THE STATE OF THE ENVIRONMENT
IN A NUTSHELL

1 WATER AND WATER MANAGEMENT

The successes achieved in the prevention of water pollution are due to waste water treatment. For running waters a need for action was identified, in particular as far as the structure of water bodies and the hydrology are concerned. Remediation priorities up to 2015 include measures for the removal of barriers to fish migration and to improve the structures of water bodies, e.g. by restoring them to their natural state. An expansion of hydroelectric power generation is not entirely compatible with the ecological targets and should take into account the requirements of the Water Framework Directive.

Nitrate and pesticide inputs from diffuse sources continue to cause regional problems with groundwater quality. Measures under the EU Regulation on support for rural development (rural development 14-20) should increasingly be designed in such a way that they comply with the requirements of (drinking) water protection and the prevention of water pollution so that they can help, along with the compulsory ‘nitrate action programme’ and through voluntary participation in the so-called ÖPUL programme\(^1\), maintain or achieve the good status of groundwater bodies.

With regard to water resource management the European Commission has, in blueprint analysis, identified a need for action for a more efficient use of water resources. Here the prerequisite is to have knowledge of and relevant data on water abstractions and water discharges.

2 AIR

Important successes have been achieved in air quality management, but there is still much to be done. Particulate matter and nitrogen oxides put much more strain on the health of the Austrian population than is allowed under European Union regulations. Depending on where one lives, particulate matter alone can reduce one’s average life expectancy by several months.

The measures implemented up to now have not been sufficient to guarantee that compliance with the limit values in Austria can be achieved within the prescribed period or in the future. In 2010 nitrogen oxide levels were about 40 % above the admissible levels specified in the Austrian Emission Ceilings Act - Air. The admissible levels of the European Air Quality Directive for particulate matter were exceeded in seven of the nine Austrian federal provinces in 2011.

The Environment Agency Austria proposes the development of a harmonised and legally binding national air quality scheme with clearly defined time frames

\(^1\) Austrian agro-environmental programme
and responsibilities for the federal government and the provinces to gradually achieve compliance with the limit values. Within the scope of the federal government’s responsibilities are, for example, individual measures in the transport sector as specified in the Austrian Ambient Air Quality Act, while the exchange programme for older domestic combustion sources is within the scope of responsibilities of the federal provinces.

3 SOIL

The Austrian sustainability strategy aims to secure the functionality and availability of soils in qualitative and quantitative terms and on a permanent basis.

An evaluation of the soil’s functions has up to now taken place only in a few cases. As changes in land use mostly lead to the development of larger settlement areas or agglomerations and result in soil carbon losses, about 400 kt CO₂ are released every year. Studies have shown that the concentrations of organic pollutants are elevated in soils along the northern and south-eastern edges of the Alps.

In view of the diverging claims on soil utilisation, a standard evaluation of the soil’s functions has to be carried out to ensure a sustainable use of soils. To ensure the conservation of soils as a natural resource and to safeguard the soil’s capacity of carbon sequestration, regulatory measures have to be included in spatial planning. For an evaluation of the current pollutant concentrations in soils national soil monitoring is needed, as are national evaluation standards.

4 CLIMATE CHANGE MITIGATION

To mitigate the risks of climate change it is necessary to reduce greenhouse gas emissions in Austria, within the EU and at the global level.

For the implementation of the Kyoto Protocol it was necessary to achieve a 13% reduction of the national emission levels of 1990 in the period 2008-2012. A much larger part than originally planned of this reduction was achieved through the use of flexible instruments (i.e. climate change mitigation efforts abroad funded by Austria).

To achieve the 2020 targets, the implementation of further energy efficiency measures and a promotion of the use of renewable energy sources will be absolutely necessary.

To limit global warming to 2 °C, a transformation into a low-carbon, climate friendlier economy will be necessary. To achieve this, increased efforts are needed and legally binding climate and energy policy targets have to be set in the medium and in the long term. On the whole, Europe has to accept its central role in paving the way for a global climate agreement.
5 CLIMATE CHANGE ADAPTATION

To reduce the impacts of climate change on nature, society and the economy, it is necessary to take adaptation measures and to make the most of new opportunities that present themselves.

In Austria, the expected average temperature increase by the mid-21st century (compared to 1971-2000) is just under 2 °C and it is assumed that a shift in seasonal precipitation patterns will occur with increased precipitation in the winter and decreased precipitation in the summer. This will have the following consequences: the adverse effects of heat waves, reduced water quantities in the summer accompanied by an increase in water demand, and changes in the growing seasons.

A national strategy on climate change adaptation was adopted by the cabinet assembly on 22 October 2012. The key objective of the strategy is to take into account any potential impacts of climate change in all planning and decision-making processes at all (national and local) levels. The recommendations set out in the Austrian strategy on climate change adaptation should be implemented promptly in all relevant areas of action.

6 AGRICULTURE AND FORESTS

The aim of future agricultural policy is to increase the targeted promotion of the manifold services that agriculture provides in order to achieve the environmental objectives. The aim is also to use the common strategic framework of different EU funds in order to define development objectives which go beyond sectoral boundaries and to integrate the multi-functional structure of the rural region.

The agro-environmental programme’s high level of acceptance has been strengthened and organic farming further developed as a model for eco-friendly agriculture. Up to now it has been possible to keep crops free from genetically modified organisms (GMOs). However, the objective which is to be achieved - namely national self-determination - has as yet not been incorporated into EU law.

Not least because of the adverse effects for ecosystems, which are to be expected from climate change, forest management will have to take into account developments of natural tree species diversity and biodiversity. Ozone exposure and nitrogen inputs are sources of ambient pollution in forest ecosystems, which is why instruments for air quality protection need to be improved. Use of biomass from forestry and agriculture for the production of energy has to be based on comprehensive sustainability criteria.
7 BIODIVERSITY AND NATURE CONSERVATION

The development of a new biodiversity strategy that complies with EU requirements and the subsequent implementation of this strategy form the basis for securing the conservation and sustainable use of biodiversity in Austria. In particular, the requirements for the implementation of EU nature conservation legislation should be complied with consistently. For the new programming period biodiversity programmes should be included increasingly in the funding programmes.

About 16% of the national territory has been classified as nature reserve or European nature reserve. Management measures are carried out in a large number of nature reserves, along with local promotional activities. Species and habitat conservation programmes are also effective outside the protected areas.

Despite the large number of measures, many species and habitats are in a precarious situation, which will be exacerbated even further by climate change.

8 NOISE

The most important target is to prevent and mitigate the harmful effects of environmental noise on human health, as well as unreasonable annoyance due to exposure to environmental noise. In 2011 four out of ten Austrians stated that they were disturbed by noise within their homes.

With strategic noise maps drawn up according to EU environmental noise legislation, an important basis for noise abatement and forward-looking planning is available. In 2012 noise maps had to be produced for a larger number of areas than in 2007. Apart from the Vienna region, the cities of Graz, Innsbruck, Linz und Salzburg also had to be mapped. The road network depicted on the maps had doubled, the rail network tripled in size. The strategic noise maps were published online at www.laerminfo.at.

In 2013 the competent authorities have to prepare action plans which are based on the strategic noise maps. Apart from noise control with active and passive noise abatement measures, it is also necessary to take the problem of noise consistently into account in spatial planning and to use traffic management instrumentation.

9 RESOURCE AND WASTE MANAGEMENT

The most important target is to increase resource efficiency so as to decouple the environmental impact of material use from economic growth.

The resource efficiency of the Austrian economy continues to increase continuously. But there are potentials for improvement, especially in construction waste recycling, prevention of food waste, digestion of biogenous wastes and in the recovery of phosphorous and rare metals from a variety of waste streams.
In order to further increase resource efficiency and achieve the decoupling of material use from economic performance, resource saving measures need to be continued and improved. As regards recycling, it is important to see to the efficient removal of pollutants, so as to ensure that pollutants are removed from the material cycle.

10 CONTAMINATED SITES

In accordance with the guidelines on contaminated site management of 2010 it is planned that the identification of all historically contaminated sites will be completed by 2025, and remediation measures at heavily contaminated sites by 2050.

Despite increased efforts in the last few years, it will be necessary to speed up further the identification and remediation of contaminated sites in order to reach the objectives specified in the guidelines. An important requirement to achieve this is a planned new law on Contaminated Sites Management.

With this new law and a related ordinance the legal basis for a more rapid identification and remediation of contaminated sites will be created. Specific rules of procedure applicable to the remediation of contaminated sites and specific measures adapted to individual sites will help to speed up the implementation of remediation projects in the future.

The introduction of a new category, namely contaminated sites in the strict sense of the word which are to be distinguished from other disused hazardous sites, will increase legal certainty for users of abandoned landfills and former industrial sites and support brownfield redevelopment.

11 CHEMICALS

As regards the development of new EU regulations for chemicals, biocides, plant protection products and POPs, the intensive phase has been completed. Apart from providing sufficient information to the people concerned, it is now necessary to establish instruments that allow an evaluation of the effectiveness of these regulations. What is missing in the new Biocidal Products Regulation are substitution plans for hazardous biocides as well as incentives for the development of alternatives to biocidal active substances.

The situation is different with endocrine disrupting chemicals: although it has been known for a long time that some chemicals have a hormonal effect on humans and animals, we continue to be exposed to endocrine disruptors.

Solutions to the problem of integrating nanomaterials into relevant legislation are currently being developed. However, there is still a long way to go.
12 ENERGY

The climate and energy package of the European Union as well as the Austrian energy strategy and the Climate Act 2011 specify that the share of renewable energy sources should be raised to 34% of gross final energy consumption in 2020, that final energy consumption should be stabilised at the level of 2005 (1,100 PJ) and that greenhouse gas emissions in the non-emission trading sector should be reduced by 16% below 2005 levels.

The last few years have seen an increase in both the relative and the absolute contribution of renewable energy sources to national consumption.

To decouple economic growth from energy consumption, it is absolutely necessary to avoid (or reduce) losses and to increase efficiency by adopting a set of suitable measures. The steps which are necessary to achieve this include legal measures, an increase in the price of fossil energy sources, the promotion of renewable energy sources and targeted support for energy efficiency measures.

To pave the way towards a de-carbonisation of the energy system in order to comply with the EU Roadmap 2050, legally binding interim targets for 2030 need to be fixed at European and national level for renewable energy consumption and greenhouse gas emission ceilings.

13 INDUSTRIAL INSTALLATIONS

In order to reach the targets of the climate and energy package, the Austrian Climate Change Act 2011 and the Industrial Emissions and National Emissions Ceilings Directive (NEC), it will be necessary to reduce especially energy consumption, along with greenhouse gas emissions, particulate matter, nitrogen oxides and mercury in the industry and energy production sectors. Efficient energy conversion and use require, apart from technological innovations, binding energy action plans and a suitable choice of location. These aspects need to be integrated more strongly into permitting procedures. More efficient installations should be used in order to put a halt to growing electricity consumption.

The achievement of the targets of the NEC Directive is closely linked to the adaptation of installations to state of the art technology. To reduce emissions, everything should be done within the realm of technical possibilities to reduce especially particulate matter and nitrogen oxide levels. Monitoring and reporting, as appropriate, should be made compulsory.

Austria imports a large number of goods. The majority of these goods are used in industrial production. An increase of eco-efficiency is necessary to provide a contribution to the protection of the environment and to reduce Austria's dependence on imports of material resources.

14 TRANSPORT

Ambitious targets have been set for the reduction of energy demand, greenhouse gas emissions and air pollutants, both at European level and in Austria.
Of all sectors, the transport sector has seen the strongest increase in greenhouse gas emissions since 1990, although a reversal in the overall trend has been observed since 2005. This reversal has been brought about by the use of biofuels, an increase in the efficiency of single vehicles and higher energy prices. As regards air pollution, particle and nitrogen oxide emissions continue to cause problems, with transport being by far the largest contributor of nitrogen oxide emissions.

To achieve the environmental targets, it is necessary to create an appropriate setting for a trend reversal so that it will become possible to pave the way towards a sustainable transport system with reduced emissions. The structural reforms needed to achieve this have to be designed in such a way that they are compatible economically while also taking social implications into account. Fiscal measures are effective in the short term and can be implemented quickly, supporting low-emission propulsion and fuel technologies and public transport. To achieve a sustainable reduction of traffic volumes in the long term, binding environmental policy targets have to be integrated into transport and spatial planning, and infrastructure development as well as cost structures in transport have to be designed in such a way that the targets can be achieved.

15 TOURISM

Sustainable development of tourism provides a contribution to economic growth and to the achievement of environmental and climate policy targets.

There have been successful initiatives for environmentally friendly travelling for more than 20 years. Ecolabelling for tourist facilities and travel offers has become a well-established scheme. In 2010 a new Austrian tourism strategy was presented.

The most important challenge is to minimise negative environmental effects resulting from tourist infrastructures, journeys to and from holiday destinations and from tourist activities.

Eco-sensitive mountain regions are increasingly coming under pressure from impacts of climate change and a lack of adaptation measures. National and regional subsidies which are of relevance to tourism have to be made dependent on sustainability criteria.

Collaboration with all relevant sectors and authorities is necessary, as is a fundamental approach guided by the principles of sustainable development, and both need to be applied in the different tourist activities.

16 SPATIAL DEVELOPMENT

According to the Austrian sustainability strategy the increase of additional land being used every day for building and transport purposes is to be reduced to a maximum of 2.5 hectares. The Austrian conference on spatial planning (ÖREK) 2011 recommends that flood retention areas and floodplains, as well as open land or green areas of high natural value, should be kept free of encroachments and that existing hazard zone plans should be incorporated into the law.
Between 2009 and 2012 the amount of land being used remained high at 22.4 hectares/day. Measures designed to allocate land for building purposes are pursued in nearly all of the federal provinces. In some of the federal provinces, the designation of floodplains and retention areas has already been incorporated into spatial planning regulations.

To reduce land use for human settlement and transport areas, an action plan has to be developed and implemented, with the support of municipalities, federal provinces and the government. In order to preserve important ecosystem services, priority sites are to be defined and designated. To ensure efficient risk management of natural disasters, there should be a stronger link between hazard zone planning and zoning in the respective legislation.

### 17 HEALTH AND ENVIRONMENT

Human health and well-being are strongly determined by environmental influences. This calls for a strong link between health and environmental policy and for the implementation of a variety of strategies and action plans. Harmful chemicals in products that are available on the market are growing in importance due to globalisation. A more rapid implementation of measures is recommended, especially to protect sensitive populations. Consumers are exposed to chemical mixtures via all relevant routes and pathways. Potential risks have not been sufficiently evaluated and are currently not regulated. This is also true for risks associated with indoor air pollution, where priority is given to measures to be implemented in day care centres for children and schools. In some regions, increased indoor exposure to the radioactive gas radon has been measured. Simple structural measures could reduce exposure there. With regard to all these issues, suitable information and recommendations for action are helpful for consumers to reduce any potential effects on human health.

### 18 SUSTAINABLE DEVELOPMENT

Sustainable development is a living process. The aim of giving ecological, social and economic interests equal consideration is to give people a higher quality of life. The absolute boundaries of social development are defined by the Earth's ecological framework, which also sets limits for the economy.

The targets stipulated in the EU's and Austria's sustainability strategies, and especially the ecological targets have as yet not been reached, and some of them are far from being reached. One of the reasons for this is indiscriminate economic growth, along with policy measures and their rebound effect. It is therefore necessary that sustainable economic models are developed into which ecological issues and aspects of real life are integrated. An eco-social tax reform should be the first step to achieve this.

To measure quality of life and to evaluate socio-political decisions in terms of sustainable development, reporting and evaluation systems need to be established so that, in addition to the GDP, data on sustainability indicators can be collected, so as to be interpreted and represented collectively and on a regular basis.