

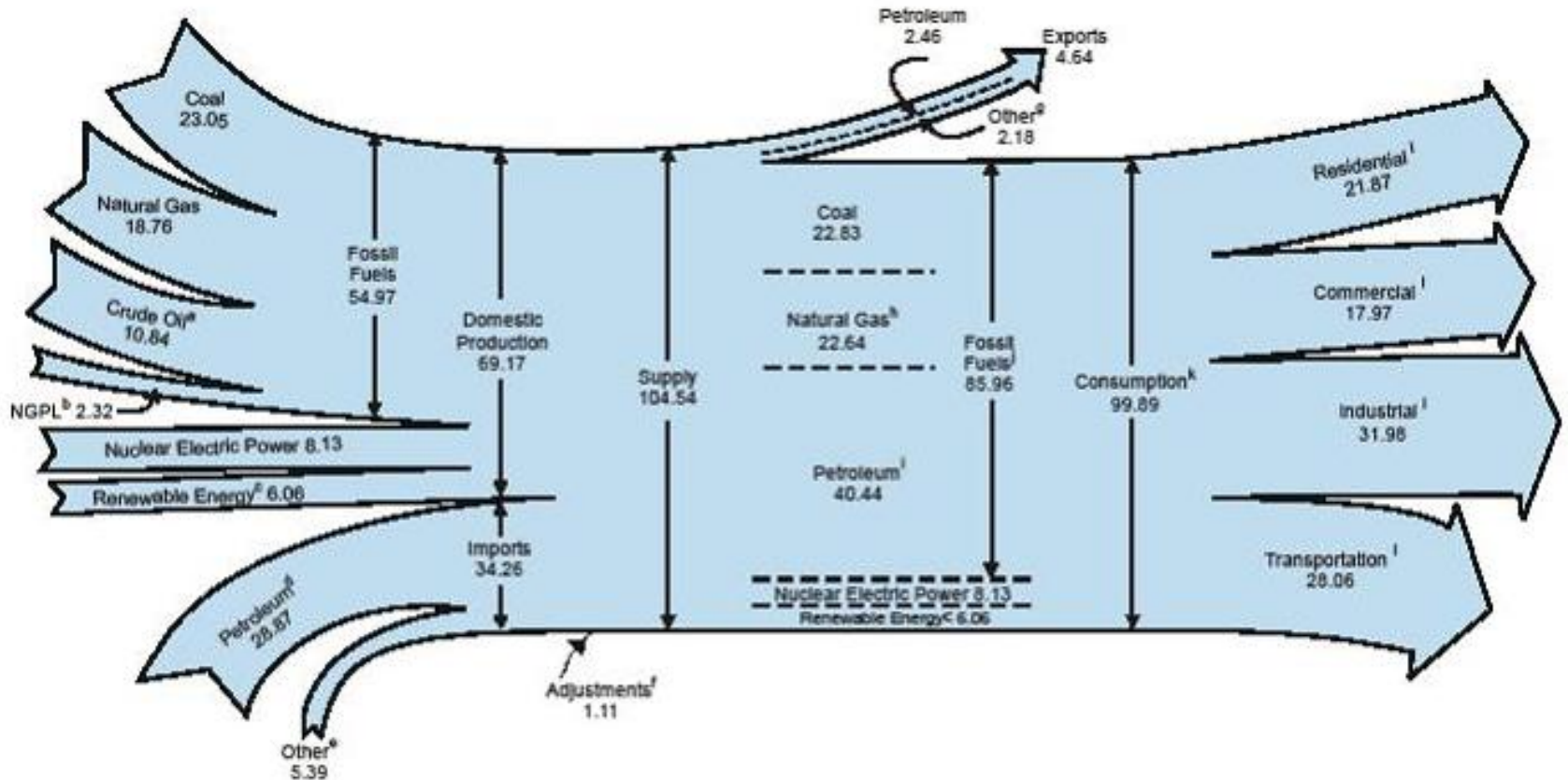
Preparing Your Community for Climate and Energy Change: Opportunities for Local Sustainability

Keeping energy supplies and money local



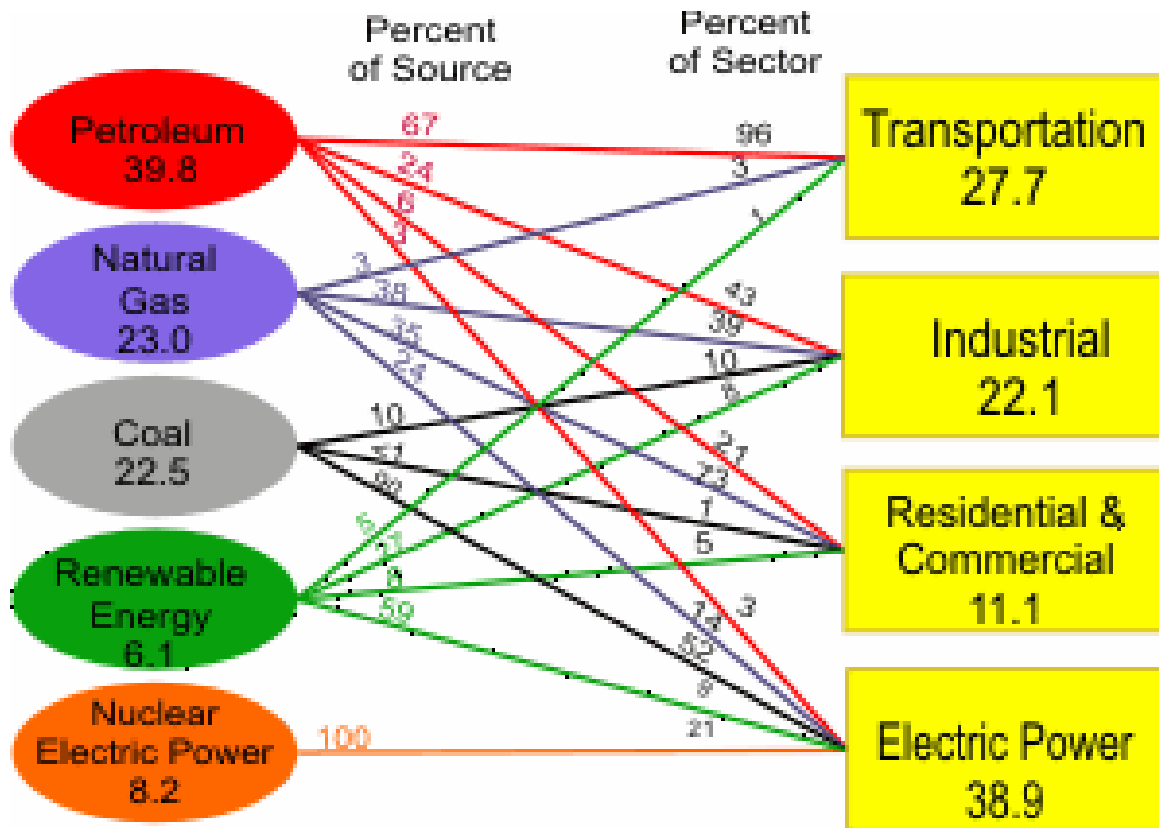
June 6, 2007
Bruce Anderson

US Energy Flow 2005



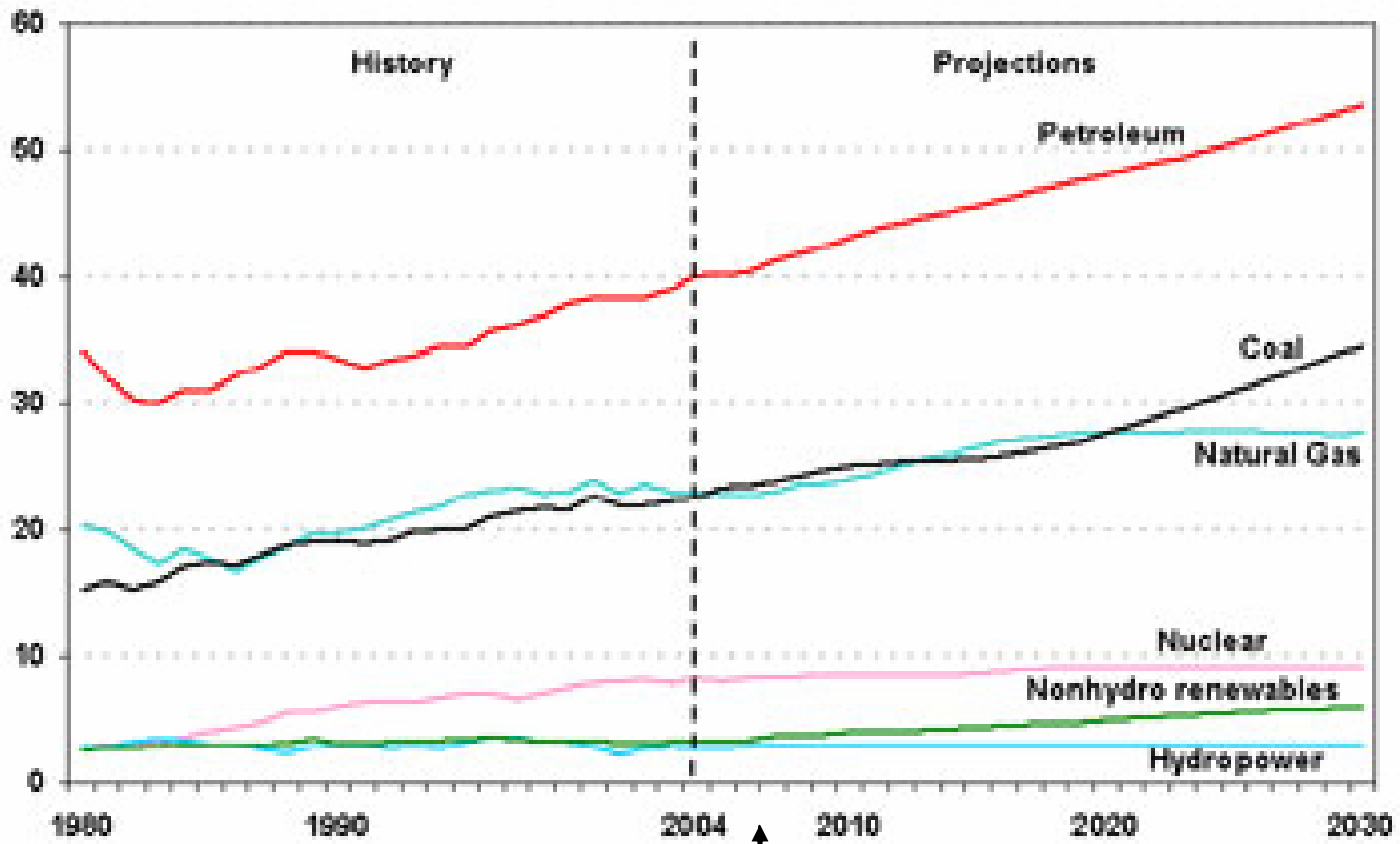
Source: US Energy Information Administration
www.eia.doe.gov





Source: US Energy Information Administration
www.eia.doe.gov



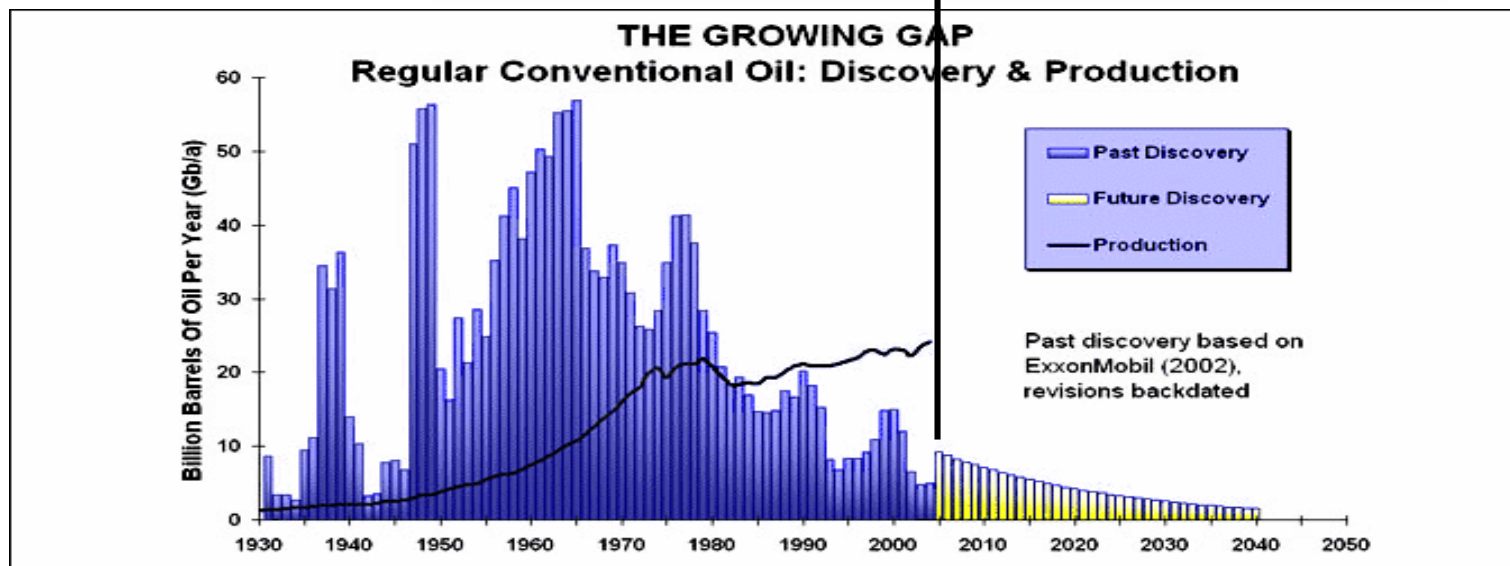
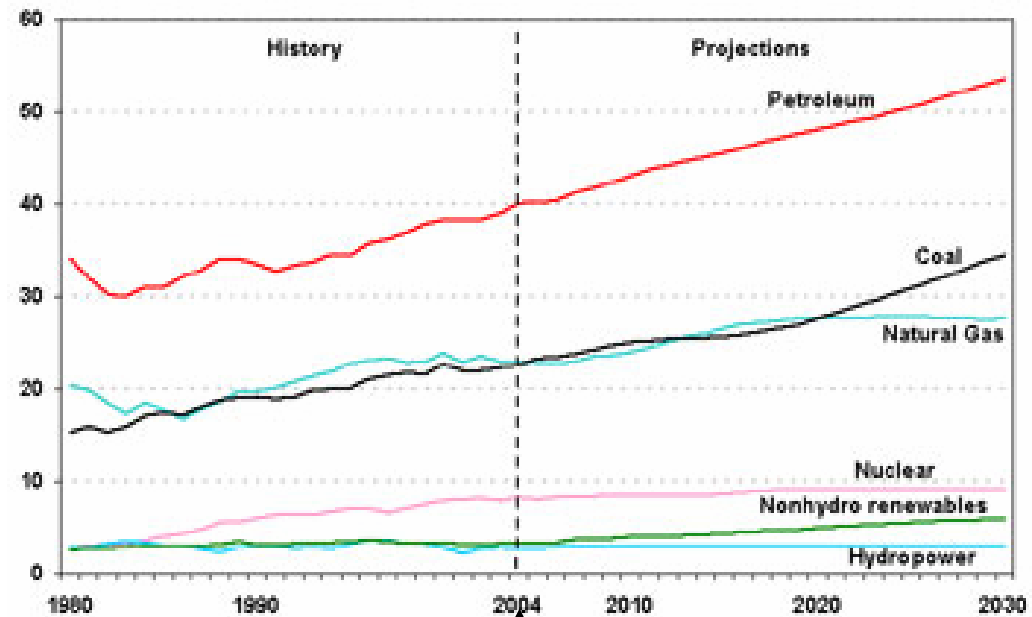


Source: US Energy Information Administration
www.eia.doe.gov



SUSTAINABLE COMMUNITY SOLUTIONS

Source: www.eia.doe.gov



Past Discovery and Production Worldwide (ExxonMobil)



SUSTAINABLE COMMUNITY SOLUTIONS

Source: http://philhart.com/peak_oil.php

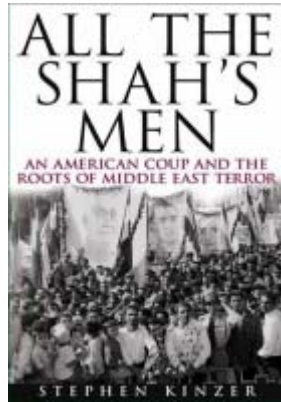


SUSTAINABLE COMMUNITY SOLUTIONS

Is this a sustainable path?

CIA-engineered coup

1953

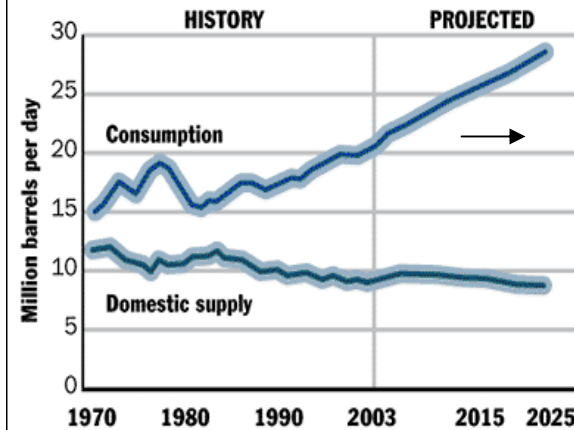


Pres. Carter and the Shah

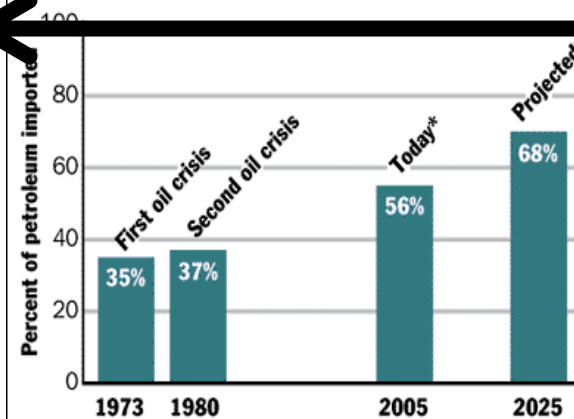


1977

As US oil consumption rises...



... reliance on foreign oil grows.



Iran hostages



1979

Iraq hostages



2007

an inconvenient truth

A GLOBAL WARNING

Is this a sustainable path?


by far the most terrifying film
you will ever see.

An Inconvenient Truth on DVD **November 21**



PARTICIPATE

Produced by
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If you can

Imagine

**a better world, you have a fighting
chance of helping create it!**



Northfield

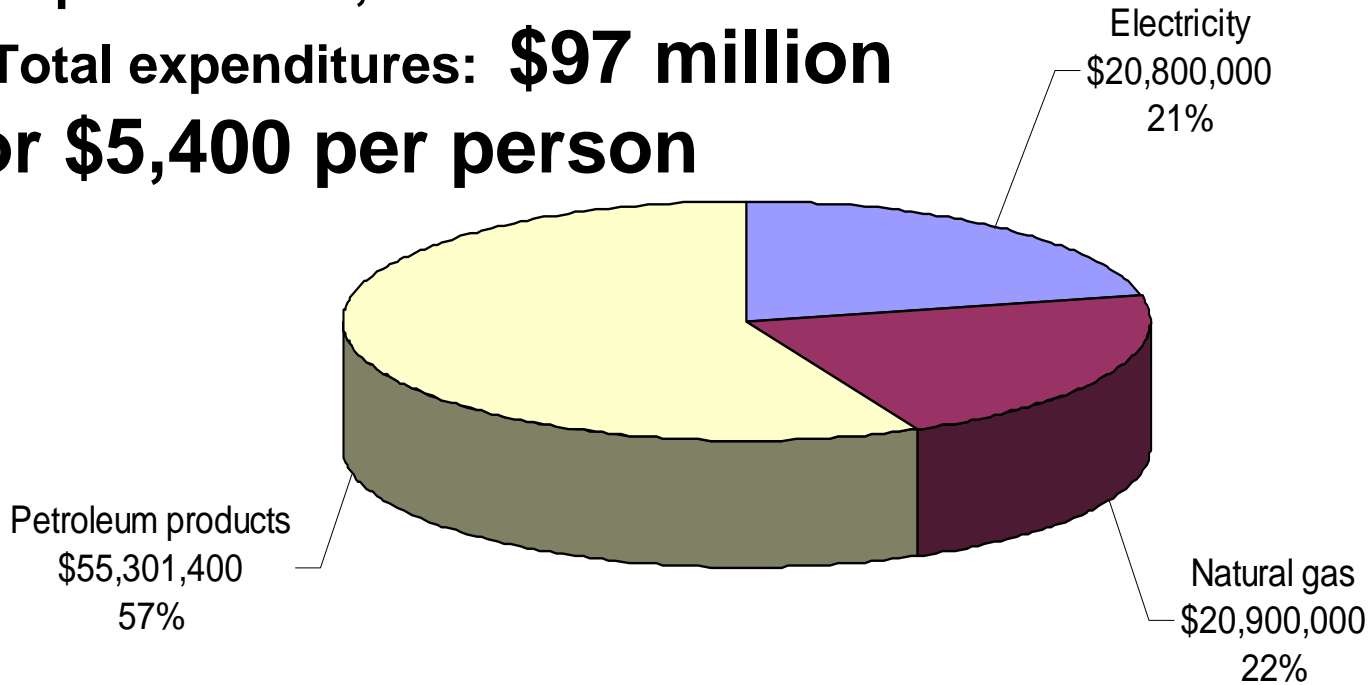
RENew Northfield's mission

to lead the Northfield area
community to
energy self-sufficiency



2006 Northfield Energy Expenditures

- Population: 18,000
- Total expenditures: **\$97 million**
or **\$5,400 per person**

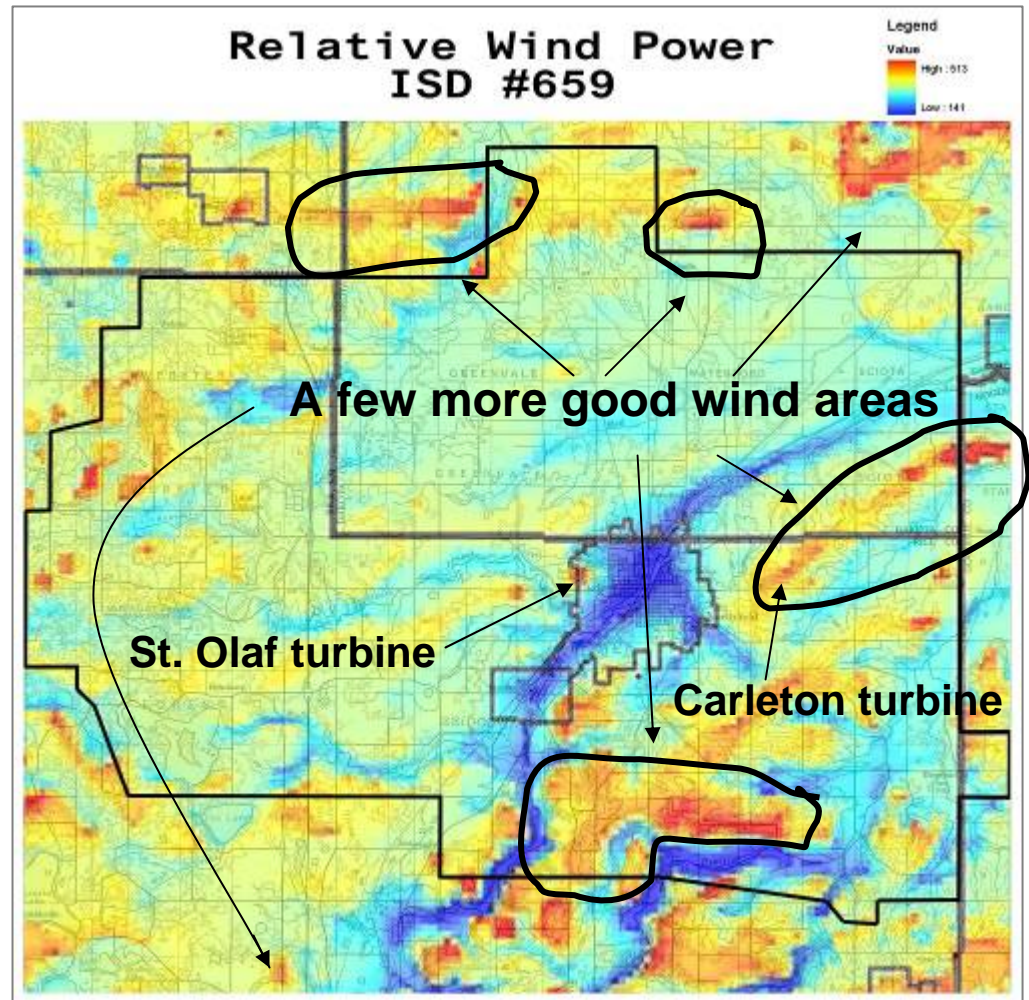


We've taken the first step, and we're harvesting the wind in the Northfield area now...



Carleton and St. Olaf turbines provide about 4% of the community's electricity

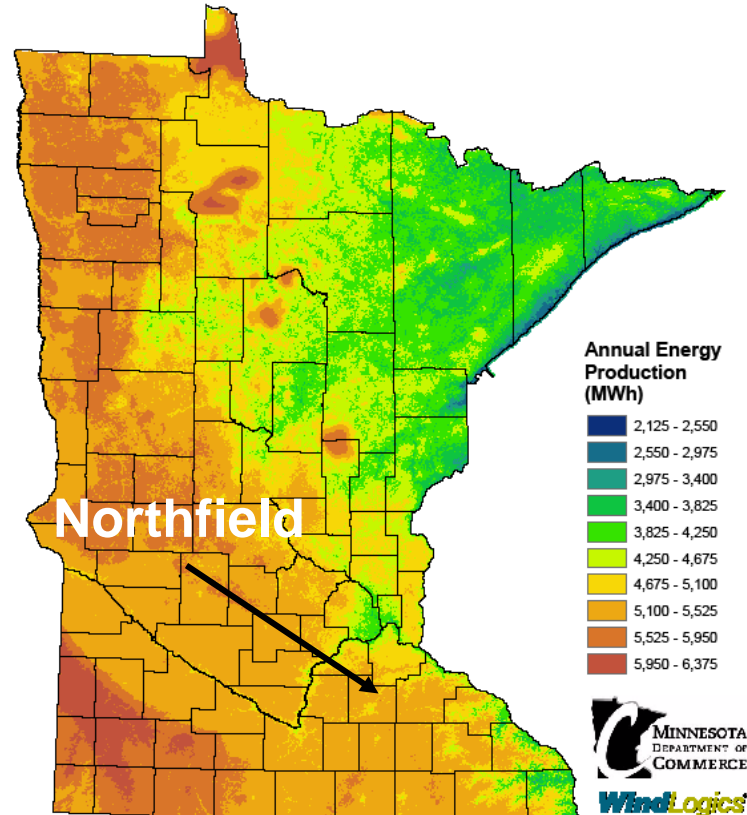
No reason why we can't generate **ALL** of Northfield's electricity with locally owned wind (supplemented by efficiency measures and other renewables)



... and there's
no reason why
we can't

generate **ALL**
of MN's
electricity with
locally owned
wind (coupled
with efficiency
gains and other
renewables)

Minnesota's Wind Resource by Estimated
Annual Energy Production at 80 Meters



This map has been prepared under contract by WindLogics for the Department of Commerce using the best available weather data sources and the latest physics-based weather modeling technology and statistical techniques. The data that were used to develop the map have been statistically adjusted to accurately represent long-term (40 year) wind speeds over the state. Energy production is based on a 1.65 MW turbine. Production has been discounted 15% to represent real world conditions. Data has been averaged over a cell area 500 meters square, and within any one cell there could be features that increase or decrease the values shown on this map. This map shows the general variation of Minnesota's wind resource and should not be used to determine the performance of specific projects.

January 2006





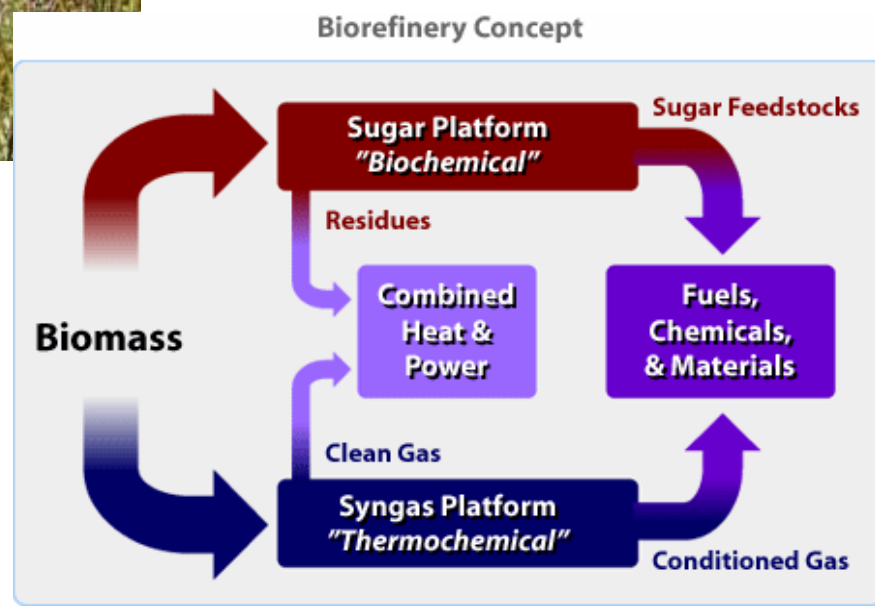
Biomass project(s)?

Science 8 December 2006:
Vol. 314. no. 5805, pp. 1598 - 1600

**Carbon-Negative Biofuels
from Low-Input High-Diversity
Grassland Biomass**

David Tilman
Jason Hill
Clarence Lehman

CRP acres
Rice County: 18,272
LeSueur County: 19,339
→ **60**
(about 10% of total crop acreage in square miles
both counties)



Mayor's Energy Task Force

...dovetails with the 2007

Comprehensive Plan and
land use regulation revision



Cities for
Climate
Protection
Campaign

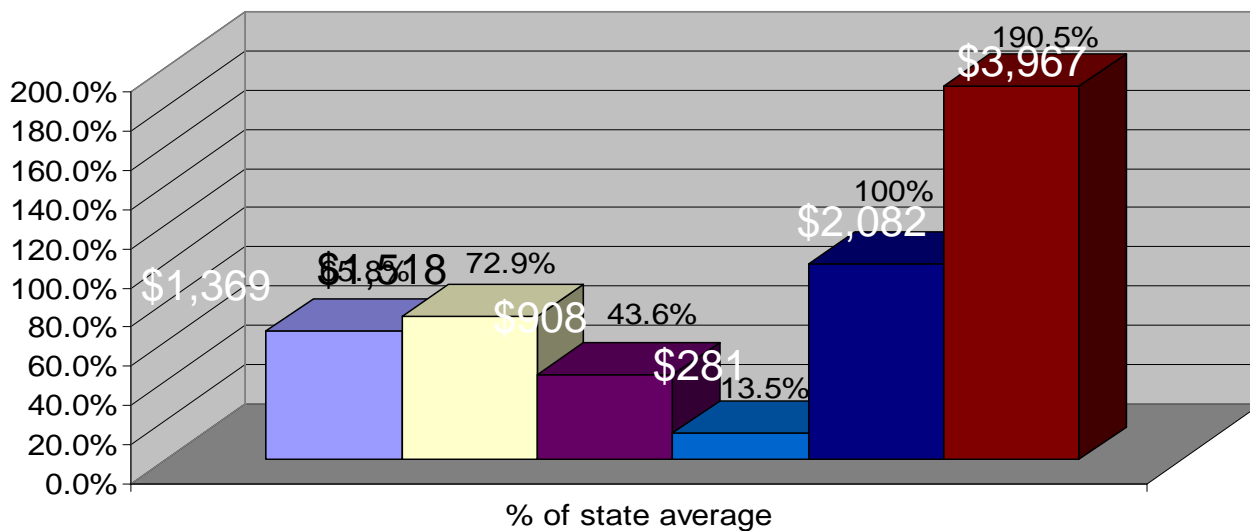


Mayor's Task Force on Nonmotorized Transportation





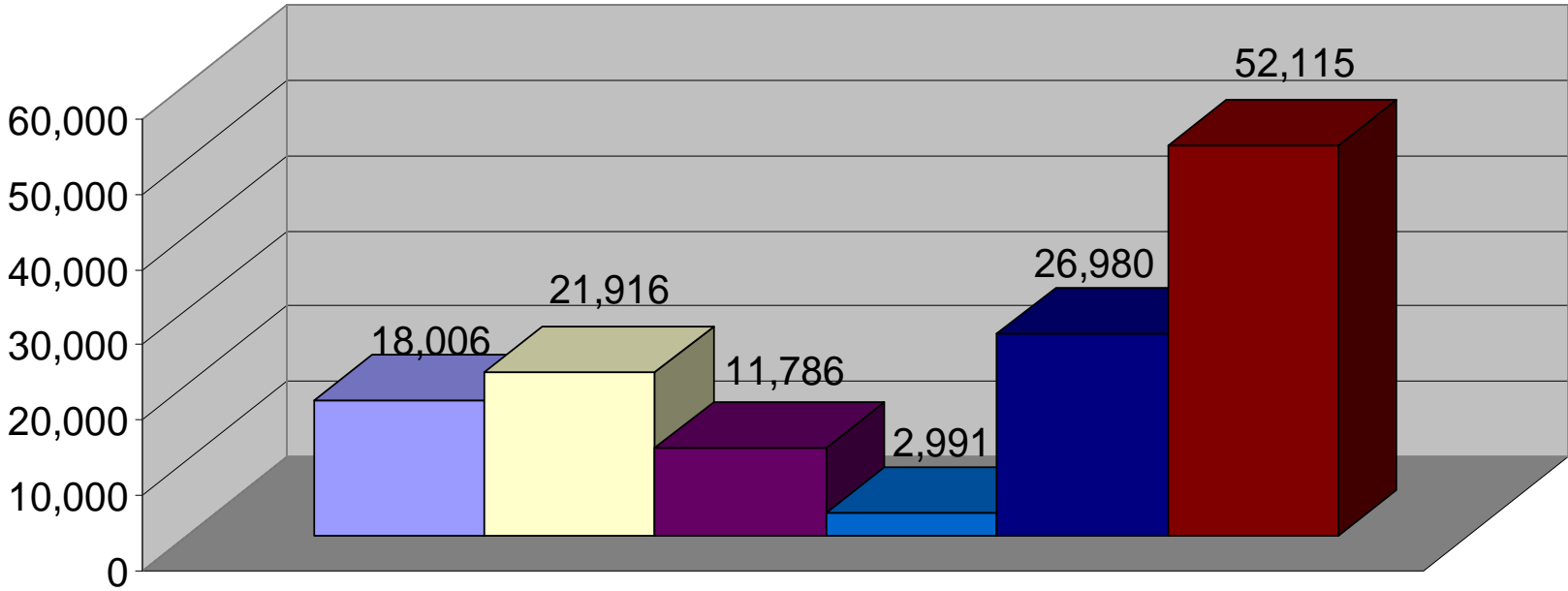
**Comparative annual energy cost in several homes
 (natural gas and electricity combined)**



- Schmidt Homes example
- Rice County Habitat home
- 1910 2-story retrofit
- 1910 2-story retrofit Full Monty
- Average MN home
- 1980s home pre-retrofit



Annual carbon dioxide emissions from several sample homes (lbs)

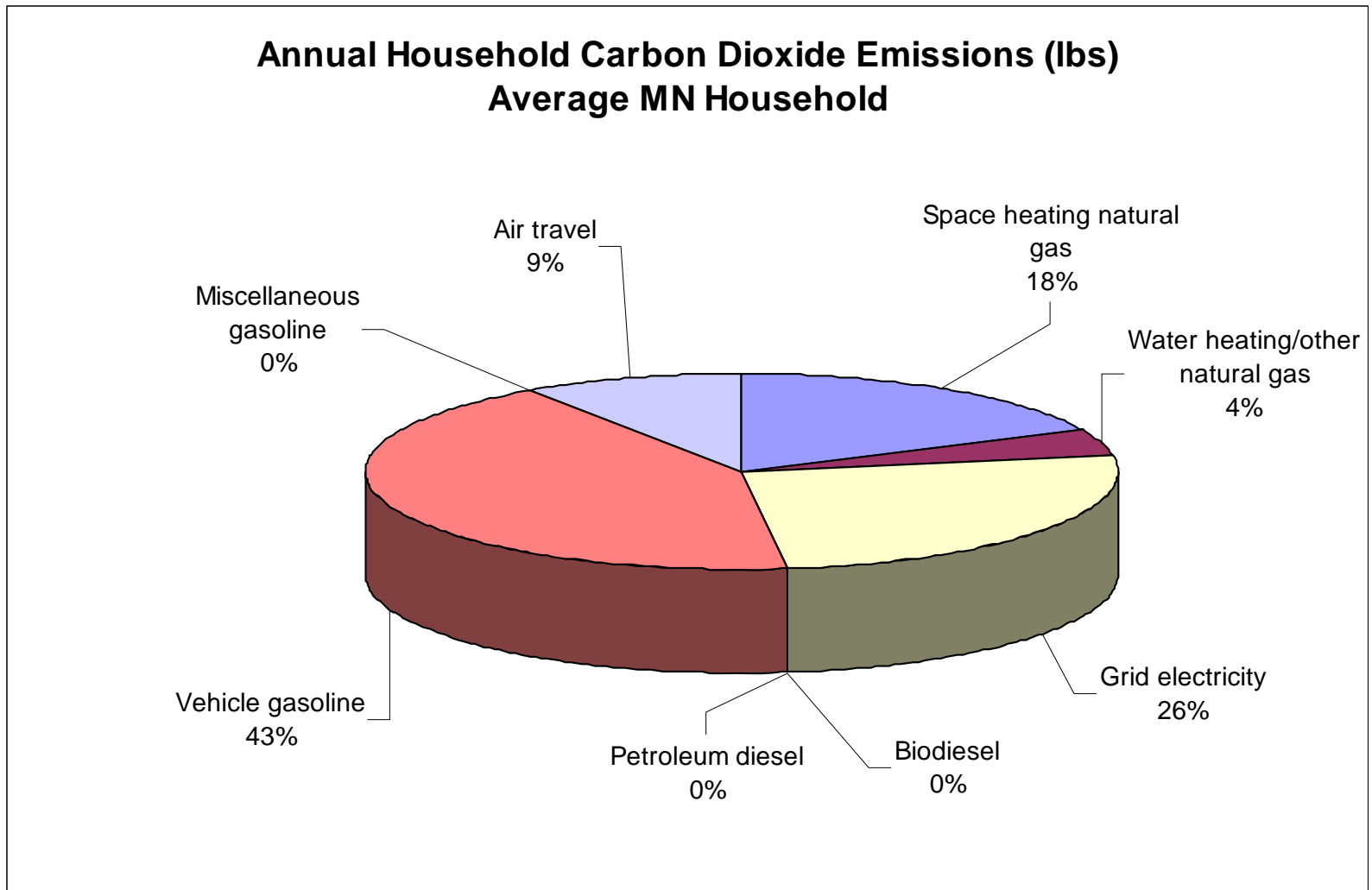


- Schmidt Homes example
- Rice County Habitat home
- 1910 2-story retrofit
- 1910 2-story Full Monty retrofit
- Average MN home
- 1980s home pre-retrofit



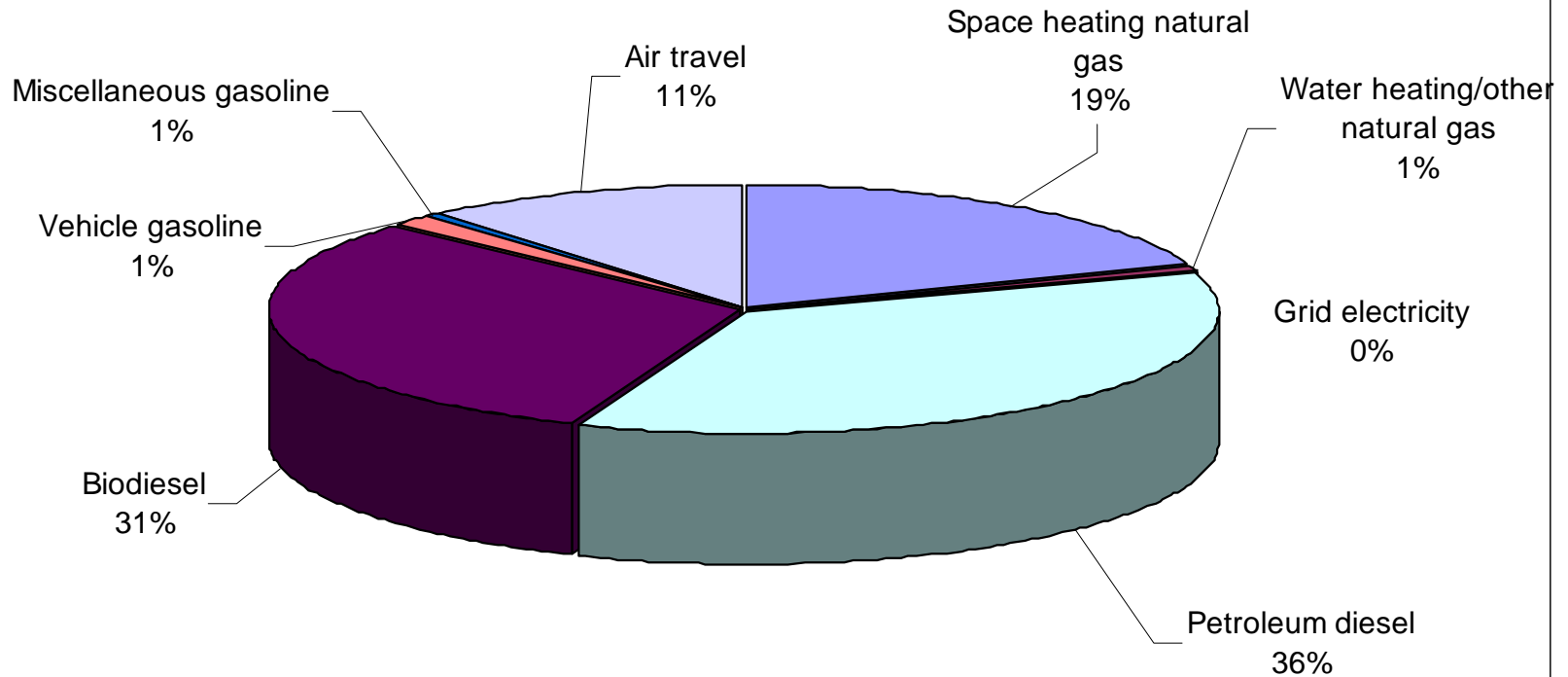
= 14,673 lbs per year

Average household annual emissions: 56,051 pounds

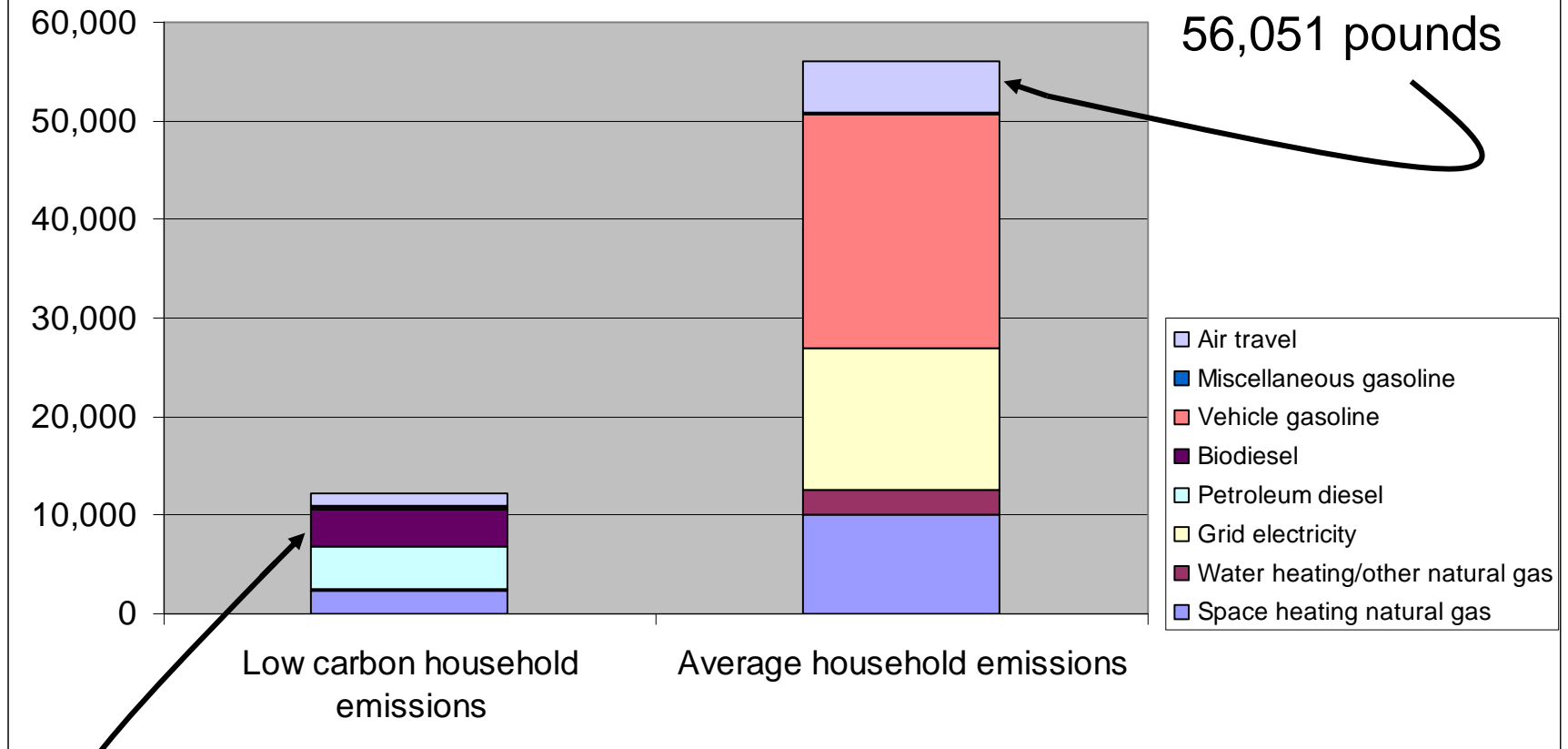


Low carbon household annual emissions: 12,243 pounds

**Annual Household Carbon Dioxide Emissions (lbs)
Low Carbon Household**



Annual Household Carbon Dioxide Emissions (lbs)



12,243 pounds (**78% less**)





BUY PRODUCTS THAT MAKE A DIFFERENCE

U.S. Environmental Protection Agency • U.S. Department of Energy



SUSTAINABLE COMMUNITY SOLUTIONS

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www.sustainablecommunitysolutions.com



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