

PRECAUTIONARY PRINCIPLE PROJECT

CLEAN WATER FUND ♦ LOWELL CENTER FOR SUSTAINABLE PRODUCTION ♦ MASSACHUSETTS
BREAST CANCER COALITION ♦ SCIENCE & ENVIRONMENTAL HEALTH NETWORK

Wingspread Statement:

A Common Sense Way to Protect Public Health & the Environment

Prepared by the Science & Environmental Health Network
January 25, 1998

What is the precautionary principle?

The precautionary principle serves as a bridge between environmental science and policy when there is uncertainty yet the potential for adverse health effects from an activity.

A comprehensive definition of the precautionary principle was spelled out in a January 1998 meeting of scientists, lawyers, policy makers and environmentalists at Wingspread, headquarters of the Johnson Foundation in Racine, Wisconsin. The Wingspread Statement on the Precautionary Principle, which is included in full at the end of this fact sheet, summarizes the principle this way:

"When an activity raises threats of harm to the environment or human health, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically."

Key elements of the principle include taking precaution in the face of scientific uncertainty; exploring alternatives to possibly harmful actions; placing the burden of proof on proponents of an activity rather than on victims or potential victims of the activity; and using democratic processes to carry out and enforce the principle--including the public right to informed consent.

What is the history of the precautionary principle?

The precautionary principle has its beginnings in the German principle of *Vorsorge*, or foresight. At the core of early conceptions of this principle was the belief that society should seek to avoid environmental damage by careful forward planning, blocking the flow of potentially harmful activities. The Germans instituted the principle to protect waterways from industrial

pollution, thus stimulating the development of technologies to reduce environmental contamination. From there the principle became incorporated in many international environmental agreements that address persistent toxic substances, climate, change, biodiversity, ozone depletion, fisheries, and hazardous waste. The principle was a centerpiece of the 1992 Rio Declaration signed as a result of the United Nations Conference on Environment and Development. The United States, which signed the Rio Declaration, is legally bound to the definition of the precautionary principle from that declaration which states:

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.

The precautionary principle is now a central stated principle of environmental law and policy in the European Union and many of its member countries.

Is there some special meaning for "precaution"?

It's the common sense idea behind many adages: "Be careful." "Better safe than sorry." "Look before you leap." "First do no harm."

**What about "scientific uncertainty"?
Why should we take action before science tells us what is harmful or what is causing harm?**

Sometimes if we wait for proof it is too late. Scientific standards for demonstrating cause and effect are very high. For example, smoking was strongly suspected of causing lung cancer long before the link was demonstrated conclusively--that is, to the satisfaction of scientific standards of cause and effect. By then, many smokers had died of lung cancer. But many other people had already quit smoking because of the growing evidence that smoking was linked to lung cancer. These people were wisely exercising precaution despite some scientific uncertainty.

Often a problem--such as a cluster of cancer cases or global warming--is too large, its causes too diverse, or the effects too long term to be sorted out with scientific experiments that would prove cause and effect. It's hard to take these problems into the laboratory. Instead, we have to rely on observations, case studies or predictions based on current knowledge.

According to the precautionary principle, when substantial scientific evidence of any kind gives us good reason to believe that an activity, technology or substance may be harmful, we should act to prevent harm. If we always wait for scientific certainty, people may suffer and die, and damage to the natural world may be irreversible.

Why do we need the precautionary principle now?

Those who issued the Wingspread Statement and many others believe that the effects of careless and harmful activities have accumulated over the years. They believe that humans and the rest of the natural world have a limited capacity to absorb and overcome this harm and that we must be much more careful than we have been in the past.

There are plenty of warning signs that suggest we should proceed with caution. Some are in human beings themselves--such as increased rates of learning disabilities, asthma and certain types of cancer. Other warning signs are the dying off of plant and animal species, the depletion of stratospheric ozone, and the

likelihood of global warming. It is hard to pin these effects to clear or simple causes--just as it is difficult to predict exactly what many effects will be. But good sense and plenty of scientific evidence tell us we must take care, and that all our actions have consequences.

We have lots of environmental regulations. Aren't we already exercising precaution?

In some cases, to some extent, yes. When federal money is to be used in a major project, such as building a road on forested land or developing federal waste programs, the planners must produce an "environmental impact statement" to show how it will affect the surroundings. Then the public has a right to help determine whether the study has been thorough and all the alternatives considered. That is a precautionary action.

But most environmental regulations, such as the Clean Air Act, the Clean Water Act and the Superfund Law, are aimed at cleaning up pollution and controlling the amount of it released into the environment. They regulate toxic substances as they are emitted rather than limiting their use or production in the first place.

These laws have served an important purpose--they have given us cleaner air, water and land. But they are based on the assumption that humans and ecosystems can absorb a certain amount of contamination without being harmed. We are now learning how difficult it is to know what levels of contamination, if any, are safe.

Many of our food and drug laws and practices are more precautionary. Before a drug is introduced into the marketplace, the manufacturer must demonstrate that it is safe and effective. Then people must be told about risks and side effects before they use it .

But there are some major loopholes in our regulations and the way they are applied. If the precautionary principle were universally applied, many toxic substances, contaminants, and unsafe practices would not be produced or used in the first place. The precautionary principle concentrates on prevention rather than cure.

What are the loopholes in current regulations?

One is the use of "scientific certainty" as a standard, as discussed above. Often we assume that if something can't be proved scientifically, it isn't true. The lack of certainty is used to justify continuing to use a potentially harmful substance or technology.

Another is the use of "risk assessment" to determine whether a substance or practice should be regulated. One problem is that the range of risks considered is very narrow--usually death, and usually from cancer. Another is that those who will assume the risk are not informed or consulted. For example, people who live near a factory that emits a toxic substance are rarely told about the risks or asked whether they accept them.

A related, third loophole is "cost-benefit analysis" --determining whether the costs of a regulation are worth the benefits it will bring. Usually the short-term costs of regulation receive more consideration than the long-term costs of possible harm--and the public is left to deal with the damages. Also, many believe it is virtually impossible to quantify the costs of harm to a population or the benefits of a healthy environment.

The effect of these loopholes is to give the benefit of the doubt to new and existing products and technologies and to all economic activities, even those that eventually prove harmful. Enterprises, projects, technologies and substances are, in effect, "innocent until proven guilty." Meanwhile, people and the environment assume the risks and often become the victims.

How would the precautionary principle change all that without bringing the economy to a halt?

It would encourage the exploration of alternatives--better, safer, cheaper ways to do things- and the development of "cleaner" products and technologies. Sometimes simply slowing down in order to learn more about potential harm--or doing nothing--is the best alternative. The principle would serve as a "speed bump" in the development of technologies and enterprises.

It would shift the burden of proof from the public to proponents of a technology. The principle would ensure that the public knows

about and has a say in the deployment of technologies that may be hazardous. Proponents would have to demonstrate through an open process that a technology was safe or necessary and that no better alternatives were available. The public would have a say in this determination.

Will the countries that adopt the precautionary principle become less competitive on the world marketplace?

The idea is to progress more carefully than we have done before. Some technologies may be brought onto the marketplace more slowly. Others may be stopped or phased out. On the other hand, there will be many incentives to create new technologies that will make it unnecessary to produce and use harmful substances and processes. These new technologies will bring economic benefits in the long run.

Countries on the forefront of stronger, more comprehensive environmental laws, such as Germany and Sweden, have developed new, cleaner products and production technologies despite temporary higher costs. They are now able to export these technologies. Other countries risk being left behind, with outdated facilities and technologies that pollute to an extent that the people will soon recognize as intolerable. There are signs that this is already happening.

How can we possibly prevent all bad side effects from technological progress?

Hazards are a part of life. But it is important for people to press for less harmful alternatives, to exercise their rights to a clean, life-sustaining environment and, when they could be exposed to hazards, to know what those hazards are and to have a part in deciding whether to accept them.

How will the precautionary principle be implemented?

The precautionary principle should become the basis for reforming environmental laws and regulations and for creating new regulations. It is essentially an approach, a way of thinking. In coming years, precaution should be exercised, argued and promoted on many levels--in regulations, industrial practices, science, consumer choices, education, communities, and schools.

Are there organizations in the U.S. working on implementing the precautionary principle?

At the national level, the Science and Environmental Health Network (SEHN) is working with advocacy organizations and government agencies to encourage more precautionary policies around agriculture, biotechnology, natural resources, and toxic substances. SEHN is also working on how science is interpreted in the courts.

In Massachusetts, the Clean Water Fund, the Massachusetts Breast Cancer Coalition, and the Lowell Center for Sustainable Production at the University of Massachusetts Lowell have formed a coalition to conduct outreach and policy change to implement the principle. The project, called the Massachusetts Precautionary Principle Project, is a multi-year program of education, policy analysis, constituent-building, recruitment and training. Project partners will examine the uses and limitations of science in environmental policy as well as precautionary and non-precautionary aspects of current regulatory policies. They will design model policies incorporating the precautionary principle and train advocates, scientists, and decision-makers on the benefits of this approach.

Clean Water Fund

36 Bromfield Street #204
Boston, MA 02108
Tel. 617-338-8131 Fax 617-338-6449
Email: bostoncwa@cleanwater.org

Lowell Center for Sustainable Production

University of Massachusetts Lowell
One University Avenue
Lowell, MA 01854
Tel. 978-934-2981 Fax 978-4522-5711
Email: joel_tickner@uml.edu

Massachusetts Breast Cancer Coalition

Contact: Sharon Koshar
51 Diauto Drive, Suite B
Randolph, MA 02368
Tel: 1800-649-6222
Email: 1in8@mbcc.org

For more information contact:

Science and Environmental Health Network
Rt. 1, Box 73
Windsor, ND 58424
701-763-6286
E-mail: 75114.1164@compuserve.com

Wingspread Consensus Statement on the Precautionary Principle

The release and use of toxic substances, the exploitation of resources, and physical alterations of the environment have had substantial unintended consequences affecting human health and the environment. Some of these concerns are high rates of learning deficiencies, asthma, cancer, birth defects and species extinctions; along with global climate change, stratospheric ozone depletion and worldwide contamination with toxic substances and nuclear materials.

We believe existing environmental regulations and other decisions, particularly those based on risk assessment, have failed to protect adequately human health and the environment - the larger system of which humans are but a part.

We believe there is compelling evidence that damage to humans and the worldwide environment is of such magnitude and seriousness that new principles for conducting human activities are necessary.

While we realize that human activities may involve hazards, people must proceed more carefully than has been the case in recent history. Corporations, government entities, organizations, communities, scientists and other individuals must adopt a precautionary approach to all human endeavors.

Therefore, it is necessary to implement the Precautionary Principle: 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.

Wingspread Participants:

(Affiliations are noted for identification purposes only.)

Dr. Nicholas Ashford, Massachusetts Institute of Technology
Katherine Barrett, Univ. of British Columbia
Anita Bernstein, Chicago-Kent College of Law
Dr. Robert Costanza, University of Maryland
Pat Costner, Greenpeace
Dr. Carl Cranor, Univ. of California, Riverside
Dr. Peter deFur, Virginia Commonwealth Univ.
Gordon Durnil, attorney
Dr. Kenneth Geiser, Toxics Use Reduction Institute, Univ. of Mass., Lowell
Dr. Andrew Jordan, Centre for Social and Economic Research on the Global Environment, Univ. Of East Anglia, United Kingdom
Andrew King, United Steelworkers of America, Canadian Office, Toronto, Canada
Dr. Frederick Kirschenmann, farmer
Stephen Lester, Center for Health, Environment and Justice
Sue Maret, Union Institute
Dr. Michael M'Gonigle, University of Victoria, British Columbia, Canada
Dr. Peter Montague, Environmental Research Foundation
Dr. John Peterson Myers, W. Alton Jones Foundation
Dr. Mary O'Brien, environmental consultant
Dr. David Ozonoff, Boston University
Carolyn Raffensperger, Science and Environmental Health Network
Hon. Pamela Resor, Massachusetts House of Representatives
Florence Robinson, Louisiana Environmental Network
Dr. Ted Schettler, Physicians for Social Responsibility
Ted Smith, Silicon Valley Toxics Coalition
Dr. Klaus-Richard Sperling, Alfred-Wegener-Institut, Hamburg, Germany
Dr. Sandra Steingraber, author
Diane Takvorian, Environmental Health Coalition
Joel Tickner, University of Mass., Lowell
Dr. Konrad von Moltke, Dartmouth College
Dr. Bo Wahlstrom, KEMI (National Chemical Inspectorate), Sweden
Jackie Warledo, Indigenous Environmental Network