

## **RENEWABLE DEAL, ASPECT TWO**

### **Plank Three: The Precautionary Principle**

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The precautionary principle is the moral and political principle that, if an action or policy might cause severe or irreversible harm to the public or environment, in the absence of scientific consensus that such harm will not ensue, the burden of proof falls on the advocates of the policy or action to demonstrate that severe or irreversible harm is unlikely. If the risk of harm appears high, societal action is to be taken to prevent or minimize such harm in the absence of scientific certainty.

The precautionary principle represents application of the principle that “an ounce of prevention is worth a pound of cure.” The precautionary principle is caution practiced in the context of uncertainty.

Protection against a proposed action or policy is justified when available scientific evidence suggests that delay in instituting such protection “will prove ultimately most costly to society and nature, and, in the longer term, selfish and unfair to future generations.” The precautionary principle inherently recognizes an ethical responsibility by humankind to maintain the integrity of natural ecosystems.

In economics, the precautionary principle is analyzed in terms of the effect on rational decision-making of the interaction of irreversibility and uncertainty. In economic decision-making theory, the more uncertain one is as to future risk from an action, the stronger the prevention measures which are justified today.

The term “precautionary principle” appears to have originated in the 1930's German socio-legal tradition of good household management principles, called “Vorsorgeprinzip” literally “precaution principle.” The first international endorsement of applying the precautionary principle to decisions about actions which can affect the environment and human health was in the World Charter for Nature adopted by the U.N. General Assembly in 1982. The precautionary principle was again adopted in the 1987 Montreal Protocol treaty, and in the Rio Declaration of Environment and Development resulting from the Rio Conference or “Earth Summit” held in 1992.

The Rio Declaration Principle #15 states in part: “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.” Thus, in the application of the precautionary principle to decisions about any proposed action or policy which might have severe or irreversible harmful effects on environmental integrity or human health, the cost of preventative action is a legitimate factor. This contrasts the precautionary principle to the “no

regrets” principle, in which preventing harm is the only value considered, regardless of the cost.

The Cartagena Protocol on Biosafety treaty executed on January 29, 2000, provided that approval of all products from new technology must be based on application of the precautionary principle.

On February 2, 2000, the European Commission Communication on the Precautionary Principle stated: “The precautionary principle applies where scientific evidence is insufficient, inconclusive, or uncertain and preliminary scientific evaluation indicates there are reasonable grounds for concern that the potentially dangerous side effects on the environment, human, animal or plant health may be inconsistent with the high level of protection chosen by the EU.” A procedure for application of the precautionary principle in the European Union was adopted with this Communication. Thus, the precautionary principle has been the legal basis for European Union decisions concerning proposed actions or policies affecting the environment, human, animal or plant health since February, 2000.

In general, harmful effects which the precautionary principle has justified protective action against fall into the general categories of global warming and other abrupt climate changes; reduction of biodiversity in the environment and other compromises of ecological integrity; and public health.

In the United States, the scientific burden of proof is on government regulators to demonstrate why they have robust scientific reason to believe that a proposed action will cause severe or irreversible harm to the environment or to health, in order to deny that the action be approved.

The difference between the U.S. system of approval of commercialization of products from new technology versus the precautionary principle-based system in Europe can be illustrated with this hypothetical example: The Daddy Warbucks Chemical Works proposes to gain approval for commercialization of a new chemical. Warbucks exposes animals to the chemical in short-term trials and reports no adverse health effects are observed from exposure. Environmental advocates point out that the new chemical is similar in structure to others known to be endocrine disruptors which cause abnormalities in mammal fetus and juvenile development. Under the precautionary principle, government approval of release of the chemical would be withheld until and unless the Warbucks Chemical Works funded studies which found their new chemical did not produce abnormalities in fetal and juvenile mammal development and did not act as an endocrine disruptor. In the United States, if the environmental advocates or government agencies could not produce scientific studies showing that Warbucks’ new chemical does cause harm to mammal health or does in fact act as an endocrine disruptor, commercial release of the chemical into the environment could not be denied.

Why the precautionary principle is needed in the United States:

Pesticide effects: Will Allen’s book, *The War on Bugs*, exposes how chemical companies played on post-World War II fears of food shortages with a marketing campaign that

pushed toxic pesticides and fertilizers on farmers in American and around the world. Allen reveals how chemical wastes were repackaged as miracle cures for insect infestations; how chemical weapons manufacturers sought domestic markets for their concoctions after World War II ended, and how the chemical companies mounted a propaganda campaign to convince farmers and consumers alike that nature was an enemy to be defeated and subdued in pursuit of modern food production. *The War on Bugs* is richly illustrated with two centuries' worth of advertisements. Allen also documents how farmers, consumers, and activists pushed back against each new generation of "scientific" promises for better living through big business chemistry.

Vaccine effects: New vaccines like Menactra (against bacterial meningitis) and Gardasil (against human papillomavirus which can lead to cervical cancer) need only be tested on a few thousand people to receive FDA approval.

Menactra was studied in 7,500 people during clinical trials before it was approved in 2005 for adults and children over age 11. In February, 2008, after 15 million doses had been administered, it was discovered that 1 to 2 teens per million who were vaccinated developed Guillain-Barré syndrome, a temporary but severe paralysis triggered by an overactive immune system. The bacterial meningitis it immunizes against is contracted by about 1 per 100,000 people per year and kills one in a million.

Gardasil vaccine has induced severe headaches and debilitation in young teens. Some were found to have mitochondrial disease, a nerve disorder causing autism-like symptoms. Mitochondrial disease usually appears as a complication in the later stages of a viral infection; mitochondrial disease experts see vaccines as capable of producing the same reaction as they challenge the immune system to respond to a viral antigen.

RotaShield was approved by the FDA in 1998 as a vaccine against rotavirus, which causes severe diarrhea and dehydration in infants, after being tested on fewer than 1,300 children. After being given to 1.5 million babies, RotaShield was pulled from the market when 13 infants developed cases of severe intestinal blockages caused by the vaccine.

The U.S. government has paid out more than \$900 million in compensation for vaccine injuries during the past two decades. The government is now funding studies of genetic variations associated with adverse side effect reactions to vaccines to see if it is possible to screen children before they receive vaccinations so that vaccines will not be given to the few who have genetic markers for an adverse reaction.