systems.

Mobility is considered one of the key sectors for reaching Austria's ambitious targets. The dedicated 2030 Mobility Master Plan[12], published in 2021, has identified ways to avoid, shift and improve traffic and transport and significantly increase the share of eco-mobility in total transport (i.e. pedestrian and bicycle traffic, public modes of transport and shared mobility). Significant investments are required for this transformation process, with the ultimate goal of establishing a carbon-neutral transport system by 2040. To promote public transport as a more efficient and climate-friendly means of transportation, Austria introduced the countrywide Climate Ticket Austria (*KlimaTicket Ö*) in October 2021. The ticket is a unified yearly pass for all public transportation across the country, such as inter-city trains, trams and buses. Furthermore, Regional Climate Tickets for all public transportation across each region have been introduced countrywide as of 1 January 2022. The Climate Ticket is an incentive for using public transport and contributes thus to the achievement of the targets laid out in the *Paris Agreement*. This will, in combination with investments in infrastructure as well as the provision of public transport services, foster the share of trains in passenger transport, where Austria already ranks first in the EU with a share of about 13%[13].

The national hydrogen strategy was published in June 2022 and sets out how Austria intends to use hydrogen to decarbonise the energy system. Renewable hydrogen can close important decarbonisation gaps in Austria. However, given its limited supply and production potential at present, a prioritised and efficient use is essential. Hydrogen will play an important role for selected applications in industry – for example in the iron and steel industry or chemical industry – and in certain areas of mobility – mostly in air travel – where electrification is not a viable option. The Hydrogen Strategy outlines ambitious targets for the production, use and transportation of hydrogen, for example:

- Replace 80% of fossil-based hydrogen with climate neutral hydrogen in energy intensive industries by 2030
- 1 GW electrolyser capacity by 2030 for the production of renewable hydrogen
- Establish a targeted hydrogen infrastructure
- Enhance international partnerships and cooperation for hydrogen
- Strengthening the innovation and technology potential in Austria through focused development of hydrogen technologies

As a party of the United Nations Convention on Biological Diversity, Austria has committed itself to protect biodiversity, to use its components sustainably and to take responsibility for the conservation of global biodiversity. A ten-point programme provides national quantitative and qualitative targets and the necessary conditions for the conservation of biodiversity in all habitats in Austria. The implementation of the *Biodiversity Strategy Austria 2030+* intends to contribute to a comprehensive transformative change in our society. Overall, it is important to integrate biodiversity more strongly into all areas of life, economic and utilisation sectors, and political decisions.[14]

Austria's strategy for Research, Technology and Innovation (*RTI Strategy 2030*)[15] has also identified specific activities related to the achievement of the climate targets. It is intended to strengthen research which addresses the influencing factors, effects and mitigation of the climate crisis, as well as research in the areas of climate adaptation and resource efficiency. Moreover, it aims to promote the development of key technologies to improve climate protection as well as intensify cross-sector collaboration and implementation of integrated solutions.

The Republic of Austria has also launched numerous programmes for environmental protection in various other crucial areas. Such initiatives cover key issues like repair, recycling and waste management and remediation of contaminated sites, water resources protection, extensive and organic agriculture, sustainable forestry practices, or the protection of the Republic's rich biodiversity and pristine nature. Moreover, Austria seeks to further strengthen its role as a sustainability leader

[12] Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology, Austria's 2030 Mobility Master Plan, July 2021
[13] Eurostat, Modal split of passenger transport (pre-COVID data), July 2022
[14] Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology, Biodiversity Strategy 2030+ (only available in German), November 2022
[15] Federal Government Republic of Austria, RTI Strategy 2030, January 2021

by actively promoting university courses with an environmental focus, e.g. Sustainable Resource Management or Energy and Environmental Management.

2.2 Sustainable Finance in Austria: A catalyst for environmental sustainability

The Republic of Austria has already demonstrated high expertise in financing projects for sustainable purposes. As the Austrian federal budget contains a high proportion of green expenditures, a series of spending reviews on the topic of "Green transition" will analyse the current climate finance landscape on national and subnational level, the implementation of the EU taxonomy in Austria, the sustainability of public procurement and in general, the alignment of public authorities with the long-term goals of the *Paris Agreement*.

The European Commission estimates that Europe will need substantial additional funds to achieve the climate goals aimed at reducing greenhouse gas emissions by 55% until 2030. To this end, public and private finances and the related investment in the environment have to make cost-effective and sustainable contributions in order to ensure the timely fulfilment of the climate and energy goals.

The Austrian Green Finance Agenda (GFA) aims to channel private financial flows into low-emission and sustainable investments and to better manage sustainability risks. The agenda sends a strong signal to the market and makes an active contribution to a climate-resilient development at the national level. The GFA contains concrete recommendations for actions aimed at financial market actors, companies, politics and administration as well as academia. The GFA comprises i.e. the following initiatives which are in the status of planning, preparation or for which the implementation has already started:

- In 2020, a first climate impact analysis was carried out to determine the extent to which nationally managed financial portfolios are aligned with the *Paris climate goals* (Paris Alignment Capital Transition Assessment, PACTA). A second analysis is planned in 2023.
- In July 2020, the Austrian Financial Market Authority (FMA) in cooperation with the Oesterreichische Nationalbank (OeNB) published a cross-sector guideline for dealing with sustainability risks (climate risk management), supporting companies in the financial sector[16].
- In the course of the Green Finance Alliance, participating financial market players voluntarily but bindingly commit to aligning their portfolios with the 1.5°C climate target.
- Green Financial Literacy is an initiative that aims to build competence and knowledge on environmental and climate-related topics.
- The Focal Group Green Finance is a platform for exchange of experiences across institutions and supports the continued dialogue with the Austrian stakeholders.
- The Austrian Green Investment Pioneers Programme helps companies, banks and investors to get involved in green projects and supports the establishment and expansion of forward-looking and sustainable business models.

2.3 Austria and the UN SDGs: Putting commitments into action

Along with all UN member states, the Republic of Austria adopted the *2030 Agenda for Sustainable Development* in 2015. The Agenda includes the 17 *Sustainable Development Goals* (UN SDGs), which are supposed to be a „blueprint to achieve a better and more sustainable future for all" by tackling a broad array of global environmental and social issues.

The Austrian federal ministries are in charge of implementing the SDGs in their respective areas of responsibilities. Through the concept of mainstreaming, the SDGs are to be integrated into all political and administrative activities of Austria in an efficient, targeted and self-reliant manner.

An inter-ministerial working group exclusively responsible for the UN SDGs has been established under the joint leadership of the Federal Chancellery and the Federal Ministry for European and International Affairs. The group's tasks include coordinating the preparation of a regular progress report, which is based on agreed indicators and in accordance with the internationally defined requirements.

Furthermore, the Coalition of Finance Ministers for Climate Action brings together fiscal and economic policymakers from over 80 countries in leading the global climate response and in securing a just transition towards low-carbon resilient development.

[16] FMA, FMA Guide for managing Sustainability Risks, July 2020

3 Republic of Austria's Green Financing

The sustainable transition of the economy is a very important goal for the Austrian government. However, financing the transition and reaching the objectives set out above requires significant investments. Public households in Austria have already made considerable progress in greening their budgets, including the eco-social tax reform mentioned above. Nevertheless, funds provided by the private sector are crucial to catalyse public investments and to achieve the levels of investment required to decarbonise the economy and ensure environmental sustainability. In this context, the issuance of Green Securities has the potential to make a significant contribution to the green transition of the Republic of Austria.

3.1 Rationale for issuing Green Securities

The Green Framework sets the basis for the issuance of a broad range of instruments, including Green Austrian Government Bonds (RAGB or EMTN-format), Green Austrian Treasury Bills and Green Austrian Commercial Papers as well as Green loans or deposits ("Green Securities"). This report also covers both the allocation and the impacts of two Green Loans borrowed in 2022 for a total of EUR 100 mn that were referenced to the Green Framework. The Republic of Austria intends to include additional green financial instruments in the next framework update, namely Green Loans and Green Deposits.

The rationale for Austria's green issuance programme includes:

- The Green Securities issued by the Austrian Treasury enable Austria to attract dedicated funding for government expenditures that contribute to greenhouse gas emission reductions, climate change adaptation and environmental goals, provide investors an opportunity to diversify their investment portfolios towards sustainable assets, and further promote and develop the domestic and international Green Finance markets.
- The implementation of this green issuance programme promotes and highlights Austria's strong environmental agenda. This is important in the context of increasing the participation of Austria's private sector to achieve the levels of investment required to decarbonise the economy and ensure environmental sustainability.
- Funding for the transition to net zero greenhouse gas emissions and achieving the Austrian climate goals will be supported by this green issuance programme. Green Securities will also contribute to the national strategies for environmental sustainability and encourage the development of the wider sustainable finance sector.
- Austria's federal budget already contains a high proportion of green expenditures. At the same time, huge demand from investors is noticed for Green Securities both from short-term as well as longer-term oriented investors. With this programme, Austria addresses this situation by offering an attractive green investment for domestic and international investors with tenors ranging from 1 week to currently 26 years (May 2049).
- Austria is already a leader in terms of sustainability – underscored by very high sustainability rankings[17] as a country. Issuing Green Securities further expands Austria's broad investor base and potentially increases the demand for Austrian debt securities overall.
- The Green Investor Report, associated with the issuance of green securities, considerably enhances the transparency and traceability of green investments. This provides an important link between the national environmental strategies and initiatives and their contribution to achieving Austria's climate targets.

3.2 Milestones in Austria's Green Funding

Austria is a leader in various activities to promote sustainability and its federal budget already contains a high proportion of green expenditures. The implementation of Austria's Green Funding Programmes promotes and highlights Austria's strong environmental agenda aiming at increasing the participation of Austria's private sector to achieve the levels of investment required to ensure environmental sustainability and decarbonise the economy with a view to achieving net-zero GHG emissions.

In 2022, the Republic of Austria successfully built-up a second pillar in its funding strategy. The introduction of green funding instruments on a broad scale, which have been implemented in all

[17] https://www.oebfa.at/en/investor-relations/ratings.html

relevant programmes and as the first sovereign worldwide includes green short-term debt instruments, further diversifies the investor base and perfectly complements the traditional funding pillar.

Jun 2021	Republic of Austria's Federal Minister of Finance announces plan to issue a Sovereign Green Bond in the first half of 2022
Oct 2021	Republic of Austria has set up an interministerial Green Bond Board to ensure the appropriate evaluation and selection of eligible green expenditures
May 2022	▪ Republic of Austria publishes – as the first sovereign issuer worldwide - a Green Framework allowing for green short-term debt instruments (Publication together with associated Second Party Opinion) ▪ Republic of Austria issues its inaugural Green Bond (27-years)
Oct 2022	▪ First Green Loan issued by the Republic of Austria ▪ Inaugural Austrian Treasury Bill (ATB) in green format issued
Mar 2023	▪ Inaugural Austrian Commercial Paper (ACP) in green format issued ▪ Introduction of Green deposits as additional short-term funding instrument
Apr 2023	Republic of Austria issues its second Green Bond (6-years)
Jun 2023	Publication of Austria's first Green Investor Report (Allocation and Impact Report) incl. Second Party Opinion

The Republic of Austria successfully issued its **inaugural Green Bond** on May 24, 2022 with a volume of EUR 4 bn and a tenor of 27 years, yielding 1.876% p.a. The transaction was met with very strong investor demand, resulting in a high-quality order book of EUR 25.4 bn. The issuance was very well perceived by Green investors (accounting for ~70% of the total allocation) and especially Green Asset Managers as well as Pension Funds and Insurance Companies showed a strong participation. Additional Green investors amounted to around 20% compared to all syndicated RAGB issues since 2020.

On October 18, 2022 the Republic of Austria set another important milestone in its Green financing programme by issuing its **inaugural Austrian Treasury Bill (ATB) in green format**. The ATB 2023-02-23 (G) had an issue size of EUR 1 bn and matured on February 23, 2023. This issuance did not only represent a debut for the Republic of Austria, but it also marked a novelty for the whole ESG market, as this was the first Treasury Bill in green format issued by any sovereign worldwide. The warm reception by the market was shown by a strong bid-cover ratio of 2.7 and a high participation of green investors, accounting for around 85% of the competitive issue amount. The issue yield was 1.25% p.a. for a February 23, 2023 maturity. The first roll-over of the Green T-Bill in the auction on February 21, 2023 into ATB 2023-05-25 (G)[18] also received a very warm welcome by the market. Strong interest in the 3-month Green Treasury Bill was shown by a bid-cover ratio of 2.2, with a share of around 40% re-investments and around 60% of the volume stemming from new green investors. Since the roll-over in February, the ATB 2023-05-25 (G) was tapped three times, EUR 100 mn in February, EUR 160 mn at the beginning of March and EUR 45 mn at the end of March. Throughout the year 2023, three additional roll-overs in May, August and November are executed as the Green Treasury Bills have a standard maturity of 3 months. On March 13, 2023 a 1-month Green Treasury Bill (ATB 2023-04-17 (G))[18] with a volume of EUR 50 mn was issued on a bilateral basis. The issue yield was 2.55% p.a. for an April 17, 2023 maturity.

On March 6, 2023 the **issuance of Austrian Green Commercial Paper**[18] was started, which also represent a worldwide novelty in the sovereign debt market. Strong demand for this new green product was noticed from the very beginning, especially from green money market funds, corporate treasuries and central banks, and until March 31, 2023 EUR 95 mn were issued in this format. Green Commercial Paper can be issued in a very flexible manner. Issuances are possible on a bilateral basis in all currencies and tenors (up to 12 months).

The green capital market and money market issuances were complemented by a **first two-tranche Green loan** of EUR 100 mn with a domestic insurance company in October 2022, followed by another Green loan issued in March 2023[18] (EUR 50 mn). At the end of March 2023, the Austrian Green financing universe was further expanded by the introduction of Green deposits[18] (EUR 100 mn).

On April [18], 2023, Austria successfully issued its **second Green Bond**[18] with a volume of EUR 3 bn and a tenor of 6 years, yielding 2.952% p.a. The new Green benchmark was characterised by a high-quality order-book (EUR 6.9 bn) and was very well received by Green investors, accounting for two thirds of the total allocation. While around 40% of the Green investors in this transaction have already

[18] For the avoidance of doubt, information on allocation and impact presented in this report only refers to green issuances until December 31, 2022.

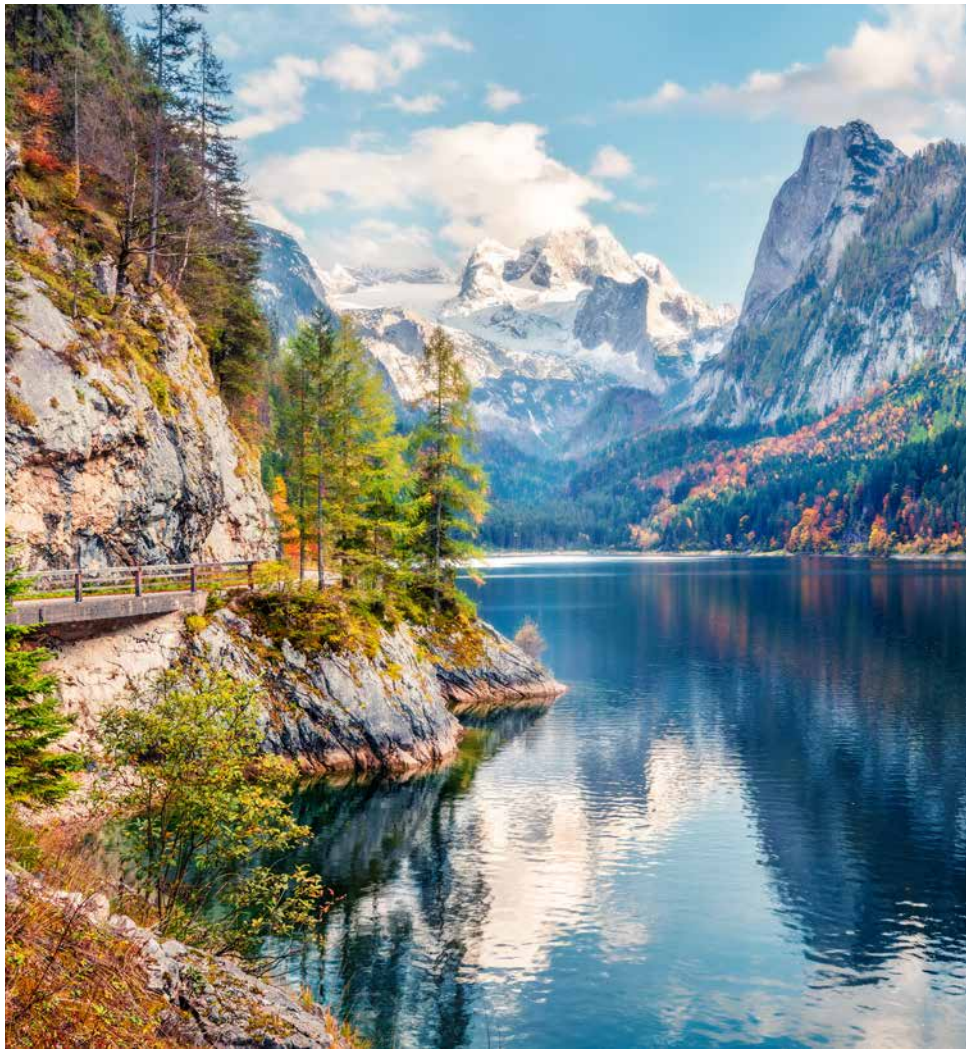
been active in last year's inaugural Green bond issuance, around 60% of the volume has been allocated to new Green investors. The 6-year tenor enabled Austria to offer ESG-investors a new point on the green curve and to fill the gap between Green short-term instruments and the 2049 Green RAGB. This syndication also represented the first dual issuance of a new Green and conventional benchmark bond of any sovereign worldwide.

The introduction of green instruments on a broad scale, which were implemented in all relevant programmes, makes it possible to further diversify Austria's investor base and are a perfect complement to the conventional financing instruments. The award as "Sustainable Issuer of the Year" at the IFR Awards 2022, and the recognition as "Sovereign Green Bond Pioneer" by the Climate Bond Initiative (CBI) also confirms the success of the strategic orientation undertaken.

Going forward, the Republic Austria will continue to be a regular issuer in the green market. New green funding in 2023 will be around EUR 5.5 bn, based on a balanced split between green federal budgetary expenditures 2022 and 2023. The aim is to achieve an 80/20 split between medium/long-term and short-term green financing instruments. While on the bond side the Republic of Austria focuses on building up a green curve or tapping existing green bond(s), around 20% of the total eligible green expenditures shall be reserved for Green Austrian Treasury Bills (ATB) and Green Austrian Commercial Paper (ACP) or Green deposits. Given the large share of long-term projects in the Republic of Austria's eligible green expenditures, green short-term instruments are intended to be rolled regularly.

Financing Instruments Republic of Austria

- Government bonds RAGB
- Debt issuance programme (DIP 144A)
- EMTN-Programme (Euro Medium Term Notes)
- Australian Dollar MTN-Programme – "Kangaroo Programme"
- Loans (short- and long-term) and "Schuldschein"-Format
- Austrian Treasury Bills (ATB-Programme)
- Austrian Commercial Paper (ACP-Programme)



Gosau lake with Dachstein glacier in the background. © Adobe Stock

3.3 Republic of Austria Green Bond Framework

The Republic of Austria's Green Framework is aligned with the 2021 Green Bond Principles (GBP), as published by the International Capital Market Association (ICMA). The most important aspects can be found in the following overview.

Use of Proceeds	▪ Austria intends to allocate an amount equal to the net proceeds from the issuance of Green Securities to exclusively finance and/or to refinance, in whole or in part, central government expenditures that meet the environmental eligibility criteria ▪ Eight Eligible Green Expenditure categories have been defined: (1) Clean Transportation; (2) Renewable Energy; (3) Energy Efficiency; (4) Pollution prevention and control; (5) Environmentally sustainable management of living natural resources and land use; (6) Terrestrial and aquatic biodiversity; (7) Sustainable water and wastewater management;(8) Climate change adaptation ▪ The scope of Eligible Green Expenditures includes (but is not limited to) subsidies, tax expenditures, operational expenditures and investment expenditures
Project Evaluation and Selection	▪ The Republic of Austria has set up a Green Bond Board managing the evaluation and selection of Eligible Green Expenditures ▪ The Green Bond Board closely cooperates with further relevant federal ministries and associated entities whenever expenditures from their respective area of responsibility are discussed, and additional expertise is needed ▪ Expenditures related to the following fields are explicitly excluded from being financed: (1) Nuclear power; (2) Production/refining of fossil fuels, fossil fuel power generation and the transport of fossil fuels, as well as projects concerning carbon capture and storage (CCS); (3) Alcohol, gambling and tobacco; (4) Weapons and defense-related goods and expenditures
Management of Proceeds	▪ Tracking the allocation of the proceeds derived from Green Securities' issuances will be done by the Green Bond Board ▪ Eligible Green Expenditures occurred no earlier than one calendar (i.e. budget) year prior to issuance and the budget year of issuance ▪ The Austrian Treasury aims to distribute the allocation of the net proceeds in a balanced manner between "Past Expenditures" and "Current Expenditures" ▪ The total volume of Eligible Green Expenditures in Austria's Green Portfolio will always be at least as high as the volume of total net proceeds from all outstanding Green Securities
Reporting	▪ The Republic of Austria is committed to provide two levels of reporting: – The management and allocation of bond proceeds – The assessment of environmental impact of allocated Green Expenditures
External Review	▪ To underpin Austria's commitment to full transparency, independent external reviews will be conducted on key documents and reports

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4 Allocation Report

This section of the report provides an overview of the green initiatives and projects for which the financing proceeds were used. It enables investors an overview of the allocation of capital to environmentally sustainable investments.

In this Allocation report the equivalent value of the proceeds from the Issuance of Green Government Securities which were newly issued in the financial year 2022 were allocated to the green expenditures of the federal budgets of 2021 and 2022. The total eligible expenditures from the federal budget years of 2021 and 2022 add up to EUR 9.49 bn, whereby EUR 5.1 bn were assigned to the Green Securities issued in 2022 as indicated below.

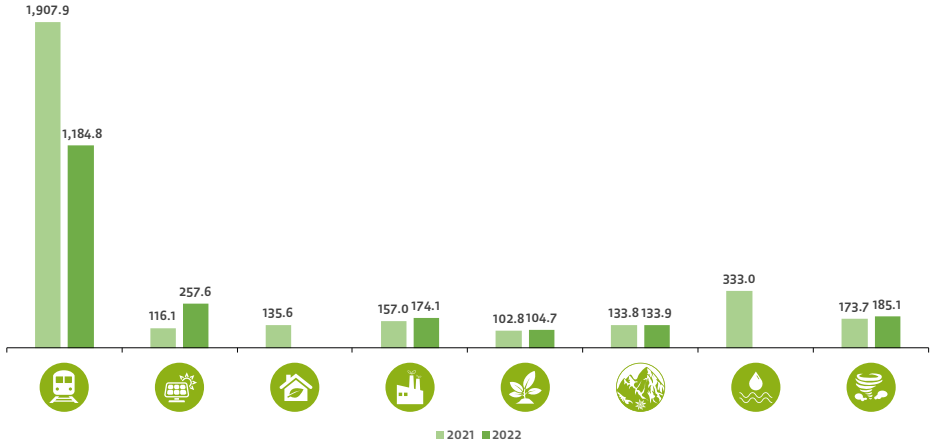
Those net proceeds raised in 2022 were derived from the issuances of the 1.85% inaugural Green Bond 2022-2049/3, the first Green Loans 2022-2030/2022-2040 and the first Green Austrian Treasury Bill 2023-02-23 (G). They have been aligned with eight categories of green expenditures, listed in the Green Framework published in April 2022. Furthermore, the Republic of Austria's Green Framework has been aligned with the 2021 version of the Green Bond Principles (GBP), as published by the International Capital Market Association (ICMA). The government of the Republic of Austria recognises the importance of a common definition of sustainable economic activities that enhances transparency and thereby supports the further development of the green debt market.

Allocation of Green Expenditures

Eligible Green Expenditures are related to a large number of assets, in line with Austria's role, and targeting different beneficiaries: citizens, households, companies, local authorities, public agencies and universities. An overview of the Eligible Green Categories covered by the Green Government Security issuances can be found in the following table.

1. Clean transportation	5. Environmentally sustainable management of living natural resources and land use
2. Renewable energy	6. Terrestrial and aquatic biodiversity
3. Energy efficiency	7. Sustainable water and wastewater management
4. Pollution prevention and control	8. Climate change adaptation

The bar chart below shows the allocated amounts (in EUR mn) per category in 2021 and 2022.



As shown in the table on the next page, out of the available eligible amounts of the federal budget of 2021 and 2022, EUR 5,100 mn were allocated to Green Securities issued in 2022.

EUR 3,092.7 mn, accounting for 60.6% of the total allocation, were assigned to the Clean Transportation category, with EUR 1,907.9 mn stemming from eligible green expenditures of 2021 and EUR 1,184.8 mn from 2022. The second largest share (7.3%) was allocated to the Renewable Energy category. EUR 116.1 mn from 2021 and EUR 257.6 mn from 2022 resulted in a combined total of EUR 373.7 mn. Climate Change Adaption represents the category with the third largest allocation (7.0%), with a total of EUR 358.8 mn (thereof EUR 173.7 mn from 2021 and EUR 185.1 mn from 2022). This is followed by the two categories Sustainable Water and Wastewater Management and Pollution Prevention and Control at EUR 333.0 mn and 331.1 mn respectively (each accounting for 6.5%). In addition, terrestrial and aquatic biodiversity at EUR 267.6 mn (5.2%), Environmentally sustainable management of living natural resources and land use at EUR 207.4 million (4.1%) and EUR 135.6 mn to Energy efficiency (2.7%) complete the allocated amounts.

Allocation detail on Green category level (in EUR mn)

GBP project category	Key EU Environmental Objectives	UN SDG Mapping	Eligible Amounts 2021	Eligible Amounts 2022	Eligible Amounts Total Eligible	Allocated Amounts 2021	Allocated Amounts 2022	Allocated Amounts Total Allocated	% total allocated	Remaining eligible amounts Balance 2022
Clean transportation	Climate change Mitigation Pollution prevention and control		3,563.2	3,444.7	**7,007.9**	1,907.9	1,184.8	**3,092.7**	**60.6%**	**2,259.9**
Renewable energy	Climate change mitigation		116.1	257.6	**373.7**	116.1	257.6	**373.7**	**7.3%**	**0.0**
Energy efficiency	Climate Change mitigation		135.6	170.4	**306.1**	135.6		**135.6**	**2.7%**	**170.4**
Pollution prevention and control	Pollution prevention and control		157.0	174.1	**331.1**	157.0	174.1	**331.1**	**6.5%**	**0.0**
Environmentally sustainable management of living natural resources and land use	Pollution prevention and control Transition to a circular economy		102.8	104.7	**207.4**	102.8	104.7	**207.4**	**4.1%**	**0.0**
Terrestrial and aquatic biodiversity	Protection and restoration of biodiversity and ecosystems		133.8	133.9	**267.6**	133.8	133.9	**267.6**	**5.2%**	**0.0**
Sustainable water and wastewater management	Sustainable use and protection of water and marine resources Pollution prevention and control		333.0	300.2	**633.3**	333.0		**333.0**	**6.5%**	**300.2**
Climate change adaptation	Climate change adaptation		173.7	185.1	**358.8**	173.7	185.1	**358.8**	**7.0%**	**0.0**
			4,715.3	4,770.6	**9,485.9**	3,060.0	2,040.0	**5,100.0**	**100.0%**	**2,730.6**

Allocation detail on Green financing instruments issued in 2022 (in EUR mn)

				Allocated Amounts					
							Medium-long term		Short-term
GBP project category		Key EU Environmental Objectives	UN SDG Mapping	2021	2022	Total Allocated	Green Bond	Loans	ATB
	Clean transportation	Climate change Mitigation Pollution prevention and control		1,907.9	1,184.8	**3,092.7**	2,425.6	60.6	606.4
	Renewable energy	Climate change mitigation		116.1	257.6	**373.7**	293.1	7.3	73.3
	Energy efficiency	Climate Change mitigation		135.6		**135.6**	106.4	2.7	26.6
	Pollution prevention and control	Pollution prevention and control		157.0	174.1	**331.1**	259.7	6.5	64.9
	Environmentally sustainable management of living natural resources and land use	Pollution prevention and control Transition to a circular economy		102.8	104.7	**207.4**	162.7	4.1	40.7
	Terrestrial and aquatic biodiversity	Protection and restoration of biodiversity and ecosystems		133.8	133.9	**267.6**	209.9	5.2	52.5
	Sustainable water and wastewater management	Sustainable use and protection of water and marine resources Pollution prevention and control		333.0		**333.0**	261.2	6.5	65.3
	Climate change adaptation	Climate change adaptation		173.7	185.1	**358.8**	281.4	7.0	70.4
				3,060.0	2,040.0	**5,100.0**	4,000.0	100.0	1,000.0

5 Impact Report

The total eligible green expenditures from the federal budget years of 2021 and 2022 add up to around EUR 9.5 bn, whereby EUR 5.1 bn were assigned to the Green Securities issued in 2022. For 77.5% of the allocated amount, information on performance and impact is presented in this report. Respective details with regards to allocated amounts per Green category covered by impact metrics are presented in the overview table on the next page. For 2021, performance and impact indicators are reported for EUR 2.8 bn (or 91.5% of allocated amounts), whereas in 2022 EUR 1.1 bn (or 56.3% of allocated amounts) are covered. The decreasing share can be explained by a lower availability of timely impact data in some categories (especially in „Clean Transportation"). The next Green Investor Report will also include 2022 impact/performance metrics in the categories „Energy efficiency" and „Sustainable water and wastewater management", as they were not yet allocated. Furthermore, additional 2022 impact metrics with regards to „Clean transportation" will be presented there.

The indicators relate to the total volumes of supported projects and infrastructure investments and therefore represent facilitated effects[19]. The analyses and the methodological approach were prepared by the Environment Agency Austria (Umweltbundesamt)[20] specifically for the purpose of the Green Investor Report and is not directly comparable to other publications addressing the respective funding instruments due to the different scope. Several projects and infrastructure investments are eligible to receive funding and grants from more than one funding body in principle. In order to prevent overstatement of impact, performance and impact metrics for such activities are presented only with regard to one funding instrument.

Highlights

- In total, the projects financed under this Green Framework led to an **annual greenhouse gas emissions reduction/avoidance of 2.52 million tonnes in 2021** which relate to around 3.2% of Austria's total greenhouse gas emissions in 2021 according to the latest report[21] by the Environment Agency Austria. Furthermore, for the part of expenditures that were allocated to 2022, additional 0.63 million tonnes of annual greenhouse gas emissions were reduced/avoided. The main part of these CO_2-reductions (2.01 million tonnes) was enabled by investments in the construction and modernisation of railway infrastructure but in total a broad set of 14 sub-categories, including renewable energy and energy efficiency, contributed to this positive development.
- Federal government financing in the area "Terrestrial and aquatic biodiversity" (Austrian Agri-environmental program) enabled a total number of approximately **86,000 farm subsidies** and funding of around **1.8 million hectares** of agricultural land. Furthermore, the Austrian National Parks with a total area of 239,100 hectares are funded via this program.
- Federal government financing in the area "Environmentally sustainable management of living natural resources and land use" (Austrian compensatory allowance for less-favored areas) enabled a total number of approximately **79,000 farm subsidies** and funding of around **1.4 million hectares** of agricultural land.
- Public funding in the area of waste water treatment and sewerage of EUR 276.8 mn in 2021 made it possible for more than 120,000 **additional people to be connected to wastewater treatment**.
- Flood protection measures financed under the Green Framework amount to EUR 97.1 mn in 2021 and EUR 96.4 mn in 2022 and have enabled a total of **18,200 citizens** to be **protected from flood events**.
- The projects financed in the areas "Renewable energy" and "Energy efficiency" led to annual energy savings of 904,573 MWh and annual renewable energy generation of 987,004 MWh in 2021. In 2022 the projects financed in the area "Renewable energy" led to annual renewable energy generation of 2,152,154 MWh.

Details on the above impacts and other metrics are presented in the following chapters.

[19] Allocated amounts shown in the tables in this chapter (tables 1-8) refer to the amounts for which the impact was calculated (which in some cases is not equal to the total allocated amount referred to in chapter 4)
[20] For the calculation of performance and impact metrics input from the responsible bodies (as mentioned in the relevant sub-chapters) has been used. Further sources are listed in chapter 8.

[21] Umweltbundesamt, Austria's Annual Greenhouse Gas Inventory 1990-2021, January 2023.

Allocated amounts covered by impact metrics (in EUR mn)

		2021			2022			Total (2021 + 2022)		
GBP project category	UN SDG Mapping	Allocated amount	Allocated amount covered by impact metrics	Impact metrics in % of allocated amount	Allocated amount	Allocated amount covered by impact metrics	Impact metrics in % of allocated amount	Allocated amount	Allocated amount covered by impact metrics	Impact metrics in % of allocated amount
Clean transportation		1,907.9	1,907.9	**100.0%**	1,184.8	549.0	**46.3%**	3,092.7	2,456.9	**79.4%**
Renewable energy		116.1	107.7	**92.7%**	257.6	237.0	**92.0%**	373.7	344.7	**92.2%**
Energy efficiency		135.6	95.4	**70.3%**				135.6	95.4	**70.3%**
Pollution prevention and control		157.0	27.1	**17.3%**	174.1	28.4	**16.3%**	331.1	55.5	**16.8%**
Environmentally sustainable management of living natural resources and land use		102.8	102.7	**99.9%**	104.7	97.3	**93.0%**	207.4	200.0	**96.4%**
Terrestrial and aquatic biodiversity		133.8	131.1	**98.0%**	133.9	131.2	**98.0%**	267.6	262.3	**98.0%**
Sustainable water and wastewater management		333.0	330.6	**99.3%**				333.0	330.6	**99.3%**
Climate change adaptation		173.7	98.2	**56.5%**	185.1	106.4	**57.5%**	358.8	204.6	**57.0%**
		3,060.0	2,800.7	**91.5%**	2,040.0	1,149.3	**56.3%**	5,100.0	3,950.0	**77.5%**

5.1 Clean transportation

The transport sector is one of the main sources of greenhouse gas emissions. The highest share of emissions in this sector is attributable to road traffic, and in particular to passenger car traffic. All federal provinces have recorded an increase in greenhouse gas emissions per capita for the transport sector since 1990. Due to the high share of local public transport, the lowest per capita emissions are reported for Vienna.[22] This example illustrates the importance of building infrastructures and providing incentives for sustainable modes of transport in order to encourage people to switch to public transport.

In order to maintain and further improve the quality of the public transport network, Austria invests steadily in its maintenance, modernisation and extension. For the railway network this is regulated in a special framework plan (further information available in sub-chapter "Federal subsidies to ÖBB Infrastruktur AG" on page 18 et seq.).

As new incentive for the use of public transport, Austria introduced the so-called Climate Ticket (*KlimaTicket*) in 2021, which allows the use of all means of public transport in Austria with one annual ticket (further information available in sub-chapter "Climate Ticket" on page 23 and case study on page 50).

In the course of the reporting period, a total of around EUR 3.1 bn was allocated to projects dedicated to clean transportation. The projects selected for the impact reporting are described in further detail in the next chapters.

„Railjet" train © ÖBB

[22] Umweltbundesamt, Klimaschutzbericht 2022 (only available in German), May 2023

This section contains three sub-sections, including construction of clean transportation infrastructure, public transport services and funding programs for the transition to a zero emissions mobility.

	2021				2022		
Clean Transportation	**Allocated amount (EUR mn)**	**mn train-km**	**Annual GHG emissions reduced/ avoided (mn tonnes CO_2e)**	**Number of users**	**Allocated amount (EUR mn)**	**mn train-km**	**Annual GHG emissions reduced/ avoided (mn tonnes CO_2e)**
Construction of clean transportation infrastructure [1]	1,825.5	103 [2]	2.01 [3]	-	78.0	-	* [5]
Public transport services: Climate Ticket Austria	30.0	-	-	134,000 [4]	-	-	-
Public transport services: Ordering of public services in rail passenger transport	-	-	-	-	471.0	75 [6]	-
Funding programs for the Transition to a zero emissions mobility	52.4	-	0.04	-	-	-	-
Total	**1,907.9**				**549.0**		

Table 1: Clean Transportation: overview of indicators.

Monetary figures are related to spent public funding assigned to clean transportation infrastructures or projects and financed by Green Securities. Impact and performance indicators refer to the enabled effects with regard to the investment volumes of the supported projects and infrastructures. The figures in table 1 present the respective share of the budget assigned to clean transportation projects and infrastructures that are funded by Green Securities. When interpreting the data, it should be noted that the figures only represent a portion of the total assigned expenditures.

Explanatory notes:

[1] To explain the differences with the ÖBB annual report it has to be noted that - due to Covid-19, the total subsidies to ÖBB Infrastruktur AG in 2021 and 2022 are composed of the Federal subsidies to ÖBB Infrastruktur AG as well as the compensations for the reduction of infrastructure usage charges in rail passenger and rail freight transport - excluding EU funds. Further, the subsidies to ÖBB Infrastruktur AG were reduced by the share of non-electrified train kilometres and for freight transport additionally by the share of fossil fuel transports.

[2] For the purpose of the impact assessment in this report only train kilometres operated by the ÖBB were used. They were reduced by the share of non-electrified train kilometres and for freight transport additionally by the share of fossil fuel transports (according to Statistik Austria data).

[3] Based on the annual train-km travelled by ÖBB, reduced by the share of non-electrified train kilometres and in freight transport additionally by the share of fossil fuel transport.

[4] Number of KlimaTicket (Climate Ticket) users 2021.

[5] Expansion of the Vienna subway system, which is under construction for several years: The operator (Wiener Linien) reports that once fully operational, the number of passengers using the Viennese public transport could be increased by more than 300 million additional public transport users per year, enabling annual CO_2e savings of up to 75,000 tonnes. A robust quantification of the effect enabled by the share of public co-financing spent in the current reporting period will only be possible at a later stage.

[6] Ordering of public services in rail passenger transport: Federal contributions to ensure a basic service in rail passenger transport 2022. The ordered train-km have been reduced proportionally to the allocated amount.

5.1.1 Construction of Clean Transportation Infrastructure

In order to guarantee the provision of rail passenger and freight transport, investments in the rail infrastructures are necessary. Depending on the type and category of investment, there are legal obligations or agreements that regulate the federal government's share of the investment.

Federal subsidies to ÖBB Infrastruktur AG

Objective

Operation of rail infrastructure and its provision as well as for the maintenance, planning and construction of rail infrastructure for general enhancement of attractiveness of rail transport.

Responsible Body

Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK)

Description of Financing:

According to §31 of the Austrian Federal Railways Act (Bundesbahngesetz), ÖBB Infrastruktur AG is obliged to make its rail infrastructure available to rail transport companies operating on the Austrian rail network. The ÖBB framework plan provides for investments in the network of ÖBB Infrastruktur AG. The legal basis for this is set in §42 of the Federal Railways Act.[23]

The Austrian railway framework plan includes planned projects and their investments over a 6-year period as well as expenses foreseen for the maintenance of the rail network. This forms the basis for the subsidies of the BMK to ÖBB-Infrastruktur AG, which are subsequently contractually agreed (subsidy contracts).

Beneficiaries

- Direct beneficiary: ÖBB Infrastruktur AG
- Indirect beneficiaries: all users of the ÖBB rail network

[23] Bundesbahngesetz, Federal Law Gazette. Nr. 825/1992 (last amended version)

Impact

In 2021, 157 mn train kilometres were travelled on the ÖBB railway network, 139 mn train kilometres of which on electrified tracks.[24]

- 103 mn train kilometres were attributable to passenger transport operated by the ÖBB[25] – resulting in a saving of 1,6 mn t CO_2 according to the reporting of ÖBB.[26]
- 27 mn train kilometres were attributable to freight transport operated by the ÖBB[25] resulting in a saving of 1 mn t CO_2 according to the reporting of ÖBB.[26]
- for the train kilometres travelled by other railway companies, no reports on CO_2-savings are available.

For the purpose of the impact assessment in this report only train kilometres operated by the ÖBB were used. They were reduced by the share of non-electrified train kilometres and for freight transport additionally by the share of fossil fuel transports (according to Statistik Austria data[27]).

- In the area of rail passenger transport, the Austrian railway framework plan will significantly reduce the travel time on important axes, enabled by large infrastructure projects (Brenner tunnel, Semmering basis tunnel, Koralm tunnel) and investments in electrification, automation and digitalisation. Further, renovations of railway stations, improved customer services and better connections will make travelling by rail more attractive.
- In the area of rail freight transport, the Austrian railways framework plan has the objective to increase the transport capacity within the railway network. The framework plan includes large infrastructure projects along important trans-European network axes (TEN-T), like the Brenner tunnel on the Scandinavian-Mediterranean corridor and the Semmering basis tunnel on the Baltic-Adriatic corridor, investments in intermodal terminals and cargo centres (Villach, Graz, Wels, Wien), as well as electrification and ongoing investments in automation and digitalisation.

[24] Transport services provided by electric locomotives or electric railcars, excluding diesel vehicles.
[25] ÖBB Holding AG, Geschäftsbericht 2022 (only available in German), April 2022
[26] For this first impact report, the CO_2-savings from the ÖBB report "ÖBB in Zahlen" (only available in German) are cited. The harmonisation of the calculation methods for the CO_2-savings is planned for the next impact report.
[27] Statistik Austria, Verkehrsstatistik 2021 (only available in German), November 2022

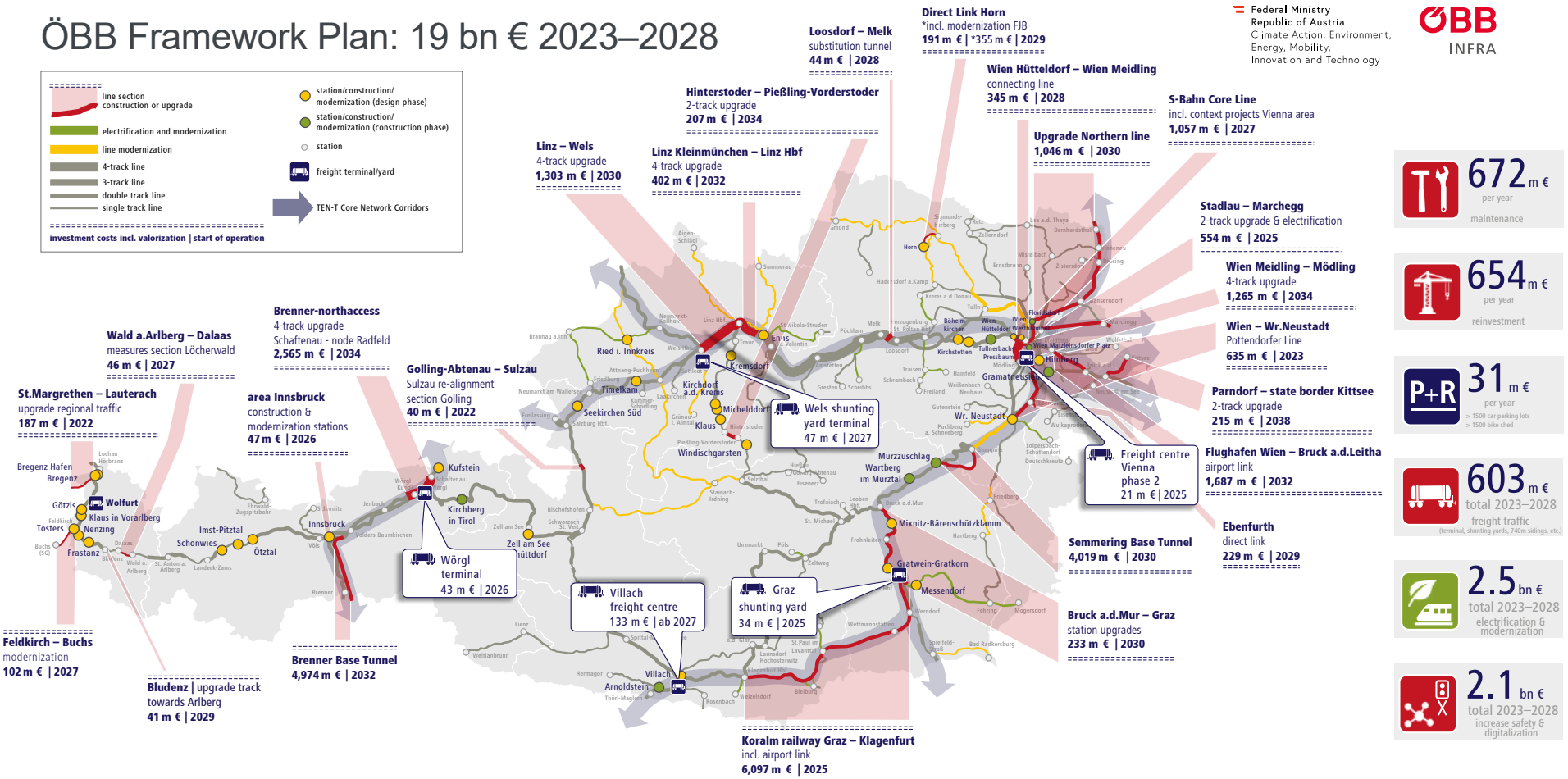


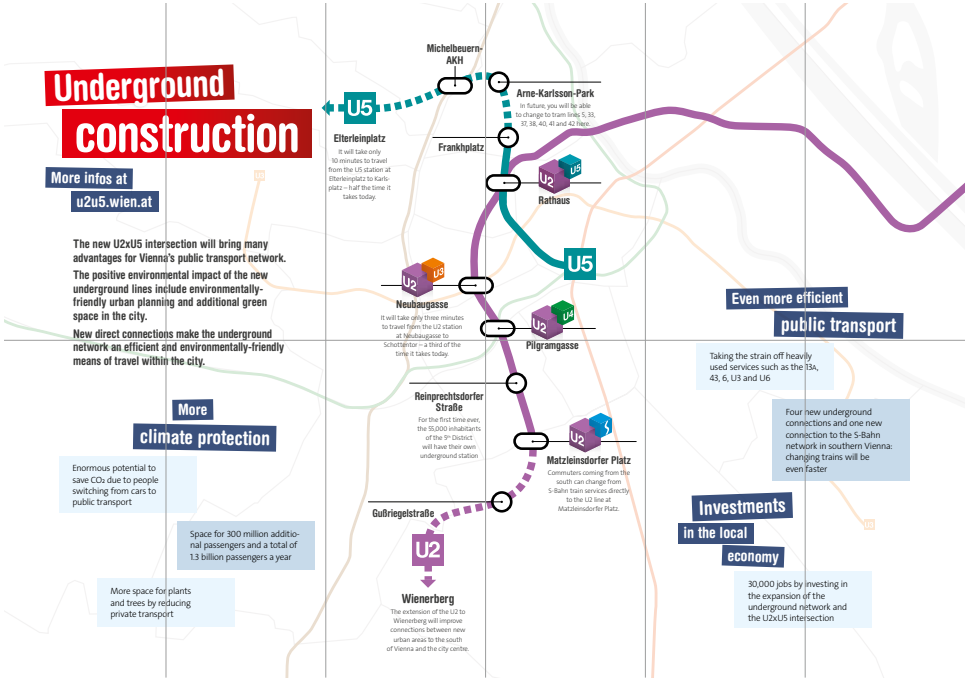
Figure 1: Austrian railway framework plan 2023-2028.[28]

[28] Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology, Rahmenplan 2023-2028 (only available in German), October 2022
The Austrian railway framework plan is adopted by the federal government. The figure shows the most recent Austrian railway framework plan, including the main projects planned for the period 2023-2028.

Co-financing of the federal government in the investment costs for the expansion of the Vienna subway system

Objective

In order to react to the changing urban structure in Vienna and to relieve busy lines, Wiener Linien is building a new subway line and a new subway interchange in Vienna. The first stage of the new U5 line will connect the Unicampus (Altes AKH) with the interchange at Karlsplatz in Vienna. The first phase is already under construction. In the second expansion stage, the U5 will be extended to Hernals and the existing U2 subway line will be extended to Wienerberg. The second expansion stage is in the planning phase.[29]



[29] Further information available on the project's webpage.

Responsible Bodies

- Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK)
- City of Vienna

Beneficiaries

- Direct beneficiary: Wiener Linien
- Indirect beneficiaries: all users of the public transport in the city of Vienna

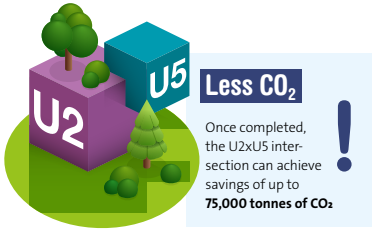
Description of Financing

The financing of the Vienna subway is governed by a federal-state agreement pursuant to Article 15a B-VG (Federal Constitutional Law). The financing key for the subway was fixed at 50% Federal Government, 50% City of Vienna, with an annual installment of the Federal Government of EUR 78 mn.

Impact

The construction of a new section of the Vienna subway has to be considered as an enabling activity, as it is prerequisite for shifting transport from motorised individual transport to public transport and thus paves the way for a low carbon mobility.

The new subway interchanges U2/U5 at Rathaus, U2/U3 at Neubaugasse, U2/U4 at Pilgramgasse and U2/S-Bahn at Matzleinsdorferplatz, which shall be finalised by 2028, will improve the public transport connection for millions of passengers and relieve now busy lines. The operator (Wiener Linien) reports that, once fully operational, the number of passengers using the Viennese public transport could be increased by more than 300 million additional public transport users per year, enabling annual CO_2e savings of up to 75,000 tonnes[30]. A robust quantification of the effect enabled by the share of public co-financing spent in the current reporting period will only be possible at a later stage.



[30] Wiener Linien, U2xU5 information folder, January 2023

5.1.2 Public transport services

Public transport in Austria is financed through a multi-layered system of financing mechanisms in which financial allocations from the federal government, state governments, local governments as well as revenues from ticket sales and season ticket sales interact. Due to public transfers and subsidies, it is possible to guarantee public transport in areas where the operation of public transport would otherwise not be economically feasible. On 26 October 2021 the Climate Ticket Austria (KlimaTicket Ö) was introduced. For the first time in Austria, it is now possible to use all public transport services / lines with just one card. The price for the Climate Ticket Austria is EUR 1,095 per year (EUR 3 per day).

Especially the railway is very popular in Austria. In the years before the Covid-19 pandemic, which resulted in travel restrictions, the number of passengers travelling by train increased steadily, from 279 million passengers in 2014 to 316 million passengers in 2019[31]. In 2021 the numbers of rail passengers started to recover and preliminary data for 2022 show a similar trend, although still below the passenger numbers from 2019.

Ordering of public services in rail passenger transport

Objective

Offering a basic service in rail passenger transport.

Responsible Body

Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK)

Description of Financing

Federal contributions to ensure a basic service in rail passenger transport. These offerings in rail passenger transport are services (or service components) whose provision is in the public interest, but where cost coverage is not possible by fare revenues alone (in most cases, ticket revenues cover only around one-third of the incurred costs). As such these services would not be offered on the market; their provision requires co-financing by the public sector.

[31] SchienenControl, Annual reports 2018 and 2021, May 2023

Beneficiaries

- Direct beneficiaries: ÖBB Personenverkehrs-AG (ÖBB PV-AG) and private railways
- Indirect beneficiaries: all rail passengers

Impact

- 2022: ordering of 75 mn rail km (pro rata)

Climate Ticket Austria (KlimaTicket)

Objective

Easy and convenient use of public transport services with an annual ticket. The ticket is available as Climate Ticket Austria (one annual ticket for all means of public transport in Austria) and as Regional Climate Ticket (annual ticket for one region).

Responsible Body

Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology

Description of Financing

The Climate Ticket is financed by financial contributions from the federal government and revenues from ticket sales.

Beneficiaries

- Direct beneficiaries: public transport providers
- Indirect beneficiaries: all holders of the Climate Ticket (regular users of public transport)

Impact

The introduction of the Climate Ticket in 2021 is to be considered as an enabling activity, as affordable and easy to use public transport services are crucial for the shift to a low carbon mobility. In 2021, there were 134,000 ticket holders of the Climate Ticket Austria (sales started on 26 October 2021) and 982,000 ticket holders of the Regional Climate Tickets.[32]

[32] The proceeds of the green securities issued in 2022 are used, among others, to cover the expenses for the Climate Ticket in the year 2021. The Climate Ticket expenses for 2022 were not assigned to the Green Securities issued in this period. Thus, this report includes only the key figures for the Climate Ticket for 2021.

5.1.3 Funding Programs for a Transition to Zero Emission Mobility

The transition to zero emission mobility is supported by several funding programs that focus on promoting e-mobility and active mobility (cycling and walking). Depending on the funding program, private individuals, companies, municipalities and associations are supported.

Objective

National funding programs aim at facilitating the transition towards a zero-emission mobility by promoting active mobility and zero emission vehicles. Moreover, transport- and energy-related research projects and measures to bring climate-friendly energy technologies to market are supported.

Description of Financing

The funding is provided as a non-repayable investment grant. Funding is available for

- Cycling: cycling infrastructure (e.g. cycling paths), bike&ride, bicycle parking facilities, signposting, related planning services
- Walking: redesign of public space for pedestrians (e.g. pedestrian zones, improvements of sidewalks), improvements in the accessibility by foot of public transport, schools or similar infrastructure, related planning services
- E-Mobility: e-vehicles, e-bikes, charging stations
- Mobility management: mobility counselling for companies and municipalities, awareness-raising campaigns

Responsible Body

Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK)

Beneficiaries

Cities, municipalities and regions, businesses, administrations, fleet operators, tourism operators, schools, youth initiatives and citizens

Impact

0.04 mn tonnes of CO_2e have been avoided by the programs. The impact has been estimated based on the reported reduced CO_2-emissions per Euro of funding.

Active Mobility

Active mobility is mainly supported by the klimaaktiv mobil funding programme. The initiative klimaaktiv mobil promotes a climate-friendly mobility transition towards active mobility, electric mobility, intelligent mobility management and innovative mobility services. The portfolio of klimaaktiv mobil includes the extensive financial support programme, consulting services and awareness raising programmes, partnerships, as well as trainings and certification initiatives.

e-Mobility

E-mobility is funded via several funding programmes – depending on the beneficiaries and the type of vehicles.

- E-vehicles Funding is available for cars (including PHEV and FCEV)[33], scooters, motorcycles and light weight vehicles. The full electric range for cars needs to be at least 50 km. Funding is limited to 50% of the environmentally relevant investment costs.
- Charging stations: Proof is required that only electricity from renewable sources is used.
- E-bikes, foldable bikes (with / without electric drive) and cargo bikes (with / without electric drive): For bikes with an electric drive, it needs to be proven that only electricity from renewable sources is used for charging and that the motor assistance is limited at 25 km/h.

Electric car at solar filling station. © Adobe Stock

[33] PHEV: plug-in electric vehicles; FCEV: fuel cell electric vehicles

5.2 Renewable energy

Pushing the use of regional and renewable energy sources as a substitute for fossil resources has been an important element of Austria's climate protection policy for considerable time. All major climate and energy policy strategies of the recent past reflect this development. The current government programme of the Austrian federal government provides for a phase-out plan of fossil energy sources in the building sector and considers in the increase of the share of renewable energy sources not only effects in the area of climate protection, but also in the increase of security of supply and domestic value added. Several programmes contribute to the increase of renewable energy utilisation.[34]

This section will be split up into three sub-sections including Biomass, Photovoltaic as well as Geothermal, heat pumps, solar thermal, power storage and other renewable energy sources.

	2021				2022			
Renewable Energy	**Allocated amount (EUR mn)**	**Annual renewable energy generation (MWh)**	**Annual energy savings (MWh)**	**Annual GHG emissions reduced/avoided (tonnes CO_2e)**	**Allocated amount (EUR mn)**	**Annual renewable energy generation (MWh)**	**Annual energy savings (MWh)**	**Annual GHG emissions reduced/avoided (tonnes CO_2e)**
Biomass	46.6	639,810	107,372	189,848	119.4	1,699,587	130,062	512,091
Photovoltaic	39.5	205,454	49,489	38,054	65.4	295,295	33,214	69,996
Geothermal	6.3	74,250	-	32,226	-	-	-	-
Heat pump	4.1	18,090	19,493	6,887	12.8	57,878	61,536	21,376
Solar thermal	2.1	7,993	4,428	2,283	4.2	7,285	4,435	2,505
Other	9.1	29,749	13,336	9,081	35.3	92,109	2,754	28,869
Total	**107.7**				**237.0**			

Table 2: Renewable energy – overview of indicators. Sums in the table may not add up due to rounding differences.
Monetary figures are related to spent public funding for renewable energy projects financed by Green Securities. Impact and performance indicators refer to the enabled effects with regard to the overall investment volumes of the supported projects. Estimates for performance/impact indicators are based on data for approved projects in the respective year.

Explanatory notes:

- Some renewable energy measures result both in renewable energy generation and in energy savings due to higher energy efficiency of the technology. Examples are biomass used for district heating and heat pumps. The programs are classified either under "Energy efficiency" or "Renewable energy" depending on the respective main purpose.
- The figures in Table 2 present the respective share of the budget that was assigned to renewable energy projects and financed by Green Securities.[35]

[34] Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology, Umweltinvestitionen des Bundes Klima- und Umweltschutzmaßnahmen 2021
[35] The analyses and the methodological approach were prepared specifically for the purpose of the Green Investor Report and cannot be applied one-to-one to other publications addressing the respective funding vehicles due to the different scope.

5.2.1 Biomass

Objective
Use of biomass as renewable energy source to substitute fossil fuels.

In Austria, 47.9% of the territory is covered by forests and more wood regrows than is used: In the last 10 years, the forest area has increased by 6 hectares per day. The harvested area is smaller and corresponds to only 89% of the regrown area.[36]

Responsible Bodies
Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK), Federal Ministry for Labour and Economy (BMAW)

Description of Financing
Under the Environmental Subsidy Act (Umweltförderungsgesetz), the Investment Bonus Act (Investitionsprämiengesetz) and the Climate and Energy Fund Act (Klima- und Energiefondsgesetz), capital expenditures are subsidised. Supported activities include:

- Individual biomass heating systems in buildings
- Utilisation of heat from biomass in district heating or micro grids: installation of biomass firing systems and connection of additional buildings to the heat grid
- Combined heat and power generation from biomass
- Energy generation from biogenic waste

Beneficiaries
Individuals, companies

Environmental Impact
Reduction of fossil fuels, especially in heating, resulting in reduced/avoided CO_2e emissions

[36] Federal Ministry for Agriculture, Forestry, Regions and Water Management, Austrian National Forest Inventory shows increase in broadleaf and mixed forests and biodiversity

5.2.2 Photovoltaic

Objective
Renewable power generation by photovoltaics

Responsible Bodies
Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK), Federal Ministry of Finance (BMF)

Description of Financing
Under the Environmental Subsidy Act (Umweltförderungsgesetz), the Municipal Investment Act (Kommunalinvestitionsgesetz) and the Climate and Energy Fund Act (Klima- und Energiefondsgesetz) capital expenditures are subsidised. Supported activities include:

- Installation of photovoltaic (PV) systems at small and large scale
- "Lighthouse projects": projects with innovative PV application
- Climate and energy model regions to promote the cooperation of municipalities concerning use of natural resources, energy saving potentials and sustainable economy

Beneficiaries
Individuals, companies, municipalities, farms

Environmental Impact
Renewable power generation, resulting in reduced/avoided CO_2e emissions

5.2.3 Geothermal, heat pumps, solar thermal, power storage and other renewable energy technologies

Objective

Use of further renewable energy sources to substitute fossil fuels by installation of additional capacity. Facilitation of renewable power and heat use by providing power storage and heat grid infrastructure.

Responsible Bodies

Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK), Federal Ministry for Labour and Economy (BMAW)

Description of Financing:

Under the Environmental Subsidy Act (Umweltförderungsgesetz), the Investment Bonus Act (Investitionsprämiengesetz) and the Climate and Energy Fund Act (Klima- und Energiefondsgesetz) capital expenditures are subsidised. Supported activities include:

- Installation of geothermal heating systems and heat pumps
- Large-scale and individual housing solar thermal systems
- Generation of process energy from renewable sources
- Use of solar thermal systems in climate and energy model regions
- Power storage systems
- Innovative heat network design
- Heat grids for transport and heat grids for distribution of residual heat from companies
- Hydrogen produced by power from renewable sources and other renewable gases, e.g. biomethane
- Production of biogenic fuels
- Mixed renewables programs which cannot be attributed to a single sub-category

Beneficiaries

Individuals, companies

Environmental Impact

Renewable heat generation, switch to renewable energy supply in energy-intensive industry, power storage, use of residual heat from companies, resulting in reduced/avoided CO_2e emissions

Solar panels on a roof top © Adobe Stock

5.3 Energy efficiency

Programs for energy saving measures in production processes and other energy efficiency measures in businesses, the reuse of residual heat in and from companies, building renovation, energy efficient heating systems and lighting are the focus areas of energy efficiency spending. The target groups are companies, municipalities, residential buildings owners, and for some programmes also associations and confessional institutions.

	2021			
Energy Efficiency	**Allocated amount (EUR mn)**	**Annual renewable energy generation (MWh)**	**Annual energy savings (MWh)**	**Annual GHG emissions reduced/avoided (tonnes CO_2e)**
Processes	32.3	-	376,625	101,372
Heat reuse	14.7	10,770	119,249	36,104
Lighting	15.9	-	75,094	17,344
Building renovation	21.3	889	26,647	7,515
New buildings	5.1	-	5,205	1,433
Cooling	6.2	-	107,636	27,347
Total	**95.4**			

Table 3: Energy efficiency – overview of indicators. Sums in the table may not add up due to rounding differences.
Monetary figures are related to spent public funding contributing to energy efficiency and financed by Green Securities. Impact and performance indicators refer to the enabled effects with regard to the overall investment volumes of the supported projects and infrastructures. Estimates for performance/impact indicators are based on data for approved projects in the respective year.

Explanatory notes:

- Some energy efficiency measures result both in energy savings and in renewable energy generation. This is the case when the new system with higher energy efficiency is based on renewables instead of fossil fuels. Examples are new heating systems in buildings, or reuse of heat generated from renewable sources. The programs are classified either under “Energy efficiency” or “Renewable energy” depending on the respective main purpose.
- The figures in table 3 present the respective share of the budget that was assigned to energy efficiency projects and financed by Green Securities.[37]

[37] The analyses and the methodological approach were prepared specifically for the purpose of the Green Investor Report and cannot be applied one-to-one to other publications addressing the respective funding vehicles due to the different scope.

5.3.1 Processes

Objective
Implementation of energy efficiency measures in production processes

Responsible Bodies
Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK)

Description of Financing
Under the Environmental Subsidy Act (Umweltförderungsgesetz) capital expenditures are subsidised. Supported activities include:

- Heat recovery from refrigeration systems and from ventilation systems with a heat exchanger or recirculation systems.
- Heat recovery or utilisation of previously unused heat flows as well as heat pumps for tapping low-temperature waste heat
- Optimising heating systems in existing buildings
- Optimisation of fossil process heat generators (if conversion to renewable energy sources is not possible)
- Efficiency improvements in industrial processes and plants with a significant technological and ecological improvement compared to the existing plant

Beneficiaries
Companies

Environmental Impact
Reduction of energy consumption for production, resulting in reduced/avoided CO_2e emissions

5.3.2 Heat reuse

Objective
Utilisation of otherwise unused waste heat, externally e.g. for district heating or internally in the company

Responsible Bodies
Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK), Federal Ministry of Labour and Economy (BMAW)

Description of Financing
Under the Environmental Subsidy Act (Umweltförderungsgesetz) and Investment Bonus Act (Investitionsprämien), capital expenditures are subsidised. Supported activities include:

- Heat extraction from industrial and commercial processes, feed-in to distribution networks and installation of internal distribution networks for waste heat utilisation
- Efficient energy centres for the internal supply of heat and cooling that contain a combination of particularly innovative and energy-efficient measures

Beneficiaries
Companies

Environmental Impact
Reduction of energy consumption, resulting in reduced/avoided CO_2e emissions

5.3.3 Lighting

Objective
Switch to energy efficient lighting systems indoors and outdoors

Responsible Bodies
Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK), Federal Ministry of Finance (BMF)

Description of Financing
Under the Environmental Subsidy Act (Umweltförderungsgesetz) and the Municipal Investment Act (Kommunalinvestitionsgesetz), subsidies for capital expenditure are provided for lighting optimisation, in particular by switching to LED systems, of:

- street and outdoor lighting installations
- outdoor sports facilities (floodlighting systems)
- indoor lighting

Beneficiaries
Companies, municipalities, associations and confessional institutions

Environmental Impact
Reduction of power consumption, resulting in reduced/avoided CO_2e emissions

5.3.4 Building renovation

Objective
Reduction of energy consumption, especially for heating, by renovation of buildings

Responsible Body
Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK), Federal Ministry of Finance (BMF)

Description of Financing
Under the Environmental Subsidy Act (Umweltförderungsgesetz), the Municipal Investment Act (Kommunalinvestitionsgesetz) and the Climate and Energy Fund Act (Klima- und Energiefondsgesetz), capital expenditures are subsidised. Supported activities include:

- Building renovation to improve energy performance
- Exemplary renovation projects demonstrating best practice

Beneficiaries
Individuals, companies, municipalities, associations and confessional institutions

Environmental Impact
Reduction of energy consumption in buildings, including housing, resulting in reduced/avoided CO_2e emissions

5.3.5 New buildings

Objective
Improve energy performance of new commercial buildings

Responsible Body
Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology

Description of Financing
Under the Environmental Subsidy Act (Umweltförderungsgesetz) capital expenditures are subsidised. Supported activities include new construction of buildings used predominantly for business purposes in energy-efficient design that have significantly better energy performance than the legal requirement (legal implementation of the Austrian OIB guideline[38])

[38] Austrian Institute of Construction Engineering (Österreichisches Institut für Bautechnik – OIB), Guideline 6 on Energy savings and thermal insulation

Beneficiaries
Companies

Environmental Impact
Reduction of energy consumption in buildings, resulting in reduced/avoided CO_2e emissions

5.3.6 Cooling

Objective
Use of energy-efficient systems for air-conditioning and for process cooling

Responsible Body
Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK)

Description of Financing
Under the Environmental Subsidy Act (Umweltförderungsgesetz) capital expenditures are subsidised. Supported activities include:

- Air-conditioning of buildings used for business purposes and systems for the provision of process cooling:
  - Adsorption and absorption chillers with drive energy from renewable energy sources (e.g. biomass, solar thermal energy) or from industrial waste heat
  - Free cooling systems (e.g. based on groundwater, river water or well water)
- Process cooling depending on the refrigerant used:
  - Use of alternative/natural refrigerants (e.g. CO_2, ammonia, propane) as well as refrigerants with a Global Warming Potential (GWP) of less than 150 in (new) procurement and optimisation

Beneficiaries
Companies, associations and confessional institutions

Environmental Impact
Reduction of energy consumption for cooling, resulting in reduced/avoided CO_2e emissions

Solar panels and air conditioning © Adobe Stock

5.4 Terrestrial and aquatic biodiversity

Biodiversity is the vital component of functioning ecosystems and thereby the services these ecosystems provide for us, like clean water, clean air and pollination of many of our food crops. Like in most other places globally, the status of biodiversity in Austria is not of a sufficient quality. Therefore, targeted funding of measures that conserve species and landscapes and contribute to sustainable land-use are of high importance. With the Austrian Agri-environmental program, the funding of the Austrian National Parks, and targeted research projects, public spending is directed towards such productive use.

This section will be split up into three sub-sections including the Austrian Agri-environmental program, Austrian National Parks, as well as project finance and R&D.

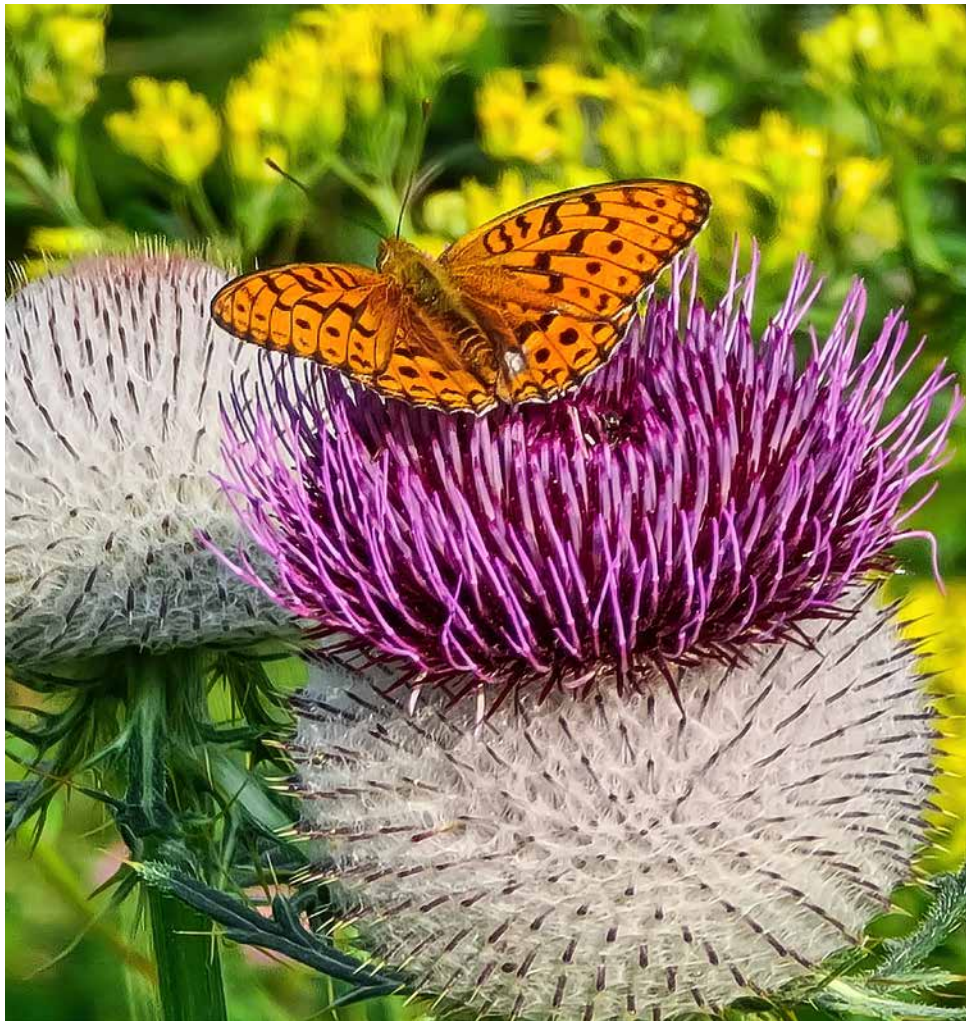
	2021						2022					
Terrestrial and aquatic biodiversity	**Allocated amount (EUR mn)**	**# of farms that received funding**	**% of total farms in Austria**	**Area funded (ha)**	**% of total agricultural land**	**# of projects supported**	**Allocated amount (EUR mn)**	**# of farms that received funding**	**% of total farms in Austria**	**Area funded (ha)**	**% of total agricultural land**	**# of projects supported**
Austrian Agri-environmental program	118.2	87,322	80.9	1,770,594	69.3	-	115.3	85,551	79.9	1,758,113	68.9	-
Environmentally sound and biodiversity promoting management	16.3	45,953	42.6	1,015,055	39.7	-	16.4	45,286	42.3	1,013,976	39.8	-
Nature protection	9.9	17,800	16.5	75,606	3.0	-	9.8	17,337	3.0	74,745	2.9	-
Organic/biological farming	33.3	23,053	21.3	504,048	19.7	-	34.4	22,840	21.3	522,582	20.5	-
Overall biodiversity-relevant area on agricultural land	-	-	-	151,664	5.9	-	-	-	-	148,892	5.8	-
Austrian National Parks	11.4	-	-	239,100		-	12.2	-	-	239,100	-	-
Project finance and R&D for Terrestrial and aquatic biodiversity	1.5	-	-	-	-	208	3.7	-	-	-	-	291
Total	**131.1**						**131.2**					

Table 4: Terrestrial and aquatic biodiversity – overview of indicators.[39]

[39] The number of farms and size of area shown represent 100% of the beneficiaries of the programs, whereas federal funding accounts for approximately 26% of total funding.
Only selected measures of the Austrian Agri-environmental programme are shown. Allocated amounts, beneficiaries and therefore number of farms and size of area overlap between these measures. Summing up the sub-categories is therefore not possible.

Explanatory notes:

- The Austrian Agri-environmental programme was assigned to project category “Terrestrial and aquatic biodiversity” as it contains measures that have a quantifiable positive impact on species diversity. The programme also contributes positively to environmentally sustainable management of living natural resources and land use.
- The Project categories “Environmentally sustainable management of living natural resources and land use” and “Terrestrial and aquatic biodiversity” are overlapping to a certain degree as it is possible for a single farm to partake in the Austrian Agri-environmental program as well as in the Austrian compensatory allowance for less-favoured areas at the same time. The descriptions of the impact in the text of chapters 5.4 and 5.5. refer explicitly to the respective measure of the Agri-environmental program or in case of the compensatory allowance to the program as a whole.
- The Austrian compensatory allowance for less-favoured areas was assigned to project category “Environmentally sustainable management of living natural resources and land use” as it is foremost a measure to support ongoing cultivation of challenging terrains across Austria. The programme also contributes positively to the preservation of biodiversity.
- Funding of the Austrian Biodiversity Strategy and Biodiversity Fund was included in category “Environmentally sustainable management of living natural resources and land use”.



Butterfly pollinating a thistle flower on an alpine meadow in the Karawanks in Carinthia.
© Adobe Stock

5.4.1 Austrian Agri-environmental program

Objective

The Austrian Agri-environmental Programme (ÖPUL) is one of the main funding sources on the federal level to support environmentally sound agriculture practices.

Responsible bodies

Federal Ministry of Agriculture, Forestry, Regions and Water Management (BML)

Description of financing

The ÖPUL programme 2014-20, which was extended to the years 2021 and 2022 includes 24 categories of fundable measures. Federal funding accounts for about 26% of the total budget for the program[40]. In the following, the focus is set on three measures that have a significant positive impact on agrobiodiversity: 1. Environmentally sound and biodiversity promoting management; 2. Nature protection; and 3. Ongoing organic/biological farming.

Beneficiaries

Austrian agricultural sector

Environmental impact[41] [42]

The number of participating farms and the area funded can overlap between the different measures, adding up the numbers to a total amount is therefore not meaningful.

The different measures generate additional positive impacts with respect to water protection, soil health, mitigation of climate change and animal welfare.

Environmentally sound and biodiversity promoting management

To be eligible for receiving funding under this measure the applicant must fulfil the following criteria:

- Conservation and nature-friendly use of landscape elements
- Obligation to maintain the extent of grassland
- Ensuring diversity of planted cultures
- Creating biodiversity areas on cultivated land and grassland
- Taking part in further education on environmental topics

The impact on local biodiversity of this measure is mostly driven through smaller plot sizes on participating farms in relation to non-participating farms, the enhanced conservation of landscape elements as well as the obligatory creation of biodiversity areas on 5% of the total area of cultivated land and grassland. For upholding plant diversity, the required delay of mowing and the extensive use of grasslands are especially relevant.

In terms of bird diversity, biodiversity areas and fallows on cultivated land have a positive impact on the farmland bird index[43]. This was shown for example in the monitoring of the Great Gray Shrike (Lanius excubitor), a top indicator species for diverse cultural landscapes threatened with local extinction, showing a higher degree of breeding on cultivated land with larger extent of biodiversity areas.

Concerning the monitoring of grasshoppers and butterflies, especially fallows show a significant impact on diversity with 3 to 4 times more species than on reference plots of agricultural land. The conservation of landscape elements also has a significant positive impact on species diversity in those two taxa. Furthermore, the delay of mowing of grassland for 8 to 10 weeks shows positive impacts.

[40] Further funding that is not eligible under the Green Framework is provided by the federal provinces as well as the EU.
[41] The following descriptions of the impact for the different measures are based on the results of the overall evaluation of the ÖPUL-programme from the year 2019 (with the exemption of number of farms and total area funded), as it contains the most recent available data. An updated evaluation of the programme and the accompanying measures can be expected in 2025/26.
[42] Reductions in indicator values (number of farms, size of area) for 2022 compared to 2021 can be explained with the change to the new programme period 2023-27, whereas some funding commitments ended within the years 2021 and 2022 and can only be updated once the new programme period has started.
[43] Birdlife Austria, Monitoring der Brutvögel Österreichs (only available in German)

Nature protection

To be eligible for receiving funding under this measure the applicant must fulfil the following criteria:

- Participation in one of the measures: "Environmentally sound and biodiversity promoting management" or "Organic/biological farming"
- Project confirmation from the competent nature protection authority on the state level, including a conservation plan

"Nature protection" has significant positive impacts on biodiversity. Typical nature conservation farmland areas are extensively used grassland like dry meadows, wetland meadows, mountain meadows, orchard meadows with fruit trees as valuable landscape elements, or fallow arable land. As part of the "nature conservation" measure farmers get paid for additional work and costs and/or reduced yields due to project obligations for the extensive management. Especially the higher degree in connectivity between plots under the measure, as well as the higher share of area under extensive use, is leading to much higher shares of plots classified as "high nature value farmland"[44] (of around 60% in comparison to 10% in areas not participating in the measure).

In terms of animal diversity (birds, grasshoppers & butterflies), the picture is more diversified. Effects are present in regions with high share of areas under the measure "Nature protection". In grasslands, the measure can mitigate the loss of bird species. Farmland areas that have breeding grounds of the above mentioned Great Gray Shrike fall under the measure "Nature protection" with a mean coverage of 31.1% of area, compared to 9.1% in regions were the bird was not breeding.

Owing to the geographical specificity of the measure "Nature protection" it shows the highest degree of diversity of grasshoppers and butterfly species important for conservation compared to all other measures in the Agri-environmental program.

Organic/biological farming

To be eligible for receiving funding under this measure the applicant must fulfil the following criteria:

- Fulfilment of EU and national regulation on organic production
- Certification as an organic farm from the competent local authority
- Conservation and nature-friendly use of landscape elements
- Obligation to maintain the extent of grassland

The impact of this measure, which in certain parts overlaps with the measure "Environmentally sound and biodiversity promoting management", is driven by a higher usage-diversity of cultivated areas (i.e. for the cultivation of different plant species, rare plant species or threatened livestock breeds) and more conserved landscape elements compared to areas not covered by the measure. In addition, the renouncement of chemical-synthetic fertilisers and plant protection products leads to a higher biodiversity especially on arable land. Higher amounts of extensively used grassland under the measure support diversity of cultivated plant species. A positive impact on diversity of soil species seems plausible.

Additional the positive impacts of this measure are predominantly found in the categories water protection, soil health, mitigation of climate change and animal welfare. Prohibited use of chemical/synthetic pesticides and mineral fertilisers has positive impacts on ground water and reduces GHG emissions.

Overall biodiversity-relevant area on agricultural land

Measures that are aligned to the specific regional conditions have the highest potential in conserving and promoting farmland biodiversity. Adding up areas that fall under specific sub-measures of the measures reported above presents a more complete picture of the actual biodiversity-relevant area on agricultural land across Austria. 95% of the areas subsumed under this category come from the measure "Nature protection" and from the obligatory biodiversity areas that are part of the measure "Environmentally sound and biodiversity promoting management"[45].

[44] European Environment Agency, High nature value (HNV) farmland, May 2022

[45] The remaining 5% of the ecologically valuable agricultural land consists of set aside areas to fulfill the "greening payment requirements" of pillar 1 (ecological focus areas), which are not covered by the Green Framework.

5.4.2 Austrian National Parks

Objective

The six Austrian national parks as places of outstanding biological diversity are natural jewels and thus part of the Austrian identity. Together they cover a total area of 239,100 hectares. A national park strategy was adopted to ensure their coordinated further development.

Responsible Bodies

Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK)

Description of financing

The Austrian national parks are financed 50% each by the respective federal provinces and the federal government. This participation system is the solid basis for the positive development of the Austrian national parks.

Beneficiaries

Austrian national parks

Environmental impact

The focal points are to increase options for development with no influence from humans in accordance with the IUCN specifications[46], the conservation of biodiversity, research and monitoring, education, the use of synergies between the national parks and the professional presentation to the outside world under the brand „National Parks Austria".

5.4.3 Project finance and R&D for Terrestrial and aquatic biodiversity

The projects funded include i.e.

- the development of remote monitoring systems & digital innovations in biodiversity protection
- investment in creation of new or redesign of existing biodiversity or insect-friendly green areas on company premises and farms, investments in biodiversity-promoting green facades and roofs and investments in biodiversity-promoting renaturation and return to green areas of abandoned industrial and commercial sites, in particular the unsealing of sealed surfaces.

Along the untamed waters of the Enns in the Gesäuse National Park are some of the last breeding areas for the common sandpiper in Central Europe. © Nationalpark Gesäuse/Khil

[46] International Union for Conservation of Nature provides various resources like guidelines and tools on the management of protected areas

5.5 Environmentally sustainable management of living natural resources and land use

Public funding of cultural landscapes that preserve ways of farming in the mountainous regions of Austria is not only important to uphold cultural practices and ways of life that have existed for centuries, it also helps to maintain diverse habitats for plants and animals. Also, in other areas Austria is active in ensuring the best possible management of living natural resources. In this regard for example a comprehensive circular economy strategy was passed by the government at the end of 2022. Many more initiatives can be expected to result out of this strategy, which encompasses around 600 detailed measures, over the coming years.

This section will be split up into three sub-sections including the Austrian compensatory allowance for less-favoured areas, the Austrian Biodiversity Strategy and Biodiversity Fund as well as information on project finance and R&D.

	2021						2022					
Environmentally sustainable management of living natural resources and land use	**Allocated amount (EUR mn)**	**# of farms that received funding**	**% of total farms in Austria**	**Area funded (ha)**	**% of total agricultural land in Austria**	**Number of projects supported**	**Allocated amount (EUR mn)**	**# of farms that received funding**	**% of total farms in Austria**	**Area funded (ha)**	**% of total agricultural land in Austria**	**Number of projects supported**
Austrian compensatory allowance for less-favored areas	69.2	79,215	73.4	1,446,026	56.6		66.8	78,525	73.3	1,442,303	56.6	
Project finance and R&D for Environmentally sustainable management of living natural resources and land use	12.0					36	4.0					21
Other (incl. Circular Economy, Digitalisation, Green Chemistry, Austrian Biodiversity Strategy and Biodiversity Fund, etc)	21.5						26.5					
Total	**102.7**						**97.3**					

Table 5: Environmentally sustainable management of living natural resources and land use – overview of indicators.[47]

[47] The number of farms and size of area shown represent 100% of the beneficiaries of the programs, whereas federal funding accounts for approximately 26% of total funding.

Explanatory notes:

- The Austrian Agri-environmental programme was assigned to project category "Terrestrial and aquatic biodiversity" as it contains measures that have a quantifiable positive impact on species diversity. The programme also contributes positively to environmentally sustainable management of living natural resources and land use.
- The Project categories "Environmentally sustainable management of living natural resources and land use" and "Terrestrial and aquatic biodiversity" are overlapping to a certain degree as it is possible for a single farm to partake in the Austrian Agri-environmental program as well as in the Austrian compensatory allowance for less-favoured areas at the same time. The descriptions of the impact in the text of chapters 5.4 and 5.5. refer explicitly to the respective measure of the Agri-environmental program or in case of the compensatory allowance to the program as a whole.
- The Austrian compensatory allowance for less-favoured areas was assigned to project category "Environmentally sustainable management of living natural resources and land use" as it is foremost a measure to support ongoing cultivation of challenging terrains across Austria. The programme also contributes positively to the preservation of biodiversity.
- In the last few years, the Austrian government has launched several landmark initiatives (e.g. Biodiversity Strategy, Biodiversity Fund, Green Chemistry, Circular Economy Strategy) aimed at making a substantial contribution to the environmentally sustainable management of living natural resources. Due to the piloting character of these initiatives, quantitative impact and performance indicators can only be provided at a later stage. Qualitative information on the Austrian Biodiversity Strategy and Fund is provided in chapter 5.5.2.

5.5.1 Austrian compensatory allowance for less-favoured areas

Objective

The compensatory allowance for less-favoured areas ("Ausgleichszulage" or "AZ") supports the continued management of agricultural land in such regions, mostly situated in mountainous areas. As the intervention aims at maintaining the management of marginal agricultural revenues it forms an important basis for the diverse, species-rich cultural landscape in the montane zone with its high proportion of "high nature value farmland".

Responsible bodies

Federal Ministry of Agriculture, Forestry, Regions and Water Management (BML)

Description of financing

The programme has been equipped with EUR 69.2 mn and EUR 66.8 mn in the years 2021 and 2022 respectively in federal funding, which in turn amounts to about 26% of the total budget for the program[48].

Beneficiaries

Austrian farms located in less-favoured areas

Environmental Impact

Around 72% of the farms that receive funding via this measure are located in mountainous regions where extensive use of cultivated land and grassland is gaining more weight in parallel with challenging geographical conditions. Funding to secure the continuous management of those areas is especially relevant as they show the highest degrees of "high nature value farmland"[49], adding up to 30.2% of the total area.

[48] Further funding that is not eligible under the Green Framework is provided by the federal provinces as well as the EU.
[49] European Environment Agency, High nature value (HNV) farmland, May 2022

Cultivated grassland in mountainous regions is comprised of unique ecosystems that contain various ecological niches for plant and animal species. At the same time these culture landscape fall out of use frequently due to their lower productive capacities. The discontinued usage of these grasslands can lead to a loss of plant diversity of around 10%. Also, in terms of grasshopper and butterfly diversity, cultivated grasslands in mountainous regions show higher species diversity than uncultivated ones.

5.5.2 Austrian Biodiversity Strategy and Biodiversity Fund

The Biodiversity Strategy Austria 2030+ defines „biodiversity" as a common task and formulates over 300 concrete measures.[50] It takes up the objectives and measures for the conservation of biodiversity formulated by the European Union and at international level. A ten-point programme provides national quantitative and qualitative targets and the necessary preconditions for the conservation of biodiversity in all habitats in Austria. The industry sectors relevant to biodiversity are addressed as well as the necessary framework conditions. These targets and the corresponding measures are aimed at protecting biodiversity in Austria, actively addressing the threats and thus preventing further losses, and also creating the appropriate framework conditions to achieve the formulated goals. The implementation of the Biodiversity Strategy Austria 2030+ is also intended to contribute to a comprehensive transformative change in the society.

The Biodiversity Fund created by the Austrian Federal Government will help to support the implementation of the Biodiversity Strategy Austria 2030+ in addition to the measures within the framework of the Common Agricultural Policy of the European Union and the Forest Fund, as well as the funding to improve the ecological status of water bodies. Biodiversity and investments in the protection and restoration of diversity in nature will make an important contribution. The loss of biodiversity has dramatic consequences for the economy and society. The cost of non-implementation of EU legislation relevant to nature alone is estimated at EUR 50 bn per year across EU countries.

[50] Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology, Biodiversitäts-Strategie Österreich 2030+ , November 2022

The Biodiversity Fund has been in place since mid-2021. Fourteen projects in total have been funded up to 2022. These include for example monitoring projects of wild bees, butterflies, bats and sea eagles, conservation strategies for wetlands in Austria and programs to involve the youth in biodiversity conservation.

5.5.3 Project finance and R&D for environmentally sustainable management of living natural resources and land use

The projects funded include i.e. automatisation in the agricultural sector (implementation of new information systems, remote monitoring systems, etc.), innovations in biotechnology and food production and sustainable development (indicator development, etc.).

Bee on a mergerite © Adobe Stock

5.6 Sustainable water and wastewater management

The sustainable safeguarding of the valuable resource of water is one of the core tasks of the Austrian government. The Federal Ministry of Agriculture, Forestry, Regions and Water Management has set the framework conditions for the protection of water, in particular for drinking water supply, for a resource-saving utilisation and infrastructure for wastewater treatment and sewerage as well as for the ecological restoration of aquatic habitats. Austria has sufficient drinking water of excellent quality. The daily per capita consumption of drinking water by Austrian households is less than 130 litres.[51] The total demand for drinking water is covered from ground water and spring water. Austria has also taken enormous efforts for decades in order to encourage citizens and industry to use this precious resource carefully and has invested considerably, with an amount of EUR 15.6 bn[52], in drinking water supply infrastructures.[53] As of December 2022, about 93% of the population profit from one of the more than 5,500 central drinking water suppliers.[54,55] Moreover, Austria has invested more than EUR 51.6 bn[56] in the areas of municipal waste water management and water ecology, thus making a significant contribution to the sustainable use of water resources and to the objectives of the EU Water Framework Directive.

This section will be split up into three sub-sections including the drinking water supply, waste water treatment and sewerage, and water ecology.

	2021									
Sustainable water and wastewater management	**Allocated amount (EUR mn)**	**# of inhabitants additionally connected to water supply***	**Constructed water pipelines (km)**	**Renovated water pipelines (km)**	**New volume of water reservoirs (m^3)**	**# of Inhabitants additionally connected to wastewater treatment plants***	**Constructed wastewater sewers (km)**	**Renovated wastewater sewers (km)**	**# of transverse structures made passable for fish**	**River courses morphologically improved and renaturalised (km)**
Drinking water supply	46.4	27,677	382	225	11,071	-	-	-	-	-
Waste water treatment and sewerage	276.8	-	-	-	-	126,535	1,790	735	-	-
Water ecology	7.4	-	-	-	-	-	-	-	31	11
Total	**330.6**									

* incl. individual installations

Table 6: Sustainable water and wastewater management – overview of indicators.

Monetary figures are related to spent public funding assigned to sustainable water projects and financed by Green Securities. Impact and performance indicators refer to the enabled effects with regard to the overall investment volumes of the supported projects. Estimates for performance/impact indicators are based on data for approved projects in the respective year.

[51] Federal Ministry for Agriculture, Forestry, Regions and Water Management, Facts and Figures 2022
[52] Investments in drinking water supply infrastructures since 1959, valorised to the current price level according to the construction price index.
[53] Federal Ministry for Agriculture, Forestry, Regions and Water Management, Public sewer and water pipeline inventory (only available in German)
[54] Federal Ministry for Agriculture, Forestry, Regions and Water Management, Precautionary plan for a safe drinking water supply in times of drought (only available in German)
[55] Federal Ministry for Agriculture, Forestry, Regions and Water Management, Facts and Figures 2022
[56] Investments in municipal waste water management and water ecology since 1959, valorised to the current price level according to the construction price index.

Explanatory notes:
The figures in table 6 present the respective share of the budget that was assigned to sustainable water projects and financed by Green Securities.[57]

Fresh spring water in the Alps of Austria © Adobe Stock

[57] Performance and impact indicators are calculated on the basis of data available for projects approved in the years covered by the reporting. Based on this, the performance and impact figures are extrapolated for expenses related to comparable types of projects and infrastructures. The analyses and the methodological approach were prepared specifically for the purpose of the Green Investor Report and cannot be applied one-to-one to other publications addressing the respective funding vehicles due to the different scope.

5.6.1 Drinking water supply

Objective
The aim of the funding of measures for water protection and water supply is the sustainable use of surface and underground water and to supply the population with safe drinking water. In this context, the careful use of water as a valuable resource has to be ensured and the volume of wastewater has to be limited to an unavoidable extent. Moreover, interference with the natural water balance has to be minimised and water supply facilities have to be operated in an energy-saving and resource-efficient manner.

Responsible Bodies
Federal Ministry of Agriculture, Forestry, Regions and Water Management (BML), Federal Ministry of Finance (BMF)

Description of Financing
According to the Environmental Subsidy Act (Umweltförderungsgesetz) and the Municipal Investment Act (Kommunalinvestitionsgesetz), capital expenditures are subsidised. Supported activities include, among others,

- construction/renovation of water supply facilities or emergency water supply facilities,
- measures of inter-municipal cooperation in the field of water supply that lead to efficiency improvements,
- the creation of a digital pipe information system for water supply or wastewater discharge facilities with leakage control and
- measures to reduce greenhouse gas emissions from water supply facilities.

Beneficiaries
The funding is primarily addressed to municipalities, water cooperatives, municipal companies, associations and cooperation of municipalities. In addition, private individuals and legal entities can receive subsidies for individual plants or for house connection pipes.

Environmental Impact

The effect of the funding is presented by the following indicators:

- Number of inhabitants additionally connected to water supply (incl. individual installations)
- Length of constructed public water pipelines (kilometres)
- Length of renovated public water pipelines (kilometres)
- New volume of water reservoirs (cubic metres)

5.6.2 Waste water treatment and sewerage

Objective

The aim of the funding of measures for wastewater disposal, sludge treatment and sewerage is, in particular, to protect surface and ground water from contamination as well as to minimise environmental impacts on air or soil. The pollution of wastewater with ingredients that are not biologically degradable or are only degradable with difficulty shall be minimised. Production wastewater has to be avoided as far as possible, recycled internally or pre-treated. An energy-saving and resource-efficient operation of the wastewater disposal or sludge treatment facilities has to be ensured.

Responsible Bodies

Federal Ministry of Agriculture, Forestry, Regions and Water Management (BML), Federal Ministry of Finance (BMF)

Description of Financing

According to the Environmental Subsidy Act (Umweltförderungsgesetz) and the Municipal Investment Act (Kommunalinvestitionsgesetz), capital expenditures are subsidised. Supported activities include, among others,

- the construction or renovation of wastewater disposal facilities,
- the construction or renovation of specific sludge treatment equipment,
- environmental investments in local stormwater management measures,
- measures of inter-municipal cooperation in the field of wastewater disposal, or sludge treatment that lead to efficiency improvements,
- measures for the implementation of circular wastewater systems,
- construction of operational buildings for wastewater treatment plants,
- the creation of a digital pipe information system for wastewater discharge facilities with leakage
- and condition control and measures to reduce greenhouse gas emissions from waste water disposal or sludge treatment facilities.

The aim of the funding is to achieve the greatest possible effect on water protection and the conservation of water resources.

Beneficiaries

The funding is primarily addressed to municipalities, wastewater cooperatives, municipal companies and cooperation of municipalities. In addition, private individuals and legal entities can receive subsidies for individual plants or for house connection pipes.

Environmental Impact

The effect of the funding is presented by the following indicators:

- Number of inhabitants additionally connected to waste water treatment plants incl. individual plants
- Length of constructed wastewater sewers (kilometres)
- Length of renovated wastewater sewers (kilometres)

5.6.3 Water ecology

Objective

The objective of funding measures to improve the ecological status of waters pursuant to Article 17a of the Austrian Environmental Subsidy Act (Umweltförderungsgesetz) is to reduce hydro-morphological pressures in order to achieve the environmental objectives for water bodies stipulated in the Austrian Water Act 1959 (as amended) and in the EU Water Framework Directive.

Responsible Body

Federal Ministry of Agriculture, Forestry, Regions and Water Management (BML)

Description of Financing

According to the Environmental Subsidy Act (Umweltförderungsgesetz), capital expenditures for measures contributing to the improvement of the ecological status of water bodies are subsidised. The supported activities include, among others, measures

- to improve river continuity and fish passability,
- for the restructuring of morphologically modified river stretches,
- to mitigate the impacts of backwater, discharges and hydropeaking
- and basic concepts, investigations, studies, general planning, awareness raising and expert opinions, in connection with the physical measures.

Beneficiaries

The funding in the field of water ecology is addressed to municipalities, associations of municipalities and enterprises.

Environmental Impact

The effect of the funding is presented by the following indicators:

- Number of transverse structures made passable for fish
- River courses morphologically improved and re-naturalised (kilometres)

Stickleback in a natural lake (Frauensee) © Adobe Stock

5.7 Pollution prevention and control

While public expenses assigned to the category pollution prevention and control generally cover a wide range of activities, including, among others, remediation, circular economy, waste prevention, reduction, recycling and sustainable waste management as well as measures supporting the reduction of greenhouse gas and air emissions, the impact reporting focusses on the remediation of contaminated sites. As of January 1, 2023, 2,808 sites are under investigation, 341 severely contaminated sites are known, 189 of which have been remediated, and remediation measures are ongoing for another 51 contaminated sites. In general, up to 15% of the available funds can be used for site investigation, complementary at least 85% of the available funds are used for remediating contaminated sites.

	2021									
Pollution prevention and control	**Allocated amount (EUR mn)**	**Contaminated soil or landfill bodies remediated (mn m^3)**	**Contaminated area remediated [m^2]**	**Heavily contaminated soil or landfill body excavated and subsequently treated (m^3)**	**Sealing wall for encapsulating sources of pollution in the soil/ groundwater (m^2)**	**Surface sealing for encapsulating sources of pollution in the soil/ groundwater (m^2)**	**Contaminated groundwater or landfill leachate pumped out and purified (mn m^3 / yr)**	**Landfill gas or contaminated soil air extracted and treated (mn m^3 / yr)**	**Number of preliminary assessments**	**Number of risk assessments**
Remediation of contaminated sites - Funding according to the Environmental Subsidy Act	18.0	7.5	2,700,000	10,000	3,000	2,300	6.7	4.6	-	-
Remediation of contaminated sites: Initial & supplementary investigations, analysis, risk assessment, enforcement and processing	9.1	-	-	-	-	-	-	-	2,982	81
Total	**27.1**									

	2022									
Pollution prevention and control	**Allocated amount (EUR mn)**	**Contaminated soil or landfill bodies remediated (mn m^3)**	**Contaminated area remediated [m^2]**	**Heavily contaminated soil or landfill body excavated and subsequently treated (m^3)**	**Sealing wall for encapsulating sources of pollution in the soil/groundwater (m^2)**	**Surface sealing for encapsulating sources of pollution in the soil/groundwater (m^2)**	**Contaminated groundwater or landfill leachate pumped out and purified (mn m^3 / yr)**	**Landfill gas or contaminated soil air extracted and treated (mn m^3 / yr)**	**Number of preliminary assessments**	**Number of risk assessments**
Remediation of contaminated sites - Funding according to the Environmental Subsidy Act	21.9	4.5	700,000	130,000	80,000	40,000	1.8	1.6	-	-
Remediation of contaminated sites: Initial & supplementary investigations, analysis, risk assessment, enforcement and processing	6.4	-	-	-	-	-	-	-	2,261	106
Total	**28.4**									

Table 7: Pollution prevention and control – overview of indicators.

Monetary figures are related to spent public funding assigned to projects contributing to the objective of pollution prevention and control and financed by Green Securities. Impact and performance indicators refer to the enabled effects with regard to the overall investment volumes of the supported projects.

Explanatory notes:

The figures in table 7 present the respective share of the budget that was assigned to pollution prevention and control projects and financed by Green Securities.[58]

[58] The analyses and the methodological approach were prepared specifically for the purpose of the Green Investor Report and cannot be applied one-to-one to other publications addressing the respective funding vehicles due to the different scope

5.7.1 Remediation of contaminated sites

Objective

The management of contaminated sites aims to reduce the risks and the impacts of historical contamination for the environment and human health. The objective of the funding is achieving the greatest possible ecological benefit at economically justifiable costs. Technical methods may involve decontamination, confinement and monitoring.

Responsible Body

Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK)

Description of Financing

According to the Act on the Remediation of Contaminated Sites (Altlastensanierungsgesetz, ALSAG) and to the Environmental Subsidy Act (Umweltförderungsgesetz – UFG), financing is available for all measures directly related to the remediation of contaminated sites, e.g. for

- Preparatory work (exploration, planning)
- Risk assessment and evaluation of investigation results
- Construction and implementation measures
- Ongoing remediation measures (operating costs) for a maximum of five years
- Compensation and fees for restrictions of existing uses
- Restoration measures
- Measures for the preservation of evidence like e.g. groundwater investigation
- Construction, expansion and improvement of waste treatment facilities to the extent required for remediation of contaminated sites
- Required intangible services (“ancillary services“) such as construction supervision and chemical analyses
- Immediate measures that are urgently required to prevent hazards to human life or health arising from contaminated sites, insofar as these measures are not ordered in a timely manner from the party causing these hazards, or cannot be carried out in a timely manner, in particular for economic reasons.
- Evaluation of remediation results

Beneficiaries

Funding for the remediation of contaminated sites is available to owners or persons authorised to dispose of a contaminated site and persons or companies obliged to clean up under the Austrian Water Act, the Austrian Waste Management Act or the Industrial Code (Gewerbeordnung). In addition, regardless of their legal relations to the contaminated site, municipalities, associations of municipalities, waste associations and federal provinces may also apply for funding.

Environmental Impact

The effect of the funding is presented by the following indicators:

- Contaminated soil or landfill bodies remediated (mn cubic metres)
- Contaminated area remediated (square metres)
- Heavily contaminated soil or landfill body excavated and subsequently treated (cubic metres)
- Sealing wall for encapsulating sources of pollution in the soil/groundwater (square metres)
- Contaminated groundwater or landfill leachate pumped out and purified (mn cubic metres per year)
- Landfill gas or contaminated soil air extracted and treated (mn cubic metres per year)
- Number of preliminary assessments
- Number of risk assessments

5.8 Climate change adaptation

In 2012, Austria was one of the first EU Member States to combine a strategic approach to climate change adaptation with a comprehensive action plan for the implementation of concrete recommendations for action.

The Austrian Adaptation Strategy[59] comprises a strategic part (Context) and an Action Plan with concrete recommendations for action. 14 fields of activity are addressed in detail. The revised strategy was adopted by the Council of Ministers in August 2017 and acknowledged by the Conference of the Provincial Governors on 10 November 2017. It represents the comprehensive guiding document for all of Austria's activities concerning the adaptation to climate change. Many decisions having long-term effects – like flood control or in the field of infrastructure – must be taken in a way that they provide the most detailed picture possible of anticipated trends that result from climate change. The Federal Government continues its support of research activities, thus deepening the scientific basis for decision-making and the successful implementation of the Austrian Strategy for Adaptation to Climate Change.

This section will be split up into two sub-sections including Climate Change Adaptation Model Regions and Flood protection.

	2021								2022							
Climate change adaptation	**Allocated amount (EUR mn)**	**# of Adaptation Model Regions**	**# of municipalities covered**	**# of inhabitants (mn citizens)**	**Area covered (m^2)**	**# of protected citizens**	**# of protected objects**	**# of projects supported**	**Allocated amount (EUR mn)**	**# of Adaptation Model Regions**	**# of municipalities covered**	**# of inhabitants [mn citizens]**	**Area covered (m^2)**	**# of protected citizens**	**# of protected objects**	**# of projects supported**
Climate Change Adaptation Model Regions	1.1	74	595	1.65	27,851	-	-	-	10.0	79	651	1.86	31,235	-	-	-
Flood protection	97.1	-	-	-	-	10,000	2,778	629	96.4	-	-	-	-	8,200	2,082	579
Total	**98.2**								**106.4**							

Table 8: Climate change adaptation – overview of indicators.
Monetary figures are related to spent public funding contributing to climate change adaptation and financed by Green Securities. Impact and performance indicators refer to the enabled effects with regard to the overall investment volumes of the supported projects.

Explanatory notes:
The figures in Table 8 present a share of the budget that was assigned to projects supporting climate change adaptation and financed by Green Securities.[60]

[59] Federal Ministry Climate Action, Environment, Energy, Mobility, Innovation and Technology, Austrian Strategy for Adaptation to Climate Change
[60] Performance and impact indicators are calculated on the basis data available for approved and/or financed projects in the period covered by the reporting. Based on this, the performance and impact figures are assessed for expenses related to comparable types of projects and infrastructures. The analyses and the methodological documentation were prepared specifically for the purpose of the Green Investor Report and cannot be applied one-to-one to other publications addressing the respective funding vehicles due to the different scope.

5.8.1 Climate Change Adaptation Model Regions

Objective

The Austrian Adaptation Strategy explicitly refers to the increasing importance of adaptation to climate change at the regional and local level, with the aim of offering more local support. With the Climate Change Adaptation Model Regions Programme[61] (KLAR! Programme), a Europe-wide flagship initiative was created in 2016.

Responsible Body

Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK)

Description of Financing

The programme requires the instalment of a climate adaptation manager (KAM) in each model region and the development of a detailed regional adaptation concept including a minimum of 10 concrete adaptation measures (soft/smart, green, grey, hybrid) on local and regional level. In general, manpower, awareness-raising measures and model region coordinators are grant-aided, while 25% co-financing by municipalities is obligatory.

Beneficiaries

The funding is addressed to regions and municipalities, As of July 2021, 74 Austrian regions were participating in the Climate Change Adaptation Model Regions Programme. In 2022, the number of participating regions further increased to currently 79 Austrian regions, which are supported in developing adaptation concepts and in planning and implementing adaptation measures, addressing a broad range of climate-related risks and sectors. Altogether, at present the model regions encompass 651 municipalities with a total population of around 1.86 million inhabitants, covering a wide range of Austrian climatic conditions and most Austrian federal provinces.

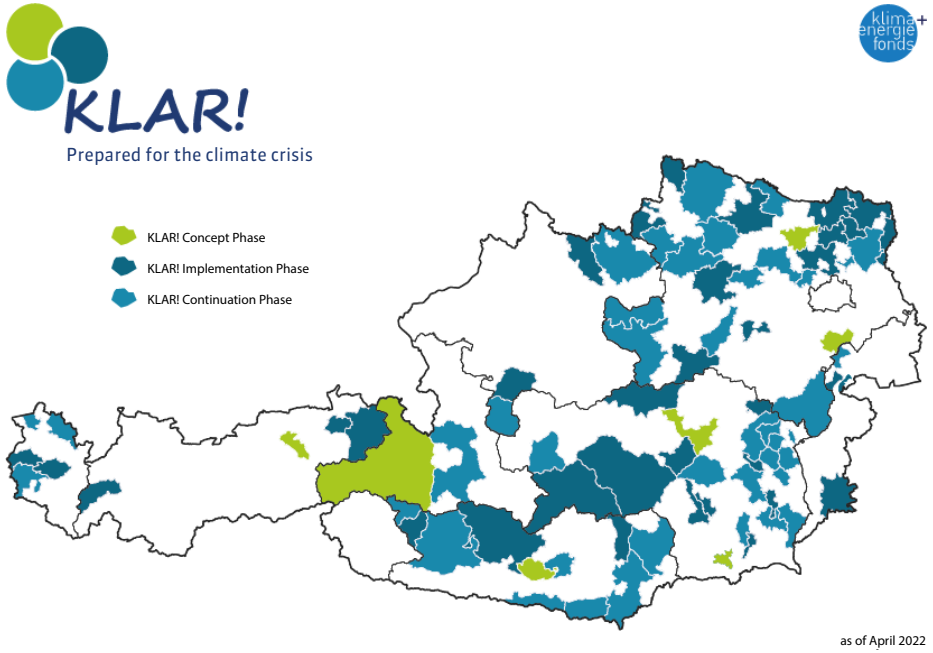
[61] KLAR!, https://klar-anpassungsregionen.at (only available in German)

Environmental Impact

The funding supports the implementation of the Austrian Strategy for Adaptation to Climate Change[62], increases adaptive capacity and strengthens resilience to climate-related risks.

The effect of the funding is presented by the following indicators:

- Number of Adaptation Model Regions
- Number of municipalities covered
- Number of inhabitants (mn citizens)
- Area covered (square kilometres)



[62] Federal Ministry Climate Action, Environment, Energy, Mobility, Innovation and Technology: Austrian, Austrian Strategy for Adaptation to Climate Change

5.8.2 Flood protection

Although Austria's overall vulnerability to climate change is relatively low in global context[63], due to its geographical location and climatic conditions, it is still at considerable risk from natural disasters, which are increasing due to the climate crisis. Floods and mudflows threaten the mountain regions; long-lasting large-scale floods affect the living and economic areas in the lowlands and hills. In order to protect settlements, critical infrastructure and important economic infrastructure, retention areas, floodplains and flood control dams make a valuable contribution to climate change-adapted and resilient settlement areas and business locations in Austria. Moreover, ecological aspects are an integral part of flood protection measures.

Responsible Body
Federal Ministry of Agriculture, Forestry, Regions and Water Management (BML)

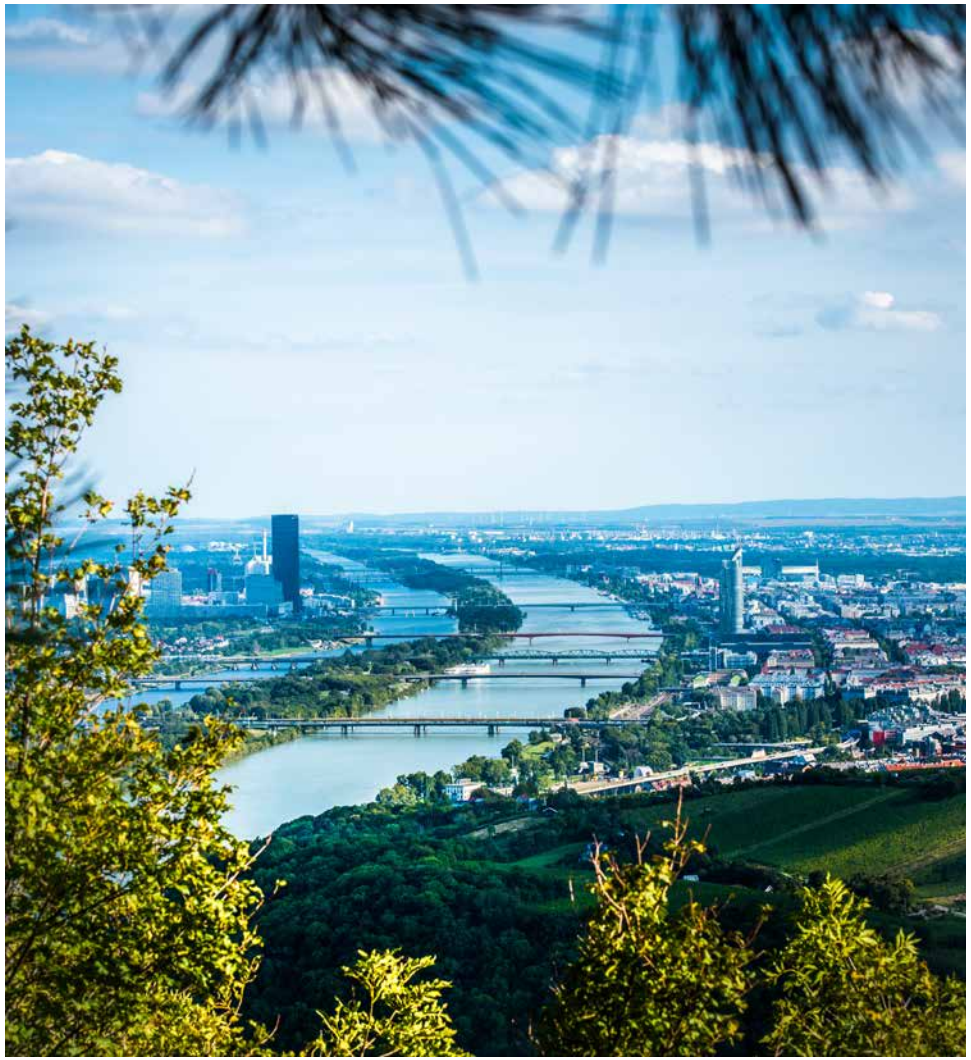
Description of Financing
The bundle of measures for integral flood risk management comprises numerous measures and ranges from technical protective structures and measures in catchment areas to awareness raising and preparation for flood events.

Beneficiaries
The new flood protection measures approved in 2022 will be able to protect a total of around 8,200 people and 2,082 properties against floods (up to a 100-year event). This is mainly achieved through the construction or activation of retention areas and the construction of linear protection measures.

Environmental Impact
The effect of the funding is presented by the following indicators:

- Number of protected citizens
- Number of protected objects

[63] Ranked number 3 out of 182 countries worldwide as measured by the ND-Gain (Vulnerability) Index from the University of Notre Dame (https://gain.nd.edu/our-work/country-index/rankings/) / latest available ranking for 2020



Panorama of Vienna and Danube Island. © Adobe Stock

6 Case Studies

6.1 Climate Ticket (KlimaTicket)

By introducing the KlimaTicket in fall 2021, the Austrian federal government assumed responsibility for a public transport product. The KlimaTicket allows for the first time to use all public transportation services (bus, train, tram, subway) in a given area for a year with just one ticket: regional and nationwide. Broad-based access to affordable mobility and increased use of public transport is thus ensured.

The success of KlimaTicket is demonstrated by the fact that the initially estimated sales figure of 110,000 nationwide KlimaTickets Ö has been exceeded by far and amounts to 215,000 tickets in December 2022. The sum of all regional and nationwide KlimaTickets even amounts to 1.3 million tickets. This number also aligns with the extremely positive results of the first representative customer survey. 98% of the customers surveyed are satisfied with all aspects of the KlimaTicket, and 40% of the KlimaTicket Ö users state that they have already changed their mobility behaviour significantly from private cars to public transport. Together with massive investments by the Federal Ministry of Transport, Innovation and Technology (BMK) in the expansion of the transport infrastructure and the range of transport services, the KlimaTicket thus makes a significant contribution to climate-friendly mobility in Austria.

Further information:

- Zahlen, Daten, Fakten (only available in German)
- https://www.klimaticket.at/en/

„Railjet“ train in the countryside © ÖBB/Scheiblecker

6.2 ÖBB railway track Vienna – Marchegg – Bratislava: Double track upgrade and electrification (Austrian section)

The railway track between Vienna and Bratislava main station is part of the TEN-T Core Network and Rail Freight Corridor (Baltic-Adriatic Corridor). At present, it is a single-track line that is not electrified. The length of the Austrian section is 37 km.

Speed up to 200 km/h

In order to improve the railway connection between the two cities and on the Baltic-Adriatic-Corridor, the railway track shall be electrified and upgraded to a double track. The objectives of the project are an increase of maximum speed up to 200 km/h, a reduction of travel time between Vienna and Bratislava from 65 min to 40 min, an improvement of the main axis for long-distance passenger transport between Zurich/Munich – Linz – Vienna – Bratislava (– eastern Slovakia) (up to 2 trains / h / direction) and an extension of local and (cross-border) regional transport between Vienna – Marchegg – Bratislava (5 trains / h / direction within Vienna area and 3 trains / h / direction to Marchegg).

The main infrastructure measures on the Austrian side include a 2-track upgrade (module-wise), the full electrification incl. new transformer substation in Untersiebenbrunn, the renewal or new construction of 9 stations (incl. PRM standard), the elimination of all level crossings (rail-road) and the implementation of ETCS L2. The total project costs are EUR 554 mn (financing secured; incl. valorisation).

Electrification and modal shift will save greenhouse gas emissions

The main project-related effects causing savings of GHG emissions are the electrification and thus the replacement of current diesel traction with 100% electric traction, the high-level railway connection between Vienna and Bratislava which will result in a modal shift in long-distance cross-border passenger transport to rail and the extension of local and regional transport in Vienna's north-eastern suburban area, which will result in a modal shift in commuter traffic to rail.

The projected GHG emission savings from 2027 – 2056 (total sum over a 30-year timespan after start of operation) are 1.7 mn tonnes CO_2e, that are the sum of the GHG emission savings due to electrification (0.35 mn tonnes CO_2e) and the GHG emission savings due to additional modal shift (1.35 mn tonnes CO_2e).

© ÖBB/Bachl

6.3 HYWEST - Regional Green Hydrogen Economy

In 2014, the climate, energy and resources strategy "Tyrol 2050 energy autonomous", developed by FEN Systems for the region of Tyrol with the aim to achieve the long-term goals towards energy autonomy and climate neutrality, was adopted by the regional Tyrolean parliament. "Use of own resources before others do, or have to do" is the main principle within this long-term strategic approach, in which the "power on demand" process is a main building block and the "power-to-hydrogen" process covers the intrinsic lack of a long-term and large-scale storage of electricity.

The central project within this long-term strategy is the national research and development (R&D) flagship project "WIVA P&G HyWest", mainly based on the logistic principle. This project is a result of synergies between three ongoing complementary implementation projects. These three projects are "Green Hydrogen for MPREIS, Tyrol and Europe", the "Zillertalbahn 2020+ energy autonomous with hydrogen" of the Hydrogen Region Zillertal and the "TIWAG Power2X Kufstein" at the Langkampfen river power plant in Kufstein, which is to support the conversion of the transit system to green hydrogen applications in the EU Green Corridor. With a funding of approximately EUR 23 million, this project aims at the establishment of the first sustainable, business-case-driven, regional, green hydrogen economy in central Europe based on the conducted research results for the cross-sectoral use of green hydrogen. For the implementation of this flagship project, research investigations are ongoing since 2020 by the multidisciplinary HyWest- research consortium at the Green Energy Center Europe in Innsbruck and are planned to continue until 2025.

Among these three projects, industrial research within "MPREIS Hydrogen" has so far led to the first green hydrogen economy within itself. One hydrogen truck is already in use for food distribution in the region of Tyrol since January 2023 and corresponding monitoring studies with respect to logistic matters were initiated[64,65]. To fulfil the logistic principle as the main outcome, another two complementary projects in the Zillertal region and at the TIWAG river plant in Kufstein/Langkampfen are currently being further implemented[66].

[64] Hyzon, MPREIS puts Austria's first hydrogen-powered truck on the road, March 2023
[65] Electrive, DB Schenker & Mpreis put Hyzon H2 Trucks on the road in Europe, March 2023
[66] Fleischhacker, N., Shakibi Nia, N., Coll, M., Perwög, E., Schreiner, H., Burger, A., Stamatakis, E., & Fleischhacker, E. (2023). Establishment of Austria's First Regional Green Hydrogen Economy: WIVA P&G HyWest. Energies, February 2023

Further information:

- https://www.wiva.at/project/hywest/
- https://www.hywest.at/mpreis-nimmt-ersten-hywest-wasserstoff-lkw-osterreichs-in-betrieb/

First H2 truck of MPREIS © WIVA P&G HyWest Konsortium

6.4 National Park Kalkalpen

History

Founded in 1997, the National Park Kalkalpen protects the biggest connected forest area in Austria. It has a total size of 20,850 ha and houses parts of the only UNESCO Natural World Heritage Site in Austria.

Landscape

The green wilderness of the Kalkalpen has many faces: 32 forest types characterise the natural area. Among them are also highly endangered biotopes such as willow, spruce-fir or grey alder swamp forests. Particularly exceptional, however, are the old beech forests, which are a UNESCO World Natural Heritage Site and occupy 5,250 hectares of the national park area.

The forest wilderness with its deadwood determines the character of the natural area just as much as the distinctive karst landscapes with caves, sinkholes, shafts, tube systems and (giant karst) springs.

The abundance of water bodies in the Reichraminger Hintergebirge, the species-rich alpine pastures and the panoramic peaks of the Sengsengebirge complete the diverse profile of the Kalkalpen.

Flora and Fauna

The National Park is home to many rare and threatened plant and animal species, most prominently the black stork and the lynx. Also, on a smaller scale, the diverse fauna of the national park is good for surprises: just this year a highly protected and extremely rare beetle species was observed there (Phyrganophilus ruficollis). The last documented sighting of the beetle in the region dates back 119 years.

Further information:

- https://www.nationalparksaustria.at/de/nationalpark-kalkalpen.html
- https://www.kalkalpen.at/de/Sensationsfund_im_Weltnaturerbe_Buchenwald

© Nationalpark Kalkalpen/Robert Maybach

© Nationalpark Kalkalpen/Roland Mayr

6.5 “Get out of oil and gas”

Subsidies & promotion campaign

Due to the urgency of implementing climate protection measures in the building sector, the federal government offers additional funding incentives. One of these developments is the focus on the rapid phase-out of fossil fuels in the building sector. Coupled with the “building renovation offensive”, the conversion of fossil heat generation systems to climate-friendly alternatives with the promotion campaign „Get out of oil and gas“ has been of particular importance in the reduction of CO_2 emissions for several years.

More budget for 2021 and simplifications

In the years 2021 and 2022, the programme was designed as a two-year campaign for the first time. This multi-year perspective offers advantages for all those involved in the funding campaign in terms of planning certainty and serves as a positive signal to the market to provide long-term capacities. The switch from subject-related to object-related funding for multi-storey residential construction represents another significant innovation. The simplified application is made by the owner of the building.

Part of the National Energy and Climate Plan implementation

Oil boilers that are older than 25 years by then are to be replaced by climate-friendly alternatives by 2025 at the latest. The promotion campaign „Get out of oil and gas“ is a direct implementation measure to achieve the goals of the NECP, the Austrian Energy and Climate Plan.

District heating, heat pump or biomass-fired heating systems

Private individuals were supported with up to 7,500 euros or 50% of the eligible environmentally relevant investment costs when replacing a fossil-fuel heating system with a local or district heating connection or - if this was not possible - with a climate-friendly heat pump or a wood-fired central heating system; businesses were supported with up to 8,000 euros, depending on their nominal heat output. District heating connection fees can now also be taken into account as eligible costs through the amendment of the subsidy guidelines in 2021. In the area of multi-storey residential buildings, a higher subsidy is granted if the heating system is changed to central heating.

Source and further information:

- Umweltinvestitionen des Bundes. Klima- und Umweltschutzmaßnahmen 2021

“Get out of oil and gas” promotion campaign © Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK)

6.6 Widening and meandering of the river Mur

Until the 19th century, the upper course of the river Mur in Salzburg's Lungau region was characterised by its meandering nature. From the 1870s onwards, the Mur was increasingly being straightened in order to protect the area from flooding and to facilitate agricultural activities, thus creating a geometric and structurally poor riverbed for the next hundred years.

River development concept combines river ecology measures and flood protection measures

In a river development concept elaborated in 2008, the river basin was evaluated from the perspectives of flood protection, river morphology and river ecology, and the target conditions aimed at for the future were defined. On this basis, a series of flood protection measures as well as river ecology measures have been developed and implemented.

In the years 2020 and 2021, ecological measures have been implemented along a length of more than 600 metres on the Mur in St. Michael im Lungau. This once straightened river section has been restored to its original structure by generously widening the river bed and integrating the foreland into the river basin as well as by creating meanders and reconnecting neighboring habitats.

The flood protection in this river section has been designed to protect against a 100-year flood event. This protection level is maintained with the implementation of the river ecology measures, which impressively demonstrates the potential of the interplay between flood protection and river ecology.

Status of the river to be improved to a "good" status by 2027

In the second National Water Management Plan (Nationaler Gewässerbewirtschaftungsplan 2015), the overall condition of the Mur in the project area was assessed as "moderate". Together with already implemented and further measures, the river widening with the meanders is intended to lead to an improvement of the overall condition and to a rating of "good" in 2027, at the end of the planning period of the third National Water Management Plan.

Sources and further information:

- Ökoprojekt - Das Fachmagazin für Umweltförderungen. Umweltschutz-Ausgabe – Schwerpunkt Gewässerökologie (only available in German)
- Die Mur darf wieder ganz wie sie will (only available in German)

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6.7 KLAR! Regions

In 2016, the KLAR! programme for Climate Change Adaptation Model Regions has been launched to support Austrian regions and municipalities in preparing for climate change by implementing adaptation measures in a structured way. This Europe-wide unique climate adaptation funding programme is financed by the Climate and Energy Fund and has been initiated in cooperation with the Federal Ministry for Environment (now Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology – BMK). The programme requires the instalment of a climate change adaptation manager in each model region and development of a detailed regional adaptation concept including a minimum of 10 concrete adaptation measures (soft/smart, green, grey, hybrid) on local and regional level.

KLAR! Programme Cycle

In general, manpower, awareness-raising measures and model region coordinators are grant-aided, while 25% co-financing by municipalities is obligatory. Each model region is composed of a minimum of two municipalities. The programme cycle is structured in four phases: i) submitting draft adaptation concept (funding application); ii) elaborating detailed adaptation concept, awareness-raising and agenda setting in the regions; iii) implementation of adaptation measures according to the concept, monitoring and evaluation; and iv) re-adjustment of measures, dissemination of best practices, and continuation. In the continuation phase, existing model regions can apply for new funding for additional measures.

Service Platform

A service platform operated by the Environment Agency Austria supports the model regions with specific information packages, direct counselling and via organising regular peer-group learning and networking meetings of all regions. Model regions have to consider the Austrian Strategy for Adaptation to Climate Change (Context and Action Plan) and the relevant Adaptation Strategies of the federal provinces in their activities, and they are required to coordinate their concepts and actions with the climate coordinator of the respective state. Therewith, it shall be ensured that activities in model regions are coherent with public adaptation policies and contribute directly or indirectly to their implementation. A reporting and monitoring system is in place to evaluate progress in implementation and effectiveness of adaptation actions.

Facts of KLAR! Regions

As of July 2021, 74 Austrian regions were participating in the Climate Change Adaptation Model Regions Program. In 2022, the number of participating regions further increased to currently 79 Austrian regions, which are supported in developing adaptation concepts and in planning and implementing adaptation measures, addressing a broad range of climate-related risks and sectors. Altogether, at present the model regions encompass 651 municipalities with a total population of around 1.86 million inhabitants, covering a wide range of Austrian climatic conditions and most Austrian federal provinces.

Source and further information:

- KLAR! Climate Change Adaptation Model Regions, https://klar-anpassungsregionen.at/

KLAR!
Prepared for the climate crisis

6.8 "Underground Sun Storage 2030" – Hydrogen storage

Large-volume storage of hydrogen enables energy transition while maintaining security of supply

In "Underground Sun Storage", the world's first hydrogen storage facility in an underground porous reservoir, solar energy is converted into green hydrogen by water electrolysis and stored in pure form in an underground natural gas reservoir in Gampern, Upper Austria. The scale of the storage corresponds to the summer surplus of about 1,000 photovoltaic systems on family homes. In summer, this surplus energy is stored and in winter the green energy can be provided again in the form of electricity and heat.

Hydrogen makes sun and wind storable

Hydrogen is the essential component for achieving climate targets and increasing the security of energy supply. Hydrogen can be produced without CO_2 emissions and can be used cleanly and flexibly in all sectors – whether for applications in industry, heat and power generation, or mobility. But the decisive factor is its large-scale storage and transportability in the existing almost invisible gas infrastructure.

From fossil gas source to hydrogen storage

The results of the "Underground Sun Storage" demonstration project will make it possible to reposition gas storage facilities with their enormous storage volumes in the energy system of the future, also as hydrogen and green power storage facilities. Austria in particular has great potential with its ideal geological structures and existing modern storage capacities. This will make it possible to decouple the generation of renewable energy and its short-term consumption and to enable year-round security of supply.

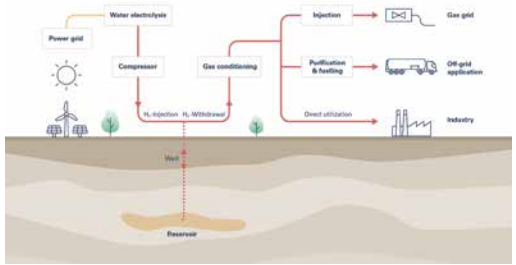
Investigations under real conditions and complementary work

Interdisciplinary technical-scientific investigations will be carried out under real conditions at a small former natural gas reservoir for the energy future. These investigations will be complemented by the development of suitable processing technologies, the modelling of future energy scenarios and techno-economic analyses. These investigations will be complemented by the development of suitable process. These include, for example:

- Hydrogen as a substitute for fossil natural gas
- Direct use in energy-intensive industries
- Processing requirements and technology
- Utilisation possibilities of hydrogen with high purity

Source and further information:

- Underground Sun Storage 2030, Underground Sun Storage: World's first geological hydrogen storage facility goes into operation, April 2023



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7 Annex: Impact Measurement Methodology

Quality assurance of the input data and evaluation of the effectiveness of the funding

For projects funded according to the Environmental Subsidies Act or funded by the Climate and Energy Fund, quality assurance is based on a multi-stage approach, where checks are carried out at specific intervals by the responsible institutions:

- Basically, the funding process can be divided into the application phase up to the funding contract, the construction phase and the phase of auditing and final invoicing.
  - For complex projects, throughout the entire funding process, several checks are carried out, e.g. by the funding handling agency, the Federal Ministries, the governments of the Federal Provinces etc. as an example for this process in the field of funding for municipal water management infrastructures, a detailed flow chart is presented in the Court of Auditors' report[1].
  - For all projects, spot checks are carried out by the responsible agency for the processing of the funding, in which the projects and information are checked in detail (also on site).
- On behalf of the responsible bodies (Federal Ministries), annual audits are carried out by independent auditors in order to check the legal compliance of the agency entrusted with the processing of the funding.
- Ex-post Evaluation:
  - For projects funded according to the Environmental Subsidies Act, every three years, an in-depth-evaluation is carried out[2]
  - For projects funded according to the Austrian Climate and Energy Fund ex-ante as well as ex-post evaluations are carried out on a regular basis[3]. Moreover, a detailed methodological report for these evaluations was published.[4]
- Moreover, audits are carried out by the Court of Auditors[5] at varying intervals.

[1] See page 70 of the report "Subsidies in municipal water management – Report of the Austrian Court of Auditors" (in German)
[2] As an example of the triennial evaluation reports according to the Environmental Subsidies Act, see "Evaluation of environmental funding of the Federal Government 2017–2019" (in German). The next evaluation report, which will be elaborated in 2023, will cover the period 2020–2022.

7.1 Clean transportation

Construction of clean transportation infrastructure - Federal subsidies to ÖBB Infrastruktur AG

The impact metrics are based on the annual train-km travelled by ÖBB, reduced by the share of non-electrified train kilometres and in freight transport additionally by the share of fossil fuel transport.

For the purpose of the impact assessment in this first impact report, only data from trains operated by ÖBB was used, as data from other companies is not available in the same level of detail. The ÖBB annually reports the CO_2-savings from ÖBB passenger and freight transport as well as the train-kilometres travelled by ÖBB. The harmonisation of the calculation methods for the CO_2-savings is planned for the next impact report.

In the allocation process, the subsidies to ÖBB Infrastruktur AG were reduced by the share of non-electrified train kilometres and for freight transport additionally by the share of fossil fuel transports[6]. Thus, also the impact refers to electrified-train kilometres excluding fossil fuel transport. The number of train-kilometres travelled by ÖBB is available in the ÖBB annual report[7], the CO_2-savings in a separate publication[8]. For 2022 this were 130 mn train-km and 2.6 mn t of CO_2-savings, of which 103 mn (1.6 mn t CO_2-savings) can be attributed to passenger transport and 27 mn (1 mn t CO_2-savings) to freight transport. As according to the Austrian Statistical Service

[3] As an example, see report "Evaluation of the annual programmes 2018 and 2020 of the Climate and Energy Fund" (in German)
[4] Evaluation report on annual programmes of the Climate and Energy Fund
[5] As an example, see report "Subsidies in municipal water management – Report of the Austrian Court of Auditors" (in German)
[6] Statistik Austria, Verkehrsstatistik 2021 (only available in German), November 2022
[7] ÖBB Holding AG, Annual Report 2022 (only available in German), April 2022
[8] ÖBB report "ÖBB in Zahlen" (only available in German)

9.7 % of the freight transport capacity can be attributed to fossil fuel transport, the train-kilometres and CO_2-savings of the ÖBB freight transport have been reduced accordingly – assuming that the distribution of the type of goods transported is equal for ÖBB and other freight companies. The percentage of train-km travelled on electrified tracks in 2021 and 2022 was provided by ÖBB Infrastruktur AG and amounts to 89%. In this impact report, it was assumed that both, the share of passenger as well as freight transport trains that are running on electrified tracks amounts to 89%.

As only 91 % of the initially allocated volume for the subsidies to ÖBB Infrastructure AG were included in the impact report, the train-kilometres travelled and the CO_2-savings were further reduced proportionally to the final allocated volume.

Indicators refer to the enabled effects with regard to the overall investment volumes of the supported projects.

Aggregated data were provided by the responsible funding institutions. The quality assurance of these data is based on a multi-stage approach, in which audits are carried out at specific intervals by a number of institutions (responsible funding institution, Ministry/auditor, Parliament, Court of Auditors).

Public transport - Ordering of public services in rail passenger transport

The number of train-kms provided by the responsible bodies was reduced proportionally to the amount allocated to Green Securities.

Aggregated data were provided by the responsible funding institutions. The quality assurance of these data is based on a multi-stage approach, in which audits are carried out at specific intervals by a number of institutions (responsible funding institution, Ministry/auditor, Parliament, Court of Auditors).

Public transport - Climate Ticket Austria

The indicator refers to the enabled effects with regard to the overall investment volumes of the supported projects.

Aggregated data were provided by the responsible funding institutions. The quality assurance of these data is based on a multi-stage approach, in which audits are carried out at specific intervals by a number of institutions (responsible funding institution, Ministry/auditor, Parliament, Court of Auditors).

Public transport - Co-financing of the federal government in the investment costs for the expansion of the Vienna subway system

No impact metrics can be reported as of yet, because the project is in construction. Funding under this category was described to be enabling of the future impact of new subway infrastructure.

Aggregated data were provided by the responsible funding institutions. The quality assurance of these data is based on a multi-stage approach, in which audits are carried out at specific intervals by a number of institutions (responsible funding institution, Ministry/auditor, Parliament, Court of Auditors).

Funding Programs for a Transition to Zero Emission Mobility

The avoided tonnes of CO_2e per project category were provided by the responsible body and by the institution responsible for the processing.

The methodology depends on the funding category. The basis for determining the environmental effects is that the subsidy results in a reduction in diesel/gasoline mileage. As baseline, the average emissions of Diesel/Gasoline cars are used (50:50). The average mileage as well as the emission factors are the values published annually by the Environment Agency Austria[9].

[9] Umweltbundesamt, Emissions overview means of transport (in German)

Indicators refer to the enabled effects with regard to the overall investment volumes of the supported projects.

Basis for the calculation: Standard national methodology applied by the operational agency for the annual reporting for the funding according to the Environmental Subsidies Act of the Republic of Austria. This (long-standing) methodology was reported to the European Commission in connection with the introduction of the EU "Financing not linked to costs" approach within the framework of the ERDF programme.

As there is a time lag between the funding approved and the funding payed out, the impact of the funding payed out has been estimated based on the reported impact per EUR of funding approved per sub-category. As a consequence, the reporting figures are not directly comparable to other publications addressing the respective funding instruments due to the different scope.

Aggregated data were provided by the responsible funding institutions. The quality assurance of these data is based on a multi-stage approach, in which audits are carried out at specific intervals by a number of institutions (responsible funding institution, Ministry/auditor, Parliament, Court of Auditors).

7.2 Renewable energy

Renewable Energy – biomass, photovoltaic, geothermal, heat pumps, solar thermal, power storage and other renewable energy technologies

Annual renewable energy generation (megawatt hours, MWh):
The "annual renewable energy generation" corresponds to the final energy supplied and/or distributed by the measure (heat or electricity from new renewable-based generator, additional distributed energy from renewable generator, consumption of additional connected building etc.).

The value is calculated individually per subsidised project. For renewable heat generators, the final net energy consumption after implementation of the measure is predicted by planned figures; after the measure has been implemented, the operator must keep records of operations to prove the success of the renewable energy measure and that are reviewed by means of spot checks. The consumption before implementation of the measure is based on energy consumption records of the operator of the heat generator. Photovoltaic systems are assumed to annually yield a standardised value of 1,000 kWh of electricity per installed kilowatt hour peak (kWp). For small solar thermal systems and for heat pumps below 100 kilowatts thermal capacity (100 kWth), the calculation is carried out with standardised values, including the assumption of 1,100 full load hours per year for heat pumps. However, for large-scale solar thermal systems, for "model and lighthouse projects" of PV and solar thermal heat generation and for PV systems in agriculture, individual calculations, for PV using power yield forecasts, are used for calculating the annual renewable energy yield.

Annual GHG emissions reduced/avoided (million tonnes CO_2e):
The reduced/avoided CO_2e-emissions are calculated as the difference between emissions before and after the implementation of the measure. The emissions before and after the implementation are calculated by multiplying the energy consumption with the CO_2e emission factor of the respective energy source. The baseline is the energy source used in the individual project before implementation of the funded measure, or for programmes with standardised smaller measures, a standardised baseline is used (Austrian electricity mix; heating oil for heating measures). The applied emission factors are from Guideline 6 on Energy savings and thermal insulation of the Austrian Institute of Construction Engineering[10], except for renewable electricity with the Austrian ecolabel and liquefied petroleum gas for which emission factors by the Federal Environment Agency Austria[11] were used. Until 2021, for biomass, district heating using biomass and renewable electricity, 0 (zero) was used as emission factor, and the 2015 version of the Federal Environment Agency emission factor publication for liquefied petroleum gas. To normalize the energy consumption in case of a capacity change, a factor to adjust the previous capacity to the changed capacity of the heat generator is used.

[10] https://www.oib.or.at/de/oib-richtlinien/richtlinien/2019/oib-richtlinie-6
[11] Calculation of greenhouse gas (GHG) emissions of different energy sources, updated 2022, https://secure.umweltbundesamt.at/co2mon/co2mon.html

Annual energy savings (megawatt hours, MWh):
If the project yields energy savings in addition to renewable energy generation, the savings are calculated as the difference between final energy consumption before and after implementation (methodology: see section 7.3).

Additional methodological information:
Impact indicators refer to the enabled effects with regard to the overall investment volumes of the supported projects.

Projects and infrastructure investments are eligible to receive funding and grants from more than one responsible funding body in principle. In order to prevent overstatement of impact, performance and impact metrics are presented only with regard to the funding instruments of the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK).

Basis for the calculation: Standard national methodology applied by the operational agency for the annual reporting for the funding according to the Environmental Subsidies Act of the Republic of Austria. This (long-standing) methodology was reported to the European Commission in connection with the introduction of the EU "Financing not linked to costs" approach within the framework of the ERDF programme.

Aggregated data were provided by the responsible funding institutions. The quality assurance of these data is based on a multi-stage approach, in which audits are carried out at specific intervals by a number of institutions (responsible funding institution, Ministry/auditor, Parliament, Court of Auditors).

As there is a time lag between the funding approved and the funding payed out, the impact of the funding payed out has been estimated based on the reported impact per EUR of funding approved per sub-category. As a consequence, the reporting figures are not directly comparable to other publications addressing the respective funding instruments due to the different scope.

7.3 Energy efficiency

Energy efficiency – processes, heat reuse, lighting, building renovation, new buildings, cooling

Annual energy savings (megawatt hours, MWh)
The "annual energy savings" are calculated for every individual project as the difference between final energy consumption before and after implementation. The final net energy consumption after implementation of the measure is predicted by planned figures. After the measure has been implemented, the operator must keep records of operations to prove the success of the energy efficiency measure and that are reviewed by means of spot checks.

The determination of the final energy consumption before implementation of the measure is based on energy consumption records of the operators of the process or facility. The baseline is the energy consumption of the individual project before implementation of the funded measure, or for programmes with standardised smaller measures, a standardised baseline is used (waste heat recovery below 100 kilowatts thermal capacity (100 kWth), partial building renovations, LED indoor lighting systems below 20 kilowatts of capacity (20 kW) and beverage coolers).

To normalise the energy consumption in case of a capacity change, a factor to adjust the previous capacity to the changed capacity of the facility or the process is used.

Annual GHG emissions reduced/avoided (million tonnes CO_2e)
The reduced/avoided CO_2e emissions are calculated as the difference between emissions of the considered process or the facility before and after the implementation of the measure. To normalise the energy consumption in case of a capacity change, a factor to adjust the previous capacity to the changed capacity of the facility or the process is used.

For building renovations, the CO_2e emissions before renovation are determined from the heating

demand for the building as shown in the building energy certificate before renovation, an average value for the annual efficiency of the heat generator and the CO_2 conversion factor for heating oil.

Annual renewable energy generation (megawatt hours, MWh)
If the project yields renewable energy generation in addition to energy savings, the "annual renewable energy generation" is calculated as the final renewable energy supplied and/or distributed by the measure (methodology: see section 7.2).

Additional methodological information:
Impact indicators refer to the enabled effects with regard to the overall investment volumes of the supported projects.

Projects and infrastructure investments are eligible to receive funding and grants from more than one responsible funding body in principle. In order to prevent overstatement of impact, performance and impact metrics are presented only with regard to the funding instruments of the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK).

Basis for the calculation: Standard national methodology applied by the operational agency for the annual reportings for the funding according to the Environmental Subsidies Act of the Republic of Austria. This (long-standing) methodology was reported to the European Commission in connection with the introduction of the EU "Financing not linked to costs" approach within the framework of the ERDF programme.

Aggregated data were provided by the responsible funding institutions. The quality assurance of these data is based on a multi-stage approach, in which audits are carried out at specific intervals by a number of institutions (responsible funding institution, Ministry/auditor, Parliament, Court of Auditors).

As there is a time lag between the funding approved and the funding payed out, the impact of the funding payed out has been estimated based on the reported impact per EUR of funding approved per sub-category. As a consequence, the reporting figures are not directly comparable to other publications addressing the respective funding instruments due to the different scope.

In the current report, impact figures are only presented for the year 2021, as in the reporting period there was no allocation of proceeds in this category for 2022.

7.4 Terrestrial and aquatic biodiversity

Austrian Agri-environmental program

A mix of qualitative and quantitative impact information is presented for the selected measures of the program.

Indicators available are number of farms funded as well as area funded under different sub-measures of the Agri-environmental program. Those indicators were obtained from the Federal Ministry of Agriculture, Forestry, Regions and Water Management. The selection of the impact information (qualitative and quantitative) for reporting was based on the most recent official scientific evaluation of the program dating to 2019 (see chapter 8). Those measures were selected that showed the most significant positive impact on species diversity.

All data presented in the impact report was derived from external sources (Federal Ministry of Agriculture, Forestry, Regions and Water Management). No individual or internal calculations were conducted. The information about impact from the program is derived from the most recent scientific evaluation of the program. Publishing year of this evaluation was 2019. Baseline in this regard would be the situation in the area if the funding program would not have taken place. In the scientific evaluation the benchmark used is agricultural land area that does not fall under the specific measures of the program. The official evaluation of the funding program is based on rigorous scientific practices.

The quality assurance of these data is based on a multi-stage approach, in which audits are carried out at specific intervals by a number of institutions (responsible funding institution, Ministry/auditor, Parliament, Court of Auditors).

Austrian National Parks

Impact is presented in a qualitative way, describing the benefits of nature conservation in the Austrian National Parks. All data presented in the impact report was derived from external sources (Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology). No individual or internal calculations were conducted.

Project finance and R&D for Terrestrial and aquatic biodiversity

Impact is presented in a qualitative way by showing exemplary project categories funded. All data presented in the impact report was derived from external sources (responsible funding institutions). No individual or internal calculations were conducted.

The quality assurance of these data is based on a multi-stage approach, in which audits are carried out at specific intervals by a number of institutions (responsible funding institution, Ministry/auditor, Parliament, Court of Auditors).

7.5 Environmentally sustainable management of living natural resources and land use

Austrian compensatory allowance for less-favoured areas

A mix of qualitative and quantitative impact information is presented for the program.

Indicators available are number of farms funded as well as area funded under the Austrian compensatory allowance for less-favoured areas. Those indicators were obtained from the Federal Ministry of Agriculture, Forestry, Regions and Water Management. The selection of the impact information (qualitative and quantitative) for reporting was based on the most recent official scientific evaluation of the program dating to 2019 (see chapter 8). Those measures were selected that showed the most significant positive impact on species diversity.

All data presented in the impact report was derived from external sources (Federal Ministry of Agriculture, Forestry, Regions and Water Management). No individual or internal calculations were conducted. The information about impact from the program is derived from the most recent scientific evaluation of the program. Publishing year of this evaluation was 2019. Baseline in this regard would be the situation in the area if the funding program would not have taken place. In the scientific evaluation the benchmark used is agricultural land area that does not fall under the specific measures of the program. The official evaluation of the funding program is based on rigorous scientific practices.

The quality assurance of these data is based on a multi-stage approach, in which audits are carried out at specific intervals by a number of institutions (responsible funding institution, Ministry/auditor, Parliament, Court of Auditors).

Project finance and R&D for Environmentally sustainable management of living natural resources and land use

Impact is presented in a qualitative way by showing exemplary project categories funded. All data presented in the impact report was derived from external sources (responsible funding institutions). No individual or internal calculations were conducted.

The quality assurance of these data is based on a multi-stage approach, in which audits are carried out at specific intervals by a number of institutions (responsible funding institution, Ministry/auditor, Parliament, Court of Auditors).

Other (incl. Circular Economy, Digitalisation, Green Chemistry, Austrian Biodiversity Strategy and Biodiversity Fund, etc)

Impact is presented in a qualitative way. All data presented in the impact report was derived from external sources (responsible funding institutions). No individual or internal calculations were conducted.

The quality assurance of these data is based on a multi-stage approach, in which audits are carried out at specific intervals by a number of institutions (responsible funding institution, Ministry/auditor, Parliament, Court of Auditors).

7.6 Sustainable water and wastewater management

Drinking water supply, Waste water treatment and sewerage

The indicators were calculated on the basis of data provided by the responsible bodies and agencies involved in the operational processing of the funding. Moreover, selected data were taken from published reports (see chapter 8).

- A standardised collection of input data is done in the course of the project application and evaluation and a standardised national methodology is applied by the operational agency for the annual reportings according to the Environmental Subsidies Act of the Republic of Austria.
- Aggregated data were provided by the agencies responsible for the processing of the funding and by the responsible bodies (Ministries). The quality assurance of these data is based on a multi-stage approach, in which audits are carried out at specific intervals by a number of institutions (responsible funding institution, Ministry/auditor, Parliament, Court of Auditors).

Estimates for indicators are based on real data for approved projects in the respective year. As there is a time lag between the funding approved and the funding payed out, the impact of the funding payed out has been estimated based on the reported impact per Euro of funding approved for the same types or comparable types of projects and infrastructures.

As a consequence of the time lag, the reported figures are not directly comparable to other publications addressing the respective funding instruments, in which impacts are usually reported with reference to the year of approval.

For the construction and renovation of water supply and waste water treatment infrastructures it is, in principle, possible to receive subsidies from more than one funding body. Thus, the impact figures are calculated only with regard to one funding instrument (Environmental Subsidy Act).

For funding according to the Municipal Investment Act, no additional impact is reported, in order to avoid overstatement of impact.

The presented indicators refer to the enabled effects with regard to the overall investment volumes of the supported projects.

In the current report, impact figures are only presented for the year 2021 as in the reporting period there was no allocation of proceeds in this category for.

Water ecology

For water ecology projects, in the current report, only performance indicators are presented, since the ecological impact of the measures can only be quantified after years and no robust assessment methodologies were available at the time of the preparation of the impact report.

The indicators were calculated on the basis of data provided by the responsible body and agency involved in the operational processing of the funding. Moreover, selected data were taken from published reports (see chapter 8).

- A standardised collection of input data is done in the course of the project application and evaluation by the operational agency for the annual reportings according to the Environmental Subsidies Act of the Republic of Austria.
- Aggregated data were provided by the agency responsible for the processing of the funding and by the responsible body (Ministry). The quality assurance of these data is based on a multi-stage approach, in which audits are carried out at specific intervals by a number of institutions (responsible funding institution, Ministry/auditor, Parliament, Court of Auditors).

Estimates for indicators are based on real data for approved projects in the respective year. As there is a timelag between the funding approved and the funding payed out, the impact of the funding

payed out has been estimated based on the reported impact per Euro of funding approved for the same types or comparable types of projects and infrastructures.

As a consequence of the timelag, the reported figures are not directly comparable to other publications addressing the respective funding instruments, in which impacts are usually reported with reference to the year of approval.

The presented indicators refer to the enabled effects with regard to the overall investment volumes of the supported projects.

In the current report, impact figures are only presented for the year 2021 as in the reporting period there was no allocation of proceeds in this category for 2022.

7.7 Pollution prevention and control

Remediation of contaminated sites

Input data and indicators were partly taken from published reports of the Environment Agency Austria (EAA) and the Federal Ministry for Climate Action (BMK). Additional data and information was provided by experts of the responsible body and by the agency involved in the operational processing of the funding on an aggregated level.

- For remediation projects funded according to the Environmental Subsidy Act, data relating to the year of disbursement are available and captured by the processing agency.
- For remediation projects according to §18 of the Act on the Remediation of Contaminated Sites (Altlastensanierungsgesetz, ALSAG), data reporting is different up to now. Due to the lack of time for targeted data surveys or to develop a robust methodology for correlating data, no performance/impact indicators are presented for these §18 remediation projects.

As a consequence, the indicators presented in this report only represent a share of the total remediation activities.

The indicators refer to the enabled effects with regard to the overall investment volumes of the supported projects.

Basis for the calculation:

- For the sub-category “Remediation of contaminated sites Funding according to the Environmental Subsidy Act”: A standardised collection of input data is done in the course of the project application and evaluation and a standardised national methodology is applied by the operational agency for the annual reportings according to the Environmental Subsidies Act of the Republic of Austria.
- For the sub-category “Remediation of contaminated sites: Initial & supplementary investigations, analysis, risk assessment, enforcement and processing”: A standardised collection and calculation of input data is done by the responsible institution for the annual reporting on the status of the remediation of contaminated sites within the framework of the Austrian Act on the Remediation of Contaminated Sites (ALSAG).
- Aggregated data were provided by the agencies responsible for the processing of the funding and for the annual reportings and by the responsible body (Ministry). The quality assurance of these data is based on a multi-stage approach, in which audits are carried out at specific intervals by a number of institutions (responsible funding institution, Ministry/auditor, Parliament, Court of Auditors).

7.8 Climate change adaptation

Climate Change Adaptation Model Regions

Input data and indicators were partly taken from published information of the Climate and Energy Fund, the Environment Agency Austria (EAA) and the Federal Ministry for Climate Action (BMK). Additional data and information was provided by experts of the above mentioned institutions and by institutions involved in the operational processing of the funding on an aggregated level.

- A standardised collection of input data is done by the operational agency in the course of the project application and evaluation.
- The quality assurance of these data is based on a multi-stage approach, in which audits are carried out at specific intervals by a number of institutions (responsible funding institution, Ministry/auditor, Parliament, Court of Auditors).

The presented indicators refer to the enabled effects with regard to the overall investment volumes of the supported projects.

The analyses and the methodological approach were prepared specifically for the purpose of the Green Investor Report and cannot be applied one-to-one to other publications addressing the respective funding vehicles due to the different scope.

Flood protection

Input data and indicators were partly taken from published information of the Federal Ministry of Agriculture, Forestry, Regions and Water Management (BML), additional data were provided by the institution involved in the operational processing of the funding on an aggregated level. Moreover, selected data were taken from published reports (see chapter 8).

The presented indicators are based on real data for approved projects in the respective year.

- A standardised collection of input data is done by the operational agency in the course of the project application and evaluation and a standardised national methodology is applied for the annual reportings for the funding according to the Austrian Water Construction Funding Act (Wasserbautenförderungsgesetz).
- The quality assurance of these data is based on a multi-stage approach, in which audits are carried out at specific intervals by a number of institutions (responsible funding institution, Ministry/auditor, Parliament, Court of Auditors).

The indicators refer to the enabled effects with regard to the overall investment volumes of the supported projects.

8 Literature

The following sources were used for the compilation of the section **5.1 Clean Transportation**

- Umweltbundesamt (2022): Klimaschutzbericht 2022. https://www.umweltbundesamt.at/fileadmin/site/publikationen/rep0816.pdf
- Federal Railway Act. Federal Law Gazette Nr. 825/1992. https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=Bundesnormen&Gesetzesnummer=10007278
- ÖBB (2022): ÖBB kompakt. Zahlen, Daten, Fakten. https://konzern.oebb.at/de/ueber-den-konzern/die-oebb-in-zahlen
- ÖBB Holding AG: Geschäftsbericht 2022. https://presse.oebb.at/de/publikationen/geschaeftsbericht-2022
- ÖBB Holding AG: Beilage zum Nachhaltigkeitsbericht 2022 https://konzern.oebb.at/de/nachhaltige-oebb/nhb2022
- BMK (2022): Investitionsoffensive Privatbahninfrastruktur - 9. MIP. Eine Umsetzungsstrategie des Mobilitätsmasterplans 2030 für den Ausbau des ÖV. Online: https://www.bmk.gv.at/dam/jcr:80142791-33c1-4026-a181-ffc341a23598/Investitionsoffensive-Privatbahninfrastruktur-9MIP_UA.pdf
- Agreement pursuant to Article 15a of the Federal Constitutional Act between the Federal Government and the Province of Tyrol on the financing of the regional light rail system Tyrolean Central Region, Rum Section. Federal Gazette Nr. 193/2021. https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=Bundesnormen&Gesetzesnummer=20011694
- Agreement pursuant to Article 15a of the Federal Constitutional Act between the Federal Government and the Province of Upper Austria on the financing of the planning of the Linz regional light rail projects https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=Bundesnormen&Gesetzesnummer=20011643
- Schienen-Control. Jahresberichte 2018 und 2021. https://www.schienencontrol.gv.at/de/publikationen.html

The following sources were used for the compilation of the section **5.2 Renewable Energy**

- BML (2022): Austrian National Forest Inventory of BFW shows increase in broadleaf and mixed forests and biodiversity. https://info.bml.gv.at/themen/wald/wald-in-oesterreich/wald-und-zahlen/waldinventur-2022.html
- BMK (2022): Federal Environmental Investment 2021 (Umweltinvestitionen des Bundes 2021). https://www.bmk.gv.at/themen/klima_umwelt/klimaschutz/ufi/publikationen/umweltinvestitionen.html
- BMF (2020): Implementation Rules for the Municipal Investment Act (Durchführungsbestimmungen zum Kommunalinvestitionsgesetz 2020 – Richtlinien gemäß § 2 Abs. 3 KIG 2020). https://www.bmf.gv.at/themen/budget/finanzbeziehungen-laender-gemeinden/kommunales-investitionsprogramm.html
- BMK (2022): Investment Guidelines 2022 for Domestic Environmental Subsidies under the Environmental Subsidy Act (Investitionsförderungsrichtlinien 2022 für die Umweltförderung im Inland nach Umweltförderungsgesetz). https://www.bmk.gv.at/themen/klima_umwelt/klimaschutz/ufi/foerderrichtlinie.html
- BMK (2022): Guidelines for subsidies under the Climate and Energy Fund Act (Klima- und Energiefondsgesetz). https://www.klimafonds.gv.at/ausschreibungen/
- BMAW (2021): Subsidy Guideline for the COVID-19 Investment Bonus for Companies (Förderungsrichtlinie „COVID-19-Investitionsprämie für Unternehmen“). https://www.aws.at/corona-hilfen-des-bundes/aws-investitionspraemie/

The following sources were used for the compilation of the section **5.3 Energy Efficiency**

- BMK (2022): Federal Environmental Investment 2021 (Umweltinvestitionen des Bundes 2021). https://www.bmk.gv.at/themen/klima_umwelt/klimaschutz/ufi/publikationen/umweltinvestitionen.html
- BMF (2020): Implementation Rules for the Municipal Investment Act (Durchführungsbestimmungen zum Kommunalinvestitionsgesetz 2020, Richtlinien gemäß § 2 Abs. 3 KIG 2020). https://www.bmf.gv.at/themen/budget/finanzbeziehungen-laender-gemeinden/kommunales-investitionsprogramm.html
- BMK (2022): Investment Guidelines 2022 for Domestic Environmental Subsidies under the Environmental Subsidy Act (Investitionsförderungsrichtlinien 2022 für die Umweltförderung im Inland). https://www.bmk.gv.at/themen/klima_umwelt/klimaschutz/ufi/foerderrichtlinie.html
- BMK (2022): Guidelines for subsidies under the Climate and Energy Fund Act (Klima- und Energiefondsgesetz). https://www.klimafonds.gv.at/ausschreibungen/
- BMAW (2021): Subsidy Guideline for the COVID-19 Investment Bonus for Companies (Förderungsrichtlinie „COVID-19-Investitionsprämie für Unternehmen"). https://www.aws.at/corona-hilfen-des-bundes/aws-investitionspraemie/

The following sources were used for the compilation of the section **5.4 Terrestrial and aquatic biodiversity**:

- Sonderrichtlinie für das Österreichische Programm zur Förderung einer umweltgerechten, extensiven und den natürlichen Lebensraum schützenden Landwirtschaft (ÖPUL 2015); 2022-0.061.025 (BMLRT/Agrarumweltprogramm (ÖPUL) 2015)
- Sonderrichtlinie der Bundesministerin für Landwirtschaft, Regionen und Tourismus zur Gewährung von Zahlungen für aus naturbedingten oder anderen spezifischen Gründen benachteiligte Gebiete im Rahmen des Österreichischen Programms für ländliche Entwicklung 2014 – 2020 „Sonderrichtlinie Ausgleichszulage (AZ)" (BMLRT 2015)
- Evaluierung des Osterreichischen Agrar-Umweltprogramms ÖPUL – Nationaler Detailbericht 2019 (BAB 2019)
- Zusammenfassende Bewertung der Auswirkungen des Programms LE 14-20 auf die Querschnittsthemen Umwelt und Klima, Endbericht 2019 (Umweltbundesamt 2019)
- Bewertung der Wirkung relevanter LE Maßnahmen auf Heuschrecken und Tagfalter als Indikatorarten für Biodiversität (Holzer et al, 2019)

The following sources were used for the compilation of the section **5.5 Environmentally sustainable management of living natural resources and land use**:

- Sonderrichtlinie für das Österreichische Programm zur Förderung einer umweltgerechten, extensiven und den natürlichen Lebensraum schützenden Landwirtschaft (ÖPUL 2015); 2022-0.061.025 (BMLRT/Agrarumweltprogramm (ÖPUL) 2015)
- Sonderrichtlinie der Bundesministerin für Landwirtschaft, Regionen und Tourismus zur Gewährung von Zahlungen für aus naturbedingten oder anderen spezifischen Gründen benachteiligte Gebiete im Rahmen des Österreichischen Programms für ländliche Entwicklung 2014 – 2020 „Sonderrichtlinie Ausgleichszulage (AZ)" (BMLRT 2015)
- Evaluierung des Österreichischen Agrar-Umweltprogramms ÖPUL – Nationaler Detailbericht 2019 (BAB 2019)
- Zusammenfassende Bewertung der Auswirkungen des Programms LE 14-20 auf die Querschnittsthemen Umwelt und Klima, Endbericht 2019 (Umweltbundesamt 2019)
- Bewertung der Wirkung relevanter LE Maßnahmen auf Heuschrecken und Tagfalter als Indikatorarten für Biodiversität (Holzer et al, 2019)
- BMK (2022): Biodiversitäts-Strategie Österreich 2030+. https://www.bmk.gv.at/themen/klima_umwelt/naturschutz/biol_vielfalt/biodiversitaetsstrategie_2030.html

The following sources were used for the compilation of the section **5.6 Sustainable water and wastewater management**:

- BML (2022): Facts and Figures 2022
- BML (2022): Umweltinvestitionen des Bundes – Maßnahmen der Wasserwirtschaft 2021. https://info.bml.gv.at/service/publikationen/wasser/umweltinvestitonen-des-bundes-2021.html
- https://info.bml.gv.at/themen/wasser/wasser-oesterreich/zahlen/anlagenbestand.html
- https://info.bml.gv.at/themen/wasser/nutzung-wasser/vorsorgeplan-trinkwasserversorgung.html
- BML & KPC (2021): Ökoprojekt - Das Fachmagazin für Umweltförderungen. Umweltschutz-Ausgabe – Schwerpunkt Gewässerökologie. https://info.bml.gv.at/service/publikationen/wasser/oekoprojekt-ausgabe-2-2021-fachmagazin.html

The following sources were used for the compilation of the section **5.7 Pollution prevention and control**:

- Umweltbundesamt – Environment Agency Austria (2022): Verdachtsflächenkataster und Altlastenatlas – as of January 1, 2022. ISBN 978-3-99004-630-2. https://www.umweltbundesamt.at/studien-reports/publikationsdetail?pub_id=2419&cHash=92cff42fdf76ee74818cff17e2458f8b
- Umweltbundesamt – Environment Agency Austria (2023): Verdachtsflächenkataster und Altlastenatlas – as of January 1, 2023. ISBN 978-3-99004-679-1. https://www.umweltbundesamt.at/studien-reports/publikationsdetail?pub_id=2461&cHash=6f52f34058926c3f8541ab66c243d96e
- BMK (2022): Federal Environmental Investment 2021 (Umweltinvestitionen des Bundes 2021). https://www.bmk.gv.at/themen/klima_umwelt/klimaschutz/ufi/publikationen/umweltinvestitionen.html
- BMK (2022): Austria on the Path to a Sustainable and Circular Society – The Austrian Circular Economy Strategy. https://www.bmk.gv.at/en/topics/climate-environment/waste-resource-management/ces.html
- BMK (2022): Förderungsrichtlinien 2016 für die Altlastensanierung oder -sicherung. https://www.umweltfoerderung.at/fileadmin/user_upload/media/umweltfoerderung/Uebergeordnete_Dokumente/FRL_ALSAG.pdf

The following sources were used for the compilation of the section **5.8 Climate change adaptation**:

- BML (2023): Umweltinvestitionen des Bundes – Maßnahmen der Wasserwirtschaft 2022.
- BML (2022): Umweltinvestitionen des Bundes – Maßnahmen der Wasserwirtschaft 2021. https://info.bml.gv.at/service/publikationen/wasser/umweltinvestitonen-des-bundes-2021.html
- BMK (2021): Austria's Adaptation Communication Pursuant to Article 7, paragraphs 10 and 11 of the Paris Agreement https://unfccc.int/ACR/Austria
- BMNT (2019): The Austrian strategy for adaptation to climate change – Part 2: Action Plan. SBN 978-3-99091-010-8. https://www.bmk.gv.at/dam/jcr:3b304e0f-bae9-4cc8-a934-ae8d212f7fe4/NAS_Action_Plan2017_en.pdf
- BMNT (2017): The Austrian strategy for adaptation to climate change – Part 1 Context. ISBN 978-3-903129-46-7. https://www.bmk.gv.at/dam/jcr:a97fb5f2-85c5-4027-b377-383f80eee354/NAS_Context_2017_en.pdf

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