

The Precautionary Principle

Decision Making in the Face of Scientific Uncertainty

Debbie Raphael

Toxics Reduction/Green Building Program Manager

(415) 355-3711 debbie.raaphael@sfgov.org

www.sfenvironment.org

**People will follow those who lead –
if you don't have a vision,
all you have is the fight.**

(Bruce Vincent, Vincent Logging, Libby Montana)

- **We can “fight” about**
 - *How much CO2 needs to be reduced and by whom*
 - *What types of chemicals are safe for use in consumer products*
 - *Whether we need an open flame standard for bed clothing or furniture*
- **We may even find a solution**, but in and of itself, these solutions are not the vision

A picture of my children's vision of their world

- **Climate refugees**
 - **Peak Oil**
 - **Body Burden**
 - **Asthma**
- **Breast Cancer**

**Science helps us to
understand these problems
but proof of cause and effect
can be elusive**

Can not afford for uncertainty to become an
excuse for an inability to make decisions.

**Often a paralysis of analysis is really a
paralysis of leadership**

Governments are looking for:

- **A better decision making process**
- **A process that is not stymied by uncertainty**
- **A process that allows society to weigh in on the appropriate level of protection**
- **A way to make decisions that will counteract this vision of hopelessness and devastation**

Sweden's Chemical Products Act

A scientifically based suspicion that a chemical may cause damage is enough for taking regulatory actions.

The uncertainty that might arise from the hazard of using such a chemical shall not be carried by the general public but shall fall upon those who want to market the product.

Canadian Government on Chemicals in Commerce:

**“It is legitimate that decisions
be guided by society’s
chosen level of protection
against risk”**

US National Environmental Protection Act - 1969

The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment....

...it is the continuing responsibility of the Federal Government to use all practicable means ... to the end that the Nation may fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.

Precautionary Principle (Vorsorge: “fore caring”)

die-off of Black Forest in 1970’s

- **No longer sufficient to ask:**
 - Is it legal?
 - Is it safe?

- **Must also ask:**
 - Is it necessary?

Given the challenge presented by scientific uncertainty, the Precautionary Principle places decisions into a larger context. One that is explicit about:

- 1. Obligation to minimize harm**
- 2. Public Involvement**

How do you determine if it's necessary?

- **Risk Assessment vs. Alternatives Assessment**
(Dr. Mary O'Brien – Making Better Environmental Decisions.....)
- How much harm is **allowable** vs. How little harm is **possible**?
- **Science, costs, benefits of all alternatives**
- **Choose the alternative that minimizes harm**
- **Sometimes the preferred alternative is “doing nothing”**

Who Determines if it's Necessary?

- **Democratic: include all affected parties early on**
- Ultimately it is the **elected officials** who make the determination
- **Let us not fear the dissenters, but allow them to sharpen the debate, push us towards new directions**

RoundUp: Gardeners and Community ask: Is it necessary?

- **90%** reduction because often it is not necessary
 - **Goats, hand weeding, flamers**
 - **Prevention: mulch, sealing cracks**
 - **Acceptance** (lawns as meadows)
- Sometimes RoundUp is the alternative that minimizes harm
 - **Median strips**
 - **Airport runways**
 - **Invasive weeds in “Natural Areas”**

Arsenic Treated Wood

- **We Know:**
 - **Arsenic causes cancer**
 - **Arsenic leaches out of wood**
 - **Legal, but is it Safe?**
- **Is it necessary? Can we minimize harm?**
- **Who determines - Rec/Park, Port, DPW**
- **Alternatives Assessment:**
 - **CPA, ACQ**
 - **Need arsenic in marine environments**

Phthalates in Children's Products

- **We know:**
 - Used to soften plastics, leach out
 - Phthalates mimic estrogen
 - In lab studies see effects on development
 - Legal, but is it Safe?
- **Is it necessary?**
 - EU ban since 1999
 - Alternatives exist
- **Who determines?**
 - In SF Board of Supervisors banned the sale of children's products containing phthalates
 - State of CA has now banned them.....US considering

Synthetic Turf

Is it necessary? How do we minimize harm?

- **Benefits**

- Increased play time, accessibility
- Decreased injuries
- No need for fertilizers, mowing, irrigation

- **Risks**

- Replacing a natural system with plastic and rubber
- PAH's, Zinc, VOC's, staph infection?

Brominated Flame Retardants

Are they necessary?

- Present in animal and human tissue
- Science indicates potentially significant health concerns
- Cannot prove cause and effect
more study?
- Look for safer alternatives including non-chemical options
- “doing nothing” could mean no fire retardant standards are needed

Benefits of Precautionary Decision Making

- **Reductions:**
 - 90% reduction in RoundUp; 50-70% Reduction overall
 - Elimination of indoor sprays, most toxic pesticides
- **Innovation, Creativity**
 - Many people asking “is it necessary”
- **Improved Morale, Cooperation among agencies**
 - Technical Advisory Committee, Training, Awards
- **Trust, Ability to use pesticides/arsenic treated wood when necessary**
 - Transparent decision making, Approved List, Public Accountability

“The world is run by those who show up” *(Bruce Vincent)*

- **Tremendous experience** in the room
- Applaud ourselves for how far we have come, how deep we have gone...and then the **real work begins**
- We **KNOW** what fore-caring means (who cares about getting all the words in a definition of the precautionary principle just right)
- **Workshops like today** help us to find partners in some unexpected places

Where must we show up?

- Make precautionary thinking front and center in decisions that impact the use of toxic chemicals in consumer products.
- **DTSC** – Green Chemistry Initiative.
- **CIWMB** – Extended Producer Responsibility
- **BHFTI** – Open flame fire safety standards
- **State Legislature** – Leno's bill on BFRs

Precautionary Principle offers a powerful model for decision making.

- I invite all of you here today to create a world where we do not fear our critics but work together towards a common vision, a world shaped by “fore caring”.**

So that when we ask:

- **Is it legal?**
 - Confident our laws are protective of all life
- **Is it safe?**
 - Sufficient data and testing so that we understand how a chemical interacts within organisms and ecosystems
- **Is it necessary?**
 - Affected communities are at the table, our elected officials are empowered to examine all the alternatives, and to minimize harm