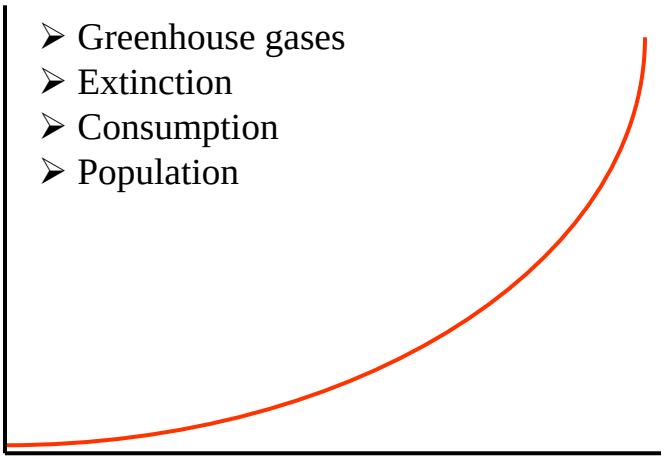
Four spikes*

- Greenhouse gases
- Extinction
- Consumption
- Population



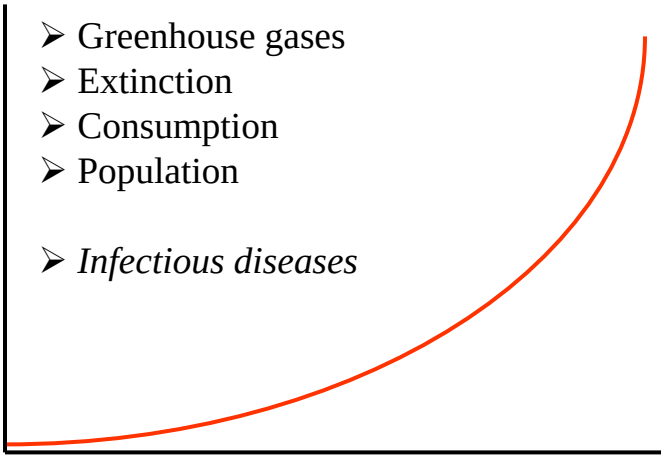
Time

*Ed Ayres (1999, *God's Last Offer*)

Emerging spike?

- Greenhouse gases
- Extinction
- Consumption
- Population

- *Infectious diseases*



Time

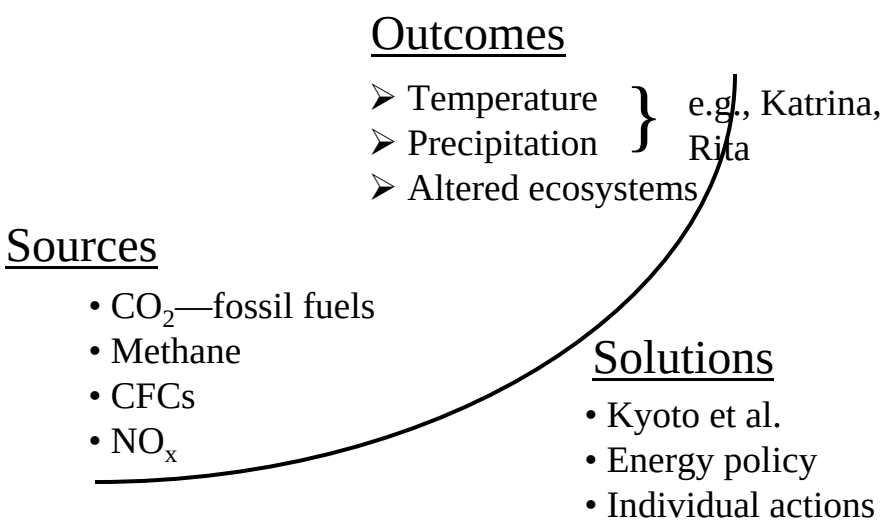
Pessimism?

"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

*Edward Said (quoted by Joseph Massad, 2003, *Al-Ahram*)

Greenhouse gases



GH gases—individual actions

- Transportation
- Energy

ϒbermensch

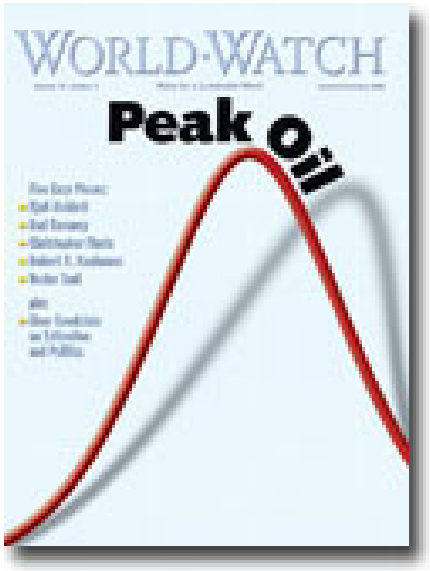
Selbstüberwingdung

GH gases—individual actions

- Transportation
- Energy

ϒbermensch

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

*E.O. Wilson (2002, *The Future of Life*)

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

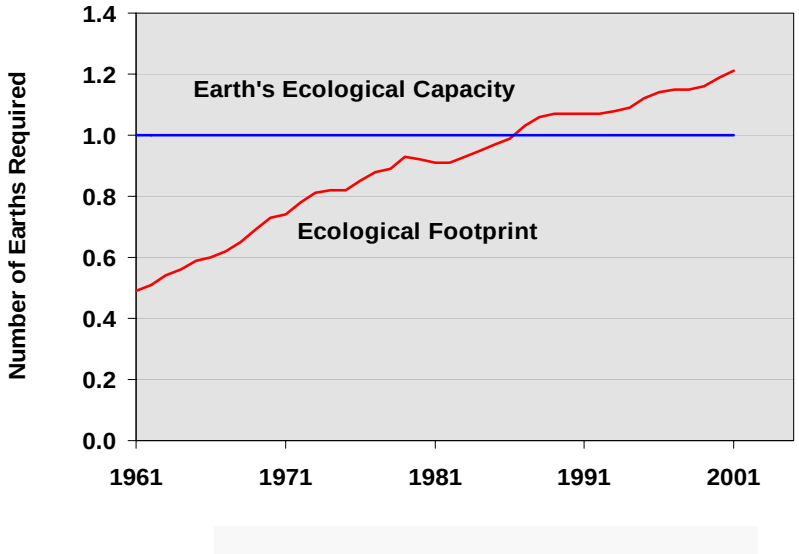
*James Carville (Clinton administration)

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+

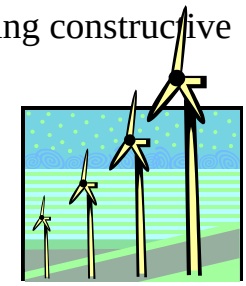
*Lester Brown (2003, *Plan B*)
+John Robbins (2001, *Food Revolution*)

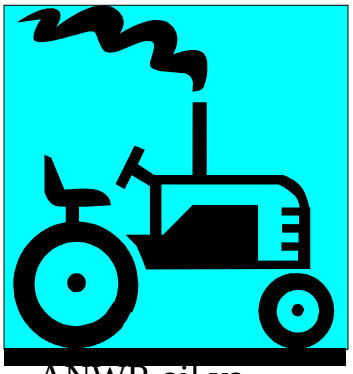
Consumption



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*)

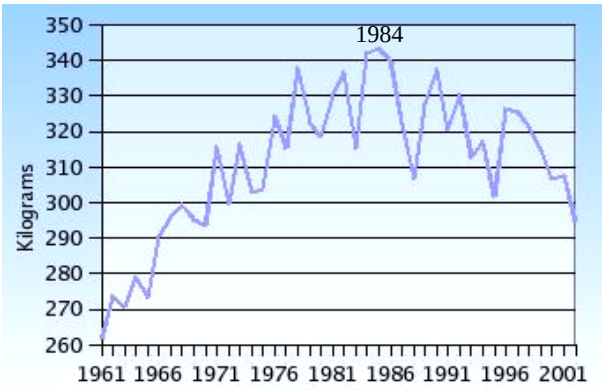
The energy myth

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

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

*Odum and Odum (2001, *A Prosperous Way Down*)

Global food supply



Per Capita Grain Production*

*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

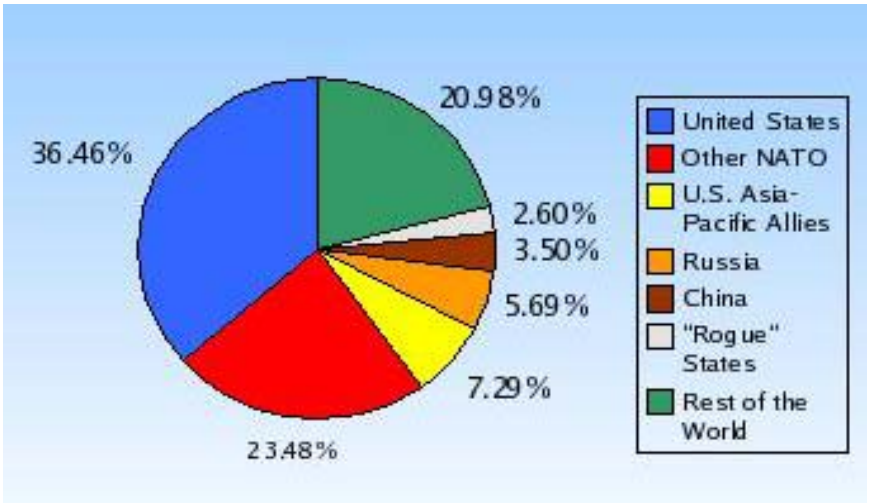
- Minimize reproductive output
- Support alternative lifestyles
- Find community

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

*Lester Brown (2006, *Plan B 2.0*)

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.*

*Paul Goodman (1970, quoted by John Holt, *What Do I Do Monday?*)