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The Precautionary Principle

Precaution is a systemic change that transforms the way we approach environmental regulation and decision making. This change is rooted in a paradigm shift away from risk/benefit and cost/benefit decision-making that asks, "what level of harm is acceptable?" to a precautionary approach which asks, "how can we prevent harm?"

- [Center for Health, Environment, and Justice](#)

The problem very often is that long before the science does come in, the harm has already been done. - [Michael Pollan](#)

Definitions and Quotes

Wingspread Statement, Jan. 1998:



"When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. In this context the proponent of an activity, rather than the public, should bear the burden of proof. The process of applying the precautionary principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action." The precautionary principle was defined at a conference at Wingspread, headquarters of the Johnson Foundation in Racine, Wisconsin, [January 15, 1998](#). ([Text and background of statement - SEHN](#))

Principle 15: Rio Declaration, 1992:

"In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

Sir Austin Bradford Hill, 1965:

"All scientific work is incomplete - whether it be observational or experimental. All scientific work is liable to be upset or modified by advancing knowledge. That does not confer upon us a freedom to ignore the knowledge we already have or postpone the action that it appears to demand at a given time." - [Sir Austin Bradford Hill](#)

Aldo Leopold, 1949:

"A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise." - from *A Sand County Almanac*

Key Elements of the Precautionary Principle

1. Taking anticipatory action to prevent harm in the face of scientific uncertainty.
2. Exploring alternatives, including the alternative of "no action."
3. Considering the full cost of environmental and health impacts over time.
4. Increasing public participation in decision making.
5. Shifting the responsibility for providing evidence to the proponents of an activity.

For a discussion of the key elements, please read Dr. Steven G. Gilbert's article, [Precautionary Principle - Reasonable, Rational, and Responsible](#).

List of Endorsements or Adoptions

International

- [French Constitution](#) (PDF file, translation of French press release), March 2005
- [Opinion of the Committee for Prevention and Precaution about the Precautionary Principle](#) - Position Paper by the French Committee for Prevention and Precaution, June 2006
- [Principle 15 UN Rio Declaration on Environment](#), 1992
- [Summaries of EU Legislation: Precautionary Principle; Communication from the European Commission on the Precautionary Principle](#) (within Feb 2000 press release)
- [World Health Organization: Precautionary Framework for Public Health Protection](#) (PDF file; draft, 2003)
- [Kathmandu Declaration](#) (PDF file) - Adopted at the South Asian Judicial Interaction on Environmental Justice and Equity, held by the Forum for Justice in association with the Supreme Court of Nepal in Kathmandu.
- [The Paris Appeal](#) (PDF file) - Excellent summary of international documents supporting human health and environment.
- [REACH - Registration, Evaluation, and Authorization of Chemicals](#) - "On October 28th 2004 the European Commission adopted its legislative proposal for sweeping reform in chemicals policy, called REACH. The legislation if enacted requires that all chemicals used in commerce over 1 ton per year have basic toxicity and risk information within an 11 year period and that chemicals of very high concern be treated like drugs, with only uses approved by government authorities being permitted." ([Q and A on the new](#)

[Chemicals policy REACH \(October 2003\)](#), [Q and A on REACH \(December 2006\)](#), [White Paper on the Strategy for a future Chemicals Policy](#))

- OSPAR (Convention for the Protection of the Marine Environment of the North-East Atlantic) Commission: [Precautionary Principle](#)

North America

- North American Commission for Environmental Cooperation: [Council Resolution 95-05: Sound Management of Chemicals](#), see Principle 15
- [Physicians for Social Responsibility: NPSR Statement on Precautionary Principle](#)
- [American Public Health Association \(APHA\) Policy Statements: The Precautionary Principle and Children's Health](#) and [The Precautionary Principle and Chemical Exposure Standards for the Workplace](#)
- City of San Francisco: [Precautionary Principle Policy Statement](#), [Toxics and Health Guiding Principles](#)
- Los Angeles Unified School District (2nd largest district in the USA): [Integrated Pest Management Policy Statement](#) (based on the Precautionary Principle)
- Seattle Precautionary Principle Effort: *Details below.*
- [Berkeley City Council Resolution to Adopt the Precautionary Principle](#) (PDF file)
- [California Environmental Protection Agency: Environmental Justice Action Plan](#) (PDF file) - Promotes the use of a precautionary approach.
- American Nurses Association: [Principles of Environmental Health for Nursing Practice with Implementation Strategies](#) (report, page 7~)
- Earth Charter: [See section 6 statement on preventing harm.](#)
- Health Canada: [A Primer on Scientific Risk Assessment](#), see section on precautionary principle near bottom

Efforts in Washington State, USA

Washington State - Applying the Precautionary Principle

1. The Washington State Growth Management Act. This policy applies to situations when there is incomplete scientific evidence about whether a development or land use action could harm established critical habitat areas. In such cases, this legislation directs cities and counties to use "a precautionary or a no risk approach," in which development and land use activities are strictly limited until the uncertainty is sufficiently resolved.
2. [Washington State Department of Ecology's Persistent Bioaccumulative Toxins \(PBT\) program](#). Ecology's [PBT](#) program advocates for moving away from risk assessment and towards "precautionary approaches based on scientific data for addressing [PBTs](#)." It explicitly adopts the precautionary principle as one of the policy's guiding principles:

"Most regulatory programs currently embody approaches that require agencies to quantify the problems caused by low levels of toxic chemicals before taking actions to prevent those effects. Consequently reasonable preventative measures are often delayed because scientists are unable to precisely define all of the complex interactions between toxic release and environmental danger. More precautionary approaches are needed to prevent the environmental harm associated with [PBTs](#)."

Seattle - Applying the Precautionary Principle

The following examples make a strong case for explicitly endorsing the precautionary principle as the underlying foundation for decision making in city government.

1. The [City of Seattle's Endorsement](#) of the [Earth Charter](#).

The Earth Charter encourages its endorsers to:

- a. Take action to avoid the possibility of serious or irreversible environmental harm even when scientific knowledge is incomplete or inconclusive.
- b. Place the burden of proof on those who argue that a proposed activity will not cause significant harm, and make the responsible parties liable for environmental harm.
- c. Ensure that decision-making addresses the cumulative, long-term, indirect, long distance, and global consequences of human activities.
- d. Prevent pollution of any part of the environment and allow no build-up of radioactive, toxic, or other hazardous substances.
- e. Avoid military activities damaging to the environment.

In September 2002, the [Seattle City Council and Mayor Greg Nickels formally endorsed](#) the [Earth Charter](#) and pledged their intention to be "assertively working towards the realization of its aims so that we can assure a healthy future for our community and for our earth."

2. [The Office of Sustainability and Environment Mission Statement](#)

Its mission is consistent with the precautionary approach and pledges "to provide the leadership, tools and information to help City government and other organizations use natural resources efficiently, prevent pollution and improve the economic, environmental and social well-being of current and future generations."

3. [The City of Seattle Purchasing Policies](#)

The City of Seattle Environmentally Responsible Purchasing Policy directs City departments to choose alternative products that prevent harm and states, "The City shall promote the use of environmentally preferable products in its acquisition of goods and services."

Several resolutions apply to this overall policy, which specify that departments should make purchasing decisions to achieve the following goals:

- To increase the procurement of recycled and recyclable products (Resolution #28737);
- To improve efficiency of water and energy use (Resolution #29048);
- To reduce products which result in hazardous pollution during manufacture, use, or disposal (Resolution #29268); and
- To reduce products which result in persistent toxic pollution, i.e. pollution from persistent bioaccumulative toxins or PBTs, and to instead favor alternatives, such as penta-free utility poles, chlorine-free paper and non-PVC office products (Resolution #30487).

These broad purchasing policies are now being implemented for specific types of products. For example, the policies have guided a proactive set of environmental criteria for janitorial products to ensure the health and safety of city workers ([City of Seattle's Environmental Criteria for Janitorial Products](#)). Other product-based decisions impacted by the city's purchasing policies include computer and printer purchasing, battery disposal, and the selection of office supplies ([reports related to purchasing and city contracts](#)).

This policy articulates the city's goals for protecting environmental quality, promoting environmental justice, and improving quality of life in Seattle for current and future generations. More specifically, the Action Agenda calls for careful monitoring and reporting of environmental impacts:

"The agenda creates a framework for integrated City environmental action, robust tracking and reporting, coherent communication on environmental issues and links environmental stewardship, economic development and social equity."

5. [The City of Seattle's Pesticide Reduction Program](#)

This program works to prevent dangerous pesticide exposures by setting target goals, which set important milestones for creating a safer and healthier environment. The two main goals of the program are:

- (1) To eliminate the use of the most potentially hazardous Herbicides and Insecticides, and
- (2) To achieve a 30 percent reduction in overall pesticide use."

6. The City of Seattle Comprehensive Plan. The City of Seattle has encouraged meaningful public participation in developing its Comprehensive Plan. Since before 1994, local residents have been empowered to envision what types of amenities, such as parks or transportation, they would need to support this growth in this planning process.

7. [Seattle moves to Reduce Global Warming](#)

"The reality of global climate change is urgent. The stakes are high - locally and globally - and we need to act. As a City government, we've already cut our greenhouse gas emissions by more than 60% compared to 1990 levels. But it's not enough - we need to work together as a community to set responsible limits on global warming pollution."
- Seattle Mayor Greg Nickels

King County - Applying the Precautionary Principle

King County's growing population and unique environment has encouraged proactive policies which protect the environment and promote public health. Active programs compatible with a precautionary approach include the following five programs:

1. [Hazardous Waste Management](#). This program provides residents and small businesses with education and collection services for hazardous waste. The program is an example of taking anticipatory action to prevent harm and is self-described as "an intensive effort to reduce and properly manage that waste through education, collection and technical assistance."

2. [Integrated Pest Management \(IPM\)](#). Both the City of Seattle and King County are working to reduce pesticide use on public lands managed by the City and County. The IPM strategy is an example of choosing safer alternatives and is defined by the County as "a holistic approach to pest (including weed) management. IPM stresses the prevention of pest problems through design and maintenance practices, and uses a range of pest management techniques, including biological, cultural, and mechanical, with chemical controls as a last resort."

3. [King County Recycled Product Procurement Policy](#). King County has a policy to promote the purchase of "environmentally preferable products." Preferable alternatives are described by the County as "products that have a lesser or reduced effect on human health and the environment when compared with competing products that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product."

4. The Smart Growth Initiative. Initiated in 2003 to encourage low-impact development and to reduce the environmental impact of housing projects, as directed by the [Built Green Ordinance](#). Demonstration Smart Growth projects will feature green building construction principles and "emphasize recycled materials, energy efficiency, natural habitat protection, and other environmentally friendly construction practices."

5. Public Education Programs. King County is a recognized leader in public education. The County has received two awards from the Environmental Education Association of Washington (EEAW). The King County Park System won the "Organizational Excellence Award," and the County's School and Youth Program of the Local Hazardous Waste Management Program won the "Community Catalyst Award." King County has also formed a partnership with the nonprofit [Nature Vision](#), which "will keep environmental education classes alive in King County schools." Effective public education on health and the environment is a critical element underlying the success of the precautionary principle

External Links

- [Science and Environmental Health Network](#) : information portal on the precautionary principle. The Science and Environmental Health Network engages communities and governments in the effective application of science to protect and restore public and ecosystem health.
- [Canadian Environmental Law Association: Bibliography on the Precautionary Principle](#) (2003)
- [Better Safe Than Sorry](#) - Article in the San Francisco Chronicle about efforts in San Francisco. By Ruth Rosen, June 19, 2003.
- [Rachel's Health and Environment News: Critiques of the Precautionary Principle](#) (#781, October 29, 2003)
- Center for Health, Environment, and Justice: [BE SAFE Campaign for Precautionary Action](#)
- [The Precautionary Principle Also Applies to Public Health Actions](#) - By Bernard D. Goldstein, MD. The American Journal of Public Health. 2001 September; 91(9): 1358-1361.