Four spikes

- Greenhouse gases
- Extinction
- Consumption
- Population

Emerging spike?

- Greenhouse gases
- Extinction
- Consumption
- Population
- Infectious diseases

*Ed Ayres (1999, God’s Last Offer)
Pessimism?

“There is no point to intellectual and political work if one were a pessimist. Intellectual and political work require, nay, demand, optimism.”*

Air pollution
Water pollution
Ozone depletion
Veal consumption


Greenhouse gases

Outcomes
- Temperature
- Precipitation
- Altered ecosystems

Sources
- \( \text{CO}_2 \) — fossil fuels
- Methane
- CFCs
- \( \text{NO}_x \)

Solutions
- Kyoto et al.
- Energy policy
- Individual actions
GH gases—individual actions

- Transportation
- Energy

γbermensch

Selbstüberwingdung

GH gases—individual actions

- Transportation
- Energy

γbermensch

Selbstüberwingdung
Extinction

Outcomes
- Reduced ecosystem services (valued at $33 trillion/year)
- Reduced inspiration
- Reduced flexibility
- Reduced beauty

Drivers
- Loss of habitat
- Ecological footprint
- Homogenization

Solutions
- $30 billion* (~70%)
- Individual actions


Extinction—individual actions
- Support conservation organizations
- Reduce ecological footprint (1% → 40%)
- Lifestyle change (as if lives depended on it)
Consumption

Consume:

1. To do away with completely; destroy

2a. To spend wastefully; squander
2b. Use up

3. To waste or burn away; perish

Consumption

Outcomes
- Intergenerational inequity
- Distinct social classes
- Economic “growth”

Drivers
- Neoclassical economics
- Marketing
- Human desire

Solutions
- Steady-state economy
- Shift subsidies
- Individual actions
Hard-wired for simplicity

- Flight or fight (i.e., survival)
- Procreation
- Acquisition

Neoclassical economics

- “It’s the economy, stupid”*
- Goal of economic growth is never questioned
- Positive discount rate devalues future

*James Carville (Clinton administration)
Consumption

➢ Enough paved roads in U.S. to circle globe 157 times*

➢ U.S. military expenditures to protect Middle East oil: $30-60 billion/year*

➢ Value of Middle East oil: $20 billion*

➢ Water consumed by showering once/day for one year: 5,000 gal+

➢ Water required to grow one pound of beef in the U.S.: 2,600-5,000 gal+

*Lester Brown (2003, Plan B)
*John Robbins (2001, Food Revolution)
Consumption—shift subsidies

- Prices reflect total cost (e.g., gasoline > $8/gal; coal ~ $0.60/Kwh vs. solar ~ $0.05/Kwh and wind ~ $0.03/Kwh)*

- Stop subsidizing destructive practices

- Begin subsidizing constructive practices

ANWR oil vs. Great Plains wind
*Lester Brown (2006, Plan B 2.0)

Consumption—individual actions

- Reduce/Reuse/Recycle

- Think globally, eat locally

- Re-connect with nature
Human population

Outcomes
- Increased demands on ecosystem services
- Reduced quality of life
- Underlies other forces

Drivers
- Natural selection
- Individualist ethic
- Denial

Solutions
- Socioeconomic policies
- Revised worldview
- Individual actions

Denial?

Human population can grow “for the next 7 billion years”*

*Myers & Simon (1994, Scarcity or Abundance: A Debate on the Environment)
The energy myth

Biosphere II – unlimited energy, human carrying capacity of 6-8*

Global carrying capacity of 6-9 billion hard-working vegetarians


Global food supply

*Worldwatch Institute (2003, *Vital Signs*)
Individualistic ethic

Formalized in our founding documents:

e.g., unalienable right to life, liberty, and the pursuit of happiness

Population—individual actions

- Minimize reproductive output
- Support alternative lifestyles
- Find community
Population—two paths

Stabilizing population

- Decrease fertility
- Increase mortality

Military expenditures*

*Worldwatch Institute (2003, Vital Signs; 2001 data)
U.S. expenditures, world needs*

Military: >$500 billion/yr

International aid: $10 billion/yr

Needed to reach basic social goals:
$68 billion/yr

- Education
- Nutrition
- Health care
- Reproductive services


Envisioning the future

- Environmental protection
- Social justice
- Human economy
- Building design, livable space

Conservation biologists
Political scientists
Sociologists
Anthropologists
Economists
Environmental scientists

Engineers
Architects
Urban planners
Artists
Philosophers
Envisioning the future

Suppose you had had the revolution …, and you had
the kind of society you wanted. How would you live,
you personally, in that society? Start living that way
now! Whatever you would do then, do it now. When
you run up against obstacles, people, or things that
won’t let you live that way, then begin to think about
how to get over or around or under that obstacle, or
how to push it out of the way, and your politics will be
concrete and practical.*