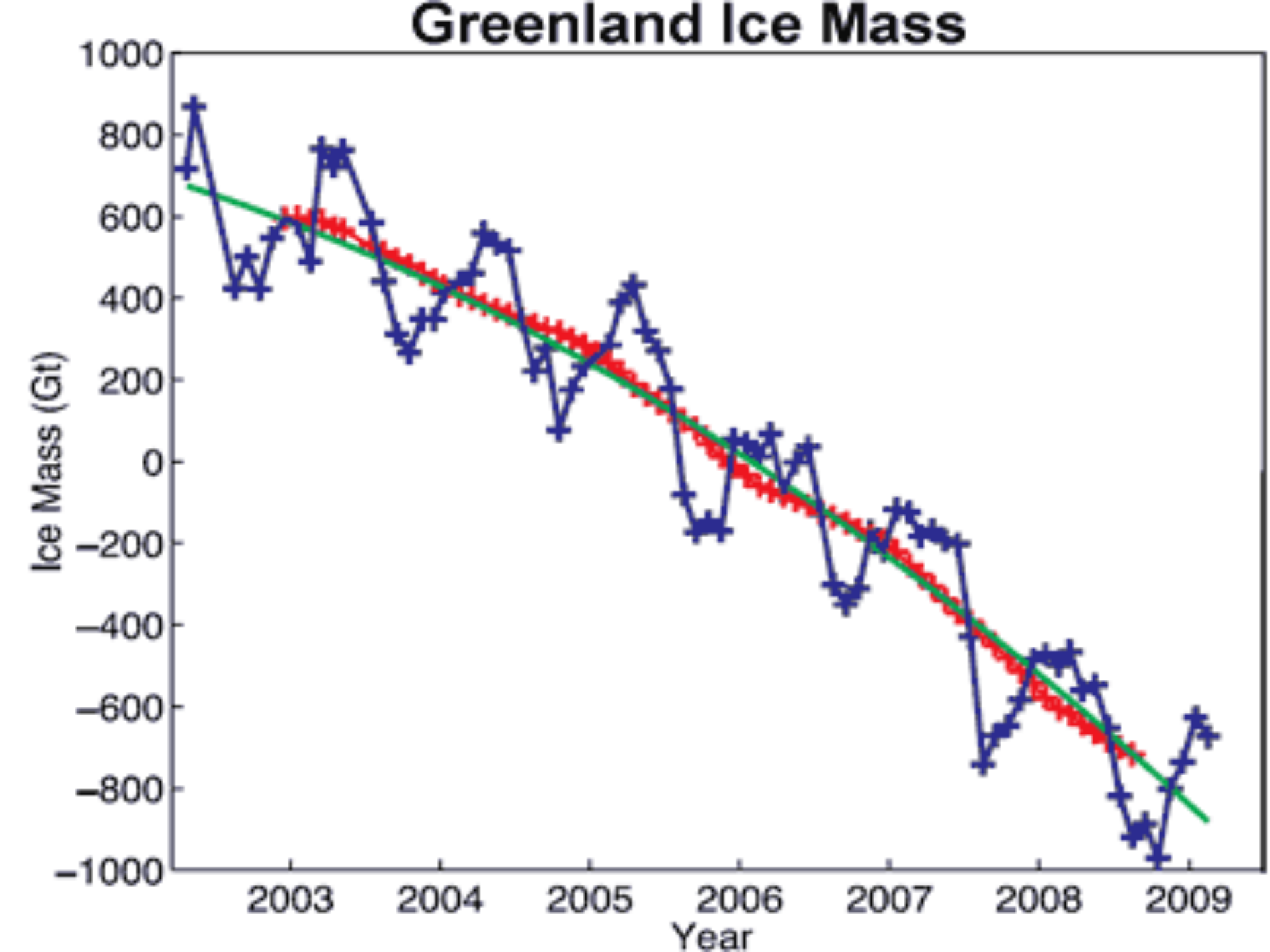
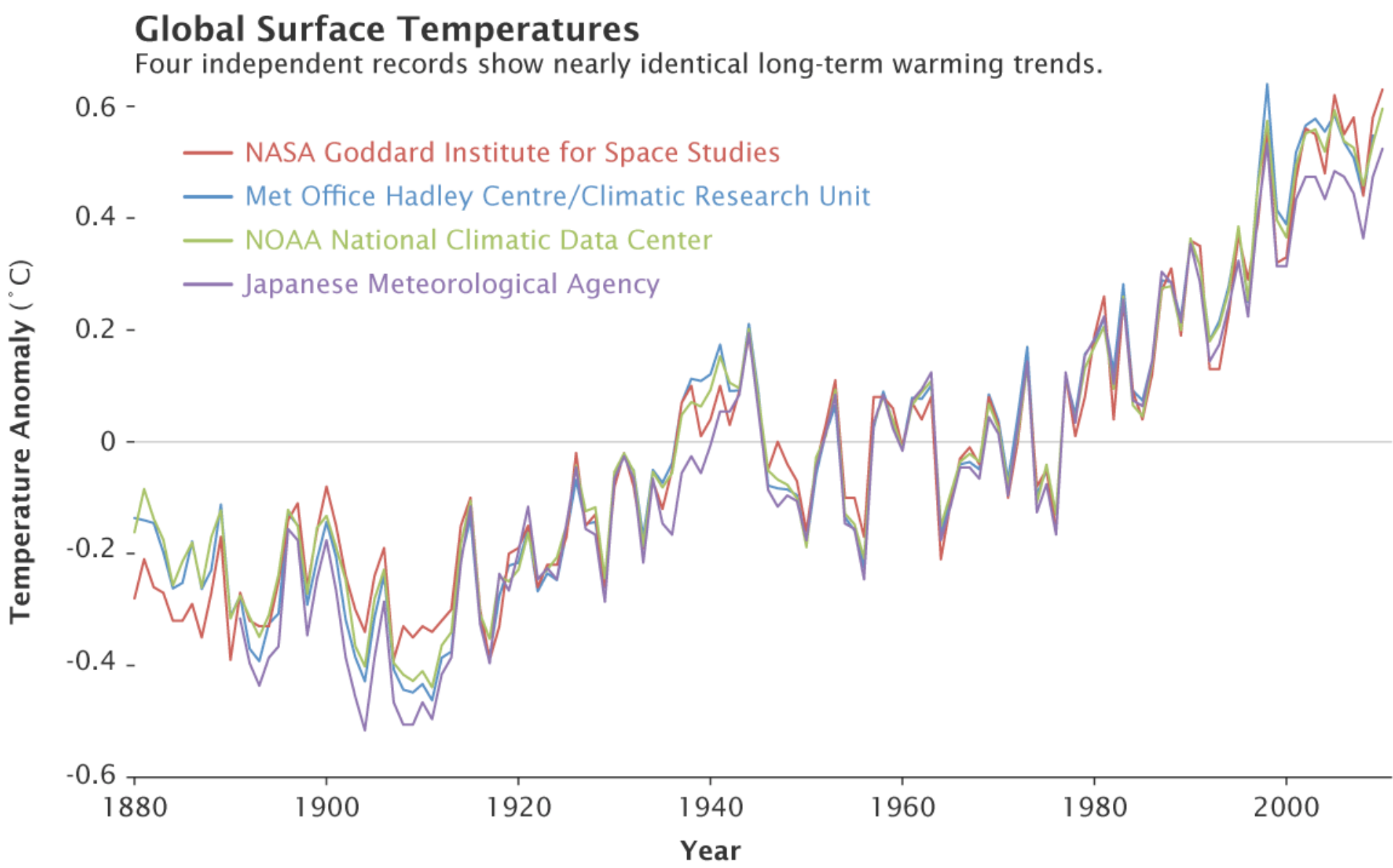
Indigenous Sustainability

Image by Jonathan Thunder

Who We Are

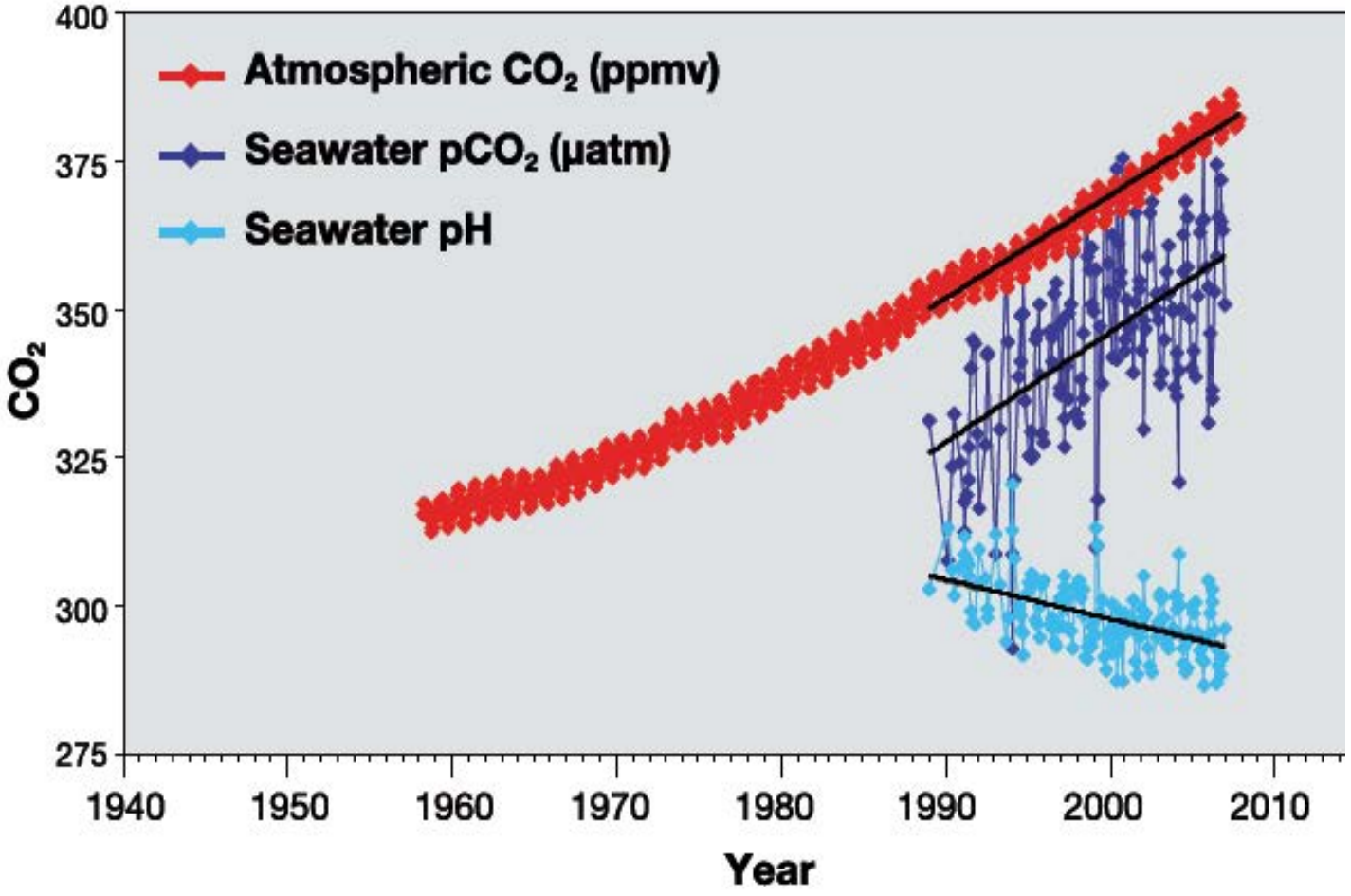
Climate Change Impacts

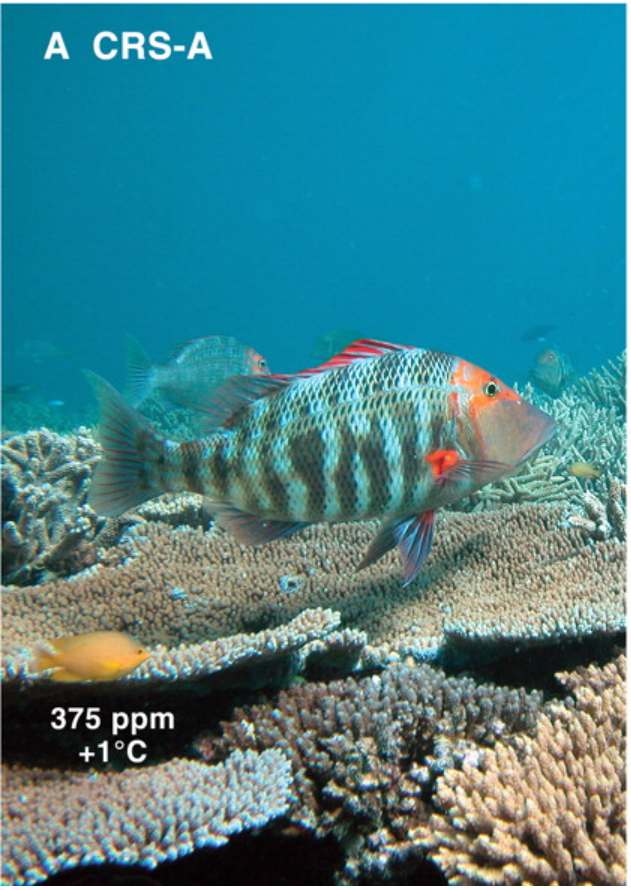

Greenland Ice Mass
1000
800
600
400
200
0
−200
−400
−600
−800
−1000
Ice Mass (Gt)
2003
2004
2005
2006
2007
2008
2009
Year

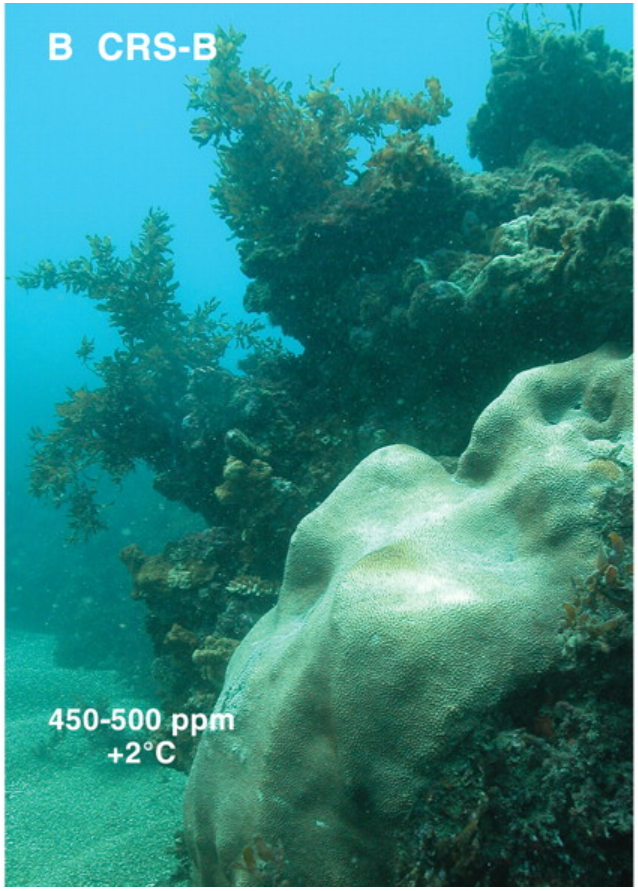


Credit: NASA Earth Observatory/Robert Simmon

Data Sources: NASA Goddard Institute for Space Studies, NOAA National Climatic Data Center, Met Office Hadley Centre/Climatic Research Unit, and the Japanese Meteorological Agency.

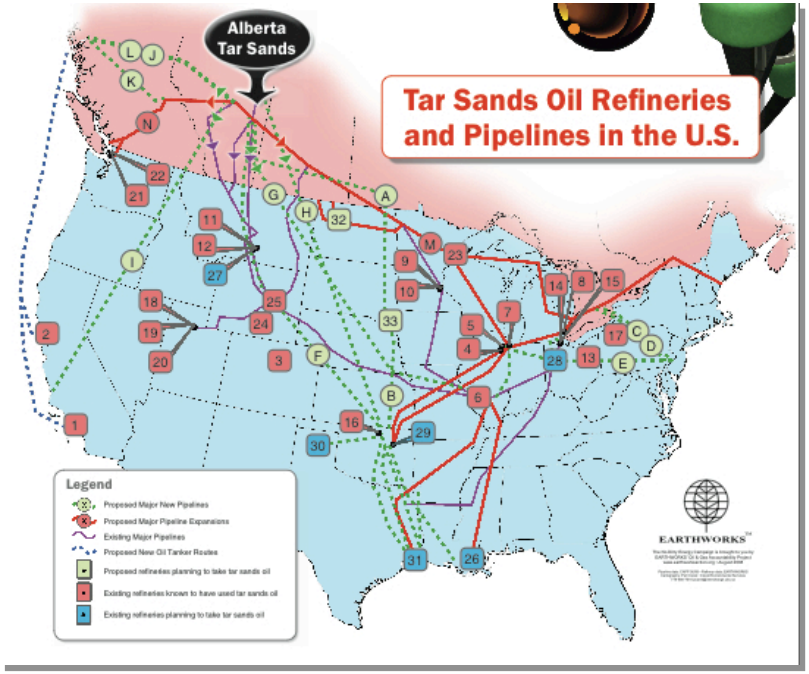

Atmospheric CO_2 (ppmv)
Seawater pCO_2 (µatm)
Seawater pH
400
375
350
325
300
275
CO_2
1940
1950
1960
1970
1980
1990
2000
2010
Year


A CRS-A
375 ppm
+1°C


B CRS-B
450-500 ppm
+2°C


C CRS-C
> 500 ppm
>+3°C

Tar Sands


Alberta Tar Sands
Tar Sands Oil Refineries and Pipelines in the U.S.
Legend
Proposed Major New Pipelines
Proposed Major Pipeline Expansions
Existing Major Pipelines
Proposed New Oil Tanker Routes
Proposed refineries planning to take tar sands oil
Existing refineries known to have used tar sands oil
Existing refineries planning to take tar sands oil
EARTHWORKS

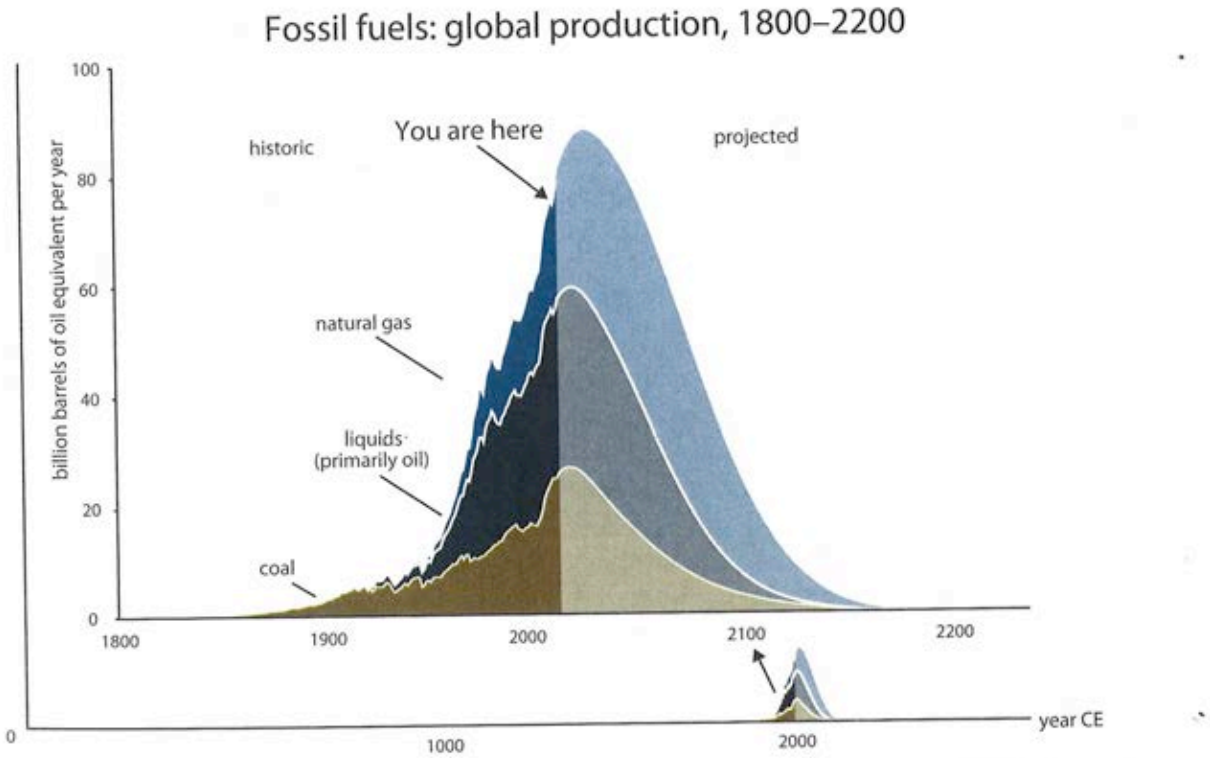
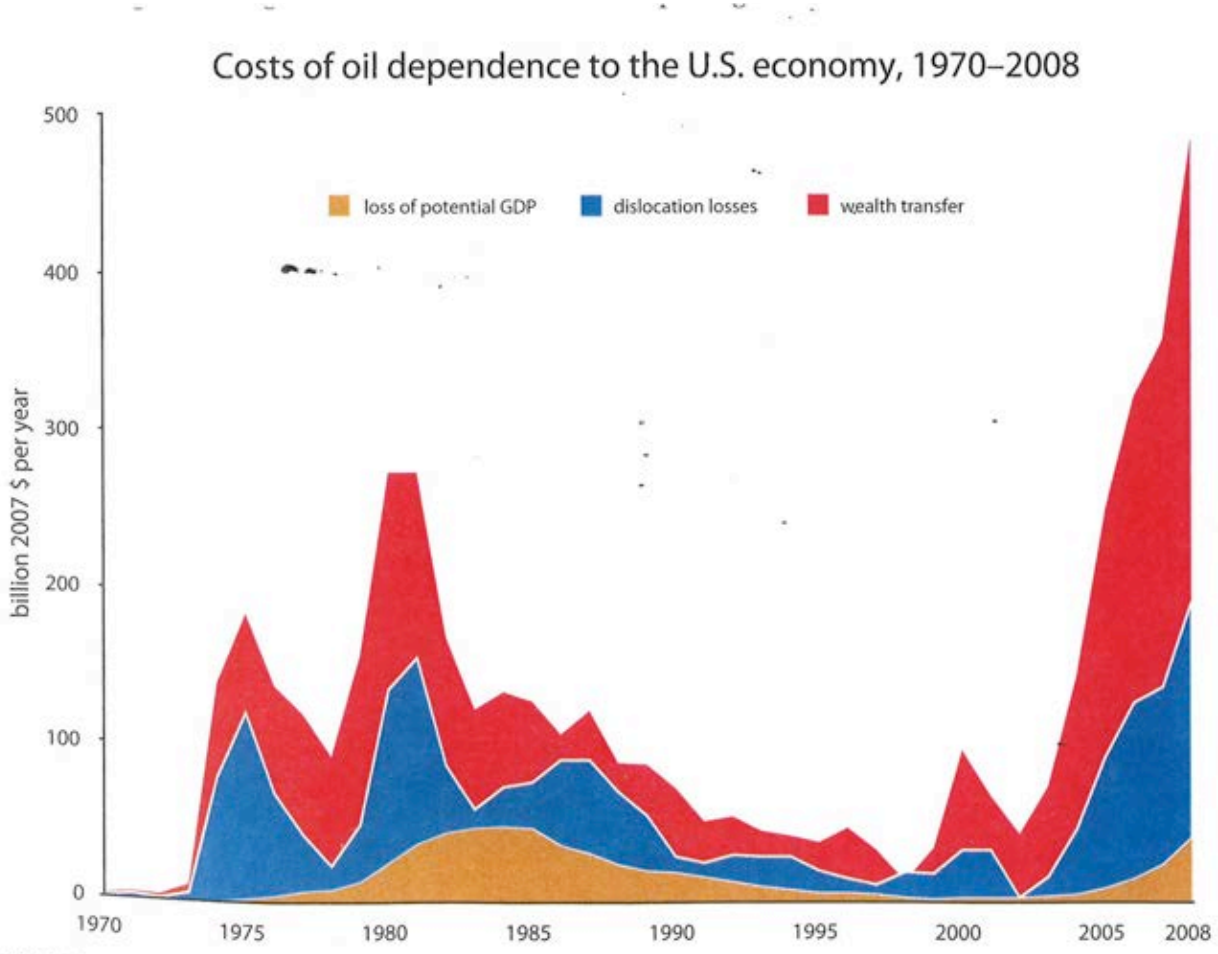
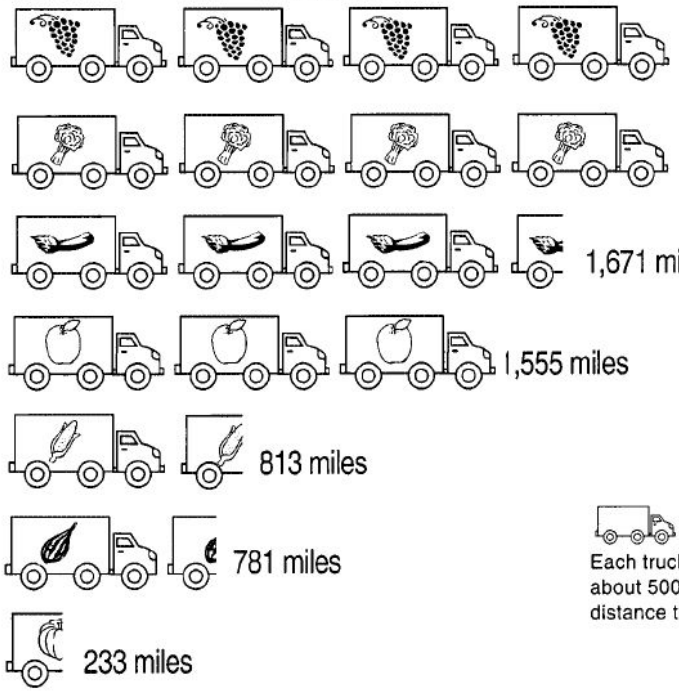


FIG. 1-3. This graph plots the actual global output of the three major classes of hydrocarbons through 2009, then projects the remaining amounts of each believed likely to be recovered if there are no aboveground constraints.[37] The historic data are accurate but the smoothed illustrative projections are quite approximate, reflecting leading resource experts' knowledge in early 2011 but subject to many uncertainties. The projections include unconventional resources such as


Costs of oil dependence to the U.S. economy, 1970–2008
billion 2007 $ per year
500
400
300
200
100
0
loss of potential GDP
dislocation losses
wealth transfer
1970
1975
1980
1985
1990
1995
2000
2005
2008

Average distance by truck to Chicago Terminal Market*

(Continental U.S. only)



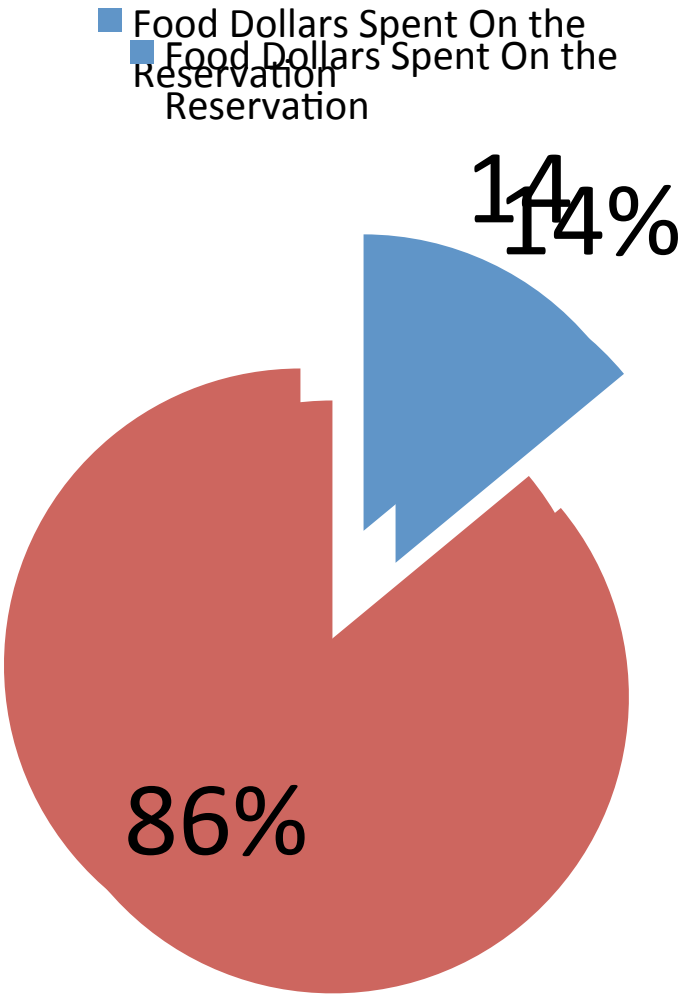
	# States supplying this item	% Total from Mexico
Grapes	1	7
Broccoli	3	3
Asparagus	5	37
Apples	8	0
Sweet Corn	16	7
Squash	12	43
Pumpkins	5	0

* Information for this chart is based on the weighted average source distance, a single distance figure that combines information on distances from production source to consumption or purchase endpoint. For these calculations, USDA Agricultural Marketing Service arrival data for 1998 were used to identify production origin (state or country). Distances from production origin to Chicago were estimated by using a city located in the center of each state as the production origin, and then calculating a one-way road distance to Chicago using the Internet site Mapquest (mapquest.com). Estimations do not include distance from the Chicago Terminal Market to point of retail sale.

Graphic design by Matt Miller

Source: Leopold Center for Sustainable Agriculture

Food Economy



"the statistics showed tha only 1 million dollars or 14% of the reservation households' food dollars stayed on the reservation, while 7 million or 86% left the reservation."
-WELRP Food Sovereignty Report 2008

Indigenous Corn Restoration Project

Pawnee Eagle Corn

Seneca Pink Lady Flour Corn with Sue Wika

Jonesy Miller with Bear Island Flint


NDSU

Arikara Squash

Gete- Okosomin

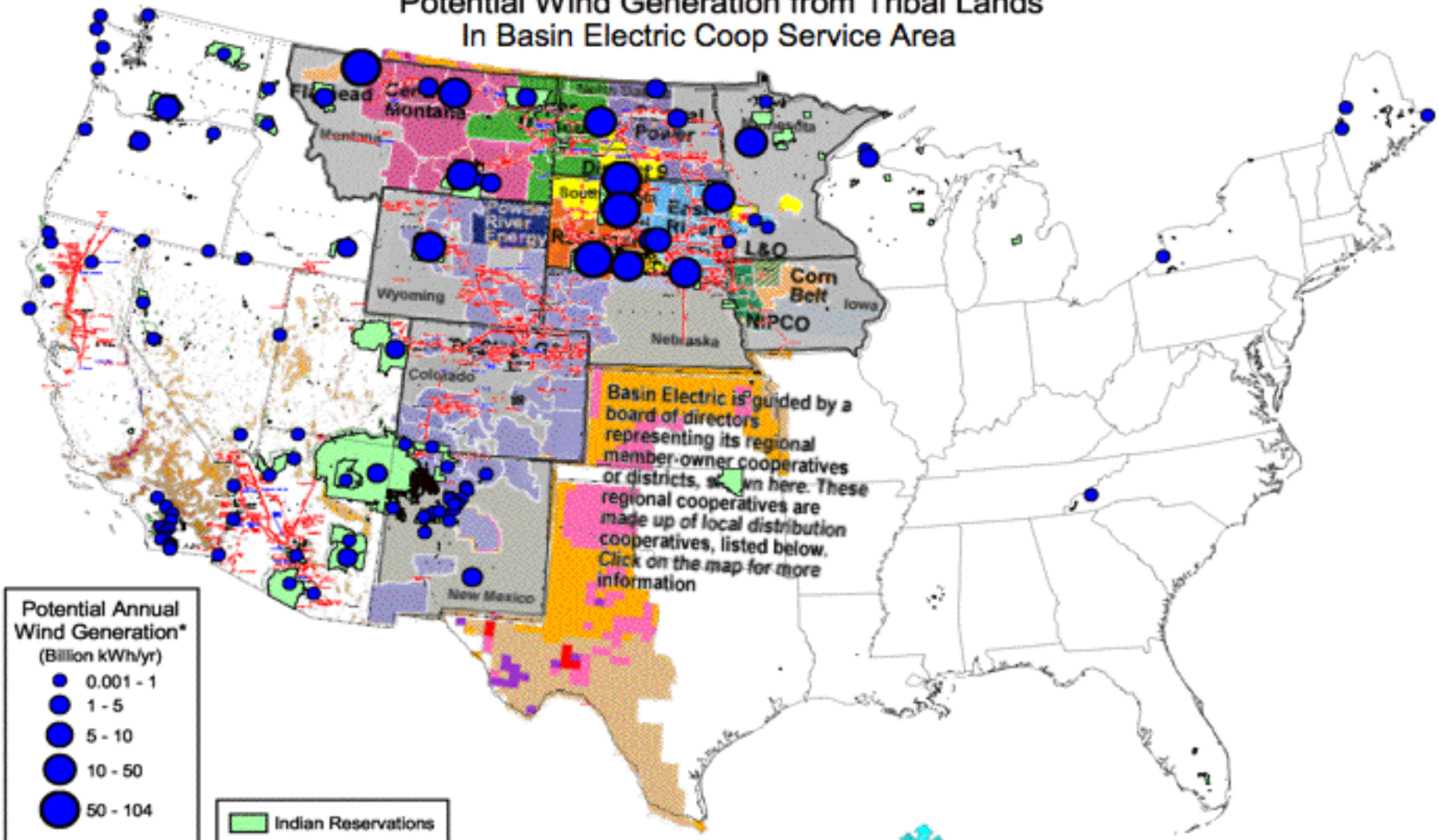
White Earth Solar Install

Community Scaled Wind

Inaashke….. taadaa

Dine Solar

Potential Wind Generation from Tribal Lands In Basin Electric Coop Service Area



* Generation estimated for areas of class >= 4 annual average wind resource, assuming 5 MW/km^2 of installed capacity, and capacity factors ranging from 25.1% (class 4) to 41.4% (class 7).

Aggregate technical estimate of 209 GW does not account for sacred sites, transmission access, water bodies, or other factors that will significantly impact development potential.

Total Tribal Wind Generation Potential:
535 Billion kWh/yr

U.S. Total Electric Generation (2004 Est.):
3,853 Billion kWh/yr (EIA)

U.S. Department of Energy
National Renewable Energy Laboratory

NREL

DHJul3004wingen

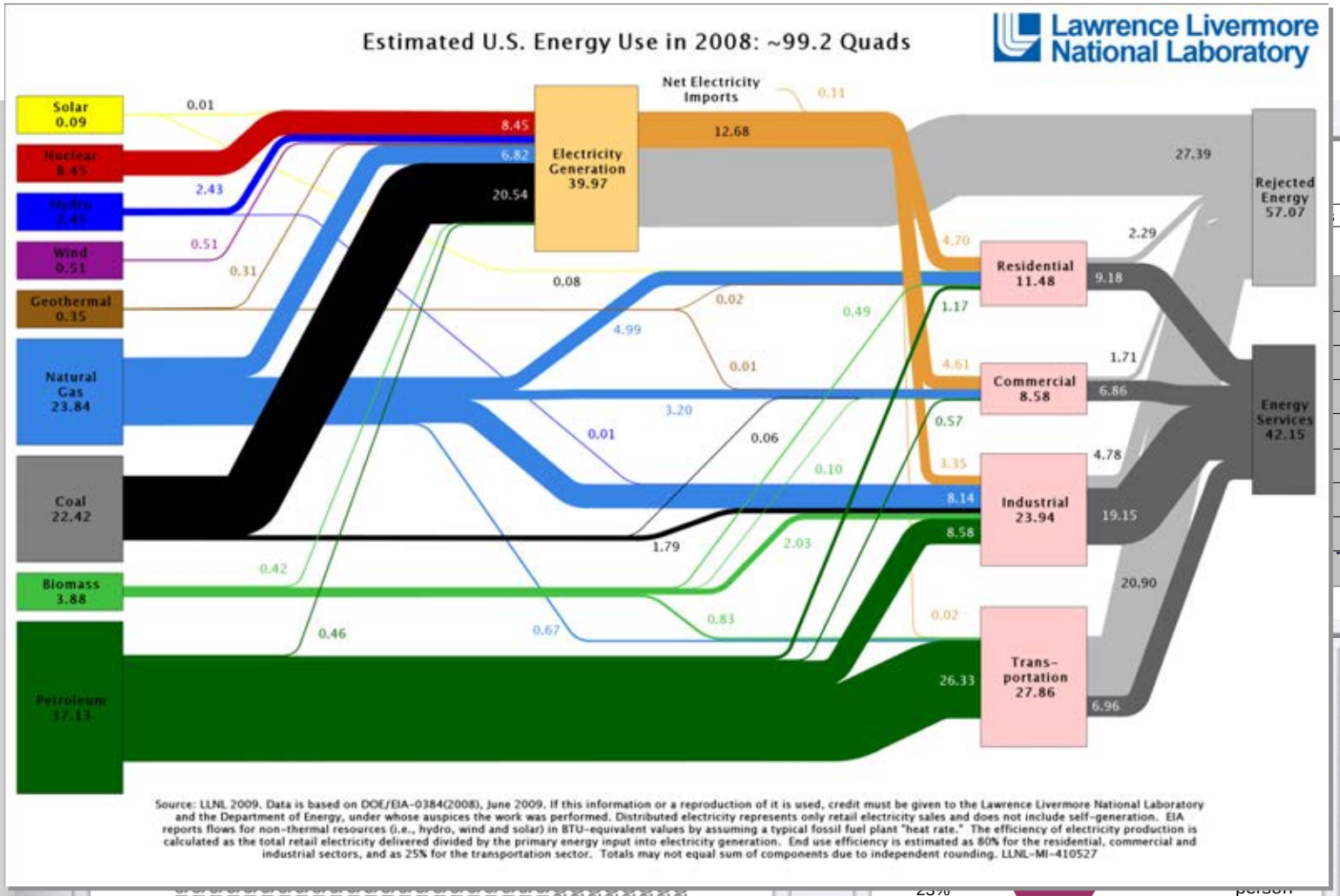


Figure 2: Accumulated Windmills and Capacity in Denmark (1978-2007)

58%


Southpole

White Earth Anishinaabeg win happy planet award