

Changing the climate change conversation in the food system

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“What we got here is a failure to communicate”



- Cool Hand Luke, 1967

What's the message?

- The problem's so big your actions don't matter
- Be afraid / worried / depressed / angry
- You must change the way you live. Now.

or:

- There are many practical ways to address the problem, and these have multiple benefits.

MITIGATION

energy
use

nitrogen
fertilizer

manure
management

Climate
Change

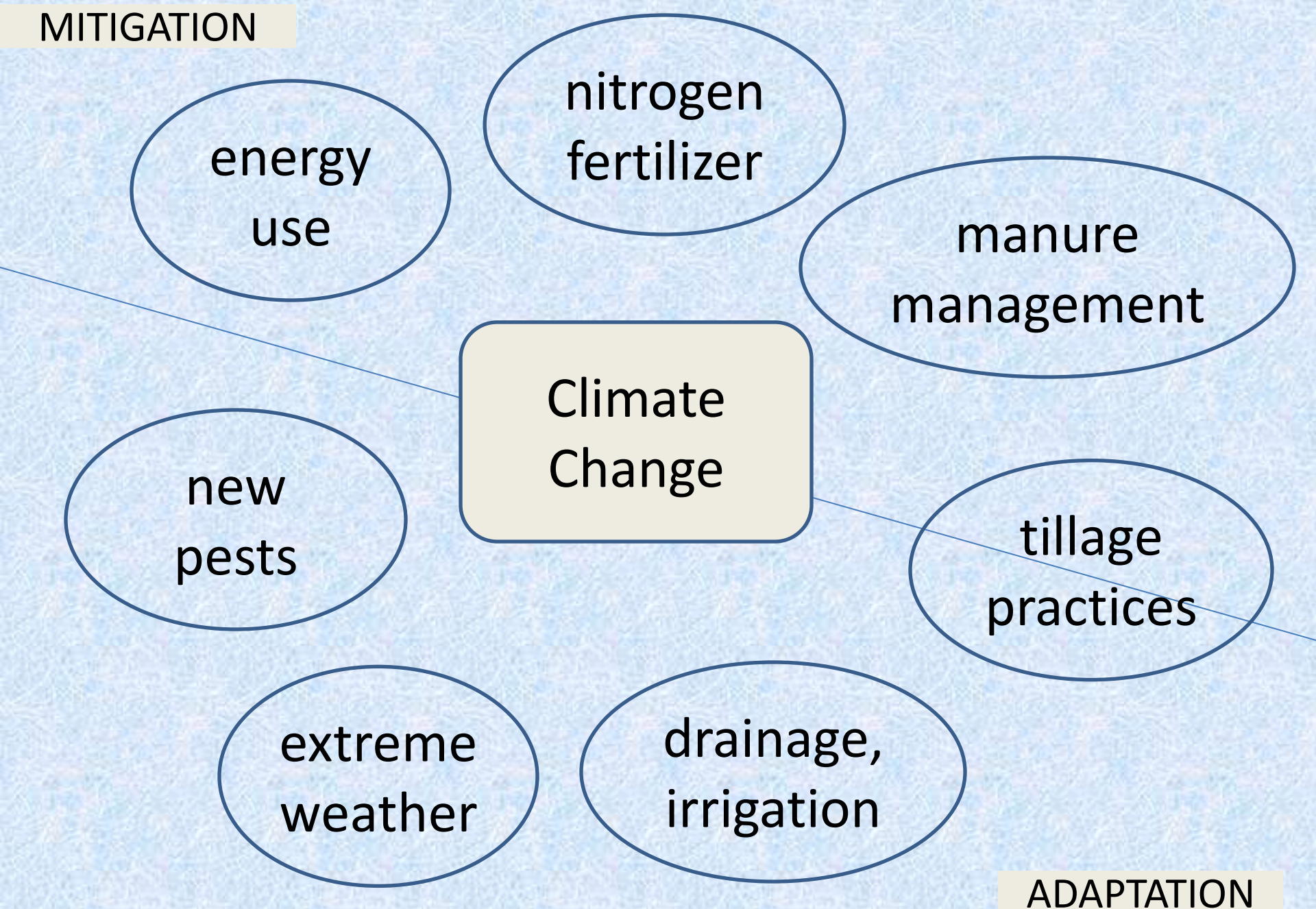
new
pests

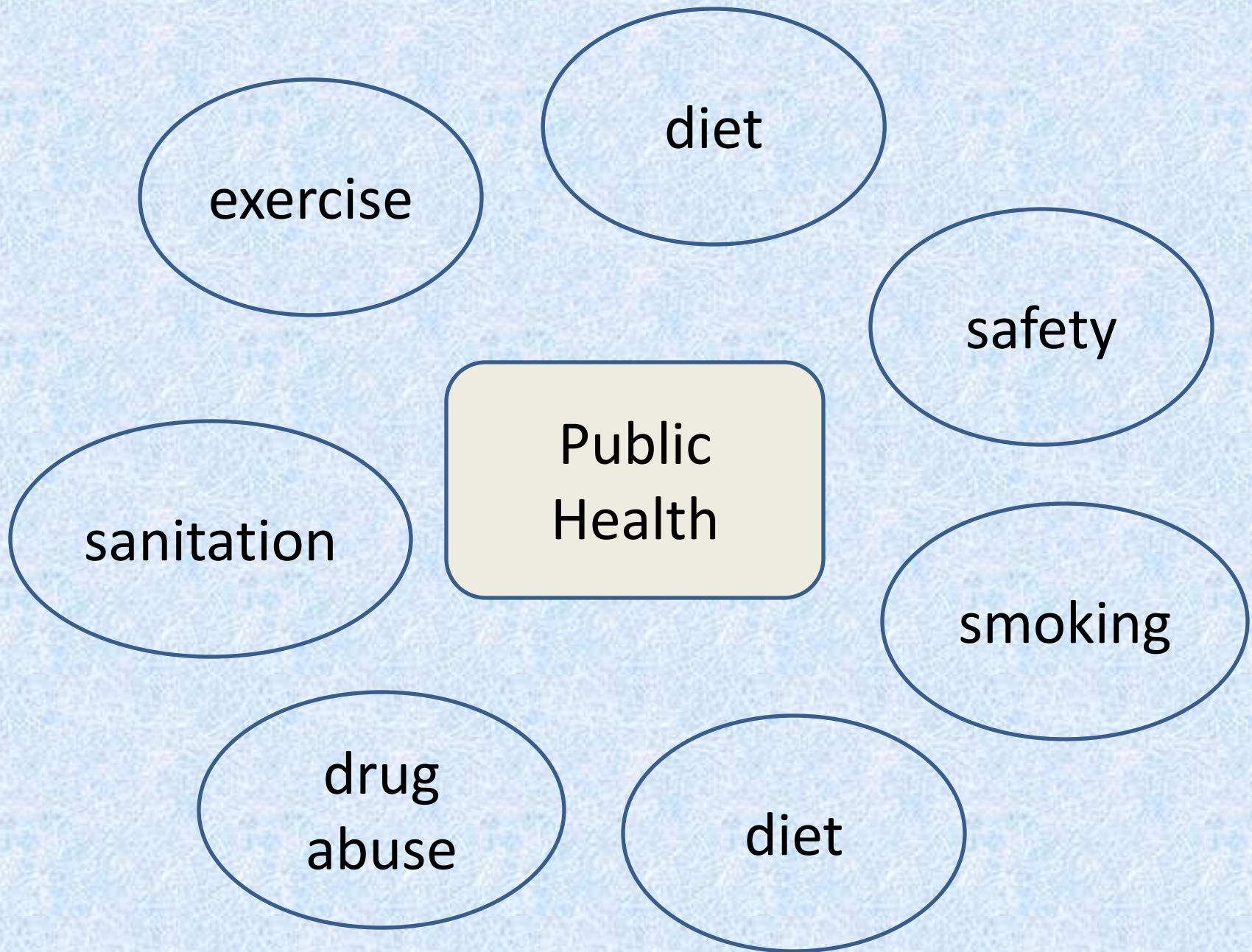
tillage
practices

extreme
weather

drainage,
irrigation

ADAPTATION





The proposition

Climate change by itself is not an actionable issue for most people.

It's too overwhelming, scientifically complex and politically charged to motivate behavior change.

People can be motivated to act on specific issues that address climate change through a mixture of examples, technical information and incentives.

Example of disconnect: Iowa farmers

Climate change primarily due to nature (23%)

Not enough evidence climate change exists (22%)

Climate change is not happening (3%)

Yet most of the farmers have concerns about:

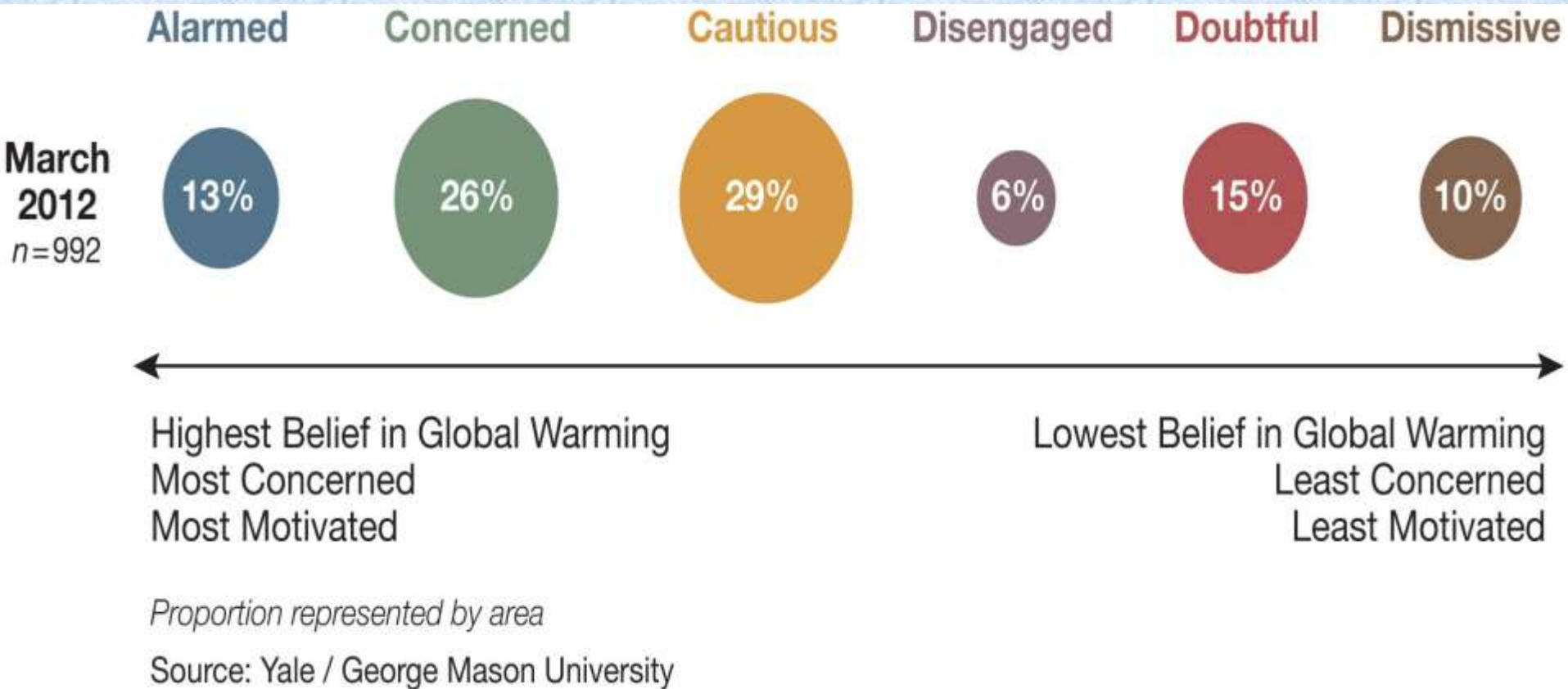
Drought (92%)

Erosion (92%)

New insect pests (88%)

Extreme rain (83%)

Attitudes towards climate change



Only 13% of people say they have taken any action to address climate change

54% of Americans believe it is likely that extreme weather will cause a natural disaster in their community in the coming year.

<http://environment.yale.edu/climate-communication/article/extreme-weather-public-opinion-April-2013#sthash.w4XByyHu.dpuf>

57% of Americans say the U.S. should emphasize conservation to solve the nation's energy problems.

<http://www.gallup.com/poll/168176/americans-favor-energy-conservation-production.aspx>

30% of Americans say they would like to decrease the amount of meat they eat.

<http://truvenhealth.com/NPR-Truven-Health-Poll/Meat-Consumption-03-2012.pdf>

Recommendations

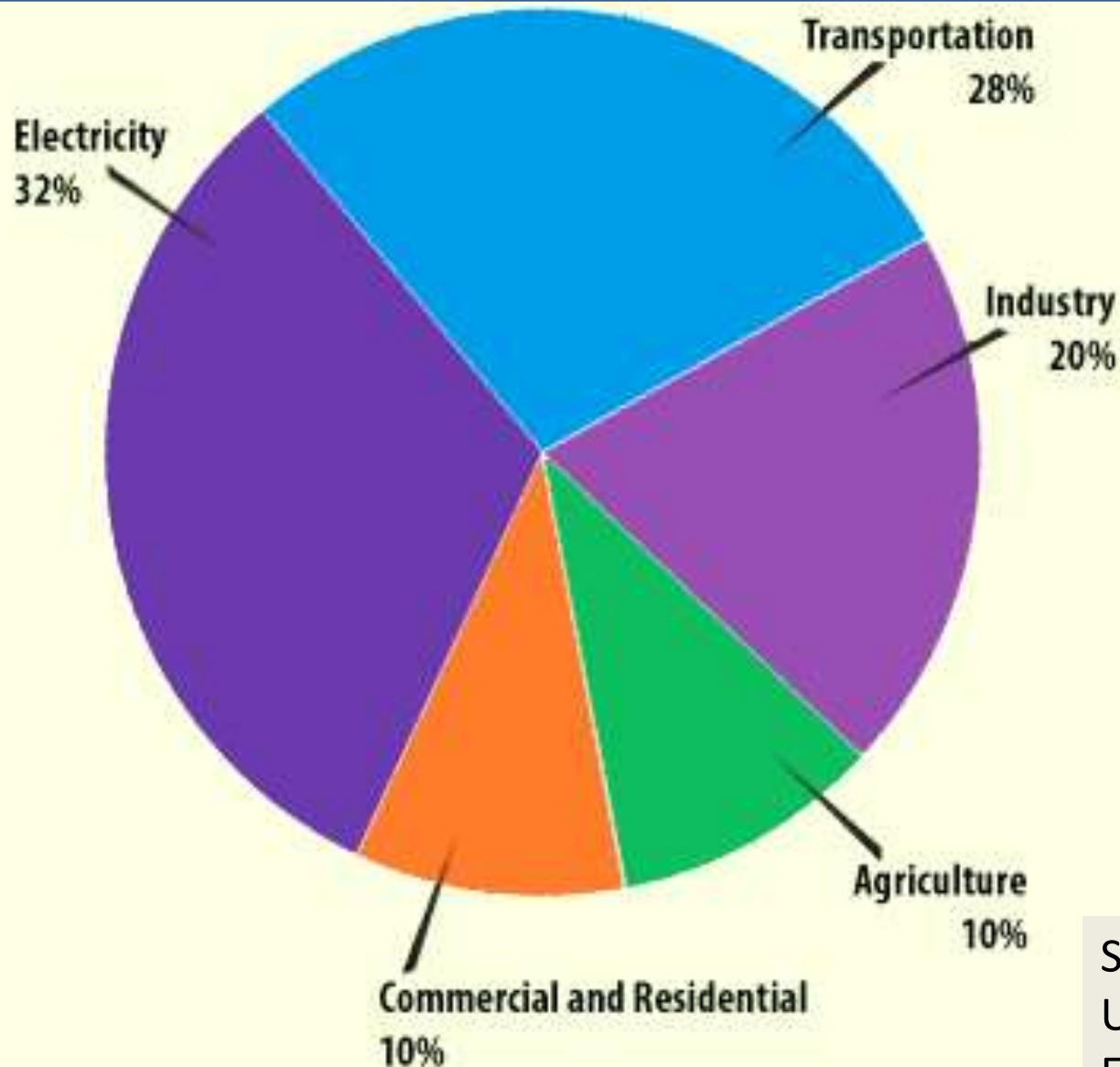
Focus on what people can do, and how to do it – not on climate science, projections, or politics.

Describe multiple benefits of specific actions.

Establish targets for adoption.

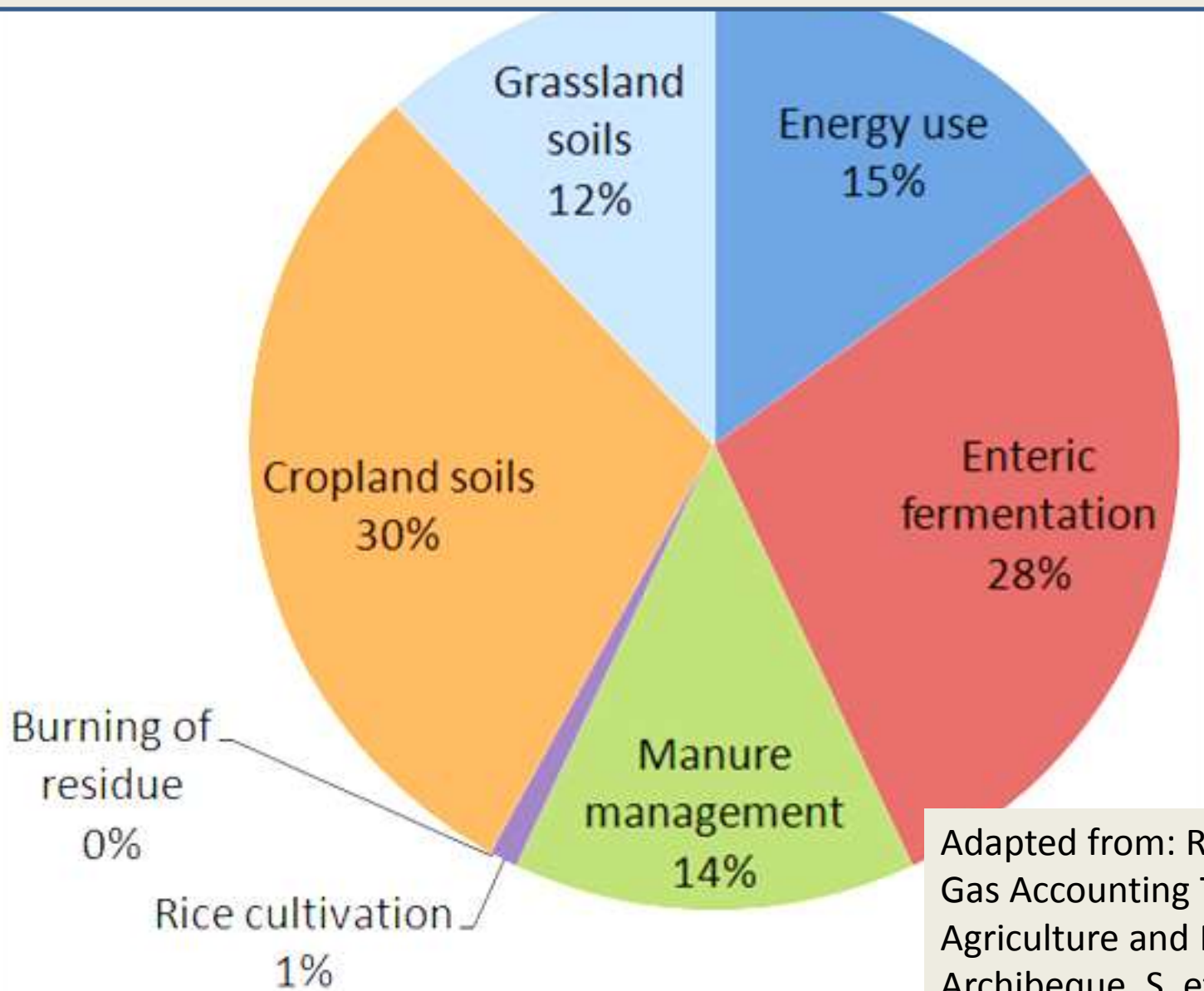
Improve estimates of GHG impacts so that ‘best practices’ can be prioritized.

Sources of U.S. GHG Emissions



Source: EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks, 2014

U.S. GHG Emissions from Agriculture

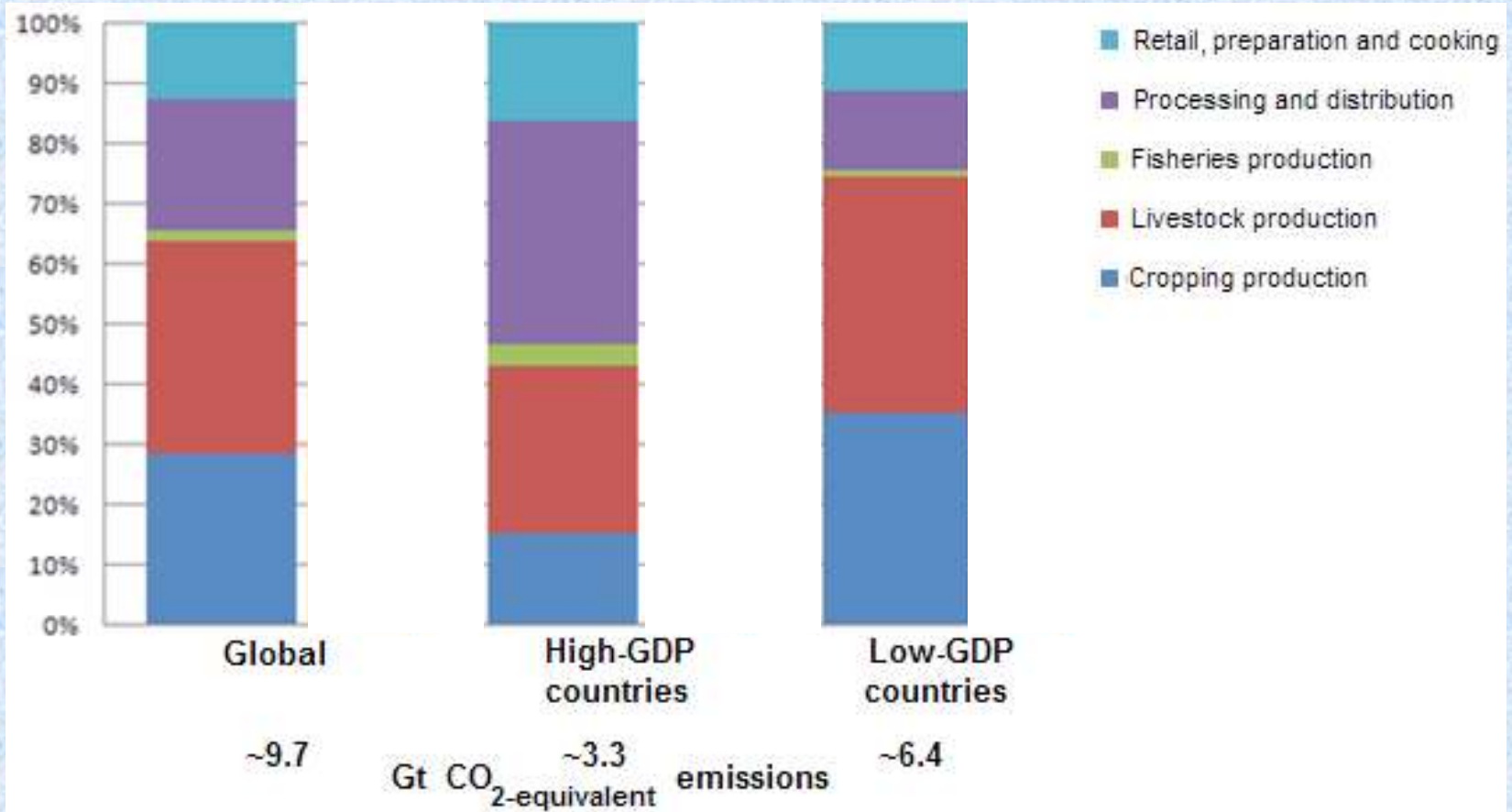


Adapted from: Report of Greenhouse Gas Accounting Tools for Agriculture and Forestry Sectors. Archibeque, S. et al., 2012

GHG Emissions from Food System?

- 37% U.S. (M. Pollan, NY Times 2008)
- 19% U.S. (M. Bomford, Kentucky State, 2009)
- 22% Global (FAO 2012)
- Whatever the actual level, it's significant...

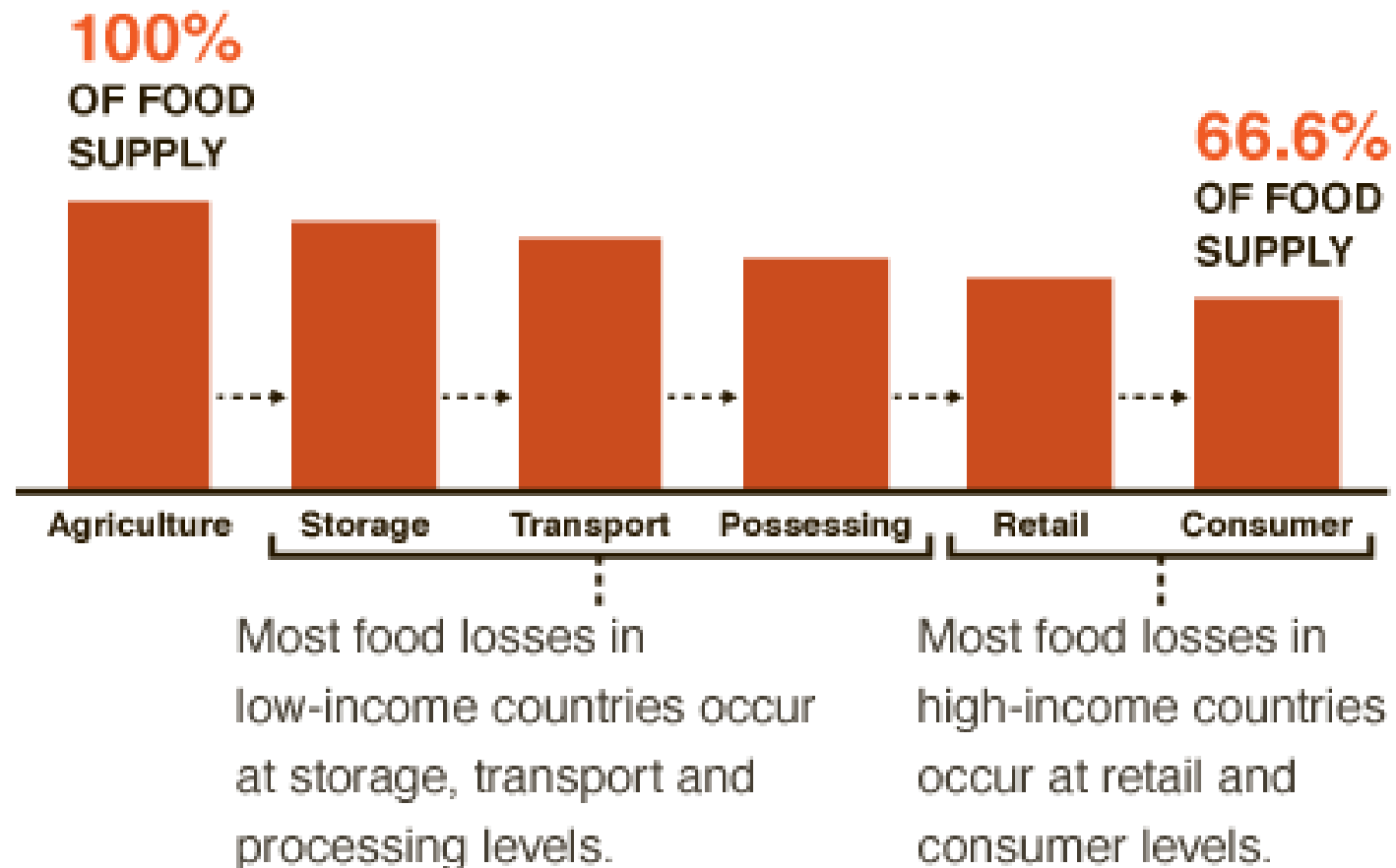
Source of food system GHGs



targets for consumers

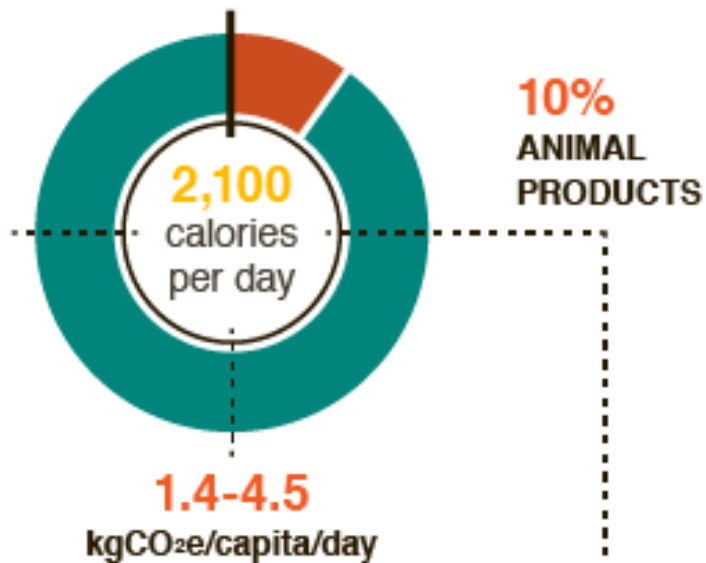
- reduce food waste
- buy less processed food
- buy less packaged food
- lower energy used for food storage
- consume less meat
- fewer food miles – buy local?

About a third of all food produced is lost in the food supply chain.

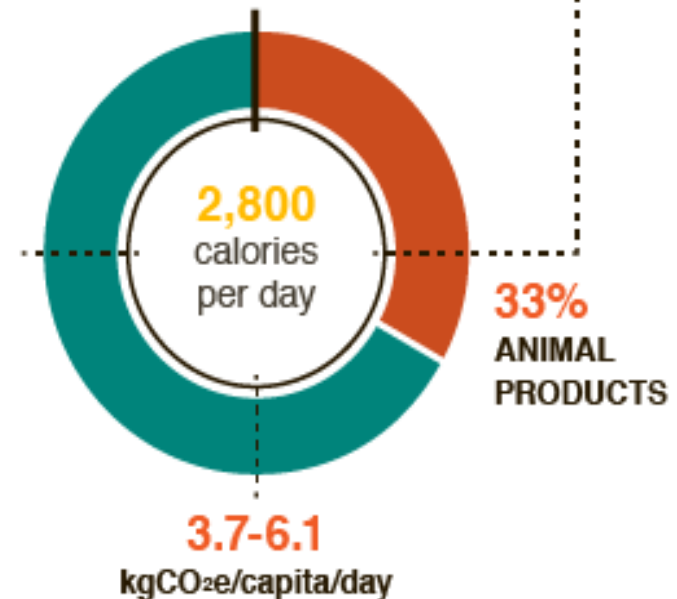


Dietary choices affect GHG emissions

LOW CONSUMPTION DIET



HIGH CONSUMPTION DIET





Local food systems like CSAs may reduce packaging, storage energy, food waste, transportation energy

Food hubs may do the same – research is needed!



targets for farmers

- less fertilizer N use
- more (efficiently) irrigated acres
- more tile-drained acres
- increased use of IPM / monitoring
- more passive and renewable energy use
- better manure management
- fewer animals, more value-added

Pre-sidedress N test



drip irrigation



Tile drainage



Milk pre-cooler (heat exchanger) using well water



Estimated to save a 400 cow dairy 29% of total electricity use = 22,500 kWh/yr

Biomass fuels for greenhouse heating



24 biofuel heating systems in VT greenhouses saved \$439,000 in fuel over 6 years avoiding 890 tons of CO₂ emissions (~1.8 million car miles)

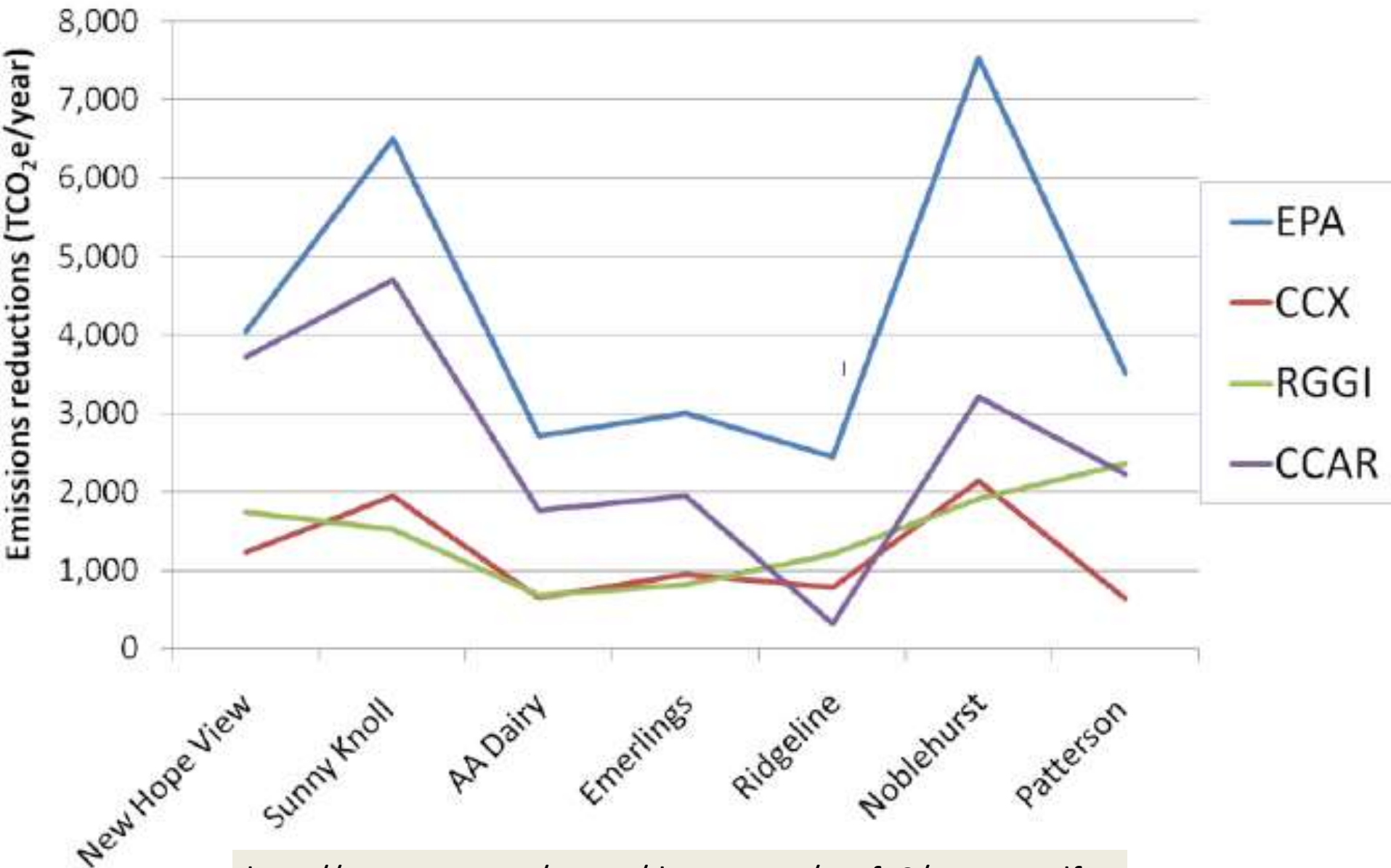
Reduced tillage: conserve soil carbon
and improve soil health



Manure management to avoid GHG emissions



Emission reductions over 7 NYS dairy farms following 4 different methodologies



Research and outreach should help consumers, farmers and food businesses understand and prioritize the many practical actions that can be taken to address climate change.

Thanks for listening.

What are your ideas and experiences around engaging people to take action to address climate change?

