

What Does Environmental Law Cover?

There are many areas under the umbrella of environmental law. All have one thing in common - the protection of ecology and the health of the environment.

Pollution

The first and most visible way in which the public is aware of and engaged with environmental law is pollution. Some of the world's earliest environmental laws concern the protection of our environment from polluting materials and, by extension, aim to improve public health.

Air Pollution and Quality: This is the enforcement of air standards through monitoring that determines what constitutes safe levels of certain substances emitted by industrial processes, motor vehicles, and part of our everyday lives. There are laws for the outside and indoor environments to ensure safe working levels. They are designed to protect human and ecological health. Some are concerned with placing limitations on emissions (as some countries now include emissions tests for annual vehicle safety checks) while others are enacted to eliminate it altogether. One of the best examples of control or elimination is the global legislation in the 1980s to limit CFC emissions that were damaging the ozone layer (5). There may also be requirements on what technologies must be used for mitigation such as the use of catalytic converters in cars that used older lead fuel (6).

Contaminant Cleanup, Prevention and Mitigation: Toxic spills and leaks happen even with all the best intentions in the world. While some are the result of negligence, some are unavoidable. Regardless of whether such a pollutant leak is avoidable or unavoidable, there are necessary laws determining what is required of the responsible party and the team responsible for the cleanup should do to ensure that contamination is first limited and controlled, and then removed from an environment to avoid longer-term or large-scale damage. Regulations can also include liability, response, determine the process of investigation, monitoring before, during and after cleanup, and the risk assessment of long-term effects.

Safe Use of Chemicals: The safe use of chemicals is required in any workplace where they are used: from industrial manufacturing to agriculture, testing laboratories, professional cleaning, repair garages, such chemical safety laws seek to govern how we use them. This means the correct storage of chemicals, their use, safety equipment in their application, the types of storage containers and even how (and who) they are bought and sold such as licenses, to registered businesses and so on. This seeks to manage and control by limiting risk and ensuring safety, the actual chemicals and substances where they are necessary. Environmental law has also banned some chemicals where their risks outweigh the benefits. A good example of this is the removal of Bisphenol A from plastic bottles in some states (7).

Waste Management: Waste is a fact of life. Our homes, industry, and commerce all produce waste; it cannot be avoided. Waste management concerns the governance of many aspects of waste from their transport and storage, proper procedure on disposal and treatment where

necessary, everything from the recyclable packaging of our household waste right up to nuclear waste as a byproduct of energy production. Some of these are damaging to the environment or human health - or both - while some are not harmful but take too long so long to break down that they go into a landfill. Waste management is as much about reducing the amount of raw material in a landfill as it is about protecting health.

Water Quality: Water covers around 2/3 of the planet's surface. There are necessary laws state, Federal, and international that govern what we may and may not do to and with sources of water. Pollutants don't just harm drinking water or localized areas but can make their way into the water system and into the oceans - causing wide-scale damage, potentially. Water quality laws concern the release of pollutants into any water body be it surface water, drinking water supply, and the water table, rivers, seasons, and oceans. Some concern human health only while others look at wider-scale ecological issues, depending on the law. Some list pollutants that may not be flushed into a water system while others determine that substances must be chemically altered and rendered inert before disposal. Examples include raw sewage, agricultural waste, and the procedure for water run-off from industrial or construction sites.

Sustainability of Resources

As well as prevention, treatment and mitigation of the above resources, there is increasingly a need for laws concerning sustainability. This is defined as the ability or desire to sustain a resource at a certain level and based on three scientific principles: increased dependence on renewable energy, biodiversity, and chemical cycling. Typically, it involved interventions to place limits on use or to enforce standards of replacement. It covers the following areas.

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Forestry and landscape sustainability: Forestry and landscape represent some of the oldest environmental protection laws in the world. Around the end of the 19th century and beyond, the US and many other nations enacted National Parks -protected areas of natural spaces to encourage ecology. Although terms and policy differ by country, the general philosophy and approach to national parks, wilderness, scientifically special areas mean protection from many activities but particularly construction and development. They can cover anything from a proper procedure on land clearance - not just forbidding it but also controlled burning policy. Government take on responsibility for enforcing the law, setting punishments, and mitigating problems. Often, people who work in those areas are government employees although this too depends on the law of each country or state.

Impact assessment and monitoring: Environmental impact assessments examine the potential consequences under specific scenarios of the results of an action. This can and does include the wider ecological effects of construction and development or increased industrial output, but it can also include the potential positives such as how land might recover from environmental problems or what the long-term ecological effects will be of reforesting with a certain type of tree canopy. Impact assessment examines issues critically and with a view to the facts and

potential consequences. Governments typically require a formalized report before granting planning permission, for example.

Mineral resource sustainability: Minerals are precious metals, solid and liquid fossil fuels such as oil and coal, are resources that require licensing and protection for proper management. These are finite resources and as they exist on government land, businesses wishing to operate them must seek license. Mining is a messy and potentially dangerous business. Sustainability does not apply to the resource itself (as it is finite) but to ensuring good environmental standards in its extraction and processing, and the health and safety standards required of those extracting it.

Water resource sustainability: Water is a renewable resource but when handled poorly, can lead to shortages. Specifically, water resource sustainability refers to the process of harnessing and using it, in areas where drought is likely, managing it for minimal wastage. As water and water runoff does not respect political boundaries, international laws on conservation and use are common and applied, especially where there is shared use and responsibility or competing claims to it. Laws here apply to surface water such as rivers, lakes and oceans, floodwater and ice meltwater, groundwater and the water table.

Wildlife and fishery sustainability: Laws protecting wildlife seek to control and limit the impact of human activity on animal species and by extension, prevent an imbalance of natural food chains. There are also laws to protect botanical species, particularly those vital to a local ecology or those that are endangered or threatened, or otherwise considering scientifically important. It can include conservation status, quotas on the numbers that may be caught/hunted (for example as applies to international fishing rights) or a complete ban, or international bans on trading in certain items. Ivory is one example of this.

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General Principles and Philosophies

There are not “laws” as such, but general trends in environmental policy for business, guidance by industry regulators, change fueled by expectations from customers, or agreements between governments or good practice that are not legally binding but for the common good. They concern many aspects not already covered in previous sections.

Accountability and Transparency: The need for transparency towards the public and stakeholders from those responsible is a growing expectation in the need to mitigate and treat environmental damage. We expect it from government and industry towards the populations who will be affected by it. UNEP (United Nations Environmental Programme) states the need for protection of human rights on opinions and to seek and impart ideas. There is also a right of access to information in an appropriate manner and time from governments holding data that might concern the public over any aspect of environmental protection without making it prohibitively expensive to do so. There should also be effective judicial and proceedings against polluters and those responsible.

Cross-border responsibility: This is an international law obligation also set down by UNEP. It is defined as the obligation of governments to protect the environment within their borders and to do what it takes to prevent a nation's activities from causing damaging to neighboring nations. It is seen as a potential limitation on the rights of sovereign states and therefore treated as a human rights issue.

Equity and Equality: This is not about gender, sexuality, or race equality when it comes to environmental protection, but for the right of succeeding generations to enjoy the same or better benefits than the generations that preceded it, according to UNEP. The biggest issues of the age include climate change and resource depletion, an issue that will affect coming generations as previous generations add to the depletion and environmental damage. It determines the responsibility of previous generations to the future. Naturally, this concerns not just resource control, but also pollution mitigation.

Polluter Pays: Tied to responsibility and accountability, it is the core belief that those who cause damage should be responsible for the cleanup rather than expecting the public or others to do so such as taxpayer dollars. Environmental remediation is a necessary area of environmental protection and it is on this basis that such roles exist within organizations.

Precautionary Principle: Often a hot topic and subject to furious debate, this international standard promotes the concept through The Rio Declaration that to protect an environment, a precautionary approach must be applied according to their capability. When there is a threat of damage, governments must not muddy the waters or use scientific uncertainty (either real or imagined) to abdicate responsibility or to procrastinate over an issue.

Prevention: "Prevention is better than cure" is a mantra in many areas and it's certainly true of ecology and environmental protection. It looks at ways of pushing the need for analyzing potential harms in such processes as risk assessment and puts in place measures for preventing incidents, accidents and worst case scenarios. The cost of prevention (financial or otherwise) is always better than the long-term harm and massive expense necessary with a cleanup, for example.

Sustainable Development: This legal term described as thus: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" and tied to the generational equity and equality principle. Interdependence, integration, legal requirement of environmental impact are all key pillars of the idea. It came into force in 1972 although it's only become prominent recently. In 1983, the UN declared that the right to develop should apply equally to present as well as future generations.

Why is Environmental Law Important?

Laws are put in place for many reasons. Some are for the public good, health, and protection. Others are put in place to avoid other forms of harm. Environmental laws are enacted inside borders and as transborder measures for many reasons with public health and resource protection being amongst the most common.

For Health of Current Generations

Healthcare is an expensive business no matter where you are in the world. Some of the world's oldest environmental protections were designed with human health in mind. The Clean Air Act is an excellent example of this following the publication of Rachel Carson's book *Silent Spring*. Although focused on ecology, areas of the book touched on human health and the damage that industrial activity of the past 100-150 years was doing to our lives. Even today, people who live in the most heavily industrialized areas tend to suffer more health issues (8) and more longer-term health problems too. It's vital that we clean up the air, water and other aspects of the environment to improve their health.

For Health of Future Generations

It isn't just the health of current generations about which we need to be concerned. Our children and their children and so on will experience the growing cost of healthcare (9), sometimes due to environmental reasons, leading to greater instances of some conditions. All over the world, even in countries where there is socialized healthcare, instances of health problems and the costs of implementing a health system continue to increase. It is the mission of some environmental health laws to preserve future generations against further costs, to mitigate problems now, for ensuring a healthier populace and environment. We are also seeing new emergent diseases in areas that never experienced them before and greater instances of existing diseases where they are prevalent but controlled. Some of the reasons are believed to be ecological in nature with warming air and damper environments encouraging virus replication or the species that carry them such as mosquitoes.

Maintaining Resources and Lifestyle

In many ways, environmental laws are a form of insurance policy for the future for such things as food and water security, resource protection, energy, and ecological balance (10). Fossil fuels are a depleting resource and though many metals are finite, they could potentially last centuries. There will come a time when certain resources are gone and that's why it's important to ensure we use as few of them as possible and take out insurance policies. Fishing rights are one of these issues. Overfishing in many parts of the world not just damages our food supply and the industry, but has the potential to upset the ecological balance of the oceans. That's why many countries have agreed to fish quotas.

For Ecology

The importance of protecting ecology cannot be overstated. The food chain, the water cycle, our resource security all depend on how well our environment is protected (11). Any upset to this balance such as a resource depletion or removal, the introduction of an invasive species, damaging tree cover and uncontrolled emissions can cause long-term and wide-scale problems for an environment. We are already seeing the depletion of the ice caps and rising sea levels. Dilution of salts in our oceans can affect the ecological balance of that ocean. We also know that the jet streams and oscillations can change with atmospheric carbon, leading to erratic long-term weather changes which can also cause imbalances elsewhere. Global ecology is a network that transcends national interests and borders.

The Financial Issues

Of all these issues here, the one that governments are most concerned about - and often used as an excuse for inaction - is the bottom line. But as the OECD states, the cost of inaction have always been far greater (12). The cost to taxpayers and businesses will skyrocket over the coming decades. In the US we are already seeing an increase in cost to our health insurance premiums. Globally, the cost of property insurance is also increasing as damage from extreme weather conditions increases. Climate change is going to cost us all a lot of money - individually, businesses, and the public funds spent through governments. Environmental protection laws are in place to reduce some of the issues mentioned above such as protecting our health, but also to mitigate potential future costs of addressing them. This is an issue where prevention is better than cure.

“Future Proofing” Our World

How do we future-proof our world for future generations to enjoy the same levels of prosperity and health that the rest of us have enjoyed for generations? The answer to that is to enact environmental laws that attempt to preserve and protect the status quo where they are beneficial and to tackle the harm and damage being done for long-term sustainability. This will apply to food and water security for everyone. Many of the refugee problems of this current decade are considered the result of environmental disasters. Even with the rise of ISIS in the Middle East, many point to erratic weather and climate has having been a forcing on the political instability (along with other issues not related to environment that have been discussed repeatedly).

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Key Current US Environmental Laws

The Clean Air Act: The oldest and best known of all environmental laws here in the US is the Clean Air Act. It came into being in 1970 and sets out provisions for regulating air emissions within our borders from all potential sources of aerial pollution. The US EPA (Environmental Protection Agency) is responsible for its enforcement. They are also responsible for creating, reviewing and maintaining NAAQS - the National Ambient Air Quality Standards (NAAQS), a set of standards on emissions.

The Clean Water Act: Just seven years after the Clean Air Act, the EPA is also responsible for monitoring and enforcing standards for similar laws designed to ensure our waterways are as clean and as healthy as possible. The provisions of the Clean Water Act means it is illegal for any person or entity to discharge pollutants into navigable waters within the borders and interests of the US without a special permit. 10 years later, the act was modified to include toxic pollutants and funded sewage.

Comprehensive Environmental Response, Compensation and Liability Act: Known as CERCLA, this 1980 Act set to handle a growing problem of abandoned areas of the built environment that held and handled hazardous waste. There were also issues of toxic spills and

accidents. CERCLA covers all of these issues and makes available a Federal superfund for cleaning up such spills and mitigating problems. It also grants the EPA powers to locate the responsible people or organization and demand their action (under the Polluter Pays principle) while granting the EPA power to recover costs of all actions.

Emergency Planning & Community Right-to-Know Act: EPCRA came into force in 1986. It made provisions for aiding local communities to protect their health and safety of their land, and to ensure neither suffer at the hands of toxic chemicals. It requires states to create and maintain a SERC (State Emergency Response Commission) divided by districts with individual committees (LEPCs) responsible for openness on information regarding chemical hazards in their area.

Endangered Species Act: Nearly every country has one of these now as well as international laws and designations for cross-border co-operation on conservation. This Act came into being in 1973 with the aim of setting out special protections for species at risk of extinction. The idea was to conserve and to increase population numbers - a measure that has mixed success. Risks to such species include overhunting/overfishing or gathering, toxic waste, a changing environment, deforestation and so on.

Federal Insecticide, Fungicide & Rodenticide Act: Enacted in 1972, FIFRA is another law enforced by the EPA - then just two years old. Under this Act, they are responsible for the licensing of all pesticides and herbicides in agricultural use, and are empowered to prohibit the sale or other distribution and use of such substances. This power is usually enforced when demonstrated to play an active part in being damaging to health or affecting the survival rates of endangered or threatened species. Farmers and others who need to legitimately acquire pesticides for use must register as buyers and pass an exam.

National Environmental Policy Act: Coming into force in 1969 (one year before EPA's foundation) NEPA requires Federal government administrations consider the potential environmental consequences before engaging in any Federal government action that might have an environmental impact. This applies to public works such as bridgebuilding, public highways, urban development, oil pipelines on public land and many other projects.

Occupational Safety & Health Act: Enacted in the same year that the EPA came into force, OSHA addressed problematic lack of worker rights regarding health and safety in the workplace. Part of this addresses the environment such as the use and storage of toxic and hazardous substances on certain sites. It is as much about protecting the wider environment and public health as it is about protecting the user or handler's health. The EPA is not responsible for enforcing OSHA; as it is a public health issue more than an environmental one, that responsibility goes to a division of the Department of Labor and National Institute for Occupational Safety and Health (NIOSH).

Pollution Prevention Act: Prevention is always better than cure and the PPA attempts to set down a code, standards, regulations and laws on what to do to prevent environmental accidents. This seeks to reduce the number and amount of pollutants in the skies of the US by altering the processes of production and operating of those things that contain pollutants. The aim is to

mitigate potential future problems by enforcing changes in production - proactive rather than reactive. This has been vital to improving general public health in the last few decades.

Resource Conservation and Recovery Act: Another law that comes under the jurisdiction of the EPA, it is designed to oversee the generation of potentially toxic and hazardous waste, as well as its transportation, storage and treatment where necessary, and finally any disposal measures required. This also applies to non-hazardous waste. It is designed to complement CERCLA (see above) and cover gaps in its authority for a robust framework of legislation on waste management and storage. RCRA oversees active sites and future mitigation while CERCLA handles historic sites. Several amendments have been made in that time - the Hazardous and Solid Waste Amendments in 1984 to phase out land disposal of hazardous waste, and general RCRA amendments in 1986 to address concerns of subterranean storage.

Safe Drinking Water Act (SDWA): Introduced in 1974, it is designed to ensure that water in the US is of sufficient quality and high standard as a matter of public health. Clean water is seen as a human right's issue internationally and the key to a high standard of public health. However, it also contains provisions for “nuisance” secondary standards which cover provisions for color, odor, and flavor. These are not enforced as they are not related to health, but the negative scent and color could discourage people from consuming it (13).

Superfund Amendments and Reauthorization Act (SARA): Superfunds are Federally-mandated funds put aside for emergency environmental situations. This 1986 law reauthorized CERCLA (see above) to continue to pursue cleanup efforts and addressed specific issues that were arising through the process of that action. Title III of the Act created EPCRA (see above).

Toxic Substances Control Act: TSCA came into effect in 1976 to put in place a framework of screening chemical substances for potential hazards and problems before they become available in a chosen market. They also track chemicals that may pose a threat to health or environment, and for guidance on cleanup procedures following a leak or other contamination. It was designed as an addition to Clean Air Act, Clean Water Act and others to help bridge gaps.

Search Programs

10 Key International Environmental Laws

There are so many international environmental laws that it's difficult to list them all to cover the multitude of areas that they cover. However, here is a list of the most common agreements made across borders.

Aarhus Convention: to give it the full name Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters. It was signed by 46 states and the 28 European Union member states, coming into force on the 30th October 2001. Its main provision is the granting of the right of information of environmental issues to citizens of signatory nations.

Biological Weapons Convention: Understanding that the use of biological weapons harm human health and have long-term effects on ecology, the BWC was the first agreement to completely ban a specific type of weapon. It became effective in 1975 and in 2018 has over 180 signatories.

Convention on Biological Diversity: Maintaining conservation and promoting biodiversity is just one of three major components to this treaty, the other two being: sustainability of natural resources, and equity in benefit sharing. It came into effect in 1993.

Convention on the Conservation of Antarctic Marine Living Resources: the world's last continent was already subject to international protection and an agreement that no one country could claim it (Antarctic Treaty 1959) when this convention in 1980 put in place protections for its unique marine ecology to protect environmental integrity. Similar conventions exist in other ecologically rich and delicate areas around the globe.

Convention on Fishing and Conservation of Living Resources of the High Seas: Fish stock is an international resource. While countries manage and fish their own stocks within their own borders and waters, shared rights exist in international waters. International co-operation for the conservation of marine species on the high seas.

Convention on Long-Range Transboundary Air Pollution: Air pollution in one country is rarely limited in its effects to that one country. Air pollution requires international agreement to tackle and control. Virtually all northern hemisphere countries are signatories or have ratified this convention.

Framework Convention on Climate Change: This is the convention behind the Kyoto Protocol (1997) and the Paris Agreement (2015) and behind the Intergovernmental Panel on Climate Change. Their aim is to monitor all issues concerning climate change and to suggest treaties and laws for mitigation and reduction of the global temperature.

US-Canada Air Quality Agreement: This treaty involving just two countries was designed in the 1980s and came into effect in 1991. During negotiations, the media referred to it as the “Acid Rain Treaty”. That was its major reason for being, but it addressed several issues in the need to create a healthy environment in North America.

Vienna Convention for the Protection of the Ozone Layer: The 1980s and 1990s were critical to many changes in international standards. One of the biggest problems from this era was the use of CFCs which were soon discovered as damaging to the ozone layer - the protective layer of gas in the upper atmosphere. This international treaty banned their use in most cases in a move designed to restore atmospheric safety.

World Heritage Convention Concerning the Protection of the World Cultural and Natural Heritage: This groundbreaking treaty from the 1970s is responsible for the foundation of UNESCO international protection of natural wonders and historic monuments deemed of utmost importance to humanity. It created the World Heritage List which consists of cultural monuments and natural features.

