Implementation of the Precautionary Principle in Europe and the US – Lessons Learned

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Main points

- Precaution has a long history in environmental and public health policy in Europe and the U.S.
- There are ways in which conduct of science and policy can work against precaution
- Precautionary policies can stimulate innovation in safer and cleaner technologies
- Need to learn lessons from failures to apply precaution (and over precaution) to improve decisions in the future. Mistakes will occur as all technologies confer some risk.

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Misunderstanding:
Chemicals in commerce are adequately studied and shown reasonably safe before widely used in processes and products

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Ignorance about toxic chemicals in commerce

- Basic toxicological data missing for majority of chemicals in commerce
- Most data on acute toxicity, mutagenicity, less on other forms of toxicity
- Lack of data on mixtures of chemicals – the reality
- Little information on human exposures
- High burden on agencies to act
- Status quo is no information, no problem

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Misunderstanding:
Precaution is already inherent in the use of conservative default assumptions and safety factors in risk assessment. We can adequately quantify complex risks and regulate just below those politically derived "safe" levels

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The limitations of Quantitative Risk Assessment for complex risks

- Limitations in considering cumulative risks, complex etiology of risks, effects from low level exposures, etc.
- Focus on the average and not variability in the population (sensitive sub-populations)
- Myriad of assumptions and limited uncertainty characterization
- Limits information going into the decision-making process
- Focuses attention on quantifying problems and costly debates over nuances rather than solutions
- Recent research indicates RfDs (safe levels) may actually represent high risks

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“Unrecognized risks are still risks; uncertain risks are still risks; and denied risks are still risks.”

-- John Cairns, Jr.

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Misunderstanding:
Application of the precautionary principle has caused tens of thousands of deaths and enormous harm to the economy

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Has precaution led to harm?

- Not taking precaution can have high costs to health and the economy.
- Late Lessons from Early Warnings (www.eea.eu.int)
- Unsubstantiated and hypothetical cases of where precaution has caused undue harm to health or the economy, many of which are “false-false positives”
- Bias towards short term knowable compliance costs versus long term uncertain benefits of action

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Co-optimizing economics/health and environment

- Environmental policies do have positive economic and health benefits
- Implementation of health/environment regulations often less costly than predicted
- Environmental policies can stimulate/redirect innovation
- Need to assist those who might be disproportionately affected

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The costs of a non-precautionary approach

- Bankruptcy – at least 70 companies bankrupt due to asbestos
- Costs to shareholders from scandal
- Insurance and other financial costs/liability
- Costs to health and the economy
  - Lead – approx $40 billion in lost productivity per year in US
  - Asbestos
  - CFCs, asthma
- New threats – science may not be there now but may be in the future – science evolves
- Loss of opportunity for new markets

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Let’s not misinterpret bad decision-making as the failure of precaution

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Precaution in the European System

- Swedish Environmental Code 1967
- German law – 1970s
- Environmental Treaties – 1980s
- Maastrict Treaty – 1994
- Communication on the Precautionary Principle – 2000
- Case law, WTO
- Not some arbitrary principle invented by Europeans to block trade – science and other social factors should come into play in decisions under uncertainty

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Northern European Approaches to Chemicals Management

- Integrate chemicals management throughout regulatory and business structures
- Multiple regulatory and voluntary tools
- Agreements with industry
- Lists of “chemicals of concern”
- Rapid screening programs – information
- Demonstration projects and support for safer technologies and substances
- Taxes, education, labeling, procurement, product responsibility
- European REACH proposal

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Lowell Center's Chemicals Policy Initiative

www.chemicalspolicy.org

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Example – phthalates in Children's PVC toys

- Known evidence of exposure
- Evidence of toxicity
- Vulnerability of children
- Availability of alternatives
- Need for soft teething toys
- Based on whole of evidence policy of prohibiting use by small children
- CPSC approach – quantify risks

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Precaution early in the US system

- Delaney Clause FFDCA
- Drug safety
- Clean Water Act of 1972
- NEPA EIS Process (now HIA)
- Phase out of lead in gasoline
- OSHA General Duty clause and standards (generic cancer standard)
- Right to Know

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New Chemicals Under TSCA

- Pre-Manufacture, not Pre-Market Focus
- Low threshold for action – "may present an unreasonable risk or substantial exposure"
- Deterrence from potentially harmful chemicals
- Guidance towards safer chemicals and syntheses
- An efficient, precautionary, lifecycle review
- But: only a very small percentage of chemical universe.

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More recent examples of precaution

- Pollution Prevention Act of 1990
- Clean Air Act of 1990 – HAPs and RMP
- Children's Environmental Health research and action
- Environmental justice
- Fisheries management/marine protection
- Protection of blood supply
- Cell phones on airplanes
- Mad Cow

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Precaution at the state level

- More flexibility/discretion of agencies
- California Prop 65
- CA Air Contaminants Law
- Procurement initiatives
- SF precaution ordinance
- City/state pesticide reduction policies
- Pollution Prevention and PBT initiatives
- AQMD regulation on PERC

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Example: California phase-out of some Polybrominated Diphenyl Ethers

- Building up in human bodies – places they shouldn't be
- Animal toxicity information and similarity to PCBs
- Evidence of occurrence in humans with toxicity should be enough to trigger search for alternatives that provide the same fire retarding function – need not wait for quantitative risk estimates

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Example: Toxics Use Reduction

- Goal: 50% reduction in toxic waste
- Focus on Ways to reduce waste and chemical use rather than “acceptable exposures”
- Evidence but not proof of toxicity of chemicals on TUR list
- Quantify materials used (why and how)
- Understand costs of chemical use

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Example: Toxics Use Reduction

- Examine alternatives
- Innovation and technical support
- Measure progress and re-evaluate
- Results: 1990-2000
  - 60% reduction in waste
  - 40% reduction in use
  - 80% reduction in emissions
- Benefits to industry $15 million

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Lessons learned from applying precaution

- Precautionary policies recognize the limits of science and policy under uncertainty and complexity
- Using all available information on risks (exposures and hazards) and alternatives in decision-making
- Its not that the US is scientific and Europe precautionary – differences in conduct of science and its role in decision-making
- Precaution should be considered an overall principle to guide better, more health protective decisions under uncertainty.

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