



SHAPING
THE FUTURE.
**TAKING
MEASURES.**

SUMMARY




LOWER AUSTRIAN CLIMATE AND ENERGY PROGRAMME 2030

2021 bis 2025

ACTION PERIOD 1



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For more information about the Climate and Energy Programme 2030 go to: <http://land-noe.at/noe/KEP.html>

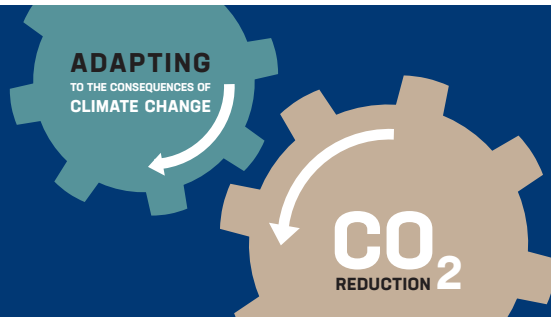
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2021 bis 2025

ACTION PERIOD 1



The climate crisis is the greatest challenge facing humanity today, and we can only master it together!

We can stand proud! Lower Austria's climate policy is exemplary – which both Arnold Schwarzenegger and the Minister-President of Baden-Württemberg Winfried Kretschmann pointed out when looking at the many initiatives launched by our federal province and our municipalities. Our pioneering role in climate protection should motivate us to continue working towards the energy transition purposefully and in exemplary fashion. But goals alone are not enough. A concrete action plan is needed to implement the many ideas contained in the Climate and Energy Road Map 2020 to 2030, in accordance with the maxim: "Doing what a federal province can do". This action plan is now in place. It is up to us to set the course for sustainable management and clean mobility today in order to preserve our hard-earned prosperity and quality of life in Lower Austria for the sake of our children.

DOING WHAT A FEDERAL PROVINCE CAN DO

JOHANNA MIKL-LEITNER
Provincial Governor of Lower Austria



Climate and business go hand in hand – that is our blue and yellow road to a green climate future!

With the Lower Austrian Climate and Energy Road Map 2030, adopted in 2020, we set the course for a clean energy and climate future. The present programme lays down specific mandatory measures for the first half of the 2030 target period. We want to make our federal province oil free, increase power generation from photovoltaic power plants by a factor of ten, significantly reduce greenhouse gas emissions by 2030, expand e-mobility and adapt to climate change sustainably. The Lower Austrian Climate and Energy Programme 2030 is the key thereto. Growing through a challenge that we tackle together – for a good climate, a flourishing business location, unspoiled nature and a high quality of life – that is the road we are taking!

WE ADDRESS CLIMATE CHANGE ON KLIMAWANDELN.AT - NOW!

STEPHAN PERNKOPF
Deputy Provincial Governor of Lower Austria

The Lower Austrian Climate and Energy Programme 2030 - Setting the course for a liveable future

The Lower Austrian Climate and Energy Programme 2030 is the work programme of the Office of the Lower Austrian Government adopted by the federal province's government and parliament to achieve Lower Austrian climate and energy goals. It comprises 353 specific measures for the first period of action (2021-2025). The Lower Austrian Climate and Energy Road Map 2020 to 2030 and the increasingly visible effects of climate change spell out the framework of goals.

The effects of climate change must be addressed in two different ways:

1



The temperature increase must be limited to a maximum of 2°C by reducing emissions in order to avoid unmanageable consequences.

The higher the temperature increase – the costlier the necessary adjustments and the more painful and/or unmanageable the consequences for our life will be.

2



At the same time, the effects of unavoidable climate change must be made manageable by adaptation.

Climate change is already happening and cannot be completely reversed, as a result of which we must adapt. The more successful we are in protecting the climate, the less adaptation will be necessary – without climate protection, the repercussions will be so severe that they will exceed the technical limits of adaptation.

The measures of the Lower Austrian Climate and Energy Programme seek to achieve the objectives set out in the Lower Austrian Climate and Energy Road Map. In order to achieve the goal, it is crucial for all the players to assume their respective responsibilities (federal government, provincial government, municipalities, companies and the public).

The Federal Province of Lower Austria does its bit by

Taking an active role in building a future-proofed Lower Austria, because not taking action is not an option!



setting an example in its own sphere of influence;



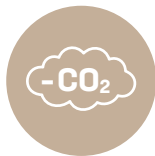
establishing basic conditions in accordance with its competencies to protect our climate and strengthen companies, municipalities and the public by targeted consulting and support offers on the road to a climate-friendly future;



lobbying for the **establishment of the necessary conditions** to achieve the joint climate and energy goals on a **federal level**, even outside the federal province's remit.

Dynamic developments require flexible action:

The present Lower Austrian Climate and Energy Programme 2030 is the first of a total of two planned implementation programmes and refers to the implementation period 2021 to 2025. It seeks to achieve the following objectives:



Reducing greenhouse gas emissions

An evaluation of the potential for action reveals that the present programme is equipped to contribute significantly to achieving the federal and provincial objectives applicable in 2020 of reducing greenhouse gas emissions for 2030. The prerequisite for this is that the measures at the level of all regional authorities are implemented to the full extent.



Raising the share of renewable energy sources

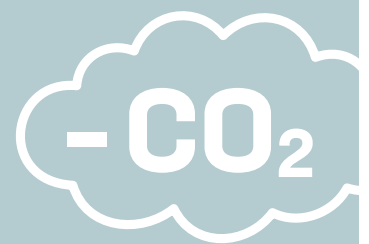
An evaluation of development potential on which the energy measures are based reveals that this programme is well-equipped to achieve the development goals for renewable energy sources in accordance with the objectives of the Climate and Energy Road Map. Among other things, however, frameworks defined by the federal government are likewise instrumental in this respect.



Improved adaptation to the effects of climate change

Based on the analysis of Lower Austria's vulnerability to the effects of climate change, the portfolio of measures was specifically chosen to improve Lower Austria's resilience in the face of the anticipated repercussions of climate change.

The Lower Austrian Climate and Energy Programme 2030 was developed under the general conditions applicable to the year 2020. However, the global development of emissions and the increasingly noticeable effects of climate change will require the adoption of even stricter goals. This will be done in agreement with the EU and federal levels. If necessary, the present action programme will be extended.



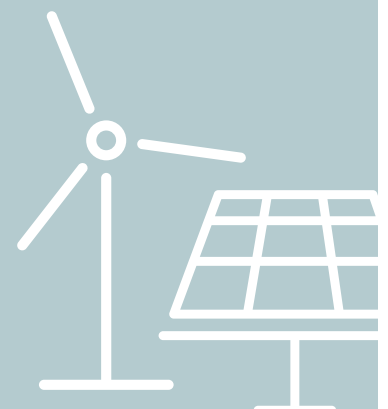
Participatory creation process ensures acceptance

To ensure that this programme which covers much ground is accepted to the extent necessary, care was taken to establish a comprehensive participation process early on during its preparation.

In a first step, suggestions by specialists from the regional administration, external experts, stakeholders as well as approaches taken from the programmes and action plans of other federal provinces and the federal government that could be adopted by Lower Austria were collected in an initial proposal.

In a second step, this proposal was coordinated in several phases with service units and stakeholders.

In a third step, this factually agreed version was examined for feasibility with the politically responsible entities, and a relevant resolution was adopted in the federal province's government and parliament.



The content structure of the Lower Austrian Climate and Energy Programme:

The programme pools all of the measures for implementing the energy transition, for climate protection and for the manageability of climate change in Lower Austria for the next five years.

It includes 353 measures, of which

- » 268 measures have climate change mitigation effects,
- » 134 measures promote the use of renewable energy sources and energy efficiency and
- » 173 measures contribute to the improved adaptation to climate change.

To ensure the ready comprehensibility of the programme despite the broad range of issues covered, measures with related content were grouped into 6 categories and 62 lines of action. This structure largely follows the system of greenhouse gas balancing and the 14 fields of activity of the Austrian Strategy for Adaptation to Climate Change

THE CATEGORIES AND LINES OF ACTION OF THE LOWER AUSTRIAN CLIMATE AND ENERGY PROGRAMME



CONSTRUCTION. HOUSING

- » Model federal province
- » Lower Austria to be oil free
- » Energy performance certificate & plant database
- » Energy refurbishment
- » Climate-proofed buildings
- » Climate-friendly buildings ready for the energy transition
- » Information and advice
- » Reducing land use
- » Demands on the federal government



MOBILITY. SPACE

- » Model federal province
- » Active mobility
- » Mobility as a service
- » Public transport
- » Mobility in tourism
- » e-mobility
- » Control measures
- » Climate-friendly spatial planning
- » Green infrastructure
- » Demands on the federal government



BUSINESS. SUSTAINABLE

- » Model federal province
- » Renewable & efficient production
- » Climate & resources
- » Sustainable developments
- » Know-how & knowledge
- » Climate-friendly tourism
- » Climate-friendly lifestyle
- » Educational activities
- » No-border climate protection
- » SDGs in Lower Austria
- » Demands on the federal government



Climate protection, energy and adaptation to climate change are relevant for almost all of the federal province's spheres of influence. This can give rise to synergies as well as to tensions with respect to other topics. To manage the opportunities and challenges arising therefrom as best possible, 7 crucial interdisciplinary topics were specified in addition to the 6 technical categories and assigned a networking task.

Each category begins with a summary of the measures with which the provincial administration intends to lead by example under the heading "Model federal province" - 39 measures in all.

At the end of each category, the heading "Demands on the federal government" summarises the prerequisites necessary on the part of the government in order for it to achieve the goals set - 45 in all.

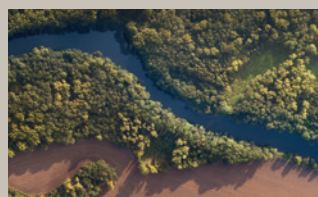
The bulk of the programme is made up of all of the measures with which the federal province of Lower Austria can guide the decisions of as many affected people as possible into the right direction by providing appropriate frameworks and support - 269 measures in all.

The following pages provide essential background information for each category as well as all of the measure's titles in accordance with their lines of action.



ENERGY. SUPPLY

- » Model federal province
- » Development of renewables
- » Citizen participation
- » Renewable local heating
- » Fossil gas exit
- » Energy infrastructure
- » Efficiency measures & sector coupling
- » Demands on the federal government



LAND. WATER

- » Model federal province
- » Water availability
- » Water quality
- » Biodiversity
- » Climate-resilient forests
- » Forest research
- » GHG reduction in agriculture
- » Agriculture & climate change
- » Healthy soils
- » Soil water balance
- » Climate-friendly promotion of agriculture
- » Climate risk management
- » Food sovereignty
- » Demands on the federal government



HUMAN. PROTECTION

- » Model federal province
- » Flood control along running bodies of water
- » Protection against strong rains and erosion
- » Climate-conscious disaster management
- » Climate-friendly diet
- » Climate & health
- » Demands on the federal government



INTER- DISCIPLINARY TOPICS

- » Implementing the Lower Austrian Climate and Energy Programme
- » Finances
- » Air quality and particulate matter
- » Municipalities and regions
- » Science and research
- » Added value and employment effects
- » Digitalisation
- » Nature friendliness





CONSTRUCTION. HOUSING



The Construction.Housing category includes all energy utilisation and the related **greenhouse gas emissions of households, private service buildings and public buildings.** Accounting for 15% of the emissions not governed by the EU emissions trading scheme, this category generates the third highest emissions in Lower Austria. 93% thereof stem from residential buildings heated with fossil fuels (households), the rest is accounted for by non-residential buildings (e.g. offices, hotels, retail and commercial buildings). **Emissions have already declined by 36% since 2005. Much has already been achieved.**



In relation to buildings, **options for reducing greenhouse gas emissions** mainly **include ending the use of fossil energy sources** used for heating the buildings and improving the thermal properties of building shells by insulation measures.



The climate change effect that has the strongest impact on the Construction.Housing category is the related temperature increase. While it has a positive effect on emission developments during the winter period as a result of a decline in the need for heating, the demand for cooling is expected to rise during the summer season due to longer periods of heat. More extreme weather events, particularly heavy local rains and the related risk of landslides and local floods are having a growing influence on this category.

The Construction.Housing category is particularly critical to the federal province of Lower Austria from a legal perspective, because to a great extent, the competencies needed to implement measures, e.g. via the building code or housing subsidies, are the responsibility of the federal province itself. Even if emissions from public buildings make up only a fraction of overall emissions, the pull effect of emission reduction measures should not be underestimated! Good examples have a lighthouse effect. Therefore it is with deliberate purpose that measures in provincial government buildings are set at the beginning of the programme.

CH 1 Model federal province: Making the provincial government buildings of Lower Austria climate-friendly

1. Positioning all of the provincial government buildings as carbon-neutral pioneering buildings and converting them following a clear phased plan
2. Ensuring a climate-friendly parking lot design for all provincial government buildings
3. Developing specifications for provincial government buildings
4. Devising a refurbishment plan for existing provincial government buildings
5. Providing 100% renewable power for all provincial government buildings
6. Encouraging use of renewable electricity in the municipalities
7. Implementing demonstration projects for the greening of provincial government buildings
8. Encouraging the climate-friendly cooling of provincial government buildings
9. Promoting energy-efficient lighting
10. Training energy and climate officers
11. Implementing award for green construction in Lower Austria
12. Driving forward the initiative on PV citizen participation
13. Continuing and extending environmental management systems
14. Tying municipal building grants more closely to climate and energy criteria
15. Developing energy monitoring in the municipalities
16. Developing new energy accounting evaluations and advisory services

CH 2 Exiting oil: Ending use of fossil fuel heating systems

1. Implementing withdrawal from fossil oil in building stock as a graduated plan
2. Securing boiler replacement grants in the long term
3. Transitioning to renewable heating systems in non-residential buildings
4. Implementing an initiative encouraging exit from oil furnaces
5. Gradually phasing out fossil gas use for heating residential buildings
6. Ensuring exclusion of fossil gas heating systems from housing subsidies
7. Supporting pilot projects to reduce gas use
8. Devising the innovation project "Power to Gas" for 1,000 households

CH 3 Introducing an energy performance certificate and plant database

1. Implementing an energy performance certificate and plant database
2. Improving the quality of energy performance certificates
3. Introducing the documentation of heating and air conditioning systems

CH 4 Promoting the energy refurbishment of building stock

1. Developing a graduated plan for the rehabilitation of buildings and increasing the refurbishment rate
2. Introducing a refurbishment certificate for buildings (remediation plan)
3. Developing new instruments of refurbishment support for residential buildings
4. Implementing campaign for energy refurbishment of commercial buildings
5. Promoting top-floor insulation
6. Launching "top floor" campaign
7. Implementing measures against energy poverty

CH 5 Climate-proofing building stock

1. Adjusting construction standards and norms to climate change
2. Making climate-friendly car park design mandatory for residential buildings
3. Strengthening the linking of housing subsidies to the requirements of climate change and the energy transition
4. Driving innovative solutions for passive and active cooling

CH 6 Getting buildings in shape for the energy transition

1. Using large-volume residential buildings for solar energy generation
2. Increasing share of renewable energy and ecological construction materials in the building stock
3. Increasing the efficiency of existing heating systems
4. Introducing flow temperature limits in new buildings
5. Reducing energy consumption for hot water generation in residential buildings with innovative approaches
6. Planning for easily accessible bicycle parking spaces in large-volume residential buildings
7. Improving air quality in schools
8. Encouraging solar cooling for non-residential buildings
9. Providing for the solar PV suitability of large buildings
10. Encouraging innovative refurbishment solutions and climate-adaptive technologies
11. Supporting pilot projects for heat pumps at low outdoor temperatures
12. Exploring approaches for the climate-neutral operation of heat pumps
13. Aligning new construction in Lower Austria with ecological and climate neutrality goals
14. Initiating solar PV and lighting campaign with businesses
15. Devising cooperation project "1,000 active houses"
16. Adjusting grant eligibility criteria for large residential buildings to the requirements of the "green financial market"

CH 7 Offering independent information and guidance for climate-friendly buildings

1. Supporting Energieberatung NÖ (Energy Consulting Lower Austria)
2. Providing guidance on protecting buildings from the hazards of climate change
3. Strengthening awareness building and information related to climate-friendly construction among developers and professionals
4. Supporting business with regard to climate-friendly buildings
5. Stepping up independent consulting and support for municipalities for climate-friendly buildings

CH 8 Reducing land use for buildings

1. Creating databases and awareness for soil sealing
2. Continuing to promote subsidies for redensification on residential building land
3. Reducing land use for parking spaces in businesses

CH 9 Demands on the federal government in the Construction.Housing category

1. Defining sector goals for air pollution inventory (BLI) sectors
2. Introducing a tax break for energy refurbishments
3. Ensuring long-term and plannable grants
4. Establishing clear price signals for fossil energy sources
5. Reviewing tax breaks for home exchanges
6. Adjusting federal laws for climate-oriented housing
7. Developing uniform rules for the prohibition of liquid fossil fuel energy sources
8. Abolishing counter productive grants in the construction and housing category
9. Better incentives for reuse and renovation of period buildings in town centres



MOBILITY. SPACE



The Mobility.Space category includes all energy utilisation and the related **greenhouse gas emissions in passenger and freight services**. Accounting for almost half of the emissions not governed by the EU emissions trading scheme (46% for the year 2018), this category is by far the largest emitter in Lower Austria. Passenger transport is responsible for 59% of this 46% share and freight traffic by road is responsible for 40% thereof. By comparison, ship and rail freight transport emissions, which account for 1%, are very low.

In contrast to the building category, there has been no decline in emissions in the mobility sector since 1990 – on the contrary, emissions in this category have increased by approximately 70%.



Options for reducing greenhouse gas emissions in the mobility category **include withdrawing from the use of fossil energy sources**, i.e. increasing use of electricity from renewable energy sources and shifting to zero-emission mobility solutions.



The climate change effect that has the strongest impact on the Mobility.Space category is the related temperature increase. This is reflected both by the thermal stress on transport infrastructure and the increase of heat stress for active road users, such as pedestrians and cyclists, as well as in an increased demand for cooling in vehicles and waiting areas. In addition, it is important to pay timely attention to any escalating conflicts of use that may occur due to rising temperatures and more frequent extreme weather events.

Unlike in the building category, many legal options in the mobility category are in the hands of the federal government. As a result and within the limits of its remit, the federal province of Lower Austria relies on a host of measures that accelerate the transition to zero-emission and climate-friendly forms of mobility and that support the climate-friendly behaviour of people with forward-thinking spatial development. Accordingly, implementing exemplary mobility management in the federal province's own sphere of influence represents a significant step forward.

MS 1 Model federal province: Implementing exemplary mobility management in the provincial civil service

1. Converting provincial government's vehicle fleet to alternative drive technologies
2. Conducting fuel-efficient driving training for lorry drivers in the provincial civil service
3. Implementing e-infrastructure in all provincial offices open to the public
4. Continuing to develop efficient street lighting
5. Promoting video conferences and making them technically feasible
6. Developing and implementing approaches for climate-friendly working models in the provincial civil service
7. Providing mobility schemes and incentive systems for the commute to the workplace
8. Promoting climate-neutral business travel
9. Establishing a carpool for the provincial civil service

MS 2 Making pedestrian and cycling mobility more attractive (active mobility)

1. Developing a comprehensive active mobility strategy, taking the campaign RADLand NÖ (cycling province Lower Austria) into account
2. Boosting bicycle network infrastructure in commercial areas (e.g. business parks)
3. Increasing share of active mobility by giving priority to pedestrian and bicycle traffic in centres
4. Pushing for shared responsibility for cycle path development across municipalities
5. Developing measures to increase the cycling share in centres
6. Aligning public transport offers to cycling customers
7. Promoting e-cargo bikes and folding bikes

MS 3 Facilitating access to climate-friendly mobility offers by means of digitalisation (MaaS)

1. Improving the digital interconnection of all mobility services
2. Continuing to develop mobility management for municipalities

MS 4 NÖ Mobilitätsgarantie: Developing climate-friendly public transport as the backbone of mobility

1. Developing NÖ Mobilitätsgarantie (Lower Austrian mobility guarantee)
2. Expanding and improving public transport services
3. Continuing to develop fare products in Verkehrsverbund (transport association)
4. Introducing priority routes for public transport
5. Preserving and adapting rail infrastructure as the backbone of public transport
6. Taking greater account of climate criteria in public transport tenders
7. Implementing flexible mobility offers to complement fixed route public transport services
8. Implementing pilot project for the decarbonisation of public transport
9. Making public transport waiting areas climate-friendly
10. Developing risk management through a stronger focus on climate effects in the transport system



11. Increasing the attractiveness of and developing bike&ride (B&R), park&ride (P&R) and park&drive (P&D) facilities
12. Optimising the integration of public transport stops into the active mobility scheme

MS 5 Making tourism mobility more climate-friendly

1. Increasing reachability of top destinations and high-frequency attractions by soft mobility means
2. Preparing and communicating comprehensive soft mobility solutions for cycling tourism
3. Developing province-wide solutions for "last mile/regional mobility" for overnight guests
4. Helping tourism businesses to communicate soft mobility services
5. Taking into account and communicating soft mobility as part of tourist services development

MS 6 Encouraging e-mobility as the key to the mobility transition in Lower Austria

1. Creating and implementing a package of measures to raise the share of e-vehicles
2. Stepping up the construction of recharging infrastructure
3. Developing and retrofitting charging points in large-scale housing
4. Implementing uniform presentation and pricing of charging costs
5. Creating time- and energy-dependent billing systems for electric filling stations
6. Pushing forward with uniform reservation system for electric filling stations
7. Facilitating first-time access to electric filling stations
8. Promoting networking and cooperation projects related to alternative drive technologies

MS 7 Making freight transport in Lower Austria climate-friendly

1. Defining and retaining logistics sites
2. Securing regional rail freight transport infrastructure
3. Pushing ahead with freight consolidation for climate-friendly logistics
4. Making use of digital information and services to increase the efficiency of freight transport
5. Developing and supporting solutions for optimised parcel delivery
6. Pushing forward with the cooperation platform of the Danube riparian regions
7. Publishing forward tests for CO2-free powered trucks

MS 8 Implementing climate-oriented control measures in mobility

1. Consolidating existing approaches and strategies in terms of traffic prevention
2. Increasing occupancy rate in passenger vehicles
3. Improving traffic situation in the context of schools
4. Enforcing speed limits more strictly and minimising tolerances
5. Integrating climate change adaptation measures into the Lower Austrian Mobility Plan 2030+



MS 9 Aligning spatial planning with climate-friendly goals (short distances, less climate risk)

1. Extending measures related to climate protection issues in the Spatial Planning Act (ROG)
2. Implementing the pilot project "Moving construction land of commercial areas" (Baulandumlegung von Betriebsgebieten)
3. Boosting importance of climate protection and climate change adaptation in spatial planning
4. Supporting Lower Austrian municipalities in spatial energy planning
5. Continuing to promote internal densification
6. Strengthening local amenities
7. Aligning spatial planning with public transport
8. Taking pedestrian and cycling traffic into stronger account in local spatial planning
9. Taking into account climate-related challenges in supra-local spatial planning
10. Taking into account climate-related challenges of spatial planning and local development planning
11. Introducing compulsory tools for energy-efficient settlement development
12. Reducing land use for construction (residential and commercial)
13. Designing plan to compensate for land use in road construction and for capacity extensions
14. Securing vital areas to mitigate the effects of climate change
15. Reviewing climate proofing as planning base in Lower Austria
16. Boosting ecological site development and commercial area renewal

MS 10 Expanding green infrastructure and adapting it to the demands of climate change

1. Developing advisory services for the prevention of heat islands in housing developments
2. Reviewing practicability of regional climate analyses
3. Promoting the greening of town and settlement centres as well as commercial areas
4. Developing basics for adapting green infrastructure to climate change
5. Promoting climate-change-adapted design and care of public green spaces in line with the principles of "Natur im Garten" (Nature in the Garden)
6. Supporting the preservation and expansion of green spaces in private gardens
7. Boosting guidance and funding initiatives to adapt watering management of green and open spaces

MS 11 Demands on the federal government in the Mobility.Space category

1. Adapting legal framework for implementation of non-fixed route mobility services
2. Continuing to increase the blending rate for biofuels
3. Steadily shifting long-distance transport to railroad and ship
4. Taking account of external transport costs
5. Setting fair prices in air traffic that factor in climate effects
6. Continuing to impose different taxes on e-cars and fossil fuel vehicles and keeping use of green electricity mandatory
7. Reviewing the electrification of the primary road network
8. Making public transport waiting areas climate-friendly
9. Promoting climate-oriented logistics plans in trade procedures

MS

THE MEASURES IN THE MOBILITY.SPACE CATEGORY



BUSINESS. SUSTAINABLE



The Business.Sustainable category includes all energy utilisation and the related **corporate greenhouse gas emissions, including the waste management industry.** Without the emissions of the large, energy-intensive industrial businesses governed by EU-wide emissions trading, this category accounts for 17% of emissions. Half of this derives from the combustion of fossil fuel sources and industrial processes in companies, followed by 18% from fluorinated gases (mainly coolants), while landfills and waste incineration account for 16% each. **The development of emissions since 2005 reveals a heterogeneous picture:** While the waste industry has reduced its emissions by approximately 20%, both the emissions from companies as well as the F-gases have risen by roughly 30%.



The most powerful levers for reducing emissions in the Business.Sustainable category **are withdrawing from fossil fuel sources and improving energy efficiency.** In waste management, approaches include avoiding methane emissions from landfills and reducing fossil feedstock in waste incineration.

Since emissions from production and disposal are ultimately the result of purchase and consumption behaviour, sustainable procurement measures, a climate-friendly lifestyle and global action are essential strategic building blocks in this category.



The Business.Sustainable category is affected by climate change in two ways. On the one hand, production processes are jeopardised by extreme weather events causing increasing problems with delivery chains or production sites. Rising heat stress can also negatively affect people and facilities. On the other hand, the energy transition and the adjustment to climate change also generate demand for innovative services and products and in doing so new market opportunities for businesses in Lower Austria. Tourism as part of the economy is affected by the effects of climate change in different ways: While rising temperatures may constitute a disadvantage for classical winter tourism, they also open up opportunities for all-year round tourism.

Note that the federal government is responsible for defining the main legal conditions in the Business.Sustainable category. However, the federal province of Lower Austria contributes to making companies climate-friendly and preparing them for the energy transition with supporting measures - this intends to allow for change to be seized as a business opportunity. Since the federal province of Lower Austria is a significant economic player itself, the programme aims not only to support climate-friendly behaviour among companies, but it also aspires to lead by example with sustainable and climate-compatible practices.

BS 1 Model federal province: Enshrining sustainability and climate compatibility as relevant deciding factors in the provincial civil service

1. Further developing public procurement and consistently aligning it with sustainability criteria
2. Developing Lower Austria's sustainable public procurement service (Nachhaltiges Beschaffungsservice NÖ)
3. Ensuring mandatory sustainability pre-audit for high-volume procurement transactions
4. Developing approach for the consideration of climate and sustainability goals in municipalities
5. Hosting all provincial government events as green events (Saubere Feste)
6. Expanding the federal province's climate, environmental and sustainability reporting

BS 2 Increasing energy efficiency and share of renewable energy in production

1. Supporting companies in their shift to more energy-efficient production processes
2. Expanding advisory services to Lower Austrian companies regarding energy efficiency, process optimisation, climate protection and climate change adaptation
3. Initiating sector-specific programmes for fossil-free, energy-efficient and climate-friendly companies

BS 3 Developing climate-oriented resource management: From intelligent product design to raw materials procurement to recycling

1. Developing advisory services for companies on resource efficiency, waste, sustainable products
2. Promoting operational risk management that considers climate change
3. Strengthening regional business structures to increase security of supply

BS 4 Building and driving forward climate-, environment- and resource-oriented developments in Lower Austrian economy in a targeted manner

1. Initiating and supporting research and technology projects on climate-, environment- and resource-oriented processes, products and services
2. Preparing environment, climate and resource focus in Lower Austrian research funding and in the RTI strategy
3. Making greater use of the federal bio economy platform (Plattform Bioökonomie) for Lower Austria
4. Giving targeted support to new climate-protecting business models and products
5. Supporting broadband expansion as foundation for a climate-compatible "Industry 4.0"
6. Reviewing the funding of digitalisation projects for climate effects
7. Giving targeted support to sustainable, climate-relevant products/services from Lower Austria
8. Pushing ahead with cyclist infrastructure at the place of work
9. Surveying value creation effects through alternative drives in Lower Austria
10. Integrating climate protection and climate change adaptation into NÖ Wirtschaftsförderung (Lower Austrian business promotion)

BS 5 Strengthening climate-related know-how and knowledge in the companies (building awareness)

1. Establishing and developing the internal business department's economy and climate (Wirtschaft und Klima) steering group with all its subsidiaries
2. Intensifying communication on climate protection, climate change and energy
3. Assessing the training needs of companies in the environmental technology industry
4. Promoting knowledge on timber construction among building planners





BS 6 **Developing tourism in Lower Austria that is climate-conscious and adapted to climate change**

1. Positioning Lower Austria as a destination for summer trips and holidays
2. Promoting around-the-year tourism offerings as alternatives to ski tourism
3. Making tourism businesses climate-friendly
4. Processing and communicating impact of climate change on tourism
5. Promoting the show garden network "Schaugartennetzwerk Natur im Garten"

BS 7 **Avoiding waste to PROTECT the environment**

1. Initiating dishmobile action plan (Geschirrmobil)
2. Stopping food waste
3. Raising waste prevention potential in retail
4. Promoting repair and reuse
5. Expanding the initiative "Together against single-use plastics" (Gemeinsam gegen Einwegkunststoff)
6. Promoting the use of bioplastics
7. Highlighting the climate relevance of waste management

BS 8 **Making better USE of recyclable materials**

1. Implementing campaign "Our residual waste goes on a diet" (Unser Restmüll geht auf Diät)
2. Collecting waste specifically as recyclable materials
3. Improving plastic waste collection data
4. Making better use of biogenic waste
5. Promoting recyclable construction materials instead of demolition waste
6. Evaluating urban stores for waste electrical equipment

BS 9 **Boosting emission reduction in waste treatment**

1. Optimising landfill aftercare

BS 10 **Intensifying awareness building for a climate-friendly lifestyle**

1. Putting together the Lower Austrian participation programme "klimawandeln" (changing the climate for the better)
2. Developing and implementing municipal campaign or competition "reducing CO2 together"

3. Making stronger use of art and culture as a bridge for teaching climate topics and global responsibility
4. Creating awareness for global effects and causes of the climate crisis and offer solutions

BS 11 **Strengthening education initiatives on climate protection and climate change**

1. Expanding training offers on climate and environmental topics
2. Continuing to develop the Climate.Knowledge school package
3. Deepening climate awareness among young people via grants and initiatives
4. Launching educational initiatives on climate topics for additional target groups
5. Stepping up efforts by libraries in the "Leseumwelt" initiative to include more climate topics

BS 12 **Implementing climate activities beyond the federal province's borders in line with sustainable development goals (SDGs)**

1. Jointly aligning sustainable development collaboration with SDGs in Lower Austria
2. Expanding international partnerships in the climate sector


BS 13 **Demands on the federal government in the Business.Sustainable category**

1. Optimising and harmonising the collection of plastics in Austria
2. Rapidly implementing the objectives of the Circular Economy 2.0 Action Plan (Aktionsplan Kreislaufwirtschaft 2.0) with regard to product and packaging design
3. Continuing to develop a coordinated approach between federal government and federal provinces regarding implementation of the SDGs
4. Increasing product service life
5. Consistently aligning federal grants for enterprises with decarbonisation
6. Introducing full disclosure of origin labelling for food



THE MEASURES IN THE BUSINESS.SUSTAINABLE CATEGORY





ENERGY. SUPPLY



The Energy.Supply category includes energy consumption and **the direct emissions from power utilities**, i.e. all the facilities necessary for the conversion of primary energy (crude oil, crude gas, wood, hydropower, wind power, etc.) into forms of final energy that can be used by households and the economy (e.g., fuels, electricity, district heating, pellets). The bulk of emissions from energy supply is governed by EU-wide emissions trading. The emissions from energy supply not governed by EU emissions trading account for only 3% of emissions in Lower Austria. 30% thereof originate from small fossil-fuelled power and heat supply plants, 2% from oil and gas extraction and 68% from fugitive emissions in gas transmission. Emission development shows that a reduction of approximately 60% has been achieved since 2005.



The most powerful lever for reducing emissions in this category **lies in shifting to renewable forms of energy**, with the conversion of small, fossil-fuelled electricity and heat supply facilities representing the most rapidly effective option.

All the measures necessary to adapt the energy infrastructure to changing demands by increasing the share of renewable energy sources are also subsumed in this category.



The Energy.Supply category is affected by the effects of climate change primarily as a result of extreme weather events that pose a risk to infrastructure facilities – such as storms, landslides, flooding and extreme heat. In addition, the increasingly frequent low water levels as a consequence of periods of drought will result in a decline of hydropower generation.

Most competencies in the Energy.Supply category lie with the federal government.

Independent of this framework, the Federal Province of Lower Austria can and will promote the development of renewable energy sources and concomitantly the energy transition through the pilot implementation of innovative solutions as well as by the joint development of long-term strategies with energy companies based in Lower Austria.

In this way, Lower Austria will ensure that the departure from fossil fuel sources in energy supply and the requisite adaptation of the energy infrastructure are quickly and effectively implemented. Practices adopted in the federal province's properties are, for instance, the promotion of solar PV power generation, the expansion of the e-charging infrastructure and the purchase of renewable electricity.

ES 1 Model federal province: Developing exemplary energy supply in the provincial civil service

1. Continuing to develop an exemplary energy supply in the provincial civil service

ES 2 Improving conditions for the nature-friendly development of solar PV power, wind power, biomass and other renewable energy sources

1. Eliminating regulatory elements that inhibit the development of renewable power plants and associated networks
2. Securing sufficient sites for the development of photovoltaics
3. Providing easy and transparent grid access for solar PV and wind power plants
4. Installing a Lower Austrian solar PV information point
5. Promoting solar thermal power, hydropower and biomass
6. Increasing acceptance for renewable energy sources

ES 3 Boosting citizen power plants and participation for renewable energy sources

1. Supporting citizen participation projects and energy communities

ES 4 Continuing to develop renewable local heating

1. Continuing to support local biomass heating plants and making them more attractive
2. Switching local fossil fuel heating plants to renewable energy supply
3. Developing and promoting energy networks in Lower Austria
4. Promoting large-scale solar plants close to local biomass heating systems
5. Checking obligation to accept waste heat for heating network operators

ES 5 Speeding up the gradual phase-out of fossil gas

1. Devising a strategy for renewable gas
2. Permitting any further development of gas infrastructure by exception only
3. Developing energy modelling skills in Lower Austria

ES 6 Developing regional strategies for an energy infrastructure that is fit for the future

1. Initiating a joint planning process for a Lower Austrian energy infrastructure that is fit for the future
2. Supporting pilot projects for a fossil-free energy infrastructure

ES 7 Advancing efficiency measures and sector coupling / integration

1. Continuing energy efficiency monitoring
2. Continuing to develop the Lower Austrian Energy Efficiency Act (NÖ Energieeffizienzgesetz)
3. Supporting pilot projects for sector coupling

ES 8 Demands on the federal government in the Energy Supply category

1. Reducing taxation of renewable energy resources
2. Improving the general conditions for sector coupling
3. Increasing mineral royalties for fossil energy sources
4. Harmonising and securing solar PV subsidies in the long term
5. Eliminating counterproductive subsidies for fossil energy
6. Realigning the Federal Energy Efficiency Act (Energieeffizienzgesetz)
7. Making large existing roof areas available for solar PV use
8. Continuing to secure the supply of electricity from biogas plants

THE MEASURES IN THE ENERGY SUPPLY CATEGORY





LAND. WATER



The Land.Water category includes energy consumption and **direct emissions from agriculture and forestry**. None of the agricultural and forestry holdings in Lower Austria are subject to EU emissions trading. Agriculture accounts for approximately 10% of overall emissions (i.e. in all categories incl. EU emissions trading). Looking at only the emissions outside of emissions trading, agriculture is responsible for 19% of emissions. The bulk of these emissions stems from agricultural production itself: 41% from cattle husbandry (methane emissions), 12% from liquid manure and 32% from the nitrous oxide emissions of agricultural areas. Emissions from the direct use of fossil energy sources in agricultural and forestry machines account for a share of 15%. **Emissions in agriculture and forestry have been reduced by 3% since 2005.**



In terms of energy supply, **the key lever for reducing emissions** in the Land.Water category is withdrawing from fossil fuels. Overall, **the switch to climate-friendly practices in agriculture** constitutes the most significant contribution.



Climate change affects the Land.Water category directly, because any change in climate has immediate repercussions on production conditions in agriculture and forestry and the ecosystem services nature provides. Extreme events such as drought, late frost, heavy rainfall and storms pose the greatest threat in this context and may also favour the proliferation of harmful domestic organisms and invasive non-native species. Vegetation zones shift and the composition of species in certain ecosystems changes. Wet areas are particularly hard hit by these changes. In forestry, time is also a factor to be considered: Today's selection of tree species will characterise the structure and resilience of forests until the end of the century – a time when different climatic conditions will prevail. Against the backdrop of climate change, it is essential to reevaluate the ecosystem services provided by nature and to make relevant adjustments to improve their resilience to climate changes. Especially changes in precipitation and the increase of periods of drought and heat make evident that novel approaches to securing water supplies and water quality are imperative in Lower Austria, too.

In terms of the "Model federal province" notion, the federal province of Lower Austria is set to take specific measures related to production and management in its agricultural technical colleges, seedling nurseries, buildings and green spaces.



LW 1 Model federal province: Making the federal province's natural areas climate-friendly

1. Aligning the federal province's seedling nurseries with climate-conscious seedling production
2. Promoting climate-friendly farming practices in agricultural schools
3. Switching machines in agricultural schools to fossil-free drive systems
4. Increasing biodiversity on the federal province's green areas

LW 2 Securing water availability in Lower Austria

1. Securing groundwater conditions taking into account the climate factors
2. Securing drinking water supply
3. Securing water availability for service water supply using ecologically responsible measures
4. Expanding awareness building and advisory initiatives related to water conservation

LW 3 Securing water quality in Lower Austria

1. Preventing and/or reducing the overheating of watercourses
2. Ensuring water quality in groundwater, watercourses and designated swimming waters
3. Implementing low water management to secure good conditions in bodies of water (rules of use)

LW 4 Increasing climate resilience through biodiversity

1. Creating awareness for the value of biodiversity with regard to the effects of climate change
2. Promoting green infrastructure in cultural landscape
3. Preserving and improving near-natural areas as carbon sinks and reservoirs
4. Stepping up the revitalisation of watercourses
5. Taking climate change into account in management plans of nature, national and biosphere parks
6. Continuing to develop landscaping incl. the Fruit Tree Campaign (Obstbaumaktion) and the Hedge Day (Heckentag)
7. Developing gardens and green spaces as stepping-stone biotopes to strengthen climate resilience

LW 5 Developing climate-resilient forests as carbon reservoirs and as the key to economically viable forestry

1. Securing adapted genetic resources for the forests of the future
2. Continuing to develop forest ecology programme and implementation projects
3. Continuing to develop the promotion of forest-related plans at farm level
4. Continuing to develop recommendations for the selection of varieties and tree species
5. Promoting deciduous tree plantings
6. Implementing information and educational brochures as well as training for multipliers and forest owners
7. Intensifying afforestation measures in sparsely forested areas

LW 6 Intensifying research and raising awareness for the forest in climate change

1. Advancing research on the topic of forest and climate change
2. Continuing and further developing awareness building for external forest users
3. Creating forest soil mapping and, where appropriate, continuing development towards a forest classification

LW 7 Reducing GHG emissions in agricultural production

1. Preventing overfertilisation by optimising nitrogen fertilisation
2. Boosting climate-friendly application and storage of liquid manure
3. Driving forward fermentation of farmyard manure
4. Reducing nitrogen excretion in ruminant husbandry
5. Continuing to drive forward phase feeding of pigs
6. Increasing lifetime production in dairy cows
7. Promoting pasture grazing of cattle through funding, advice and marketing
8. Promoting ecodriving in agricultural practice

LW 8 Adapting agricultural practices to the climatic changes

1. Promoting and initiating research projects on the adaptation of agriculture to climate change
2. Promoting training measures for agriculture on climate-related issues
3. Promoting animal health under changed climatic conditions
4. Minimising climate risks by expanding and adapting the range of varieties, crop rotation and choice of location
5. Enhancing protection from frost, hail and heavy rain

LW 9 Increasing CO₂ storage and resilience through healthy soils

1. Increasing resilience of farmed lands with the help of land use planning
2. Encouraging humus formation and preservation
3. Continuing to develop soil protection systems (multi-purpose hedges)
4. Preserving and improving soil fertility
5. Intensifying measures to reduce soil erosion
6. Evaluating soil functions and strengthening soil awareness
7. Continuing to develop soil mission, soil networks and soil alliance and intensifying participation

LW 10 Improving soil water balance and reducing evaporation loss

1. Improving agricultural water management
2. Reducing evaporation losses in farmed soils

LW 11 Aligning funding regime with climate-friendly farming

1. Developing climate-relevant measures such as organic farming in the Austrian Agri-environmental Programme (ÖPUL)
2. Supporting projects that are consistent with sustainable land use principles with the Lower Austrian Landscape Fund
3. Stepping up precision farming by means of investment subsidies and consulting



LW 12 Developing effective climate risk management

1. Charting and combating climate-change-induced proliferation of invasive animal and plant species
2. Adapting and improving crisis management in the event of damage events in forestry
3. Expanding and further developing forest protection
4. Promoting investments to strengthen the resilience and ecological value of the forest
5. Implementing public relations and awareness campaigns as a precaution against forest fires
6. Promoting coordinated approach with forest and game management in disaster areas

LW 13 Promoting food sovereignty in Lower Austria

1. Improving food and supply security in Lower Austria
2. Continuing to develop the culinary initiative "So schmeckt Niederösterreich - the taste of Lower Austria"
3. Promoting sustainable local feed production
4. Promoting local products in food retail and gastronomy
5. Promoting increased quality and value awareness in meat consumption

LW 14 Demands on the federal government in the Land.Water category

1. Providing sufficient subsidies for agricultural watering systems
2. Promoting green infrastructure by creating corridors and biotope network systems in the cultural landscape
3. Aligning ÖPUL funding consistently with the reduction of greenhouse gases
4. Making the treatment of farmyard manure in biogas plants more attractive
5. Creating a graduated plan for withdrawing from the use of fossil-fuelled machines in farming
6. Establishing new tree liability rules
7. Reactivating phytosanitary controls on timber imports



THE MEASURES IN THE LAND.WATER CATEGORY





HUMAN. PROTECTION



The Human.Protection category primarily encompasses all the fields of action that are of special significance from the perspective of adaptation to climate change and are not addressed in the other categories. Of course this category also generates greenhouse gas emissions, for example in the health sector due to the operation of hospitals. For the sake of clarity, these emissions are taken into account in the categories to which they are assigned from an emissions perspective. In the case of hospitals, this would be the Construction.Housing category. This ensures that the Lower Austrian Climate and Energy Programme 2030 is directly comparable to the relevant strategies and statistics of the federal government and the EU.



Nutrition is particularly relevant to greenhouse gases in this category. In line with a climate-conscious lifestyle, forms of nutrition should be promoted that make sense from a health perspective and are climate-friendly at the same time.



The climate change effect that has the strongest impact of the Human.Protection category is the related temperature increase which represents an increasing health burden due to heat stress. In addition, the increasing frequency of extreme weather events represents a threat to many human activities. The Human.Protection category aims to enable people in Lower Austria to live a good life despite changing conditions due to climate change. Specifically this means:

- » On the one hand, it is important to protect people and facilities from the direct effects of climate change - this includes all measures that protect life and limb.
- » On the other hand, measures are being initiated to strengthen preventive health care in a changing climate, e.g. protection against increasing heat stress.

The Federal Province of Lower Austria will lead by example in this regard, especially in the area of public facilities, promoting various projects including ventures on healthy, climate-friendly nutrition and heat protection.

HP 1 Model federal province: Developing climate-related health protection in provincial government institutions

1. Reinforcing healthy and climate-friendly nutrition in the provincial civil service
2. Implementing summer projects to protect provincial civil service employees from overheating
3. Implementing an initiative that plants a new (fruit) tree for every Lower Austrian provincial kindergarten (1 neuer (Obst-) Baum für jeden NÖ Landeskindergarten)

HP 2 Developing effective flood control along watercourses

1. Visualising, updating and improving information on flood water runoff areas
2. Continuing to develop flood prognoses and warning systems
3. Adapting and continuing to develop flood control measures taking climate developments and aquatic ecology into account
4. Assessing residual risks underlying existing flood protection facilities and align disaster control accordingly
5. Preserving existing retention areas by statutory protection

HP 3 Improving protection against heavy rainfall events and erosion

1. Visualising and placing stronger emphasis on risk potential of slope water
2. Improving erosion control
3. Promoting ecologically oriented surface water drainage

HP 4 Gearing disaster management more strongly to the risks of climate change

1. Continuing to optimise weather warnings and forecasts
2. Setting out consistent special disaster control plans for flood events
3. Raising risk awareness of the public related to climate-induced natural hazards

4. Providing and regularly updating information on appropriate conduct in an emergency
5. Adapting training and exercises in the area of disaster control to include climate change aspects
6. Establishing preventive check-up related to natural hazards in climate change (Naturgefahren im Klimawandel) for Lower Austrian municipalities
7. Adapting disaster aids for private individuals to the growing demands due to climate change
8. Reducing climate change related risk of forest and wildfires

HP 5 Promoting healthy, regional and climate-friendly nutrition in Lower Austria

1. Continuing to drive development of the "Tut gut" (feels good) initiative toward more climate consciousness
2. Strengthening public awareness of climate-friendly and balanced nutrition

HP 6 Minimising climate-change-related health risks

1. Developing Lower Austrian heat alert service
2. Continuing to develop information on climate-adapted practices
3. Providing training and education for family caregivers on heat precautions
4. Taking heat protection measures for highly vulnerable groups of people

HP 7 Demands on the federal government in the Human.Protection category

1. Securing federal funds for flood control
2. Coordinating flood risk zone visualisation between the federal government and the federal provinces
3. Promoting erosion control measures as part of the Austrian Agri-environmental Programme (ÖPUL)
4. Introducing mandatory labelling for climate-damaging foods
5. Introducing higher taxation of climate-damaging foods
6. Securing federal funds for disaster damage repair

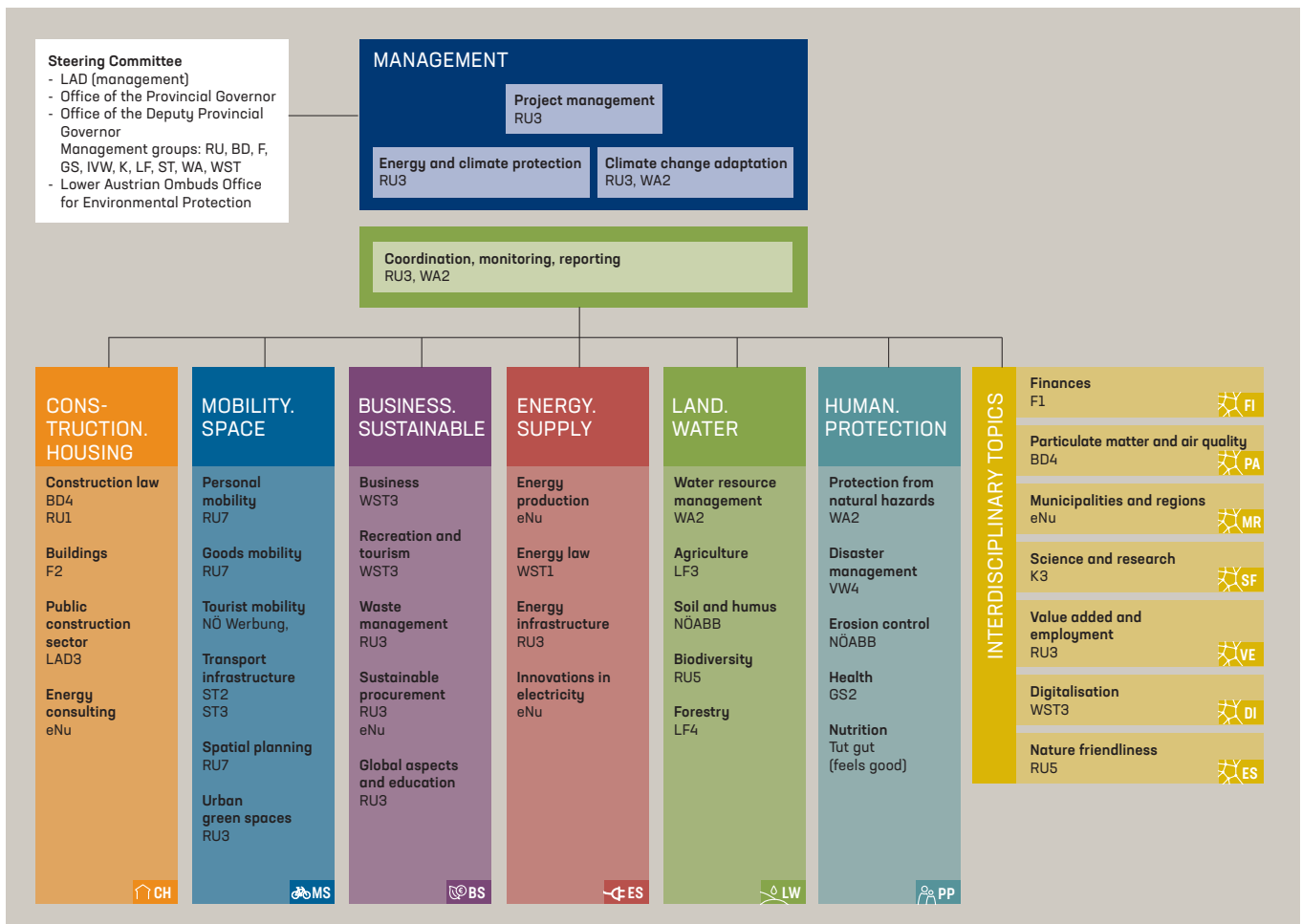


THE MEASURES IN THE HUMAN.PROTECTION CATEGORY



The organisational structure of the Lower Austrian Climate and Energy Programme 2030

The following programme structure has been established building on experience gained from predecessor programmes since 2004 and complemented by fully integrating adaptation to climate change:



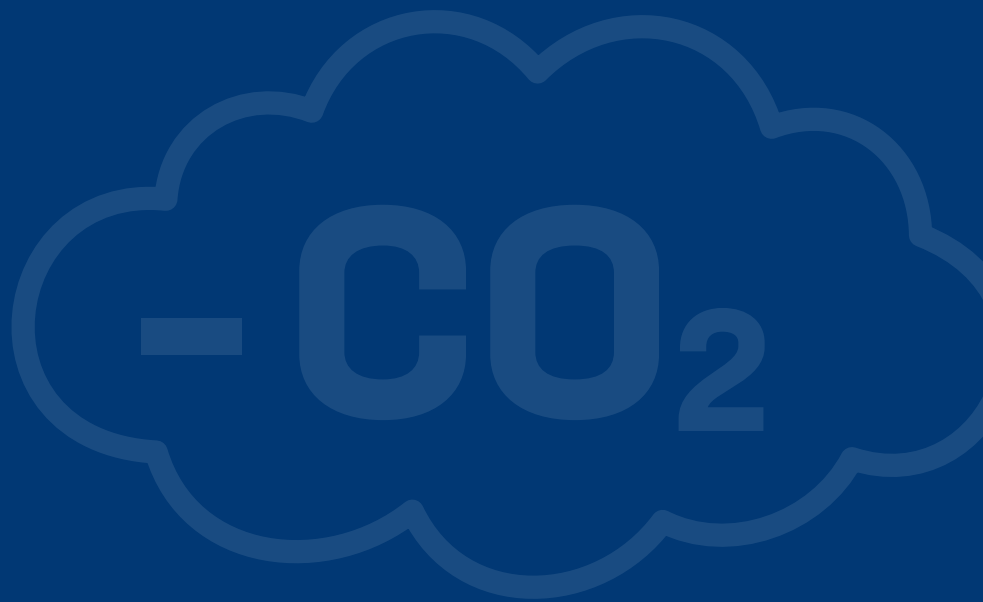
The heart of the Lower Austrian Climate and Energy Programme is the Climate Protection Project Group (Projektgruppe Klimaschutz) consisting of more than 180 people, appointed by the Regional Administrative Office, who are responsible for implementing the individual measures.

Additionally, the following organisational elements have been established:

- >> 6 categories with 29 fields of action as **priority areas** including technical responsibilities;
- >> 77 interdisciplinary topics with relevant **networking mandates**;
- >> a management and coordination team for the **implementation of the overall process**;
- >> a steering committee staffed with representatives of politics and administration as **superordinate governing body**.

This programme structure allows the federal province of Lower Austria to rise to the challenges of the climate crisis and the energy transition for the period 2021 to 2025 from an organisational perspective, too.

Doing what a federal province can do.



Die Abteilung Umwelt- und Energiewirtschaft
(RU3) des Landes Niederösterreich beteiligt sich
am Umweltmanagementsystem EMAS.