



A Guide to **ENVIRONMENTAL ADMINISTRATION IN GERMANY**





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Table of Contents

1	Introduction	6
2	Subjects of Environmental Protection	10
3	Instruments	24
	3.1 Regulatory instruments	25
	3.2 Planning	26
	3.3 Information instruments	27
	3.4 Economic instruments	29
	3.5 Responsibilities of the industry	32
	3.6 Environmental liability	34
4	Administrative Structure	36
	4.1 Constitutional Background	37
	4.2 Embeddedness in European Union governance	42
	4.3 The federal environmental administration	45
	4.4 Environmental administration of the <i>Länder</i>	51
	4.5 The local environmental administration	57
	4.6 Cooperation between federal, <i>Länder</i> and local authorities	60
5	Compliance Assurance	62
	5.1 Licensing of installations	63
	5.2 Compliance promotion	69
	5.3 Supervision	70
	5.4 Enforcement	72
	5.5 Public Participation	74
	5.6 Access to Justice	75
6	Selected Web Links and Resources	76
7	Glossary	77

1

Introduction

Since 1994, environmental protection has been enshrined as a national objective in Article 20a of the German constitution. Environmental protection and sustainability have thus gained constitutional status. All governmental bodies – legislative, executive and judiciary – are required to be “mindful also of [their] responsibility toward future generations” and to “protect the natural foundations of life and animals”. Accordingly, with the German National Sustainable Development Strategy, updated in 2016, the entire federal administration has committed itself to realising a sustainable and environmentally aware future.

A sound administrative system is a necessary requirement for implementing this constitutional provision for environmental protection. The development of realistic environmental policies, the effective enforcement of regulations and the guidance of citizens and businesses need an effective institutional underpinning. The environmental administration is the backbone for the promotion of sustainability in Germany. It is deeply rooted in the German tradition of federalism, which seeks to balance the conformity of standards and equality between the regions with regional sociocultural diversity and an adaption to local contexts. Due to this specific tradition, German environmental administration might seem rather complex from an outside view. **The aim of this guide is to provide a concise introduction to the German environmental administration for an international readership.**

Germany is a developed social market economy with a strong industrial basis and major transport infrastructure. With an average of 230 inhabitants per square kilometre (2016), Germany is one of Europe’s most densely populated countries. The protection of the natural basis of life is thus a fundamental task, which is not limited to a single aspect of the environment or resources. It is a cross-sectional task that affects all areas

of life and work and must be considered in all policy areas right from the very beginning, e. g. for a sustainable energy supply or environmentally compatible mobility. The Federal Government, therefore, aims to integrate environmental aspects in all policy areas, whereby environmental law in Germany is based on three fundamental principles: the precautionary principle, the polluter pays principle and the principle of cooperation.

The **precautionary principle** seeks to avoid or minimise pollution and dangers to the environment before they arise. In other words, environmental policies should not only be reactive damage limitation measures (which may not be entirely possible in many cases), but should also have a preventative nature. Preventing the environment from being harmed by pollution and overuse of natural resources is at the very heart of environmental protection. It is a crucial step to maintaining a sound environment with resources for the development and wellbeing of future generations. Therefore, the precautionary principle also means being cautious with regard to the risks of today's actions that may affect the environment in the future, since the long-term effects of the use of resources or the emission of substances usually cannot be precisely predicted. The precautionary principle does not, however, mean the exclusion of every remaining risk. Rather, it differentiates between hazard prevention and risk management. While known hazards must be strictly avoided, mere risks – that *can*, but not necessarily *will* cause damage to the environment – can be tolerated to a certain extent.

The **polluter pays principle** allocates the costs of pollution to the polluter. Costs incurred to avoid, remove and compensate for damage to the environment shall be borne by the responsible party. The main reasoning behind this principle is that the environment is no longer seen as a good that is free to use. If it is obvious for the polluter that causing pollution is costly for him/her personally, the incentive to act environmentally responsible increases. If an actor nevertheless decides to cause damage to the environment, he/she must pay for the consequences instead of

passing on the costs to the society as a whole. Only in cases where an individual polluter cannot be identified or it is impossible to attribute damage resulting from multiple polluters to an individual one, the costs shall be borne by society.

The **principle of cooperation** means that the task of caring for the environment is shared by the government, the corporate sector and the citizens. Environmental protection must, as far as possible, be a joint effort in order to become effective. Of course, the government has a leading role in protecting the environment, since the government sets its rules with the public interest in mind. However, by cooperating with other actors from the private sector, the government can utilise their expertise, identify the actual sources of pollution and transfer part of responsibility for environmental protection to them. Furthermore, involving the public in environmental decision-making processes might facilitate better and more acceptable political and administrative decisions. Only broad societal acceptance will make environmental protection successful in the long run.

This guide is divided into five sections. After the introduction in Section 1, Section 2 introduces the wide range of subjects related to environmental protection in Germany. This is followed by Section 3, which describes the array of instruments the German environmental administration uses in pursuing its goals. The administrative structure in the Federal Republic of Germany, especially the division of tasks between the federal level, the level of the (*Bundes-*)*Länder* (federal states) and the local-level are explained in Section 4. Finally, Section 5 provides examples of important procedures and instruments in administrative environmental protection.

Figure 1

Map of Germany: Administrative Boundaries and Federal States

Source: Bundesamt für Kartographie und Geodäsie (German Federal Agency for Cartography and Geodesy)

2

Subjects of Environmental Protection

Apart from the constitution, a large number of legal acts regulate specific aspects of environmental protection. On the following pages, we will introduce the key fields of environmental protection in Germany and describe their main characteristics and important legal bases. Since this is a guide to German environmental administration, the focus will be on German law. However, German environmental law is heavily influenced by law of the European Union (EU) and, to some degree, by international environmental legislation as well. International law is essential for global environmental regulation, in particular for climate protection. EU law has become increasingly important for environmental protection in the EU member states. A vast majority of current environmental law in Germany is determined by the EU.

Climate protection

Climate protection is a high-priority environmental policy issue not only in Germany, but on a global scale. As global warming is a cross-border problem, it is the responsibility of the international community to ensure that global greenhouse gas emissions are reduced. As a Party to the United Nations Framework Convention on Climate Change and a Contracting Party to the Kyoto Protocol, Germany has committed itself to considerably reducing its greenhouse gas emissions. In addition, Germany is advocating the rigorous implementation of the targets and agreements set out in the Paris Agreement. A very important measure for climate protection is the greenhouse gas emission trading scheme, which requires polluters to purchase allowances for emitting greenhouse gases.

On the national level, the German parliament adopted a number of legislative acts and the German government took additional measures to achieve the German climate targets. The Renewable Energy Sources Act (*Erneuerbare-Energien-Gesetz (EEG)*) is one example of these new acts and measures which support programmes such as the Heating Optimisation Funding Programme and the National Climate Initiative. Among other steps, they include information and funding for energy efficient modernisation of heating systems and the promotion of thermal insulation of houses.

In 2011, the German government agreed on a transition from nuclear power and fossil energy sources towards renewable energy as a way to ensure achievement of the climate targets. In addition, energy efficiency in the transport and building sector as well as greenhouse gas abatement measures in agriculture and industry help reduce the emission of greenhouse gases. To define a long-term strategy allowing Germany to meet national greenhouse gas mitigation targets, and to set up a continuous policy process, the German government adopted the Climate Action Plan 2050 in late 2016. In this plan, Germany sets itself the goal of reducing greenhouse gas emissions in 2050 by 80–95 % as compared to 1990. To achieve this objective, the plan contains guiding principles for 2050 for all areas of action, defines sectoral targets to be met by 2030 and illustrates approaches for the long-term transformation to a low-carbon economy in Germany (*Energiewende*).

Important acts concerning climate protection are:

- ▶ Greenhouse Gas Emission Trading Act (*Treibhausgas-Emissionshandelsgesetz, TEHG*) implementing the EU Emissions Trading System
- ▶ Renewable Energy Sources Act (*Erneuerbare-Energien-Gesetz, EEG*)

Resource conservation

The growing worldwide use of raw materials, land and environmental media damages the environment and poses a major environmental policy challenge. The factors that come into play in this regard include dwindling supplies of resources in conjunction with an increase in ecosystem hazards attributable to substance inputs, greenhouse gases and massive amounts of solid waste. Especially but not only in terms of non-renewable raw materials issues of justice are arising too. Adequate leeways for development should also be kept open for future generations. Consequently, reducing resource use by promoting resource efficiency, circular economy and improving resource productivity are central aims of sustainability policy also in Germany. These aims

are part of the German Resource Efficiency Program “ProgRess” (*Deutsches Ressourceneffizienzprogramm “ProgRess”*). In this programme, the Federal Government formulates a large number of measures to strengthen resource conservation. But most resource-intensive areas such as spatial planning and urban land-use planning or the extraction and processing of raw materials, product design and the construction sector are only partially addressed in terms of resource conservation law. At least the Circular Economy Act (*Kreislaufwirtschaftsgesetz, KrWG*) and the ordinances based on it (see next section) prescribe recycling and other resource conservation measures for products at the end of their service life.



Waste management and circular economy

Waste from industrial production, mining, agriculture and households puts a burden on the air, water, soil and landscape. Modern waste management aims at a circular economy and is based on closed-loop recycling to conserve resources. The primary goal in waste management is waste prevention. Where prevention is not possible, it strives for recycling. If recycling is also not possible, other recovery, e. g. energy recovery, or environmentally sound disposal is necessary. Therefore, in the field of waste management, the government ensures proper forms of collection, transport, treatment, storage, shipment, recovery and eco-friendly disposal of waste, plans and licenses waste treatment plants, and finally emphasises the producers' responsibility for their products at the end of the product's life cycle.

The most important act concerning waste management is the:

- ▶ Circular Economy Act (*Kreislaufwirtschaftsgesetz, KrWG*)

Some other important legal regulations on waste management are:

- ▶ Act on Waste Shipment (*Abfallverbringungsgesetz, AbfVerbrG*)
- ▶ Electrical and Electronic Equipment Act (*Elektro- und Elektronikgerätegesetz, ElektroG*)
- ▶ Packaging Act (*Verpackungsgesetz, VerpackG*)
- ▶ Ordinance on Notification and Permission Procedures for Waste Collectors, Carriers and Traders (*Anzeige- und Erlaubnisverordnung, AbfAEV*)
- ▶ Ordinance on Waste Management Officers (*Abfallbeauftragtenverordnung, AbfBeauftrV*)
- ▶ Commercial Waste Ordinance (*Gewerbeabfallverordnung, GewAbfV*)
- ▶ Bio-waste Ordinance (*Bioabfallverordnung, BioAbfV*)
- ▶ Sewage Sludge Ordinance (*Klärschlammverordnung, AbfKlärV*)
- ▶ Ordinance on Disposal Sites and Long-term Storage (*Verordnung über Deponien und Langzeitlager [Deponieverordnung], DepV*)

Air quality control

Air pollution is a key environmental protection issue in industrial countries with a high population density, such as Germany. The major sources of air pollution are industrial plants, road and air traffic as well as household heating. Over the last decades, air quality control has led to a significant decrease in air pollution. Nevertheless, there is still a need for improvement, for example in terms of NO₂ emissions from road traffic or ammonia emissions from agriculture.

With regard to air pollution, important tasks of the government are to monitor air pollutant concentrations and limit the pollution caused by individual emitters and diffuse sources (e. g. transport).

Examples of commonly applied instruments to reduce air pollution include air quality standards, air quality plans, licensing and controlling industrial operations, with best available techniques associated emission limits, and traffic restrictions.

The most important act concerning air quality control is the:

- ▶ Federal Immission Control Act (*Bundes-Immissionsschutzgesetz*, *BImSchG*)

Some other important legal regulations on air quality control are:

- ▶ Ordinance on Large Combustion Plants (*13. Verordnung zur Durchführung des BImSchG [Verordnung über Großfeuerungs-, Gasturbinen- und Verbrennungsmotoranlagen]*, *13. BImSchV*)
- ▶ Ordinance on small and medium-sized combustion plants (*1. Verordnung zur Durchführung des Bundes-Immissionsschutzgesetzes [Verordnung über kleine und mittlere Feuerungsanlagen]*, *1. BImSchV*)
- ▶ Ordinance on Air Quality Standards and National Emission Ceilings (*39. Verordnung zur Durchführung des BImSchG [Verordnung über Luftqualitätsstandards und Emissionshöchstmengen]*, *39. BImSchV*)
- ▶ Ordinance on National Obligations to Reduce Emissions of certain Atmospheric Pollutants (*43. Verordnung zur Durchführung des Bundes-Immissionsschutzgesetzes [Verordnung über nationale Verpflichtungen zur Reduktion der Emissionen bestimmter Luftschadstoffe]*, *43. BImSchV*)
- ▶ Technical Instructions on Air Quality Control (*Technische Anleitung zur Reinhaltung der Luft*, *TA Luft*)

Noise protection

Noise protection measures are intended to protect humans and animals from harmful noise effects and to prevent such effects from occurring. Significant noise sources are road and railway traffic, air traffic, industrial and commercial plants, construction sites, sports and leisure activities as well as noise sources in households.

In the field of noise protection, one of the government's main tasks is the establishment of noise emission limits for vehicles, domestic appliances and other products that create noise. The noise emission of these sources is regulated on the EU or international level. These measures "at the noise source" have an impact everywhere and in this respect have priority over noise mitigation barriers or soundproof windows, which only have a local impact.

The most important acts concerning noise immissions are the:

- ▶ Federal Immission Control Act (*Bundes-Immissionsschutzgesetz, BImSchG*)
- ▶ Act on Protection against Aircraft Noise (*Gesetz zum Schutz gegen Fluglärm, FluLärmG*)

Some other important legal regulations on noise protection are:

- ▶ Traffic Noise Protection Ordinance (*16. Verordnung zur Durchführung des BImSchG [Verkehrslärmschutzverordnung], 16. BImSchV*)
- ▶ Ordinance on Protection against Noise from Sports Facilities (*18. Verordnung zur Durchführung des BImSchG [Sportanlagenlärmschutzverordnung], 18. BImSchV*)
- ▶ Ordinance on the Protection against Noise from Equipment and Machinery (*32. Verordnung zur Durchführung des BImSchG [Geräte- und Maschinenlärmschutzverordnung], 32. BImSchV*)
- ▶ Technical Instructions on Noise Control (*Technische Anleitung zum Schutz gegen Lärm, TA Lärm*)





Water protection

The quality of ground and surface water is impaired by the disposal of substances that are detrimental on humans and the environment, such as pesticides, heavy metals, organic micropollutants and waterborne pathogens, for example. Many surface waters are transformed for navigation, hydropower use, urbanisation and flood protection, so that they cannot perform their natural functions any longer. Although the water quality has improved over the last decades, there are still problems, especially with toxic and persistent substances in many waters and with the ecological status of many lakes and rivers (surface waters).

High-quality groundwater is in particular essential for the drinking water supply. Pressures on groundwater are especially caused by inputs of nitrates and pesticides from agriculture, surface waters are polluted by discharges of waste water from municipalities and industry and by agricultural sources. The seas are exposed to the pollutant load of rivers including plastic waste, pollution caused by naval traffic and fishery, the exploitation of marine mineral resources, and accidents, particularly oil accidents.

Through water protection measures, the government ensures a proper water supply for citizens, industry and agriculture and the maintenance of healthy aquatic ecosystems. Its main tasks are to monitor waters with regard to their quantity and quality, to prevent the pollution of water, e. g. by defining emission limit values, and to improve water quality by defining water quality objectives and establishing water protection areas. These measures are intended to ensure the ecological balance of the waters as well as the water supply for the citizens.

The most important act concerning water protection is the:

- Federal Water Act (*Wasserhaushaltsgesetz, WHG*)

Some other important legal regulations aiming directly at water protection are:

- Waste Water Charges Act (*Abwasserabgabengesetz, AbwAG*)
- Groundwater Ordinance (*Verordnung zum Schutz des Grundwassers [Grundwasserverordnung], GrwV*)
- Surface Water Ordinance (*Verordnung zu Schutz der Oberflächengewässer [Oberflächengewässerverordnung], OGewV*)
- Wastewater Ordinance (*Verordnung über Anforderungen an das Einleiten von Abwasser in Gewässer [Abwasserverordnung], AbwV*)

- Ordinance on Installations Handling Substances Hazardous to Water (*Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen, AwSV*)
- Water laws enacted by the *Länder* and their respective ordinances (*Landeswassergesetze der Bundesländer mit entsprechenden Verordnungen*)
- Drinking Water Ordinance (*Verordnung über die Qualität von Wasser für den menschlichen Gebrauch [Trinkwasserverordnung], TrinkwV 2001*)

Besides these water acts and ordinances some other regulations on chemicals, e. g. for pesticides (Plant Protection Act) or on the use of fertilisers (Fertiliser Ordinance) protect water resources, too.



Protection against hazardous substances

Chemical substances can cause acute and chronic harm to human health and animals and damage to plants. People working in companies that produce and use harmful substances are exposed to particular hazards. If chemical substances get into the environment, they can accumulate in water, soil, air or food.

To protect humans and the environment from hazardous substances, the government has imposed regulation of conditions, limitations, bans and monitoring on the manufacture, import and use of hazardous substances.

The most important act concerning protection against hazardous substances is the:

- Chemicals Act (*Gesetz zum Schutz vor gefährlichen Stoffen [Chemikaliengesetz], ChemG*)

Some other important legal regulations on the protection against hazardous substances are:

- Ordinance on the Prohibition of Certain Chemicals (*Verordnung über Verbote und Beschränkungen des Inverkehrbringens und über die Abgabe bestimmter Stoffe, Gemische und Erzeugnisse nach dem Chemikaliengesetz [Chemikalien-Verbotsverordnung], ChemVerbotsV*)
- Hazardous Substances Ordinance (*Verordnung zum Schutz vor Gefahrstoffen [Gefahrstoffverordnung], GefStoffV*)
- Plant Protection Act (*Gesetz zum Schutz der Kulturpflanzen [Pflanzenschutzgesetz], PflSchG*)
- Ordinance on Hazardous Incidents (*Zwölfte Verordnung zur Durchführung des Bundes-Immissionsschutzgesetzes [Störfall-Verordnung], 12. BImSchV*)
- Washing and Cleansing Agents Act (*Gesetz über die Umweltverträglichkeit von Wasch- und Reinigungsmitteln [Wasch- und Reinigungsmittelgesetz], WRMG*)



Soil protection

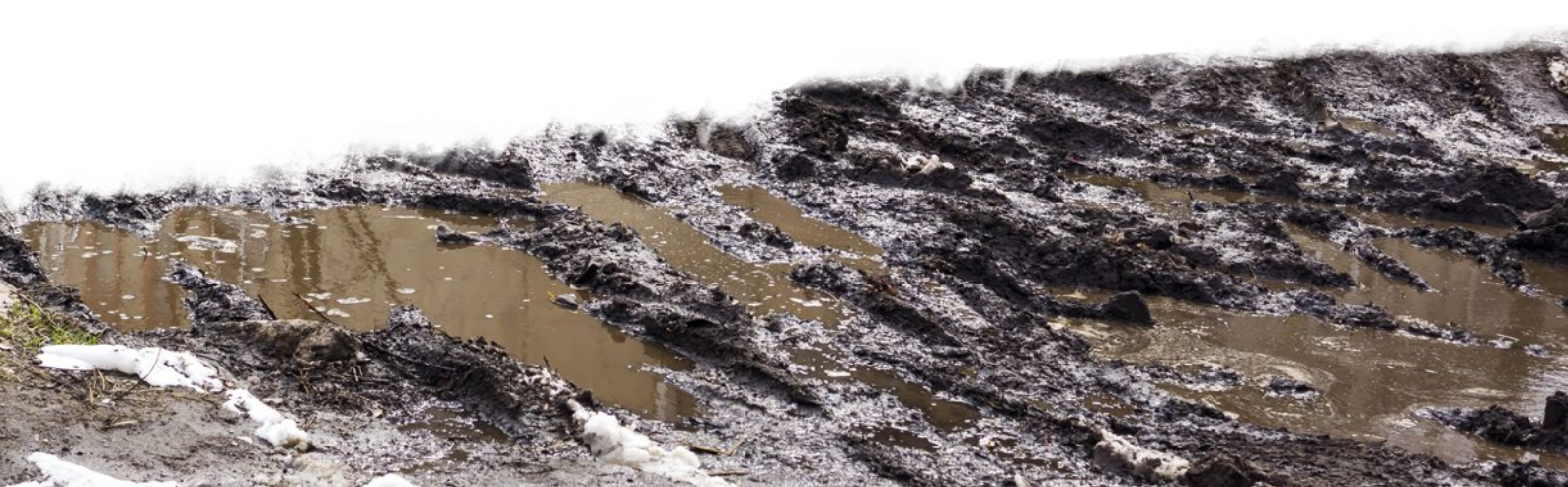
The high density of population, industry and agriculture in Germany is associated with intensive use of all available resources. Therefore, the use of soils is needed in various and intensive ways, both in quantitative and qualitative terms. Soils provide important ecological services, they are an important sequester of carbon, host of biodiversity, filter for groundwater against hazardous substances and a basis for food production and renewable energy. To avoid negative effects, the government's main tasks in the area of soil protection are to minimise the land take and the sealing of soils, to minimise the input of hazardous substances into the soil and to eliminate existing contamination of the soil.

The most important act concerning soil protection is the:

- ▶ Federal Soil Protection Act (*Gesetz zum Schutz vor schädlichen Bodenveränderungen und zur Sanierung von Altlasten* [Bundes-Bodenschutzgesetz], BBodSchG)

Some other important legal regulations on soil protection are:

- ▶ Federal Soil Protection Ordinance (*Bundes-Bodenschutz- und Altlastenverordnung*, BBodSchV)
- ▶ Federal Immission Control Act (*Bundes-Immissionsschutzgesetz*, BImSchG)
- ▶ Fertiliser Ordinance (*Verordnung über das Inverkehrbringen von Düngemitteln, Bodenhilfsstoffen, Kultursubstraten und Pflanzenhilfsmitteln* [Düngemittelverordnung], DüMV)
- ▶ Federal Nature Conservation Act (*Gesetz über Naturschutz und Landschaftspflege* [Bundesnaturschutzgesetz], BNatSchG)
- ▶ Federal Construction Act (*Baugesetzbuch*, BauGB)
- ▶ Federal Mining Act (*Bundesberggesetz*, BBergG)



Nature and landscape conservation

Intensified agriculture, growing cities and industrial areas, roads and other infrastructure and the intensive use for recreation and leisure endanger the natural landscapes. Space and possibilities for the natural development of plants and animals are continuously being changed, destroyed and diminished by human activities. This threatens the biotopes and the population of wild plants and animals. The government protects and develops nature and landscapes because of their inherent worth and their function as a basis of life for human beings.

In particular, the government ensures the conservation and improvement of the capacity of the natural system in undeveloped and developed areas, the conservation of natural resources and the protection and preservation of wild plants and animals, including their biotopes.

The most important act concerning nature and landscape conservation is the:

- Federal Nature Conservation Act (*Gesetz über Naturschutz und Landschaftspflege* [Bundesnaturschutzgesetz], BNatSchG)

Some other important legal regulations on nature and landscape conservation are:

- Act on Environmental Impact Assessment (*Gesetz über die Umweltverträglichkeitsprüfung*, UVPG)
- Federal Forest Act (*Gesetz zur Erhaltung des Waldes und zur Förderung der Forstwirtschaft* [Bundeswaldgesetz], BWaldG)
- Federal Construction Act and Länder Building Codes (*Baugesetzbuch, BauGB und Bauordnungen der Bundesländer*)



Nuclear safety, protection against ionising and non-ionising radiation

Apart from the exposure to naturally occurring radiation, there are also exposures due to artificial sources of radiation, particularly in the field of medical applications, along with the use of radiation sources and radioactive substances in research and industry and the use of nuclear energy.

After the catastrophe in Fukushima in 2011, Germany decided to phase out the use of nuclear energy by 2022. Nevertheless, the safety standards of the remaining nuclear plants must be regularly assessed and their deconstruction has to be monitored.

In addition to ionising radiation, sources of non-ionising radiation such as electromagnetic fields from various modern technologies or optical radiation (UV-radiation, laser devices etc.) might also cause risks to human health. Exposure limits e. g. with regard to mobile communications base stations and electricity grids are set to protect people from these risks.

To ensure nuclear safety and radiation protection, the government licenses and monitors nuclear installations and installations for the generation of ionising radiation (such as x-ray systems, etc.), the use of nuclear fuel and other radioactive substances and their transport and the safe disposal of nuclear waste. Furthermore, the government also controls natural radiation sources in certain situations, especially

where they might cause a non-negligible risk to health, for example certain industries involving naturally occurring radioactive substances (NORM) or radon at workplaces. For nuclear accidents and other radiological emergencies important elements of the emergency management system of the Federation and the *Länder*, such as coordinated emergency response plans with optimised protection strategies (including radiological criteria for protective measures) and the Emergency Response Center of the Federation, are i. a. regulated in the Radiation Protection Act.

The government also monitors installations that emit electric and magnetic fields.

The most important act concerning nuclear safety and radiation protection is the:

- Radiation Protection Act (*Strahlenschutzgesetz*, *StrSchG*)

Some other important legal regulations on nuclear safety and radiation protection are:

- Atomic Energy Act (*Gesetz über die friedliche Verwendung der Kernenergie und den Schutz gegen ihre Gefahren* [Atomgesetz], *AtG*)

Subjects of Environmental Protection

- ▶ Radiological Protection Ordinance (*Verordnung zum Schutz vor der schädlichen Wirkung ionisierender Strahlung [Strahlenschutzverordnung], StrlSchV*)
- ▶ Act on the Protection against Non-ionising radiation (*Gesetz zum Schutz vor nichtionisierender Strahlung bei der Anwendung am Menschen, NiSG*)
- ▶ Ordinance on the stipulation of dose values for early emergency response measures (Emergency Dose Values Ordinance) (*Verordnung zur Festlegung von Dosiswerten für frühe Notfallschutzmaßnahmen [Notfall-Dosiswerte-Verordnung], NDW*)
- ▶ Ordinance on electromagnetic fields (*Verordnung über elektromagnetische Felder, 26. BImSchV*)
- ▶ Repository Site Selection Act (*Standortauswahlgesetz, StandAG*)
- ▶ Federal Immission Control Act (*Bundes-Immissionsschutzgesetz, BImSchG*)



Integrative environmental protection

Environmental management has traditionally focused on the distinct environmental media of air, soil and water. However, a number of issues cut across the boundaries of the individual media. For effective environmental protection, it is therefore not sufficient to only look at the individual media, but rather to follow an integrative approach. Integrative environmental protection can be divided into substantive integration (e. g. in the Federal Nature Conservation Act) and procedural integration (e. g. in the Act on Environmental Impact Assessment). Important promoters of integrative environmental protection were the EU Directive on Integrated Pollution Prevention and Control (IPPC Directive), which was replaced by the Industrial Emissions Directive (IED) in 2010 and the EU Directives on the assessment of the effects of certain public and private projects and of certain plans and programmes on the environment.

Examples of integrative environmental protection are numerous: Integrated spatial planning provides an instrument to combine social and economic development with environmental protection. Industrial installations should be subject to an integrated system of pollution prevention to achieve a high level of protection for the environment as a whole. Environmental assessments guarantee that the effects of public and private projects (Environmental Impact Assessment, EIA) and of plans and programmes (Strategic Environmental Assessment, SEA) are examined.

The most important acts concerning integrative environmental protection are:

- ▶ Federal Immission Control Act (*Bundes-Immissionsschutzgesetz, BImSchG*)
- ▶ Federal Nature Conservation Act (*Gesetz über Naturschutz und Landschaftspflege [Bundesnaturschutzgesetz], BNatSchG*)
- ▶ Federal Spatial Planning Act (*Raumordnungsgesetz, ROG*)
- ▶ Act on Environmental Impact Assessment (*Gesetz über die Umweltverträglichkeitsprüfung, UVPG*)

3

Instruments

German policy and administration use a variety of instruments in many different environmental protection areas to attain the constitutional objectives environmental protection and sustainability (Art. 20a of the German constitution). In practice, regulatory and planning instruments are crucial. But information and economic incentives are also important instruments to promote environmentally compatible behaviour. To take a holistic approach to protecting the environment, a vast number of different aspects needs to be considered. This section will present the instruments used for environmental protection in Germany, describe how they work and give examples of their use in specific cases.

3.1 Regulatory instruments

Environmental protection in Germany is marked by a strong recourse on the regulatory approach. Environmental protection through regulation means that the government prescribes rules of behaviour, either orders or prohibitions. Compliance with these rules is monitored. In the case of violations, enforcement measures are taken and the responsible person or company will be penalised.

A typical example of regulatory instruments are environmental standards. Usually, they are formulated as emission standards, quality standards or product-related standards. In Germany, emission standards play an important role in environmental protection. For example, the Ordinance on Large Combustion Plants, Gas Turbines and Internal Combustion Engine Installations (*Verordnung über Großfeuerungs-, Gasturbinen- und Verbrennungsmotoranlagen*) defines limits for various emissions such as dust, heavy metals and sulphur oxides. Another example for regulatory instruments are extended producer responsibility schemes requiring producers of products to bear responsibility for the management of the waste stage of a product's life cycle, often including collection and recycling targets. As the organisation of the waste management however is in the responsibility of the producers, there is a part of selfregulation. For example producers of packaging, which typically reaches private households, must register themselves and participate in what is known as a dual system.

The systems are responsible for ensuring that these packaging materials are separately collected everywhere in Germany and that the recycling targets of the Packaging Act are being complied with.

Environmental regulations are set as acts, ordinances (secondary legislation) and administrative regulations. Acts are made in a formal legislative process by the parliament (see Section 4.1 for more detailed information on the lawmaking procedures). Ordinances and administrative regulations are made by the government and specify the acts. They are highly important legal instruments because in formal terms it is easier to amend them than it is with acts. This is helpful, since environmental protection issues often change rapidly and thus quick reaction by the government is needed. Administrative regulations are, as a rule, only legally binding for the administration, not for the public. While the federal and *Länder* ministries are mainly responsible for the development of regulatory instruments, the lower authorities of the *Länder* and the municipalities are tasked with the proper supervision of compliance with the regulations. The characteristics and specific working relations between the different authorities are described in Section 4.

3.2 Planning

Planning allows the administration to have a more direct influence on shaping the state of the environment than regulation does, because it enables it to actively plan and shape the way in which the environment develops rather than just setting rules of conduct for others. Environmental protection by planning refers to the precautionary principle. An environmental plan sets certain goals in advance and establishes measures to achieve those goals. The involved governmental and non-governmental actors assess the status quo and make forecasts about what to expect, for example due to new industrial plants, more traffic or growing population. The plan then defines goals that have to be met, such as maximum emissions. As the plan defines opportunities and constraints for the behaviour of individuals and companies, it also has a regulatory effect.

Environmental planning in Germany is mainly done through media-specific plans and programmes. Media-related planning refers to individual environmental media such as air or water. Examples are noise reduction plans, water protection areas, clean air plans, waste management plans and the establishment of protected nature areas for plants and animals.

The spatial planning instrument (*Raumordnung*) also considers environmental aspects in spatial development. The guiding principle of spatial planning is the sustainable development of territories that balances social, economic and environmental functions. The federal administration can enact nationwide plans (*Raumordnungspläne des Bundes*). The *Länder* impose Land-wide plans (*Landesweite Raumordnungspläne*), and regional planning bodies impose regional plans (*Regionalpläne*) for their territory on the basis of the Land-wide plans. The mandatory land use and building plans of the municipalities also take objectives of spatial planning into account. In preparing these plans, the municipalities organise their respective territories in a way that conflicting land use demands are regulated to the benefit of the general public. They balance out environmental and other interests.

Planning is of course not limited to the environmental protection sector as such. There are, for example, also plans for road construction, new business parks and energy supply. However, these often affect environmental issues to a great extent, which explains the necessity to include environmental issues in almost all planning processes.

3.3 Information instruments

Providing the public with information on the environment is an important additional aspect of environmental policy in Germany. Regarding the freedom of information, the Environmental Information Act (*Umweltinformationsgesetz, UIG*) on the federal level and the corresponding acts on the level of the *Länder* provide public access to environmental information. Citizens and non-governmental organisations or groups have the right to access environmental data that is held by environmental authorities, in simple cases and when consulting environmental information on site for free, in more complex cases for a small fee. Furthermore, all authorities are obligated to proactively provide environmental information to the public, especially in electronic form. Access may only be denied in specific cases, e. g. in matters of industrial and commercial secrecy. For specific projects, the disclosure of information to the public on proposed activities which are likely to cause harmful effects on the environment, is part of the Environmental Impact Assessment (EIA) procedure. According to the Ordinance on Hazardous Incidents, the public must be informed about possible hazards arising from incidents and appropriate behaviour in the event of incidents.

Germany has a highly developed environmental reporting system. Every four years, the Federal Ministry for the Environment publishes an environmental report, which contains an evaluation of the environmental activities of the Federal Government and of the perspectives of mid-term and long-term environmental objectives.

Environmental labelling is used to inform the consumer about environmentally friendly products. The “Blue Angel” environmental label has been promoting relevant products in Germany since 1978. The Energy Consumption Labelling Act mandates retailers to label the energy consumption of devices with a high annual energy consumption, such as refrigerators and washing machines.

Another means of public information is environmentally aware education of young people. Environmental objectives are part of school curricula, especially in biology and natural sciences. An example is the National Action Plan Education for Sustainable Development (*Nationaler Aktionsplan Bildung für nachhaltige Entwicklung*, <https://www.bne-portal.de/de/nationaler-aktionsplan>).

BOX 1

The Blue Angel

The Blue Angel label is awarded by an independent panel to products and services that are environmentally friendly in comparison with other products and services which serve the same purpose. About 12,000 products and services of some 1,600 label users have received the Blue Angel. The environmental label is awarded to paper products, office products and furniture, electrical equipment, combined heat and power stations, use of regenerative energy, kitchen products, transport equipment and many others.

The Blue Angel environmental label is the oldest label for products and services related to environmental and consumer protection. It considers itself to be a

market-compliant instrument for environmental policy design to distinguish the positive environmental features of products and services on a voluntary basis. The environmental label relies on information and motivation to speed up the structural change of the economy towards a sustainable development.

The owner of the label is the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. All technical requirements to be awarded are defined by the independent Environmental Label Jury. The development of the requirements for being awarded the Blue Angel eco-label is, among other things, the task of the German Environment Agency.



3.4 Economic instruments

Economic instruments, e. g. environmental taxes, fees, duties and subsidies, motivate individuals and companies to behave in a certain manner because a financial benefit can be expected. The government can use these instruments to guide society towards environmentally friendly behaviour without having to use regulation or take

measures by itself. Economic incentives are playing an increasing role in environmental protection. Due to tight administrative resources, the government aims at reducing administrative interventions and a larger application of market mechanisms instead. Environmental degradation and the inefficient use of natural resources require intervention to

BOX 2

Emissions trading system

With global warming being one of the most pressing environmental issues of our time, emissions trading systems are an important economically incentive mechanism for reducing greenhouse gases in Germany and the European Union (EU). The EU Emissions Trading System (ETS) limits the overall emissions of all installations covered by the system (cap). The cap is reduced each year. Within this cap, companies receive or buy emission allowances and trade them with one another as needed. This “cap-and-trade” approach gives companies the flexibility to cut emissions in the most cost-effective way. The EU ETS covers approximately 12,000 power stations and manufacturing plants in the 28 EU Member States, plus Iceland, Liechtenstein and Norway, as well as aviation activities in those countries. Around 45 % of the total EU greenhouse

gas emissions are regulated by the EU ETS. The EU ETS is the world’s biggest emissions trading market, accounting for over three-quarters of international carbon trading. It continues to inspire the development of other national and regional systems. The EU is looking to link its ETS with compatible schemes of other regions. In April 2018, the EU adopted a Directive on the revision of the EU ETS for the period after 2020. The amendment is in line with the EU’s 2030 climate and energy policy framework and aims to reduce EU ETS emissions by 43 % compared to 2005. Furthermore the revised Directive is taking action to reduce the surplus of emission allowances in the carbon market.

Source: European Commission.

https://ec.europa.eu/clima/policies/ets_en

properly price environmental resources and internalise environmental costs. The general environmental principle which guides the use of economic instruments is the polluter pays principle.

An example of an economic incentive related to water is the water abstraction charge (*Wasserentnahme-entgelt*) in Germany. The charge is paid by the party that extracts the water (groundwater and in some

cases surface water as well). The purpose of the water abstraction charge is to reduce water extraction and thereby conserve the waterbodies used for this purpose. The revenues from the water abstraction charges are often used to fund water protection measures.

The wastewater duty (*Abwasserabgabe*) is one of Germany's oldest environmental taxes. Since 1976, minimum nationwide requirements have applied to

BOX 3

The KfW Group

The KfW (*Kreditanstalt für Wiederaufbau*) is Germany's leading promotional bank for goals of the public interest, including environmental issues. KfW is jointly owned by the Federal Republic of Germany (80 %) and the Länder (20 %). Being a publicly owned bank especially designed for purposes of environmental and social development, KfW is an important part of the economic instruments the government uses in environmental protection. KfW has three main areas of activity:

Domestic Promotion: KfW is the main supporter of private housing property. KfW gives special low-interest loans to house owners for ecological modernisation of their houses or for building new houses with low levels of energy consumption. Companies and municipalities can also benefit from special financing programs from KfW. Examples are projects for clean energy

generation, renewable energies and construction measures as well as process innovations that reduce CO₂ emissions in industry and public infrastructure.

Export and Project Finance: German companies wanting to invest in foreign countries need reliable financing partners, especially in development countries. KfW supports German companies in these investments by financing infrastructure, climate and environmental protection projects as well as raw material supplies.

Development Finance: On behalf of the Federal Government, KfW finances investments and project-related advisory services in developing countries, which supports the sustained expansion of the economic and social infrastructure and makes environmental and resource conservation measures possible.

the discharge of wastewater into waters and thus to the occurrence, avoidance and treatment of wastewater. Since 1996, these minimum requirements have been based on the best available technology; the permissible pollutant load depends on each industry's ability to minimise emissions into water by complying with technically and economically feasible, progressive processes.

The introduction of the Ecological Tax Reform in 1999 set incentives for the environmentally friendly generation of energy and the use of local public transport. It led to a substantial rise in revenue from environmental taxes until 2005. In 2016, revenue from environment related taxes amounted to 57.6 billion euros. The largest proportion came from the energy tax, followed by the motor vehicle tax and the electricity tax.

Furthermore, Germany has long-standing experience with deposit refund systems. They are widely used in the beverages sector for glass and plastic bottles as well as for aluminium cans. The deposit creates an incentive to return bottles and cans and thus promotes reusable bottles or recycling of single-use bottles or cans. This mechanism reduces the amount of waste. Another example is the deposit on car batteries, which promotes professional disposal and recycling of the toxic acids and heavy metals in the battery.

Several support programmes as well as tax benefits are available for environmental purposes. The Federal Ministry for the Environment is funding large-scale flagship projects which apply the best available technology, use progressive processes and process combinations or produce and use environmentally friendly products. In addition, various support programmes of the EU, the Federal Government, the *Länder* and the municipalities include incentives for taking an environmentally aware approach to spending the subventions. For example, the European Regional Development Fund (ERDF) sets CO₂ emission goals for projects that it funds, thus contributing to climate protection. Similar mechanisms exist in national subsidy programmes, which in many cases link the access to subsidies to aspects of environmental protection, for example by saving energy or water, reducing transport activities or developing new production methods that reduce the environmental impact. Examples include the subsidies from the Environmental Innovation Programme of the Federal Ministry for the Environmental, Nature Conservation and Nuclear Safety (*Umweltinnovationsprogramm des BMU*) and subsidies for electric cars and low-emission inland vessels.

3.5 Responsibilities of the industry

As an addition to planning, regulation or other active forms of governmental instruments, partial self-regulation by the industry can also help to strengthen environmentally compatible production.

There are different forms and degrees of self-regulation which spread between the two extremes of “no regulation at all” and “nearly complete government regulation”. Self-regulation in the strict sense of the word means voluntary regulation of the industry, possibly with minimum requirements set by the government. Closer to classic, governmental regulation is “regulated self-regulation” or “co-regulation”. In this case, often a third party (neither the regulated company nor the government) monitors compliance with the rules of self-regulation. One vivid example of this form of regulated self-regulation is the European Eco-Management and Audit Scheme (EMAS) presented in Box 4.

Another aspect of self-regulation by the industry are voluntary agreements between the industry and the government. Voluntary agreements are based on consensus, not on legal enforcement. They are not legally binding. These agreements concern, for example, the disclosure of environmentally-relevant information as well as measures taken by industry to reduce pollution. Examples are the agreement between the Federal Government and several industry associations on the introduction of energy efficiency networks and the “Bavarian Environmental Pact” (*Umweltpakt Bayern*).

To improve the monitoring of environmentally harmful activities, self-monitoring by operators and users has been introduced. According to Section 26 of the Federal Immission Control Act, the operator of a plant may be obligated to have emissions monitored. The plant operator may not perform the measurement himself, but instead must entrust this task to an independent expert. The experts which may qualify for this task are determined by the supreme *Länder* authority.

Another instrument to strengthen self-responsibility is the appointment of environmental officers (*Umweltbeauftragte*). “Environmental officer” is a general term for a number of different company officers concerned with environmental protection (see list below). Their appointment is required by the respective acts on emission control, water protection, etc. if the company operates under certain conditions. Thus, their existence is based on governmental regulation. However, in terms of self-regulation by the industry, they are employees of the respective company and thus also paid by the company and not by the government. Environmental officers are in charge of all of the environmental responsibilities of the company. These officers are mainly responsible for internal control and monitoring of internal processes.

Environmental officers include the

- ▶ Immissions Control Officer (*Immissionschutzbeauftragter*)
- ▶ Hazardous Incidents Officer (*Störfallbeauftragter*)
- ▶ Water Protection Officer (*Gewässerschutzbeauftragter*)
- ▶ Waste Officer (*Abfallbeauftragter*)
- ▶ Radiation Protection Officer (*Strahlenschutzbeauftragter*)
- ▶ Hazardous Goods Officer (*Gefahrgutbeauftragter*)

BOX 4

The Eco-Management and Audit Scheme

The Eco-Management and Audit Scheme (EMAS) is a voluntary scheme for companies and organisations willing to commit themselves to evaluate and improve their environmental performance. EMAS represents an innovative approach to environmental protection through a combination of market mechanisms and regulation. Organisations participating in EMAS benefit from regulatory relief, improved legal compliance, reduced operating costs and internal and external transparency. In return, these organisations have to set up an ambitious environmental management system according to the European EMAS regulation (No. 1221/2009) and prepare a public environmental report, called an environmental statement. The management system and environmental statement have to be regularly reviewed and approved by an officially recognised external environmental verifier. EMAS is open to any organisation in the public and private sector in the member states of the European Union and, since 2010, globally. An EMAS registration entails three steps for an organisation: (1) conduct an environmental review of its activities; (2) establish an

effective environmental management system ensuring environmental performance improvement and legal compliance; (3) provide a statement of its environmental performance and legal compliance. After the environmental verifier has reviewed the environmental management system and the environmental statement, the organisation is officially registered by a competent body (in Germany the regional chambers of commerce and industry) and has the right to use the EMAS logo. One of the key parts in the EMAS registration process is verification of legal compliance with the environmental regulations. This includes a self-check by the EMAS organisation (internal audit), a check by the external environmental verifier and an enquiry to the competent authority which confirms that no breaches of environmental regulations are known. By the end of 2018, more than 1,200 German companies and other organisations with approximately 2,200 sites were registered under EMAS. All EMAS organisations are listed in the official EMAS register (www.emas-register.de). For more information on EMAS, visit: www.emas.de.

3.6 Environmental liability

Environmental liability is an instrument in environmental protection used to compensate for environmental damage. It comprises legal norms which regulate the obligation to compensate for damage caused by environmentally harmful activities. In addition, the threat of liability claims may prevent environmental damage by promoting more careful conduct with respect to environmental harm. To distinguish are thereby in Germany civil, public and criminal liability.

Civil environmental liability conduces to the compensation of individual private interests and gives rise to an indirect environmental effect. Liability claims arise from different acts. In particular, the German Civil Code (*Bürgerliches Gesetzbuch, BGB*) regulates claims of environmental liability: For example, Section 1004 (I) BGB affords the owner a no-fault claim for removal and injunction, if the ownership is interfered with. This also includes harmful environmental effects. Sections 823 et seqq. BGB seek to protect citizens from an intervention in their legal assets, e. g. life, health and property – including interventions arising from environmental damage. This liability is fault-based, and therefore it is difficult to enforce this claim in practice.



The Environmental Liability Act (*Umwelthaftungsgesetz, UmwHG*) is supposed to close this liability gap and ease the enforcement of environmental liability claims. The act is designed as a strict liability, so – in contrast to Sections 823 et seqq. BGB – the claimant does not have to prove default and unlawful conduct. The UmwHG imposes a plant-related liability for damage in the event that environmental damage caused by an installation causes a person's death, injury to his/her body or damage to his/her health or to an item of property. This liability only applies to highly polluting plants such as power plants and combustion plants.

With regard to damage due to ionising radiation, the Radiation Protection Act (*Strahlenschutzgesetz*), referring to the liability provisions of the Atomic Energy Act (*Atomgesetz*) provides for a similar liability regime as the Environmental Liability Act.

Public law liability applies regardless of civil liability under Sections 823 et seqq. BGB or Section 1 UmwHG. The Environmental Damage Act (*Umweltschadensgesetz, USchadG*), which is based on European law, contains regulations for the prevention and remediation of environmental damage. It is only applicable if no specific regulation takes precedence.

The USchadG involves the obligations regarding information, hazard prevention and remediation to the competent authority as well as to the responsible party. New to German environmental law, the USchadG establishes a liability exclusively for ecological damage.

In cases of non compliance defined in specific environmental acts (administrative offences [*Ordnungswidrigkeiten*]) authorities have the opportunity to impose fines. Additionally Germany has, in general, a comprehensive set of rules regarding environmental crimes, consisting mainly of a chapter on crime against the environment in the Criminal Code (Sections 324 et seqq. *Strafgesetzbuch, StGB*; primary criminal law, [*Kernstrafrecht*]), and of various rules on environmental crimes to be found in specific environmental acts (secondary criminal law, [*Nebenstrafrecht*]). As Criminal law, including environmental criminal law, is always the ultima ratio in German law, environmental crimes are not trivial offences. They are punishable crimes like theft or fraud.

4

Administrative Structure

This section describes the architecture of the German environmental administration. For a better understanding, Subsection 4.1 gives a brief overview of the constitutional background in Germany and then Subsection 4.2 shows how it is embedded in European governance. This overview is followed by detailed portraits of each of the federal levels and their main institutions: SubSection 4.3 for the federal level, Subsection 4.4 for the *Länder* level and Subsection 4.5 for the local level of government.

4.1 Constitutional Background

The Federal Republic of Germany is a parliamentary democracy with two chambers of parliament, the *Bundestag* (elected by the citizens) and the *Bundesrat* (comprised of representatives of the *Länder*). Germany is a federal state with a three-tiered system of government: the national level (*Bund* – Federation), the *Länder* and a two-tiered system of local government comprising counties (*Kreise*), cities and municipalities (*Städte* and *Gemeinden*). Overall, Germany consists of 16 *Länder* (see Figure 1).

The Basic Law (*Grundgesetz*, *GG*) enacted on 23 May 1949 is the constitution of the Federal Republic of Germany. The German state is rooted in the principle of the rule of law, which governs the relationship between the state and its citizens. The basic idea of this principle is to guarantee justice and legal certainty. Important aspects of the rule of law for the administration are the supremacy of the law (*Vorrang des Gesetzes*) and the necessity of the law (*Vorbehalt des Gesetzes*). The supremacy of the law demands that all judicial and executive actions must be bound by statute. The necessity of the law means that any intrusion into the sphere of the individual's rights and all important administrative decisions are only permissible if they have a statutory basis.

Three principles of the Basic Law are especially important for the structure of the government and public administration: The **separation of powers**, the **federal system of government** and **self-government of local authorities**.

Separation of powers: In order to safeguard the interests of citizens relative to the state and to prevent the state from becoming too powerful, state power is divided into three branches – legislative, executive and judicial – which are represented by distinct bodies. The principle of the separation of powers is intended to mutually limit and control the branches' powers.

Federalism: Germany is a federal republic on the basis of the Basic Law. The Federal Republic is a confederation of states (*Länder*) in one nation with a Federal Government (*Bundesregierung*). As members of the Federation, the 16 *Länder* have sovereign rights and responsibilities which are not devolved from the Federation but are granted to them by the Basic Law.

State power is divided between the federal level and the *Länder*. As a basic rule, the Basic Law stipulates that the execution of power is a matter of the *Länder* (Art. 30 GG, Art. 83 GG). The federal level has administrative and legislative power only in the areas it is entitled to by the Basic Law. In practice, however, the federal level has the largest share of the legislative power,

not least due to a priority right of access in some areas, by virtue of which it may take over a matter with a blocking effect vis-à-vis the *Länder* (Art. 72 GG). This applies, for example, to the important legislative powers for environmental law (e.g. Art. 74. 1 No. 24, 29, 32 GG). Consequently, the de facto legislative power of the *Länder* is quite modest, even though a major reform in 2006 expanded their competences. On the other hand, the *Länder* perform the majority of the implementation tasks. Thus, the usual model is that administrative tasks are executed by the *Länder* and local governments, but defined by federal law. This is also reflected in the respective shares of personnel: In 2015, 10.5 % of the 4.6 million public servants worked for the Federation, 50.5 % for the *Länder*, 31 % for the municipalities and 7.9 % for the indirect public service (e.g. the Federal Employment Agency and other social security insurance providers). The basic structure of the administrations of the federal level and the *Länder* is shown in Figure 3.

Self-government of local authorities: In general, local governments have autonomy in handling any local problems unless there are conflicting federal or *Länder* regulations (Art. 28.2 GG). This also applies to counties. Important areas of local self-government include land use plans, municipal road management, planning of green areas, waste disposal, wastewater disposal, energy supply, child and youth services (e.g. kindergartens, museums, libraries, public swimming pools) and local economic development.

4.1.1 Division of legislative competences

According to the German Basic Law (*Grundgesetz, GG*), the *Länder* have the right to legislate if the Basic Law does not confer legislative powers to the federal level (Art. 70 GG). In these cases, the parliaments of the *Länder* are responsible for legislation in their *Land*.

For some important matters of legislation, the Basic Law centralises legislative competences to the federal level. Here, the two chambers (*Bundestag and Bundesrat*) are responsible for legislation. In certain matters, the Bundestag can make a decision without consent of the Bundesrat. In other matters, when interests of the *Länder* are affected, the Bundesrat, as the representative of the *Länder*, has to give its consent.

The Basic Law defines three areas of legislation: exclusive legislative power of the Federation (*Ausschließliche Gesetzgebung des Bundes*), concurrent legislative power between the Federation and the *Länder* (*Konkurrierende Gesetzgebung*) and deviating legislation of the *Länder* (*Abweichungsgesetzgebung*). On matters under concurrent legislative power, the *Länder* have the power to legislate as long as and to the extent that the Federation has not exercised its legislative power by enacting an act. (Art. 72.1 GG).

As a rule, federal law has precedence over *Länder* law (Art. 31 GG). Thus, in cases where *Länder* law conflicts with federal law, only the federal law is binding. Only on matters under deviating legislation, the *Länder* are allowed to enact legislation that deviates from federal acts (Art. 72.3 GG).

Some of the main areas of **exclusive federal legislation** are, according to Art. 73 GG:

- ▶ nuclear energy and ionising radiation protection
- ▶ air transport and railways
- ▶ foreign affairs and defence

Some of the important matters of **concurrent federal legislation** according to Art. 74 GG are:

- ▶ waste disposal, air pollution control and noise protection
- ▶ soil law
- ▶ promotion of agricultural production and forestry
- ▶ the law on food products, alcohol and tobacco
- ▶ shipping
- ▶ road traffic, construction and maintenance of highways

Deviating legislation (i.e. federal law is exceptionally not binding, if the *Länder* have their own law) according to Art. 72.3 GG applies, for example, to matters concerning:

- ▶ protection of nature and landscape management (except for the general principles governing the protection of nature, the law on protection of plant and animal species or the law on protection of marine life) management of water resources (except for regulations related to materials or facilities)
- ▶ regional planning

All other subjects are regulated by *Länder*. Important matters of ***Länder* legislation** are:

- ▶ local government
- ▶ police
- ▶ education and universities

Most of the environmental acts nowadays are federal law – often derived from legislation from the European Union. This is especially true for the areas of air pollution control, noise protection, waste management, chemicals, genetic engineering and nuclear safety. Important areas of *Länder* law especially include water management, nature conservation and landscape conservation.

4.1.2 Division of administrative competences Implementation

According to the Basic Law, the *Länder* have the main responsibility for the implementation of laws (Art. 30 GG and 83 GG). This also refers to environmental law. The *Länder* usually execute federal acts in their own right, if the Basic Law does not otherwise provide or permit (Art. 83 GG). Where the federal *Länder* execute federal acts in their own right, they establish their own authorities and administrative procedures. In exceptional cases, the Federal Government may regulate the administrative procedure without the possibility of deviation for the *Länder* (e.g. licensing in accordance with the Federal Immigration Control Act, s. subsection 5.1.1) In some cases specified in the Basic Law the *Länder* act on federal

commission. If the *Länder* act on federal commission, the federal level can give directions and supervise the implementation. In a few areas, the Basic Law stipulates “joint tasks” of the Federation and the federal *Länder* which are administered by the federal

government and the *Länder* together (Art. 91a.1 GG). Finally, the Federation can carry out its law with its own administrative authorities. In general, federal administrative action is rather the exception than the rule, which is also true for environmental protection.

Figure 2

Execution of federal law

	Execution in the own right of the <i>Länder</i> (Art. 84 GG)	Execution on federal commission (Art. 85 GG)	Execution by federal administration	Execution as joint tasks
Federal supervision	Supervision of legality	Supervision of legality and functionality	Execution by subordinated federal authorities	Participation of the Federation in “joint framework planning”
Possibility of federal directives	No federal directives possible (apart from few exceptions with consent of the <i>Bundesrat</i>)	Federal directives possible	Extensive possibility of directives within its own federal authorities	Right to be informed for the Federal Government and the <i>Bundesrat</i>
Financing	Administrative costs are borne by the <i>Länder</i> , the Federation can finance up to 50 % of money transfers to citizens (Art. 104a GG)	Administrative costs are as rule borne by the Federation (Art. 104a GG)	Federation bears all costs	Federation and <i>Länder</i> share costs

Source: Own illustration based on Bogumil, J./Jann, W. (2009): Verwaltung und Verwaltungswissenschaft in Deutschland. Einführung in die Verwaltungswissenschaft. 2. Auflage. Wiesbaden: VS, p. 80.

Financing

Most of the environmental administration is financed by taxes and to a certain degree by fees as well. There is a complex system of balancing the tax revenues between the federal level and also between *Länder*. Some taxes with the highest revenues are split between the federal level and the *Länder*: The revenues from personal income tax, corporate income tax and sales tax are shared roughly 50:50 between the federal level and the *Länder*¹. Other taxes are assigned to either the federal level (e. g. energy taxes, tobacco tax) or the *Länder* (e. g. real estate transfer tax, inheritance tax). The local governments get revenues from the local business tax and property tax on land and buildings.

According to the Basic Law, the responsibilities for tasks and financing are connected. As a basic principle, the Federation and the federal *Länder* finance their expenditures separately (Art. 104a.1 GG). Since most of the implementation of environmental protection is under the responsibility of the *Länder*, they also have to bear the main part of the financing. In cases where the federal *Länder* execute federal law on federal commission, the Federation covers the operational costs of the activities (Art. 104a.2 GG).

Judicial responsibility

The judicial authority in administrative matters is shared by the federal level and the *Länder*. For appeals between citizens and the government or its public administration, the *Länder* have administrative courts (*Verwaltungsgerichte*, VG) as lower courts, the higher administrative courts (*Oberverwaltungsgerichte*, OVG or *Verwaltungsgerichtshöfe*, VGH) as courts of appeals and the constitutional courts of the *Länder* (*Landesverfassungsgerichte*), which decide on alleged infringement of the *Länder* constitution. For appeals in private law cases and matters of compensation for damage due to illegal actions of the administration, the regional courts (*Landgerichte*) are in charge.

The Federation has the Federal Administrative Court (*Bundesverwaltungsgericht*, BVerwG) as a court of appeals and the Federal Constitutional Court (*Bundesverfassungsgericht*, BVerfG), which decides on alleged infringements of the federal constitution (*Grundgesetz*).

Usually, a process starts in the lower court of a *Land*, then moves up to the court of appeal of the *Land*, and if there is still a party that appeals, the Federal Administrative Court is the final court. The Federal Constitutional Court can only be appealed to if a right granted by the Basic Law is concerned and the legal proceedings of the lower courts have been utilised.

¹ To a small extent, the municipalities also get shares from these taxes: personal income tax 42.5% federal level, 42.5% *Länder*, 15% municipalities; sales tax 53.9% federal level, 44.1% *Länder*, 2% municipalities.

4.2 Embeddedness in European Union governance

Although this brochure is a guide to German environmental administration, it is impossible to ignore the European level, as environmental policies in Germany are significantly influenced by the European Union (EU). As for other policy sectors, the EU is mainly responsible for setting law, not implementing it, which happens in the member states. Thus, many of the subjects that German environmental administration deals with are derived from EU regulation: More than two thirds of environmental regulations in Germany can be traced to EU regulations.

The two treaties that form the constitutional basis of the EU are the Treaty on European Union (TEU) and the Treaty on the Functioning of the European Union (TFEU). According to Article 3 of the TEU, the Union sets itself the objective to achieve a “sustainable development [...] and a high level of protection and improvement of the quality of the environment”. According to Article 11 of the (TFEU), the EU integrates environmental protection in its other policies and activities. More specifically, Art. 191 of the TFEU states that the “Union policy on the environment shall contribute to pursuit of the following objectives:

- ▶ preserving, protecting and improving the quality of the environment,
- ▶ protecting human health,
- ▶ prudent and rational utilisation of natural resources,

- ▶ promoting measures at international level to deal with regional or worldwide environmental problems, and in particular combating climate change.”

European Union policy on the environment aims at a high level of protection taking into account the diversity of situations in the various regions of the community. It is based on the precautionary principle, the principle of prevention, the polluter pays principle and the principle that environmental damage should be rectified at source (Art. 191 TFEU). These principles are thus compatible with the principles of German environmental law.

The Environment is a shared competence between the Union and the member states according to Art. 4 TFEU. The competences of the Union are specified in Art. 191–193 TFEU. The European Union law on the environment is basically shaped by directives. Directives, in principle, have no direct legal effect in the member states of the Union. They have to be transposed into national law to become effective. If the deadline for the transposition of a directive into national law has passed, the European Commission can take a member state to court. In some areas, like protection against hazardous substances and radiation protection, the Union makes use of regulations which are binding in their entirety and are directly applicable in all member states.

As regards protection against ionising radiation, the legal basis for Union secondary legislation is the Treaty establishing the European Atomic Energy Community (in particular Articles 31 and 32 thereof).

Since 1972, the Union has passed several hundred environment-related directives and regulations. Some of the most important of these are:

- ▶ Water Framework Directive (2000/60/EC)
- ▶ Waste Framework Directive (2008/98/EC)
- ▶ Industrial Emissions Directive (2010/75/EU)
- ▶ Renewable Energy Directive (2018/2001/EU)
- ▶ Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (1907/2006/EC as amended by 836/2012/EU)
- ▶ Environmental Impact Assessment Directive (2011/92/EU as amended by 2014/52/EU)
- ▶ Conservation of Natural Habitats and of Wild Fauna and Flora Directive (92/43/EEC)

In the field of protection against the dangers from ionising radiation, European Union legislation has undergone a major revision by Council Directive 2013/59/Euratom.

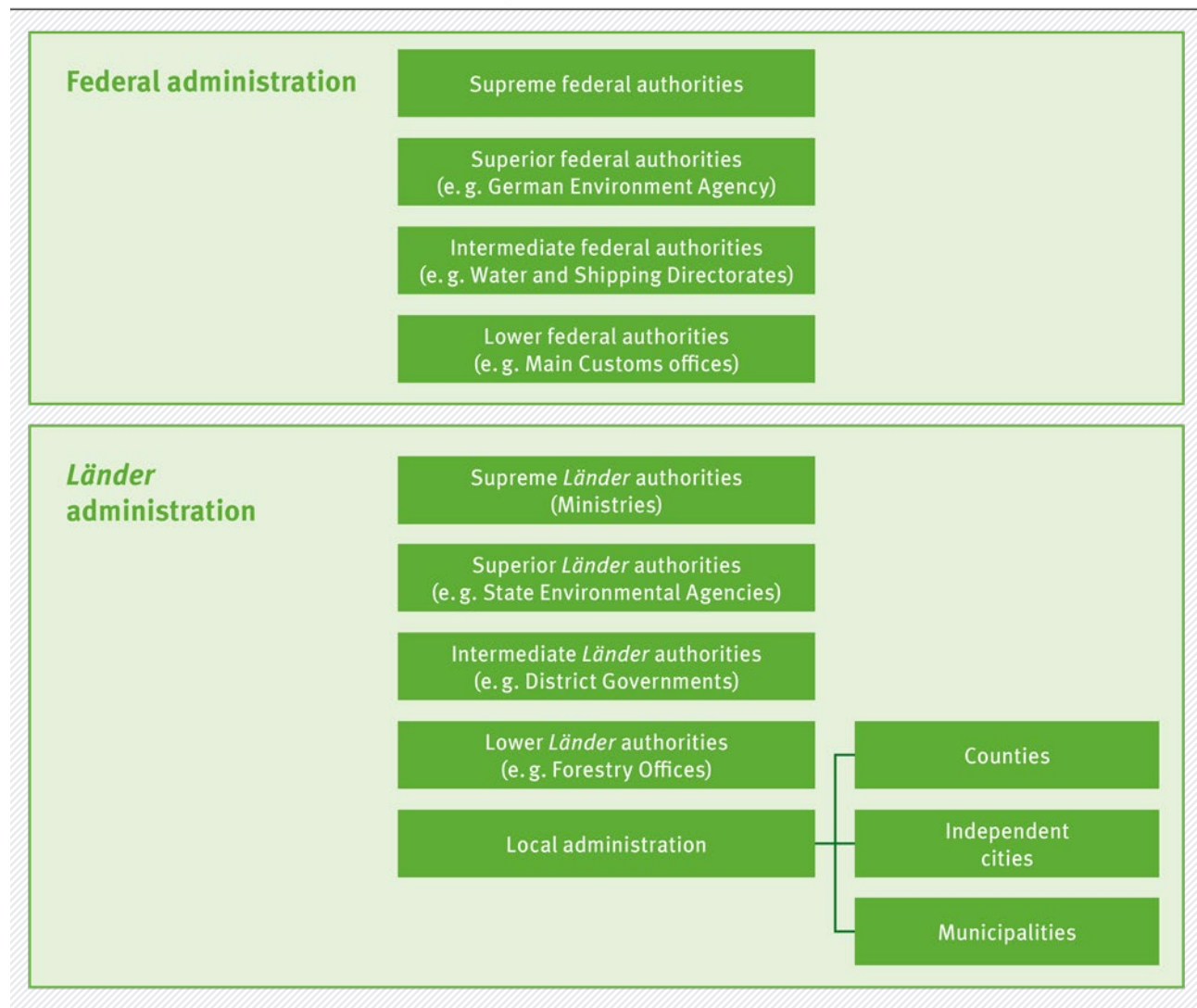
The transposition and implementation have a direct impact on German public administration. On the one hand, the policy-making bureaucracies in both the federal and *Länder* ministries have developed their own competences for European law and European affairs. The German Ministry for the Environment, for

example, has various units dealing with European affairs. They are also involved in the development of policies on the European level and in the transposition of EU law in national law. In order to coordinate European policies, the German Federal Foreign Office and the Ministry for Economic Affairs share the responsibilities. On the other hand, the implementation and application of European law has transformed administrative procedures substantially, as can be seen in the case of environmental impact assessments (see Section 5.1.3), for example. The German Environment Agency (*Umweltbundesamt, UBA*) enables Germany's communication with the European Environment Agency (EEA). The task of the EEA is to process data and information on the environment and make it available to policymakers and the general public in Europe. Advancing environmental goals and issues at the European level is also the aim of the EPA Network (Network of the Heads of Environmental Protection Agencies), of which UBA is a member.



Figure 3

General administrative architecture in Germany



Source: Own illustration.

4.3 The federal environmental administration

With the German National Sustainable Development Strategy, updated in 2016, the entire federal administration has committed itself to realising a sustainable and environmentally aware future. Accordingly, aspects of environmental protection should be considered in all ministries, regardless of their policy focus. However, the majority of competences in environmental policies focus on the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (*Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit, BMU*), which takes the leading role in environmental affairs. This section will describe the focuses of the federal ministries in general and of the BMU and its subordinated federal authorities in particular.

The ministries are the supreme authorities on the federal level. Their main task is to prepare legislation and draw the general lines of their policy field. They also act as supreme supervisory authorities for lower authorities. Implementation of law is not their main focus. The distribution of competences between the different federal ministries is subject to regular changes. Especially in the case of a change in the governing coalition, competences can be moved from one ministry to another. An example is the transfer of the responsibility for energy policy from the Federal Ministry for the Environment to the Federal Ministry for Economic Affairs in 2013. Thus, some areas of responsibility of the ministry described in the following may change in the future.

The majority of administrative work on the federal level is executed by special authorities which have been created for a specific sector of the administration, such as environment, radiation protection, transport or agriculture. The organisational structure may be different for each department of the Federal Government. Most ministries have established superior federal agencies. These bodies serve two main functions. On the one hand, they provide technical assistance to the administration. For example, in the environmental sector they are responsible for monitoring and assessing the environmental situation and its development, determining the causes of environmental pollution and preparing regulations. Therefore, they are staffed with scientific and technical experts and are equipped with the appropriate facilities for measurement, monitoring and analysis of the environment. Examples are the German Environment Agency (*Umweltbundesamt, UBA*), the Federal Office for Radiation Protection (*Bundesamt für Strahlenschutz, BfS*) and the Federal Agency for Nature Protection (*Bundesamt für Naturschutz, BfN*). In contrast, some superior federal authorities focus on the implementation of environmental law.

In few areas, there is a three-layered administrative structure on the federal level. For example, in the area of waterway administration, there are Waterway and Shipping Directorates, which are intermediate authorities below the Ministry of Transport. Below such intermediate authorities, there are the Waterway and Shipping Agencies as lower administrative authorities. They fulfil regional and local tasks, but are still part of the federal administration.

4.3.1 Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (*Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit, BMU*) is responsible for a range of government policies which are reflected in the name of the ministry itself. It has offices in Berlin and Bonn. The BMU is the institutional backbone of the federal administration concerned with environmental issues.

One main task of the BMU is to prepare legislation in the policy areas referred to above. This includes preparing regulatory legislation and transposing directives of the European Union (EU) into national law. The ministry is also responsible for issuing ordinances and administrative regulations – subordinate legislation which specifies further details of an act, in particular with regard to enforcement (see Section 3.1). The ministry is involved in all legislative projects which have an impact on its areas of competence.

Another task is funding for research and development and supporting the market launch of innovative technologies with economic instruments. For instance, support programmes are financed through taxes and the revenues from emissions trading. This enables members of the public, associations, companies and municipalities to obtain financial support for specific projects.

National and international coordination and cooperation is another important task of the BMU. Therefore, to ensure that legal provisions can be implemented efficiently in Germany, the Federation and the *Länder* coordinate structures on many issues, develop programmes and formulate joint strategies. Besides permanent bodies such as the Conferences of the German Environment Ministers, interministerial working groups and committees are also convened. Because the environment knows no borders, many environmental and climate issues can only be solved through international cooperation. In this context, the BMU represents Germany in the European Union and international organisations (e. g. UN, OECD, WTO).

Finally, to make its activities and planned measures transparent, the BMU undertakes media and public relations tasks. It issues online articles and printed brochures. Events and the continuous development of civil participation processes aim to enable the public to play an active role.

4.3.2 Federal environmental agencies and expert bodies

There are four federal agencies operating under the auspices of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. These are the Federal Environment Agency (*Umweltbundesamt*), the Federal Agency for Nature Conservation (*Bundesamt für Naturschutz*), the Federal Office for Radiation Protection (*Bundesamt für Strahlenschutz*) and the Federal Office for the Regulation of Nuclear Waste Management (*Bundesamt für kerntechnische Entsorgungssicherheit*). Furthermore, several independent expert committees advise the ministry by means of expert opinions/reports and statements.

4.3.2.1 German Environment Agency

The German Environment Agency (*Umweltbundesamt*, UBA) provides the scientific basis for environmental policy in Germany. The work of UBA centres around gathering data on the state of the environment, investigating the relevant interrelationships and making predictions – and then, based on those findings, providing federal bodies such as the Ministry for the Environment with policy advice. The UBA also provides the general public with information on various environmental issues. Apart from these activities, the UBA implements environmental law by making sure that it is applied in areas such as CO₂ trading and approval processes for chemicals, pharmaceutical drugs, biocides and plant protection products.

UBA's main goals are to identify environmental risks and threats early on, assess them and find viable solutions for them in a timely manner. To this end, the UBA conducts research in its own labs and out-sources research to scientific institutions in Germany and abroad. It is also the German point of contact for numerous international organisations such as UNEP and WHO. Its responsibilities are set out in the act that established the agency (*Gesetz über die Errichtung eines Umweltbundesamtes – Act on the Establishment of a German Environment Agency*).

The UBA has about 1,500 employees spread across 13 sites, seven of which are monitoring stations in its own air quality tracking network. Its headquarters are in Dessau-Roßlau. The UBA employs experts such as biologists, chemists, economists, lawyers and engineers from all ecology-related disciplines.

The main tasks of the UBA are:

- ▶ providing scientific support to the Federal Ministry for the Environment on air pollution control, noise protection, soil protection, waste management, water management and health-related aspects of environmental protection, especially for the preparation of regulations
- ▶ monitoring air pollution on a national scale (background measurements)
- ▶ informing the public about environmental issues

Moreover, the agency has been mandated with several special tasks, such as:

- ▶ Assessment of environmental risks associated with chemicals according to the German Chemicals Act
- ▶ Assessment of environmental risks associated with human and veterinary medicinal products, plant protection products, biocides, ballast water treatment
- ▶ Information and documentation centre on substances hazardous to water
- ▶ National reference laboratory for the European Union for monitoring of air pollution
- ▶ Competent authority for the administration of the EU Emissions Trading System in Germany
- ▶ Tasks in the context of the European Environment Agency: German focal point; German contact point for air quality, air emissions, inland waters, seas and coastal environment, soil and waste
- ▶ Participation in and organisation of standardisation processes with relation to environmental aspects

4.3.2.2 Federal Agency for Nature Conservation

The Federal Agency for Nature Conservation (*Bundesamt für Naturschutz, BfN*) is another superior federal agency in the portfolio of the Federal Ministry for the Environment. It was established in 1993. In addition to its headquarters in Bonn, the Agency has two field offices: one in Leipzig, which houses the Landscape Planning and Design Department, and one on the island of Vilm near Rügen, which is home to the International Academy for Nature Conservation. The Agency has about 340 employees (2017). Most of the employees are experts in various scientific disciplines (including biology, agriculture, forestry and economics). The BfN is the central scientific authority at the level of nature conservation and landscape conservation. It provides the German Federal Ministry for the Environment with professional and scientific assistance in all issues concerning nature conservation and landscape management and in international cooperation activities. For this purpose, the BfN conducts scientific research and is also in charge of several funding programmes. BfN additionally performs enforcement work under international agreements on species conservation and nature conservation, the Antarctic Treaty and the German Genetic Engineering Act.

The most important responsibilities of the BfN are:

- ▶ To advise the Federal Ministry for the Environment and the Federal Government on all issues relating to nature conservation, landscape management and the conservation of biological diversity, at the national and international levels

- ▶ To promote large-scale conservation projects in the 16 *Länder* as well as pilot nature conservation projects (testing and development activities)
- ▶ To act as the permitting authority for the import and export of protected animal and plant species
- ▶ To implement the Washington Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) as well as the species conservation regulations of the European Union and the German government
- ▶ To act as the implementing authority for the establishment and protection of the Natura 2000 European network in the German Exclusive Economic Zone
- ▶ To conduct research and award research, e. g. on the conservation of biological diversity, on species, habitat and ecosystem protection, on landscape planning and on monitoring for nature conservation
- ▶ To compile data on species and nature conservation and to evaluate this data for red lists (of plants and animals) and risk analyses
- ▶ To produce the flagship publication “Nature Data” (*Daten zur Natur*), a comprehensive compendium presenting the current state of landscapes and nature and identifying where action needs to be taken

4.3.2.3 Federal Office for Radiation Protection

The Federal Office for Radiation Protection (*Bundesamt für Strahlenschutz, BfS*) is an organisationally independent scientific-technical higher federal authority in the portfolio of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). The BfS pools competences in the area of radiation protection. Its headquarters are in Salzgitter. Since 2014, the Federal Office for the Safety of Nuclear Waste Management (*Bundesamt für kerntechnische Entsorgungssicherheit, BfE*) has been responsible for matters concerning nuclear waste management and disposal. The agency has about 500 employees (2017).

The most important tasks of the BfS are:

- ▶ Protection against ionising radiation and non-ionising radiation including Radiological emergency preparedness and response
- ▶ Medical and occupational radiation protection
- ▶ Authorising and registering the use of radioactive substances and ionising radiation for the purpose of medical research
- ▶ Monitoring of the emissions of nuclear power plants
- ▶ Support to the BMU (nuclear safety, health-related and physical-technical radiation protection)
- ▶ Research in radiation protection and nuclear safety
- ▶ Monitoring of environmental radioactivity

4.3.2.4 Federal Office for the Safety of Nuclear Waste Management

The Federal Office for the Safety of Nuclear Waste Management (*Bundesamt für kerntechnische Entsorgungssicherheit, BfE*) is the federal regulatory and supervisory authority for radioactive waste disposal and the handling and transport of radioactive waste. The BfE supports the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety in issues relating to radioactive waste management and nuclear safety. The BfE was founded in 2014 after the German parliament's decision to end the use of nuclear power.

Some important tasks of the BfE are:

- ▶ Regulation of the site selection procedure for a repository specifically for high-level radioactive waste and the co-ordination of the associated public participation
- ▶ Nuclear licences for interim storage facilities and transports of nuclear fuels
- ▶ Issues related to the safety of nuclear waste management

4.3.2.5 Advisory committees of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

Apart from the agencies, the Ministry is also advised by expert bodies. Their members are mainly scientific experts from various disciplines. Additionally, in some cases, labour unions, nature protection NGOs or churches are consulted.

Important advisory committees are:

- ▶ Council for Sustainable Development (*Rat für Nachhaltige Entwicklung, RNE*)
- ▶ German Advisory Council on the Environment (*Sachverständigenrat für Umweltfragen, SRU*)
- ▶ German Advisory Council on Global Change (*Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen, WBGU*)



4.4 Environmental administration of the *Länder*

4.4.1 Overall administrative architecture in the *Länder*

Like in many other policy sectors, the *Länder* are responsible for the largest share of administrative competences in environmental affairs. They do not only implement their own law, but are primarily responsible for implementing federal law. For example, they licence the construction and operation of industrial facilities, power stations, landfills and waste treatment facilities, the transport of hazardous waste and the discharge in sewage systems and surface waters. They inspect the relevant facilities and enforce environmental law, e. g. by imposing administrative fines in case of non compliance.

More specifically, in the different branches of environmental protection, the *Länder* are mainly responsible for:

- ▶ Air pollution control: emission registers, establishment of air quality surveillance areas, clean air plans, establishment of low emission zones, inspection of industrial plants
- ▶ Noise prevention: noise abatement planning, establishment of noise protection areas at airports, establishment of quiet areas
- ▶ Nature and landscape conservation: establishment of protected areas, landscape framework plans, landscape plans
- ▶ Waste management: waste management plans, plan approval of waste disposal facilities
- ▶ Water management: water resources framework plans, water management plans, wastewater disposal plans, ordinances on protection, the establishment of water protection areas and the establishment of flood protection zones

In some areas (e. g. nuclear power or air traffic) the *Länder* act on federal commission. In this case, federal law also defines the administrative procedure, so that the *Länder* do not have the possibility to establish their own way of implementing federal law. Nevertheless, the vast majority of environmental law gets implemented under the own responsibility of the *Länder* and thus with their individual administrative apparatus. This leads to a substantial variation in the institutional configurations of environmental authorities from *Land* to *Land*. Because of the huge variance of organisational models and their complexity, it is not possible to include information here about the detailed configuration of the environmental administration in every single state. Nevertheless, there are some basic patterns of organisational structures and allocation of competences that are common.

Therefore, the following sections will describe these main variants with the aim of presenting an overview of the environmental administration in the *Länder*.

The *Länder* have a general administration which integrates responsibility for several different sectors into authorities that are in charge of a certain area within the *Land*. Besides the general administration, the *Länder* have established special administrative bodies for specific environmental protection tasks, similar to agencies in other countries. Like on the federal level, there are two main functions of specialised agencies. First, some agencies provide technical assistance to the administration. Therefore, these specialised agencies are mainly staffed with scientific and technical experts and have the appropriate facilities and technologies. Second, some other special administrations focus on the implementation of law in specialised sectors, where the application and implementation of law requires a high degree of technical knowledge or special procedures. Examples of special administrations in environmental protection include water management administrations, agriculture and forestry administrations, and road construction administrations.

The *Länder* themselves define the administrative architecture and procedures of their authorities. Thus, the structure of the administrative authorities varies between the *Länder*. Some larger *Länder* have three levels of authorities for their general administration below the ministries: superior *Länder* authorities (*Obere Landesbehörden*, e.g. the Brandenburg Agency

for the Environment), intermediate authorities (*Mittelbehörden*, e.g. district governments [*Bezirksregierungen*] in North Rhine-Westphalia) and lower authorities (*Untere Landesbehörden*, e.g. industrial inspectorates in some *Länder*). Most of the smaller *Länder* do not have intermediate authorities in their general administration. They only consist of the ministries, lower authorities and special administrations. Figure 5 shows the basic structure of two-tiered and three-tiered administrations in the *Länder*. Furthermore, the three city-states (*Stadtstaaten*), Berlin, Bremen and Hamburg, also have a divergent structure. Box 5 describes the special case of the city-states.

As the supreme authorities of the *Länder*, the ministries are responsible for the development of law and for political steering in their respective policy area. The ministries are also the supreme supervisory bodies for the enforcement of law. Important decisions on the implementation of law in specific cases can also be made on the ministry level. However, such individual decisions on enforcement are usually made by subordinated authorities.

The intermediate-level authorities of the *Länder* (e.g. district governments in the *Land* of Bavaria) receive orders from the ministries of the *Länder* and are supervisory authorities for the lower *Länder* authorities and (sometimes) lower special authorities. The intermediate-level authorities are primarily responsible for issues of supra-local but not state-wide importance. They are also the authorities responsible for appeals against decisions of the lower authorities.

BOX 5

Distinctive administrative architecture of the city-states

Berlin, Hamburg and Bremen are cities which do not belong to a larger state. They form their own state, and are thus called city-states (*Stadtstaaten*). As their small-scale territorial scope does not require a geographical separation of different authorities and local self-government is integrated into the state's government, they have a unique administrative structure. The so-called "senate" administrations (*Senatorische Behörden* or *Senatsverwaltungen*) of the city-states correspond to the ministries in larger states. However, they fulfil more administrative tasks themselves than

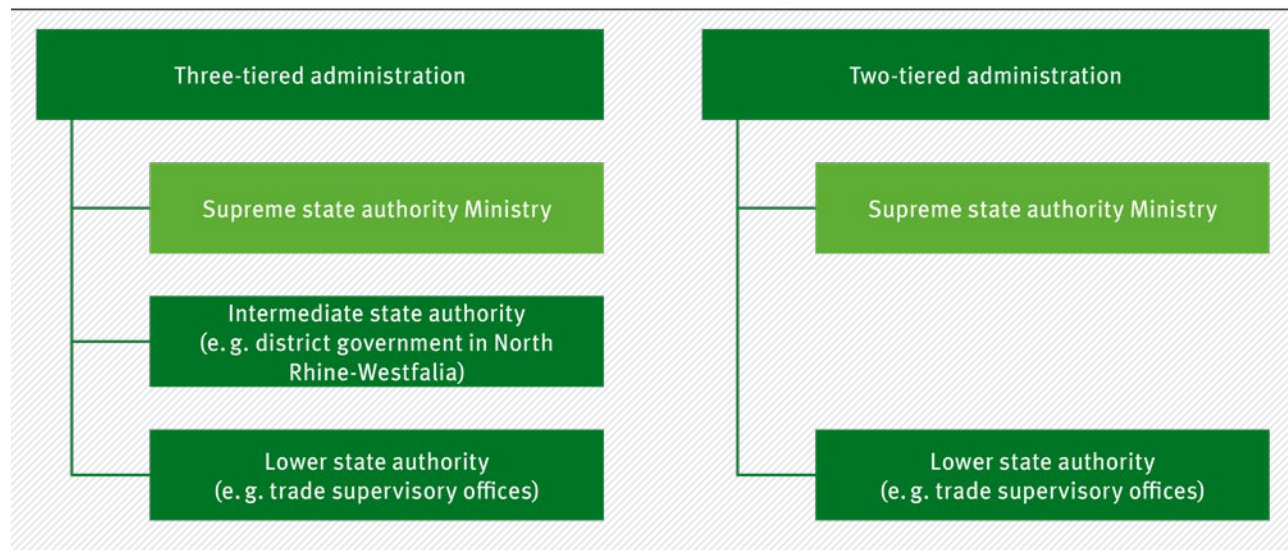
the ministries in larger *Länder*, which are mainly concerned with political aspects. A number of special authorities report directly to the senate administrations. Roughly comparable to the municipal level in larger states are the districts (*Bezirke*) in Berlin and Hamburg and the city-municipalities (*Stadtgemeinden*) in Bremen. They have their own elected political representation and carry out a number of (environmental) tasks through their own administration. Some municipal matters, however, are the direct responsibility of the senate administrations.

The lower administrative authorities are usually located in the county administrations. County administrations include counties (*Kreise*) and independent cities without a county affiliation (*Kreisfreie Städte*). The lower administrative authorities implement regulations that are delegated to them by the government of the *Länder*. In carrying out such delegated functions, the county administrations are supervised by the *Länder* in respect of legality and appropriateness. Supervision of legality only means to check if the actions of the county administration were formally executed in accordance with the law. Supervision of appropriateness goes further and also determines if there is a reasonable relation between the goals of the law and the

individual actions of the county administration. The county administrations are mainly responsible for individual decisions regarding the enforcement of law that only concern the county area, not larger regions or whole *Länder*. County administrations are usually the first administrative bodies contacted by citizens, as they are closer to the citizenry than higher administrative bodies of the *Länder*.

As a part of the modernisation of their administration, the *Länder* also commission universities or private institutions for environmental issues. Some *Länder* subsidise university institutes for monitoring the environment and for research and development. An example of a private institution is Hazardous

Figure 4

Structure of a two-tiered and three-tiered state administration (simplified)

Source: Own illustration.

Waste Management Rhineland-Palatinate Ltd. (*Sonderabfall Management Rheinland-Pfalz mbh, SAM*). SAM is the focal point for hazardous waste management. It is owned by the Land Rhineland-Palatinate (51 %) and two associations of private disposal companies. SAM is the centre for the control of the transport of hazardous waste from waste generator to disposal company.

4.4.2 Supreme *Länder* authorities

At the very top of environmental administration in the *Länder* are the environmental ministries, which are the supreme *Länder* authorities (*Oberste Landesbehörden*). Every *Land* has an environment ministry, which is sometimes combined with other policy sectors such as agriculture, energy or building. As the supreme authorities of the *Länder*, they are responsible for the development of environmental law and the political steering of all environmental affairs in the respective state. The ministries are the supreme supervisory bodies for the enforcement of environmental law. That means they supervise all lower authorities that are responsible for implementation. They

also monitor the development of the environment, are in charge of state-wide environmental planning and distribute funds for environmental protection. Important decisions on the implementation of environmental law in specific cases can also be made on the ministerial level. However, such individual decisions on enforcement are usually made by subordinated authorities, whereas the ministries focus on political planning and steering.

4.4.3 Superior *Länder* authorities

A number of superior *Länder* authorities (*Obere Landesbehörden*) are subordinate to the ministries, since they are the supreme *Länder* authorities. Superior *Länder* authorities in environmental protection are usually specialised agencies. They are responsible for the technical and scientific aspects of environmental protection for the whole territory of a *Land*. An example is the Hessian Agency for Nature Conservation, Environment and Geology (*Hessisches Landesamt für Naturschutz, Umwelt und Geologie*). Being specialised agencies, they are not part of the general administration. They only deal with their limited area of responsibility, which gives them a great deal of expertise. Thus, for complex matters, they serve as advisors to many other authorities. Their typical tasks are to advise the ministries and subordinated authorities on complex scientific environmental matters and to gather and provide environmental data for other authorities and the public.

4.4.4 Intermediate *Länder* authorities

The *Länder* of Bavaria, Baden-Württemberg, North Rhine-Westphalia and Hesse have intermediate *Länder* authorities (*Mittelbehörden*) as an additional level of their general administration. They subdivide the respective *Land*'s territory into 3–7 parts. Thus, their territorial scope is smaller than the whole *Land*, but bigger than the counties. The main reason for this is to consider regional specific aspects in the implementation of environmental law and to coordinate with other policies, while at the same time to ensure administrative units that have enough resources and expertise to deal with complex issues. Rhineland-Palatinate, Saxony, Saxony-Anhalt and Thuringia have also a three-tiered administration with intermediate authorities, but restrain from a regional dispersion. The intermediate authorities' main functions are coordination between the ministries and the lower authorities, concentration of information from and for the lower authorities and supervision of the lower authorities. The intermediate-level authorities are often responsible for planning environmental protection on their level. As they combine the functions of the different administrative departments, they are especially suited for harmonising environmental policies with other tasks, such as economic development and transport. Given that the different and possibly conflicting tasks are located within one organisation, the communication and joint decision-making is much easier in comparison to the involvement of several autonomous organisations. Intermediate authorities pool all tasks that are not specifically allocated to other authorities. Typical areas of responsibility for

intermediate authorities include nature, water, soil and emission protection. Their tasks in these areas primarily involve approving installations and monitoring the environment.

Moreover, the intermediate-level authorities in three-tiered *Länder* are the higher administrative authorities that review the inclusion of environmental concerns in municipal planning. For example, they approve land-use plans of municipalities (in other *Länder*, e.g. Lower Saxony, that task is handled by the counties). In some *Länder*, the intermediate-level authorities are also involved in environmental monitoring through measurements and in the financing of environmental measures.

4.4.5 Lower *Länder* authorities

Lower *Länder* authorities involved in environmental protection can be separated into two different forms of organisation: lower specialised agencies and counties and independent cities as general administrative bodies which perform tasks on behalf of the *Land*.

Lower specialised agencies are subordinated directly to the ministry in two-tiered *Länder* and to the intermediate authorities in three-tiered *Länder*. They have different territorial scopes from the general administration. Lower specialised agencies are responsible for the implementation of environmental law in their territory and their specific content-related environmental matters. Examples include the 10 trade supervisory offices (*Gewerbeaufsichtsämter*) in Lower Saxony, which combine responsibilities for nature protection as well as health and safety provisions in industry and trade.

Some *Länder* tasks concerning environmental protection are also carried out by the counties and independent cities on behalf of the state. This is a very common form of administrative competence delegation. The lower authorities involved in nature, water, soil and emission protection are located in the county and independent city administration in most of the *Länder*. In these areas of environmental protection, they are usually responsible for smaller installations and issues with effects that are rather limited to the local sphere.



4.5 The local environmental administration

4.5.1 Organisational models of municipal administration

Local government in Germany consists of counties (*Landkreise*), independent cities without a county affiliation (*Kreisfreie Städte*) and municipalities (*Städte und Gemeinden*). Therefore, “local environmental administration” describes the entire local level, including the counties as well as the municipalities as the local governments’ smallest units.

The organisation of local government varies from *Land to Land*. However, some general patterns are shared by the majority of local governments: The heads of the municipal administrations and towns are directly elected mayors. Counties are headed by the county director. The heads of administration are responsible to the council, which is elected by the citizens. In his or her administrative functions, the head of local government is often assisted by a number of elected senior officers who are responsible for certain departments. Their number varies depending on the size of the local government. The departments are in charge of certain administrative functions. They are often split up into several divisions. The various departments or agencies answer to the head of the administration and the council. There is no fixed structure with regard to how many departments exist in a municipality and which tasks they are assigned to. Important municipal departments include the public order office, the construction office, the youth office and the social office.

The local governments’ responsibilities differ according to their size and are regulated by law (*Kreisordnungen, Gemeindeordnungen*). Small municipalities do not have administrations for all sectors; they rely on counties, e. g. for permission and approval procedures. Larger municipalities have a rather differentiated administration to perform more administrative tasks by themselves. Independent cities without a county affiliation (*Kreisfreie Städte*) carry out all municipal administrative tasks on their own. Counties are in charge of tasks delegated by the *Länder*. In addition, they perform the tasks for which smaller municipalities lack the administrative capacities.

Certain functions of municipal government are under private law and are carried out by organisations or companies which are not a direct part of the administration, but which are partially owned (often by the majority of its shares) by the municipality. Some examples are public transport, energy supply and wastewater associations.

4.5.2 Local responsibilities in the area of environmental protection

The administrative responsibilities of the municipalities, towns and counties are on one hand based on their right of self-government according to the Basic Law and on the other hand delegated by the *Länder* authorities. In the area of self-government, the local governments themselves can decide on how they want to operate. Municipal self-government covers personnel (selection, engagement, dismissal), organisation (administrative structure), planning (establishment of plans, e. g. on land use), regulation (establishment of by-laws), financing (revenue and expenditure) and taxation (right to levy their own taxes). In the area of self-government, municipalities are only subject to legal oversight by the responsible *Länder* authorities, but not to technical oversight.

The main environment-related task of smaller municipalities is to include environmental aspects in their local plans. Municipalities are mainly responsible for noise reduction plans, air pollution control programmes, landscape plans, wastewater framework plans, waste disposal plans, soil protection programmes and veterinary matters in their territory. In the case of accidents, they take the necessary first measures. Municipalities also take part in the environmental impact assessment of major projects in their territory.

Municipal services represent another important area of municipal environmental action. Municipalities build and operate the infrastructure for public transport (e. g. bus, rail, tram and subway). They are responsible for street cleaning and winter service. Municipalities often function as owners and operators of local utilities and provide drinking water. Wastewater from households, small businesses and a considerable portion of industrial installations is generally collected and treated by municipal sewage treatment plants. Counties and towns are responsible for the waste disposal of private households and smaller industrial companies.

Traditionally, responsibilities are divided between different departments of the municipality. There is no fixed structure with regard to how many departments exist in a municipality and which tasks they are assigned to. Some important municipal departments that deal with aspects of environmental protection are:

- ▶ Town planning: land use plans, building plans, traffic planning, landscape planning
- ▶ Public order: monitoring and inspection functions for environmental protection, prosecution of violations of environmental regulations; in independent cities and counties, often lower authority for licensing
- ▶ Construction: in larger municipalities, often lower authority for licensing and monitoring compliance with construction regulations

- Greens, garden construction, forest: planning, building and maintenance of municipal greens and forests; in towns not belonging to a county, there may be a lower authority for landscape conservation

However, some municipalities have centralised environmental responsibilities. An example of this can be an office, generally the regulatory or building & construction office, which has the lead role in terms of environmental matters. Often, the head of such an office is designated as the environmental officer.

4.5.2.1 Counties

Counties (*Landkreise*) have a two-faced role in the administrative architecture. Apart from acting as lower *Länder* authorities (see Section 4.4.5), the counties also act under municipal self-government. In the area of environmental protection, they fulfil tasks that are relevant for more than a single municipality, but not for the whole *Land*. The specific tasks of the counties vary significantly from *Land* to *Land*, especially between *Länder* with a two-tiered and three-tiered administration.

Being a general administration with competences in the environmental as well as other policy sectors, the counties' main tasks generally involve integrative aspects of environmental protection rather than scientific or technical issues. Examples are permission and supervisory functions in the areas of emission control, waste management, water protection and soil protection. Furthermore, nature and landscape conservation is an important task of the county: The designation and administration of nature protection areas is often in their remit.

In addition to their enforcement function, county administrations are partly in charge of planning and monitoring the environment in their area. Together with municipalities and independent cities, county administrations are usually the first bodies contacted by citizens concerned about environmental matters, as they are closer to the citizenry than higher administrative bodies of the *Land*.

4.5.2.2 Independent cities without county affiliation

Independent cities without a county affiliation (*Kreisfreie Städte*) have the same functions regarding environmental protection as municipalities (see chapter 4.5.2.3). In addition, independent cities also perform most of the functions the counties would otherwise fulfil. However, since their territory is usually much smaller and more urban, they usually have fewer responsibilities than the counties.

4.5.2.3 Municipalities

According to Article 28.2 of the Basic Law, the municipalities (*Gemeinden*) are responsible for all matters related to the local community. Some of their tasks in municipal self-government are voluntary, while others are mandatory. In the case of voluntary tasks, the municipalities can decide on their own if and how they want to fulfil the task. In the case of mandatory self-government tasks, the municipalities have set goals they must achieve, but they still have some latitude in how they approach them.

These municipal responsibilities also include a broad variety of environmental aspects. By utilising urban land use planning (*Bauleitplanung*) the municipalities can develop their territory in an environmentally

sound way. For example, they can prohibit certain hazardous installations or prescribe energy-efficient technologies for new buildings. The municipalities are also responsible for local traffic, which is another way to include environmental impacts in planning measures. On their local level, municipalities are responsible for water protection, soil protection, species protection and emission control. In addition, climate protection has become an important aspect of municipal planning and building activities. Municipalities (often in cooperation with the counties) organise the disposal of waste and wastewater from households and small businesses. Voluntary tasks with environmental effects include the provision of public green areas and parks and the promotion of economic development with the consideration of environmental aspects. Many municipalities also offer environmental guidance for their citizens. Finally, municipalities are responsible for ensuring protection against general environmental threats arising from their responsibility as local authorities for public order.

4.6 Cooperation between federal, *Länder* and local authorities

The division of responsibilities between the Federation, the *Länder* and the municipalities requires intensive cooperation and coordination between the actors. It is essential that the Federation and the *Länder* promptly and fully inform each other about urgent environmental problems, new scientific findings and any planned measures. The *Länder* play a great role in environmental protection due to their prominent responsibility for the enforcement of law. It is decisive for the formulation of new environmental regulations that the *Länder* inform the Federation about their experiences with the implementation of environmental law.

The federal ministries cooperate directly with the *Länder*'s ministries. Before a bill is drafted, the *Länder* should be heard if their interests might be concerned. After the bill has been drafted, the draft bill has to be presented to the *Länder* for their involvement. The cost for the *Länder* has to be specified in the bill. The formal lawmaking process also requires cooperation between the Federation and the *Länder*.

A number of institutions have been created over the years to ensure in-depth cooperation and coordination between the different governmental actors. The central coordination body is the Conference of Environment Ministers (*Umweltministerkonferenz, UMK*), consisting of the federal environment minister and the environment ministers of the *Länder*. The federal minister participates as a guest. The chairmanship alternates between the *Länder*. The UMK discusses all major environmental issues. It shall ensure a harmonised implementation of environmental law throughout Germany. It meets twice a year. Decisions are made by consensus with the possibility of abstentions. The technical work of the UMK is done by a variety of working groups on all important matters of the environment. Examples are working groups on water, waste, chemical safety, sustainable development and nature conservation. The working groups are usually composed of experts from the respective areas from all *Länder* and the Federation. They exchange their knowledge and experiences to ensure coordinated and well-thought-out decisions by the ministers and, ultimately, the parliament.

Before a bill is drafted, also the associations of local authorities, such as the Association of German Cities (*Deutscher Städtetag*), the German Association of Towns and Municipalities (*Deutscher Städte- und Gemeindebund*) and the Association of German Counties (*Deutscher Landkreistag*), are heard if their interests might be concerned (Section 41 of the Joint Rules of Procedure of the Federal Government [*Gemeinsame Geschäftsordnung, GGO*]). The Association of German

Cities represents all independent cities and most major cities and towns belonging to a county. The German Association of Towns and Municipalities represents the towns and municipalities belonging to a county. By including the municipal associations in the lawmaking process, the opinions of the municipalities are considered at an early stage. After the bill has been drafted, the draft bill has to be presented to the municipal representations for their involvement (Section 47 GGO). The cost for the municipalities has to be specified in the bill (Section 44 GGO).

Apart from lawmaking, the cooperation between the Federation and the municipalities also uses other instruments, e. g. discussion rounds, workshops and financial support for research and development projects and investment projects. For the enforcement “on the ground”, cooperation between the enforcement authorities on all federal levels as well as on the European level is important. Therefore, many informal and formal cooperation activities take place. One example is the European Union Network for the Implementation and Enforcement of Environmental Law, IMPEL (<https://www.impel.eu>).



5

Compliance Assurance

The previous sections provided comprehensive information about German environmental law, its administrative structures and relevant authorities involved in environmental policies. In practice, however, it is the interaction between legal provisions, administrations and the public that makes environmental protection come to life. Therefore, this section will introduce some examples of the most important procedures and instruments in administrative environmental protection.

5.1 Licensing of installations

In Germany, licensing requirements for activities with a potential impact on the environment constitute an important instrument for implementing environmental law. There are special licensing procedures for commencing such activities as well as for making substantial changes to already licensed facilities. An example of two highly important licensing procedures, licensing in accordance with the Federal Immission Control Act (*Bundes-Immissionsschutzgesetz, BImSchG*) and the “plan approval procedure”, will be presented in this section.

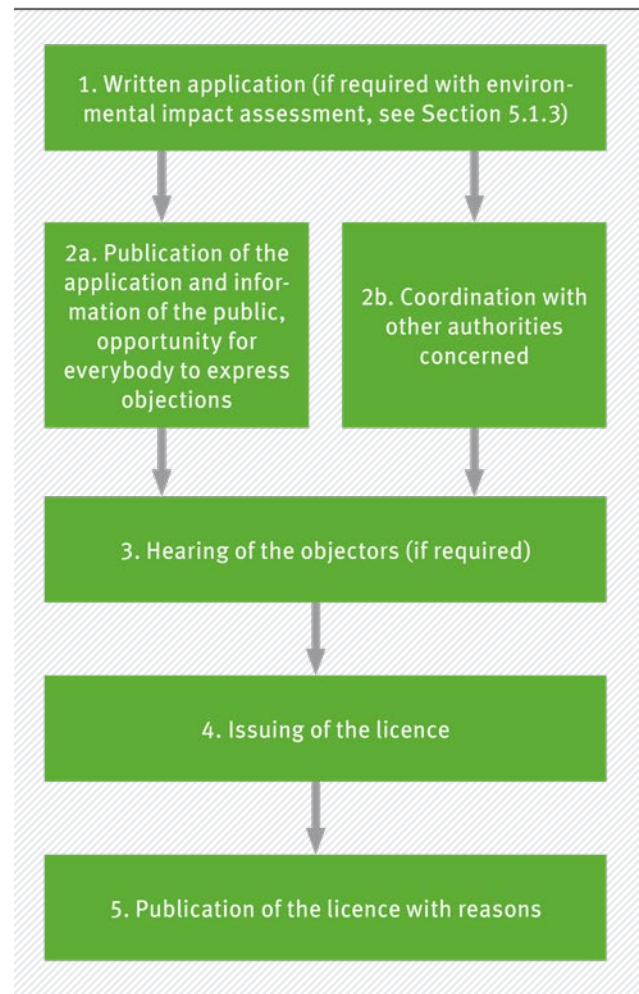
5.1.1 Licensing in accordance with the Federal Immission Control Act

The construction and operation of installations with potentially harmful effects on the environment are subject to licensing. The Ordinance on Installations Subject to Licensing (*Verordnung über genehmigungsbedürftige Anlagen*) defines installations which are subject to the licensing procedure. There is a formal licensing procedure as standard. A license for installations with a lesser degree of environmental relevance is issued in a simplified procedure. However, the full formal licensing procedure will be described here.

Very simplified, the formal licensing process according to the Federal Immission Control Act comprises the following steps:

Figure 5

Licensing process according to the Federal Immission Control Act



Source: Own illustration.

Prior to the licensing procedure, there are usually talks between the initiator of the project and the responsible authorities (Section 5 of the Act on the Environmental Impact Assessment (*Gesetz über die Umweltverträglichkeitsprüfung, UVPG*). They enable the applicant to prepare all necessary documents for the licensing procedure and to clear up misperceptions *ex ante*.

The licensing procedure itself starts after the responsible authority¹ has received the complete application documents. Section 10.6a of the BImSchG defines a time limit of seven months for the issue of a license. However, the time limit may be extended due to the complexity of the examination or because the submitted documents are incomplete. Along with general information concerning the type, scope and location of the installation, the application should include detailed information about the installation itself, its operation, measures against harmful effects on the environment and for the treatment of residual substances. If an environmental impact assessment (see Section 5.3) is necessary, the environmental report also has to be submitted. Documents which contain trade or business secrets shall be marked as such and must be submitted separately according to Section 10.2 BImSchG.

The responsible authority then publishes the project, e. g. in a daily newspaper, and informs the public about the period of time within which the application documents can be examined by the public. Anybody, irrespective of whether they have a subjective interest in the matter at hand, can object to a planned project. Up to two weeks² after the expiry of the examination period, anyone can present the responsible authority with suggestions, concerns and objections regarding the project. The statements can then be considered in a hearing, under the auspices of the responsible authority, involving all parties who raised objections.

As the responsible authority must consider a multitude of aspects in its decision on the application, it is often necessary to consult other specialised authorities. This is the case, for example, if the responsible authority is a county administration that does not have the necessary expertise in all environmental effects of the project being applied for. The responsible authority thus asks for the opinions of specialised agencies, such as a state agency for forestry or fishing. The other authorities that are included submit a statement on the project from their point of view. The authorities that must be involved and their rights in the licensing procedure are defined in procedural regulations.

1 Which authority is responsible for licensing according to the BImSchG varies between the *Länder* and depends on the specific installation under scrutiny. For smaller installations, in some *Länder*, counties and independent cities are responsible in their function as lower *Länder* authorities. For larger and potentially more harmful installations (and in other *Länder* such as North Rhine-Westphalia or Lower Saxony in general), the competence is assigned to the intermediate authorities or specialised authorities.

2 For installations under the Industrial Emissions Directive (2010/75/EU) and the Act on the Environmental Impact Assessment – that are especially larger and potentially more dangerous installations – the limit is one month.

Taking into account the arguments of the applicant, the authorities involved and the public, the responsible authority makes its decision. The authority is obligated to grant the license if the prerequisites are fulfilled. The applicant as well as those who have submitted objections during the licencing procedure are informed about the license. Finally, the license also gets released to the public.

The license has no time limit. But if the installation is not established within the time stipulated or an interdiction continues for more than 3 years, the approval lapses (Section 18 Federal Immission Control Act). The licence refers to the installation and not to

a specific person. In general, it contains instructions, which have to be followed by the operator during the construction and operation of the installation. The license is based on a cross-media approach and incorporates all aspects of environmental protection.

The applicant has to pay for the costs of the licencing. The costs are regulated in the fee regulation of the *Länder*. The costs of a licence for a new plant are based on the costs for the construction of the plant.



5.1.2 Plan approval procedure

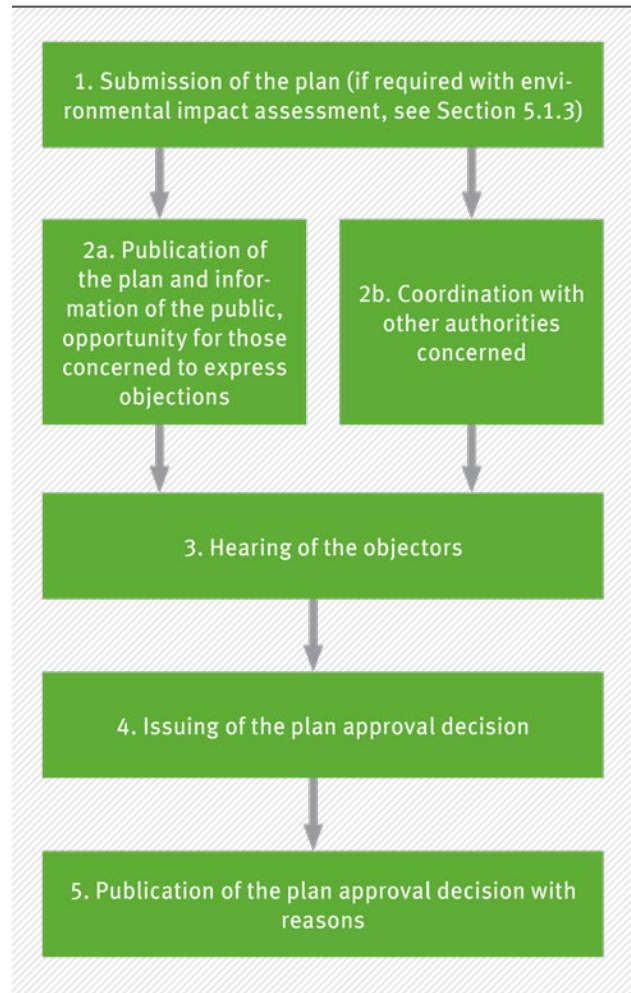
Another important example of a licensing procedure is the plan approval procedure (*Planfeststellungsverfahren*). A plan approval procedure under the terms of Section 72 et seq. of the Administrative Procedure Act (*Verwaltungsverfahrensgesetz, VwVfG*) must be carried out for most projects which are very space-consuming and have an effect on soil and landscape. Examples include the construction and operation of waste disposal sites, the planning of long distance highways, the construction of railway lines and significant changes to a watercourse. The plan approval procedure is subdivided into several procedural steps.

Basically, the plan approval procedure comprises the following steps, which are similar to the licensing process according to the BImSchG:



Figure 6

Process of the plan approval procedure



Source: Own illustration.

According to Section 73.1 of the VwVfG, the plan approval procedure starts with the submission of the plan by the applicant. The plan contains drawings and explanations about the project and the plots of land and installations affected. After submission of the plan, the responsible authority³ obtains the opinions of other authorities whose competences are affected by the project (Section 73.2 VwVfG). At the same time, the plan is published for one month in all municipalities that might be affected by the project in order to allow public examination. Up to two weeks⁴ after the expiry of the period of examination, objections to the plan can be lodged under the terms of Section 73.4 VwVfG by anybody whose interests are affected by the project. The objections are the subject of a hearing with the body responsible for the project, participating authorities, the parties affected and those lodging the objections (Section 73.6 VwVfG). If alterations to the plan arise during the procedure, Section 73.8 VwVfG provides for another period of examination and another hearing if necessary.

While this procedure is similar to the licensing according to the BImSchG, there is an important difference regarding the discretion of the responsible authority. An applicant for a license in the licensing procedure according to the BImSchG has a legal title to the license, provided all requirements are fulfilled.

In the plan approval procedure, however, the responsible authority has broad discretionary powers to decide whether a project is justifiable after weighing all the circumstances.

5.1.3 Environmental impact assessment

For specific major public and private projects, such as the expansion of waterways, highways and airports or the establishment of rolling mills, chemical facilities and large-scale livestock farming, an environmental impact assessment (*Umweltverträglichkeitsprüfung, UVP*) is required. This instrument has its origins in European legislation and was introduced in Germany in 1990. Since then, several renewals and additions have been made to the environmental impact assessment, the “Directive on the assessment of the effects of certain public and private projects on the environment” (2011/92/EU) contains the most important ones. In Germany, it is transposed into national law with the Act on the Environmental Impact Assessment (*Gesetz über die Umweltverträglichkeitsprüfung, UVP*).

In Germany, an environmental impact assessment is not an independent administrative procedure but an integrated part of a licensing procedure (for the position in the licensing procedure, see also Section 5.1.1). The environmental impact assessment provides the description and assessment of the environmental effects of a project in advance. In particular, the impact of a project on human beings, animals, plants, biodiversity, soil, land, water,

³ Similar to the licensing according to the BImSchG, the responsible authority varies from *Land* to *Land* and in different environmental matters. Usually, intermediate authorities or specialised agencies are responsible.

⁴ For installations under Act on the Environmental Impact Assessment – that are especially larger and potentially more dangerous installations – the limit is one month.

air, climate, landscape, cultural heritage and real assets and their interdependencies shall be determined. The integrated approach with the incorporation of every environmental effect of the project is the major advantage of the environmental impact assessment as compared to a single media-specific assessment. Only the integrated approach enables a holistic assessment of the true consequences of the project for the environment.

The procedure for this integrated environmental impact assessment is described in detail in Part 2, Chapter 2, Section 15 et seqq. of the UVPG. The following paragraphs only describe the most important steps of the environmental impact assessment.

Before submitting the formal application, the applicant for a license must inform the responsible authority of the planned project. The authority then discusses the subject, scope and methods of the required environmental impact assessment with the applicant, other relevant authorities and if necessary third parties (including environmental NGOs). On this basis, the authority informs the applicant about the investigation framework and the necessary application documents. The applicant must provide data about the condition of the environment without the planned project and the change the environment would experience under normal operation of the project and in the event of accidents. In addition, the applicant must provide information about environmental changes which would result from project alternatives.

When the license applications have been submitted⁵ along with the environmental impact assessment documents, relevant information must be published (in paper and online⁶) to allow for public participation and be discussed in a hearing with those who have filed objections (Section 18 UVPG).

The responsible authority then draws up a summarising presentation of the environmental impact (Section 24 UVPG).

That is the basis for a subsequent evaluation of the environmental effects (Section 25 UVPG). This phase is the core of the environmental impact assessment. Evaluation in this case means the interpretation and application of the various environmental quality objectives of environmental acts. In a first step, the evaluation incorporates only environmental aspects, but not other aspects such as economic or social ones.

The results of the evaluation become part of the licensing decision according to the specific media-related law (Section 25 UVPG). If the specific media-related law, e. g. the Federal Water Act or the Federal Soil Protection Act, permits weighing environmental effects against other (e. g. economic) objectives, some negative environmental effects may be accepted. If the specific media-related law does not allow

⁵ All the steps of the UVP which are described in the following are integrated in the respective licensing procedure so that there are no additional procedural steps.

⁶ The relevant information is electronically accessible to the public through a central federal portal (www.uvp-portal.de) and through *Länder* portals (www.uvp-verbund.de).

weighing environmental effects against other benefits or has strict limits for tolerable effects, the negative evaluation leads to the denial of the licence.

At the end of the environmental impact assessment procedure, the responsible authority presents the decision to the applicant, everyone who raised objections against the project and to the general public via an online portal. In its decision, the authority also explains the reasons for its decision. Subsequently, it monitors compliance with the agreed-on measures for avoiding environmental damage.

A similar procedure to the environmental impact assessment exists for governmental and administrative planning (e. g. building plans). In the environmental assessment (*Umweltprüfung*) or strategic environmental assessment (*Strategische*

Umweltprüfung) procedures, local or regional plans as well as federal traffic plans are assessed. In the procedure, the expected environmental impacts of the plans and reasonable alternatives are assessed and documented in a report. This report is subject to wide-ranging public participation and consultation with other authorities. The report and the results from the consultation phase lead to a final evaluation which is incorporated into the decision-making on the plan. Compliance with the environmental impacts stated in the plan is monitored.

5.2 Compliance promotion

A very moderate – and not very frequently used – form of enforcing environmental law is compliance promotion. In order to promote compliance with the law, environmental authorities sometimes proactively consult plant operators. The responsible authority contacts operators and tries to work out an action programme together with the operator, if there are areas of non-compliance.



5.3 Supervision

A common way of ensuring compliance with environmental law is supervision. The operation of a plant and any activities which may be hazardous to the environment are subject to supervision by the authorities. Self-monitoring by the operators, environmental monitoring by the authorities and supervision by the authorities form the overall supervisory system. The supervision is based on existing acts, administrative regulations and technical regulations (for example guidelines published by the Association of German Engineers (VDI)). Supervision relates to all environmental assets, such as air pollution control, noise protection, plant safety, hazardous substances and wastewater.

There are three types of supervision:

- ▶ **Incident-based supervision:** An inspection of a plant can be triggered by complaints (e. g. neighbours), operational failure or monitoring results. It is the most frequent form of supervision of commercial plants.
- ▶ **Regular supervision** is a planned, regular systematic inspection of a plant. It includes all supervisory tasks related to air, noise, vibration, water, waste and soil. Waste disposal plants are usually subject to regular supervision. Regular supervision is an important part of the “supervision programmes” for industrial installations subject to the EU Industrial Emission Directive.

If a plant has been newly constructed or has undergone a substantial modification, the competent authority can check to ensure that the location, properties and operation of the plant is in accordance with the license and with all instructions specified in the license prior to the commissioning of the plant. The authorities that participated in the licensing process may be involved in this acceptance test.

Existing plants can be inspected without notifying the operator beforehand. Representatives of the authorities must be granted access to the premises of a plant. They may take samples of water, wastewater and waste, analyse them in a laboratory to determine their content of pollutants and perform measurements. The operator and the owner of the premises must provide information and make personnel and equipment available to assist the investigation.

The emissions of certain industrial plants and wastewater treatment plants are measured by the operator or by a designated expert on its behalf as part of its self-monitoring. The authorities may make additional ad-hoc emission measurements with their own equipment or by their own staff. Supervision in the area of waste management relates to the relevant plants and to the waste streams between the producer and disposer of the waste. This is especially important for hazardous waste. In this case, the planned disposal method is permitted by the authority prior to the

disposal and controlled after the disposal. A system of consignment notes involving the responsible authorities, waste generators, carriers and disposers documents the entire hazardous waste disposal process.

To determine the general quality of air, soil and water, the *Länder* operate environmental monitoring systems. The automatic air quality control system

of the Land North Rhine-Westphalia, for example, examines the emission of sulphur dioxide, nitrogen oxide, carbon monoxide, ozone and particulate matter. In addition, mobile measuring stations are used to monitor the *Länder* of the environment at alternating places. In the case of water management, automatic quality monitoring systems and manually taken routine samples are used for surface waters.

BOX 6

Simplified supervision for companies participating in the Eco-Management and Audit Scheme (EMAS)

To participate in EMAS, companies have to systematically identify and manage their environmental aspects and legal obligations relating to the environment. The system must be fit for purpose to achieve environmental performance improvement and prove legal compliance. This is ensured by the determination of organisational roles, responsibilities and procedures which are regularly checked for effectiveness in internal audits and by an officially licensed environmental verifier (s. Box 4).

For their additional efforts in environmental protection, EMAS companies benefit from some regulatory relief in the areas of emission control and waste management. Since 2002, an ordinance regulates the respective legal simplifications on the national level. According to the ordinance, companies can fulfil certain obligations pertaining to notification and information on their

governance structures by providing proof of their EMAS registration. Simplification is also granted for the appointment of company environmental officers, for the determination of emissions and for routine measurements. EMAS organisations can use the environmental statement to fulfil reporting obligations.

Several *Länder* consider EMAS in their inspection plans as a tool that reduces environmental risks arising from plant operation and provide for longer inspection intervals if the organisation is registered with EMAS (see the overall overview: https://www.emas.de/fileadmin/user_upload/05_rechtliches/PDF-Dateien/EMAS_in_Rechts_und_Verwaltungsvorschriften.pdf). All in all, EMAS can help avoid duplicate work in both companies and authorities and lead to cost savings.

5.4 Enforcement

Enforcement is defined here as the set of actions that authorities take to react to non-compliance or to situations that endanger the environment or public health. As example the enforcement instruments of the Federal Immission Control Act (*Bundes-Immissionsschutzgesetz, BImSchG*) will be presented in this section.

5.4.1 Subsequent orders

In a non-compliance situation, the responsible authority may issue subsequent orders (*nachträgliche Anordnungen*) to achieve legal operation in the case of installations subject to BImSchG. Before the issue of a formal subsequent order, the authority may issue a warning notice. The contents of the subsequent order vary from case to case. It may require changes to the plant itself, modifications of its operation, or the substitution of specific production substances. Subsequent orders are not limited to the direct operation of the plant. They may also be passive environmental protection measures (e. g. the construction of noise protection barriers).

Subsequent orders must be proportionate. An order is proportionate if the expense caused by fulfilling the order is commensurate with the goal which the order intends to achieve. There is a distinction between measures due to precautionary reasons and reasons to avert dangers. If orders are made to avert dangers, they are generally assumed to be proportional.

Averting danger to human health is proportional even if it imposes an extraordinarily high burden on the plant operator. By contrast, the advantages of improvement are more difficult to defend if orders are issued for precautionary reasons.

5.4.2 Interdiction, shutdown and removal of plants

If a subsequent order, an order attached to a license, or a specific duty ensuing from a legal regulation are not complied with, Section 20 of the Federal Immission Control Act allows authorities to consider interdiction of a plant's operation. The decision is left to the discretion of the authority (unless there is a danger to health or a severe and immediate threat to the environment). The authority, however, must respect the principle of proportionality. The interdiction will continue until the requirements have been complied with. A shutdown or removal order should be issued in accordance with Section 20 Federal Immission Control Act if a plant is constructed, operated or modified without the necessary authorisation. In exceptional cases, the operation of the plant can be tolerated until the termination of the authorisation procedure. A prerequisite for the execution is the enforceability of the order. An order is enforceable if it has become unappeasable or immediate enforcement has been ordered in the public interest in accordance with Section 80 of the German Code of Administrative

Court Procedure (*Verwaltungsgerichtsordnung*). Furthermore, a prior warning about the impending sanction is required. If the operator nevertheless does not follow the order the authorities have three options for action:

- ▶ Order the payment of a certain sum (coercive payment)
- ▶ Ask a third party to make the modifications or close down the factory at the operator's expense (substitute performance)
- ▶ Make the alterations or shut down the factory by themselves (direct compulsion)

If these measures prove unsuccessful, they can be repeated or combined. The authority which issued the administrative act is responsible for executing it. If direct compulsion must be applied, the police provides execution assistance to other authorities upon request.

5.4.3 Revocation of plant licence

Section 21 of the Federal Immission Control Act regulates the revocation of a lawful plant licence which has become incontestable. If the authority gains knowledge which would justify revocation of the license, revocation is permissible within one year. A reason for revocation may be, for example, new information that would justify the denial of a new licence.

Revocation is also allowed if a subsequent order cannot be issued due to a lack of proportionality. In this case, the owner has a right to compensation.

5.4.4 Administrative fines and criminal prosecution

According to Section 62 Federal Immission Control Act, administrative offences (*Ordnungswidrigkeit*) include, e. g. the establishment of an installation without a license or the evasion of enforceable subsequent orders. In addition to the coercive measures, the authorities can impose an administrative fine of up to EUR 50,000. This fine can be enforced without a court decision, but the operator of the plant is entitled to request a court ruling. If an act constitutes a criminal offence, the authority may pass on the case to the public prosecutor to start criminal proceedings. Criminal law enforcement is an option because severe violations of environmental regulations may qualify as a crime. The nature of such violations and the applicable pecuniary penalties and terms of imprisonment are defined in the German Penal Code (*Strafgesetzbuch*). The Penal Code contains a special section covering environmental crimes. If there are indications that a crime has been committed, the administrative authority transfers the responsibility for the investigation to the public prosecutor. However, criminal proceedings play a minor role in environmental protection because environmental law is primarily enforced by administrative law.

5.5 Public Participation

Public participation in administrative decision-making processes has become an increasingly important aspect. There is a broad variety of options for public participation, especially in planning processes. In many cases, the participation of citizens, interest groups or the general public is legally required, in other cases, it can be on a voluntary basis. The latter procedures are of growing importance for gaining support for public projects.

Several acts, e. g. the Federal Immission Control Act, require the public to be consulted prior to issuing a license. In the area of nature protection, the Federal Nature Conservation Act (Section 3.6) obliges the nature conservation authority to involve the public at an early stage in its plans and measures and Chapter 8 of the act grants participation rights and the right to file actions to protect nature and landscapes to recognised nature conservation (see Section 5.6).

As an addition to mandatory forms of participation, voluntary, informal participation of the public is also becoming increasingly important as part of a good administrative governance. An example is the participation process in the development of the noise action plan (*Lärmaktionsplan*, <https://www.berlin.de/leises-berlin/>) in Berlin. Citizens, business, NGOs and other initiatives had the opportunity to participate in the planning procedure at an early stage by indicating problems and discuss solutions on an

online-platform and in workshops in a way that goes beyond what would have been necessary to meet the formal requirements. In this way senate administration and the citizenship could enter into a dialogue.

Mandatory as well as voluntary participation can take place in isolated events or on a continuing basis. An example of an isolated possibility for participation is a public hearing on a specific construction project (see, for example, Section 5.1.1 on the licensing of installations according to the Federal Immission Control Act). If there is a heated debate on a certain topic, participation at an early stage (cf. sec. 25.3 of the Administrative Procedure Act) or a mediation processes can help find a consensual solution. On the municipal level and level of the *Länder*, there is also the option of referenda on specific questions or projects. These offer the possibility not only to participate in the decision-making process, but to actively co-decide. An additional form of participation is the option for ongoing participation, for example in municipal advisory councils on environmental issues. In these councils, interested members of the public have the opportunity to contribute to the decision-making of the authorities, with a long-term perspective.

5.6 Access to Justice

Access to justice is an important tool to foster the implementation of environmental regulation in society. Anyone whose individual rights have been violated has the right to file an appeal against a decision of a public authority within a specified period of time. For example, an individual right might be violated if an approved project would impair the claimant's health or property.

In many *Länder* before being admitted to court, a person has to file a notice of objection to an intermediate or higher *Länder* authority. If the administrative appeal is not successful, a legal action against a decision of a public authority can be brought to the administrative courts. Before the court, the claimant must present the circumstances in its favour and substantiate them (e.g. with data or expert opinions). The court can repeal the administrative decision, stop the enforcement of the decision or – in case it has already happened – can order compensation. Decisions on appeals against a court's order are issued by the higher administrative courts and appeals against orders of higher administrative courts are finally decided upon by the Federal Administrative Court.

Apart from access to justice by individual persons, based on the requirements of the UNECE Aarhus Convention and the corresponding EU directives, in particular 2011/92/EU as amended by directive 2014/52/EU and 2010/75/EU, German environmental law provides for a wide access to justice for environmental associations: Environmental and nature conservation law allows those associations to bring actions before administrative courts without their own rights being affected (*Verbandsklage*).

These special remedies for environmental associations have their legal basis in the Environmental Appeals Act (*Umwelt-Rechtsbehelfsgesetz, UmwRG*) and the Federal Nature Conservation Act (*Bundesnaturschutzgesetz, BNatSchG*) and in corresponding provisions under the law of the *Länder*.

Before bringing an action to a court, an association must be recognised as an environmental or nature conservation association. For example, environmental associations may file lawsuits against plan approval decisions or the possible uses of nature protection areas. In these cases, an environmental association can act on behalf of the environment as a whole to protect it for future generations and for its own sake.

6 Selected Web Links and Resources

EUROPEAN INSTITUTIONS:

Environment Directorate-General of the EU Commission
http://ec.europa.eu/dgs/environment/index_en.htm

European Environment Agency (EEA)
<https://www.eea.europa.eu/>

The EU Environmental Implementation Review Country
Report – GERMANY
http://ec.europa.eu/environment/eir/pdf/report_de_en.pdf

FEDERAL INSTITUTIONS:

Federal Ministry for the Environment, Nature Conservation
and Nuclear Safety (*Bundesministerium für Umwelt, Natur-
schutz und nukleare Sicherheit, BMU*)
<http://www.bmu.de/en/>

List of BMU publications in English language
<http://www.bmu.de/ens/downloads/>

German Environment Agency (*Umweltbundesamt, UBA*)
<https://www.umweltbundesamt.de/en>

Federal Agency for Nature Conservation (*Bundesamt für
Naturschutz, BfN*)
<https://www.bfn.de/en.html>

Federal Office for Radiation Protection (*Bundesamt für Strah-
lenschutz, BfS*)
http://www.bfs.de/EN/home/home_node.html

Federal Office for the Safety of Nuclear Waste Management
(*Bundesamt für kerntechnische Entsorgungssicherheit, BfE*)
<http://www.bfe.bund.de/EN>

ENVIRONMENTAL MINISTRIES OF THE LÄNDER: (English version of the website not available in all cases)

Baden-Württemberg: <http://um.baden-wuerttemberg.de/>

Bavaria: <http://www.stmuv.bayern.de/>

Berlin: <http://www.berlin.de/sen/uvk/>

Brandenburg: <http://www.mlul.brandenburg.de/>

Bremen: <http://www.bauumwelt.bremen.de/>

Hamburg: <http://www.hamburg.de/bue/>

Hesse: <http://www.umwelt.hessen.de/>

Mecklenburg-West Pomerania:
<http://www.lm.mv-regierung.de/>

Lower Saxony: <http://www.umwelt.niedersachsen.de/>

North Rhine-Westphalia: <http://www.umwelt.nrw.de/>

Rhineland-Palatinate: <http://www.mueef.rlp.de/>

Saarland: <http://www.umwelt.saarland.de/>

Saxony: <http://www.smul.sachsen.de/>

Saxony-Anhalt: <http://www.mule.sachsen-anhalt.de/>

Schleswig-Holstein:
<http://www.umweltministerium.schleswig-holstein.de/>

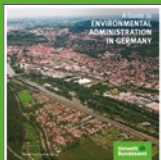
Thuringia:
<http://www.thueringen.de/th8/tmuen/index.aspx>

Resource: Robbers, Gerhard (2012). An Introduction to
German law. Baden-Baden, Nomos.

7 Glossary

English term	German term	Explanation
County	Landkreis	Highest authority of the local government. Consists of several municipalities or smaller towns.
County director	Landrat	Head of the county administration.
Federal Government	Bundesregierung	The government of the Federal Republic of Germany.
Federal level	Bund	Summarising term for the federal level of government, administration and judiciary.
General administration	Allgemeine Verwaltung	Administrative organisation which integrates responsibility for a broad variety of tasks. Generally used for all matters that are not highly specific.
Independent city	Kreisfreie Stadt	Larger city that does not belong to a county. Includes tasks relegated to a municipality and a county.
Intermediate authority	Mittelbehörde	A federal or <i>Länder</i> authority whose hierarchical position is between the respective superior and lower authority.
Local government	Kommunalverwaltung	Summarising term for municipalities, independent cities and districts.
Local self-government	Kommunale Selbstverwaltung	Right of the local level (districts, independent cities and municipalities) to decide on all matters of the local community by themselves (within the constitutional and legal order).

English term	German term	Explanation
Lower authority	Untere Behörde	A federal or <i>Länder</i> authority which forms the lowest hierarchical level of the respective chain of authorities.
Municipality	Gemeinde	Lowest level of the local government.
Special administration	Sonderverwaltung	An administrative organisation that is only concerned with certain special (often technical) tasks and which is not integrated into the general administration. Similar to a specialised agency in the international context.
Federal State	(Bundes-)Land	One of the 16 federated states (<i>Bundesländer</i>) which together form the Federal Republic of Germany.
Superior authority	Obere Behörde	A federal or <i>Länder</i> authority whose hierarchical position is between the respective supreme and intermediate authority.
Supreme authority	Oberste Behörde	A highest-level authority on federal <i>Länder</i> level. Usually a ministry.



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