

*“If you can get them asking the wrong questions,
you won’t have to worry about the answers..”*

Thomas Pynchon in *Gravity’s Rainbow*

Why a Regional Approach?



Why a Regional Approach?

- It's how metropolitan areas work
 - transport
 - natural systems
 - local foodsheds, farmer's markets
 - employment
- A different 'lens' for viewing fundamental topics and sustainability

What *is* Sustainable Development?

#1: “..to meet the needs of the present generation without compromising the ability of future generations to meet theirs.” (Brundtland Comm., 1987)

#2: “..development without growth in throughput beyond environmental regenerative and absorptive capacity.” (Herman Daly, 1996)

Sunshine Limits to Growth

- **2nd Law**- All production is consumption
- Sustainable Development (SD): minimizes resource use, attends to 'life cycle costs, end use efficiencies, distribution, etc.

- **900 m² (~.1ha) cropland/per capita food energy**
- **Each hectare supports 5.5 people (180 day)**
- **(study) pop density at 3 persons/ha**
- **Reach 'sunshine limit' in 35 years**

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- **William Rees (Rees’s piece in *Ecologist*, 1996), draws on base data from 1986 1986+ 35 = 2021**

“Our national faith so far has been: “There’s always more” ...People of intelligence and ability seem now to be genuinely embarrassed by any solution to any problem that does not involve high technology, a great expenditure of energy, or a big machine.”

Wendell Berry in ‘Faustian Economics: Hell hath no limits’, Harper’s Magazine, May 2008

Supply and Demand

- Need to balance increased supply/reduced demand
“...just the right amount” (Goldilocks)
- Questions of fuel selection addressed via to sustainable *policies, plans* and *education*
- **Massive economy *plus* widespread practice= measurable impact:** 18% tires (all vehicles) in U.S. underinflated. Savings (U.S.)= Σ yield of Alaskan N. Slope/ yr!

Small Measures, Big Impacts

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Home Energy Magazine, July/Aug. 2008

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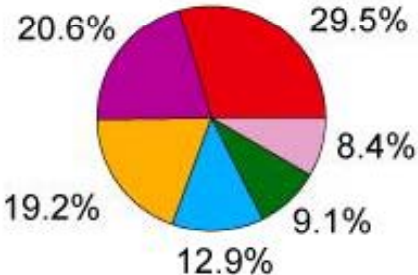
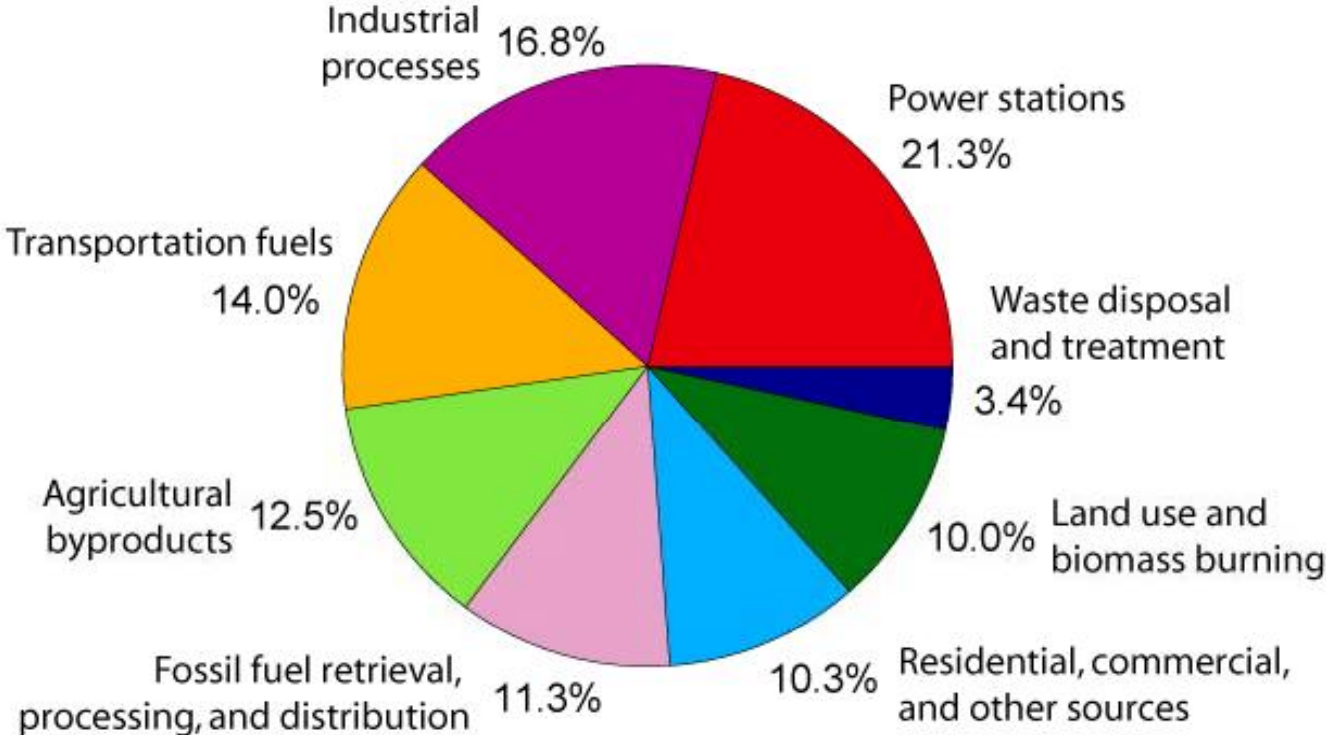
Surface Melt on Greenland

Melt descending into a moulin, a vertical shaft carrying water to ice sheet base.

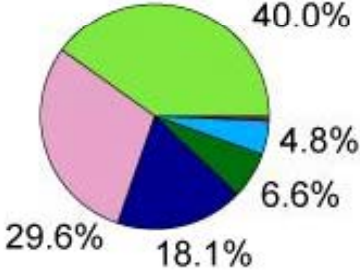


*Source: Roger Braithwaite,
University of Manchester (UK)*

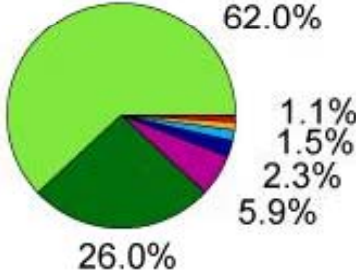
Annual Greenhouse Gas Emissions by Sector



Carbon Dioxide
(72% of total)



Methane
(18% of total)



Nitrous Oxide
(9% of total)