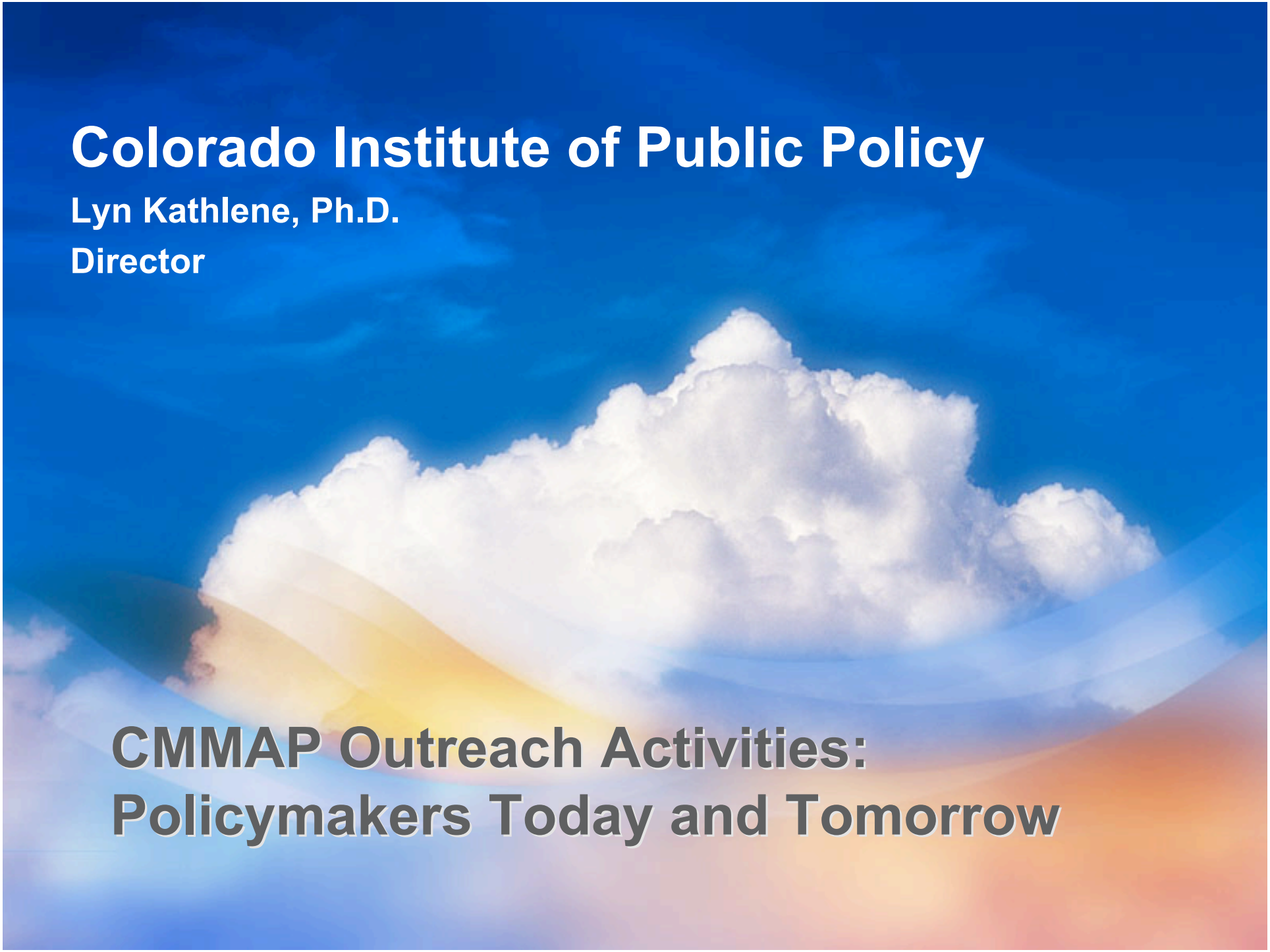

Colorado Institute of Public Policy
Lyn Kathlene, Ph.D.
Director
CMMAP Outreach Activities:
Policymakers Today and Tomorrow

Activities this Year

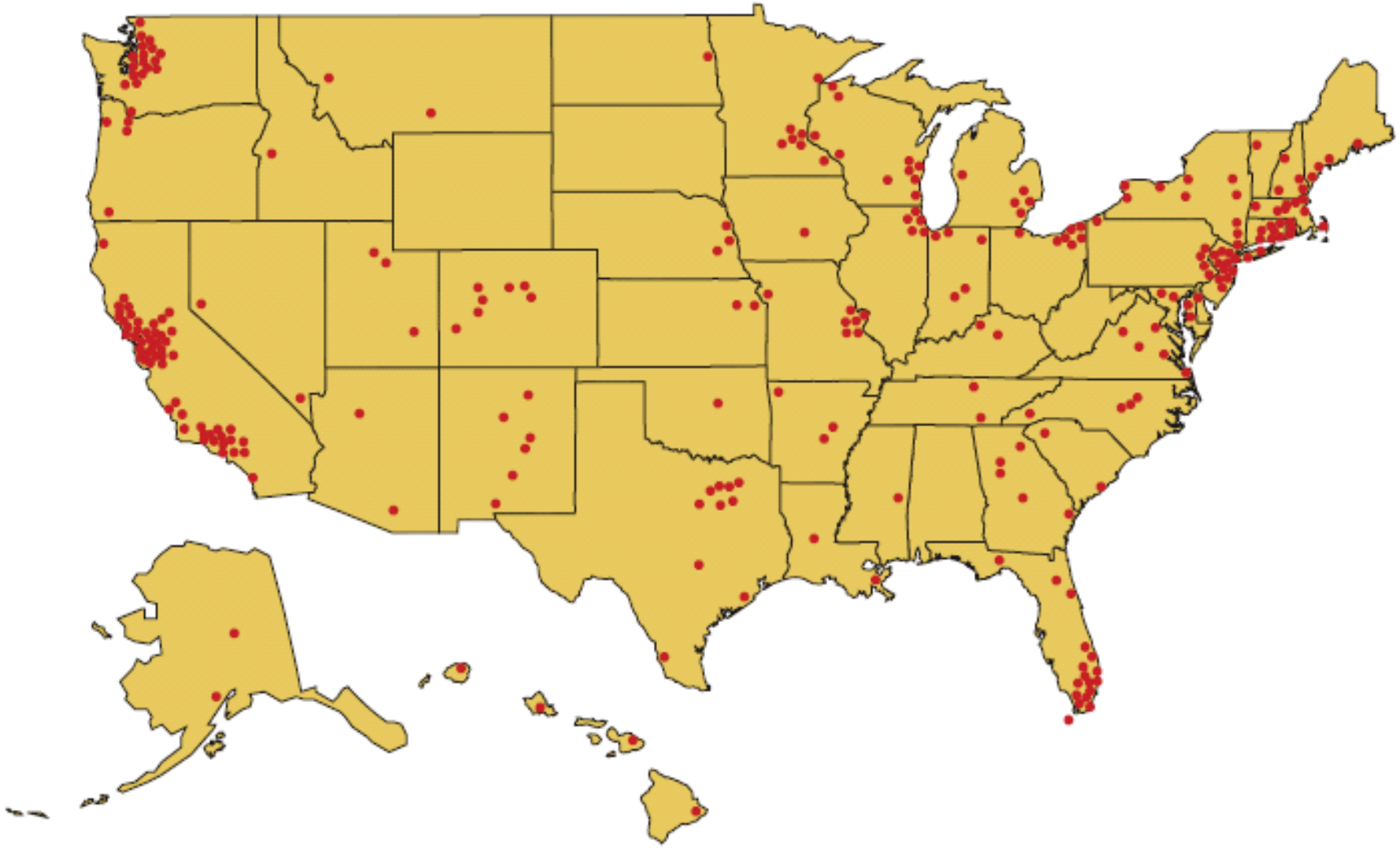
- Policymaker Summary of the IPCC WG1 Summary for Policymakers!
- Specific policy issue briefs
- High school students as policymakers

Target Audience

- The movers and shakers at the local and county level
  - **Elected officials**
  - **Program directors**
  - **Interest groups**

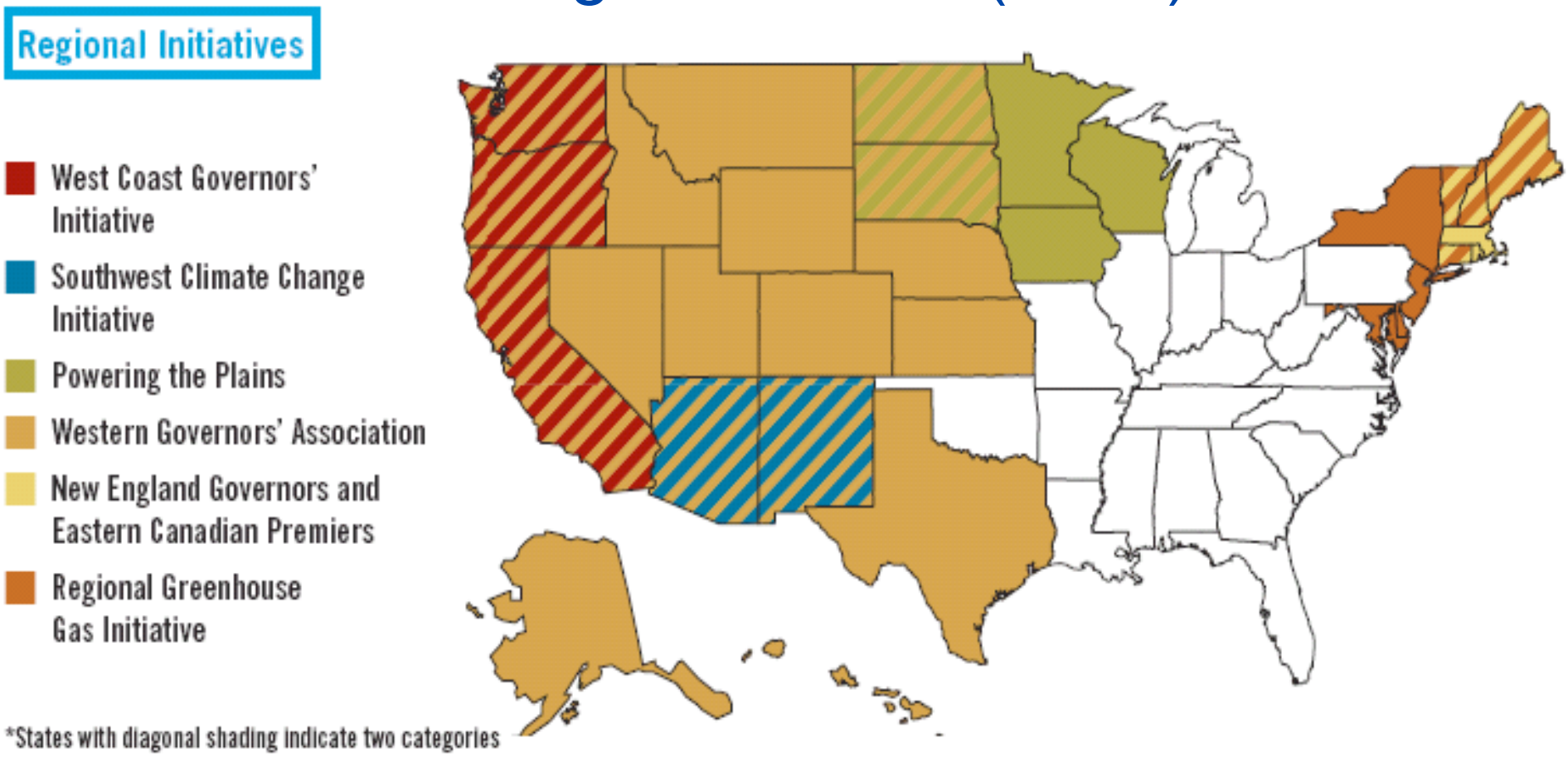
- State level folks, too
  - **Governor's office**
  - **Legislators**
  - **State departments**

Cities Committed to the U.S. Mayors Climate Protection Agreement

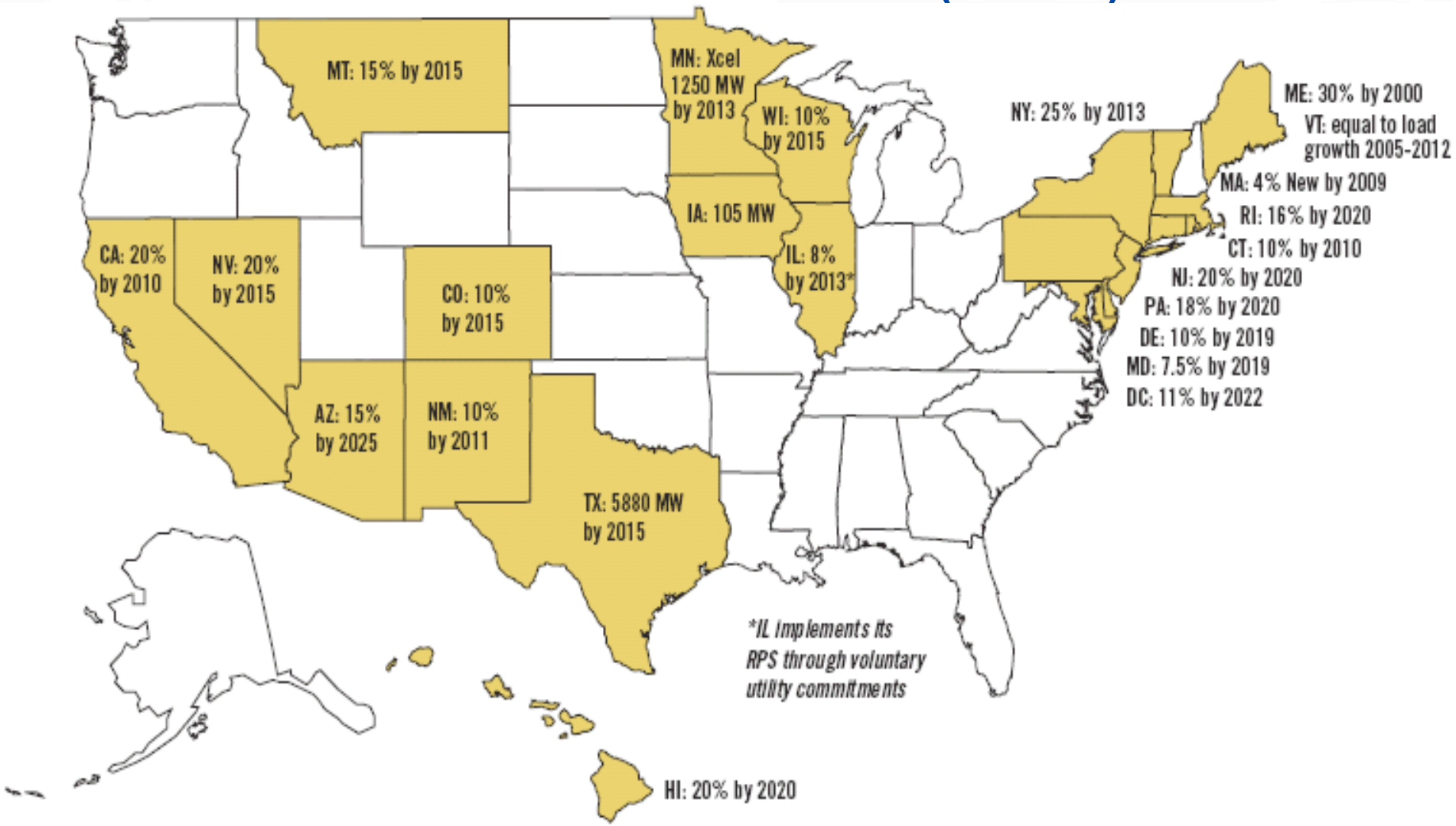


Mayors of 320 cities have signed the U.S. Mayors Climate Protection Agreement as of October 2006.
Source: http://www.seattle.gov/mayor/climate/

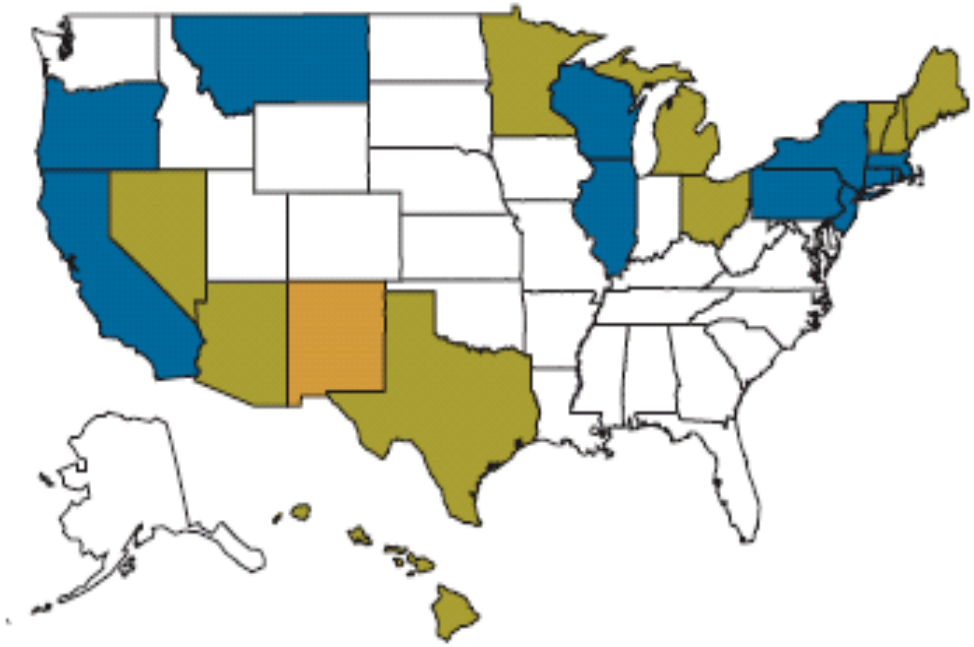
Regional Climate Change Initiatives (2006)



State's Renewable Portfolio Standards (2006)



States with Public Benefit Funds (2006)



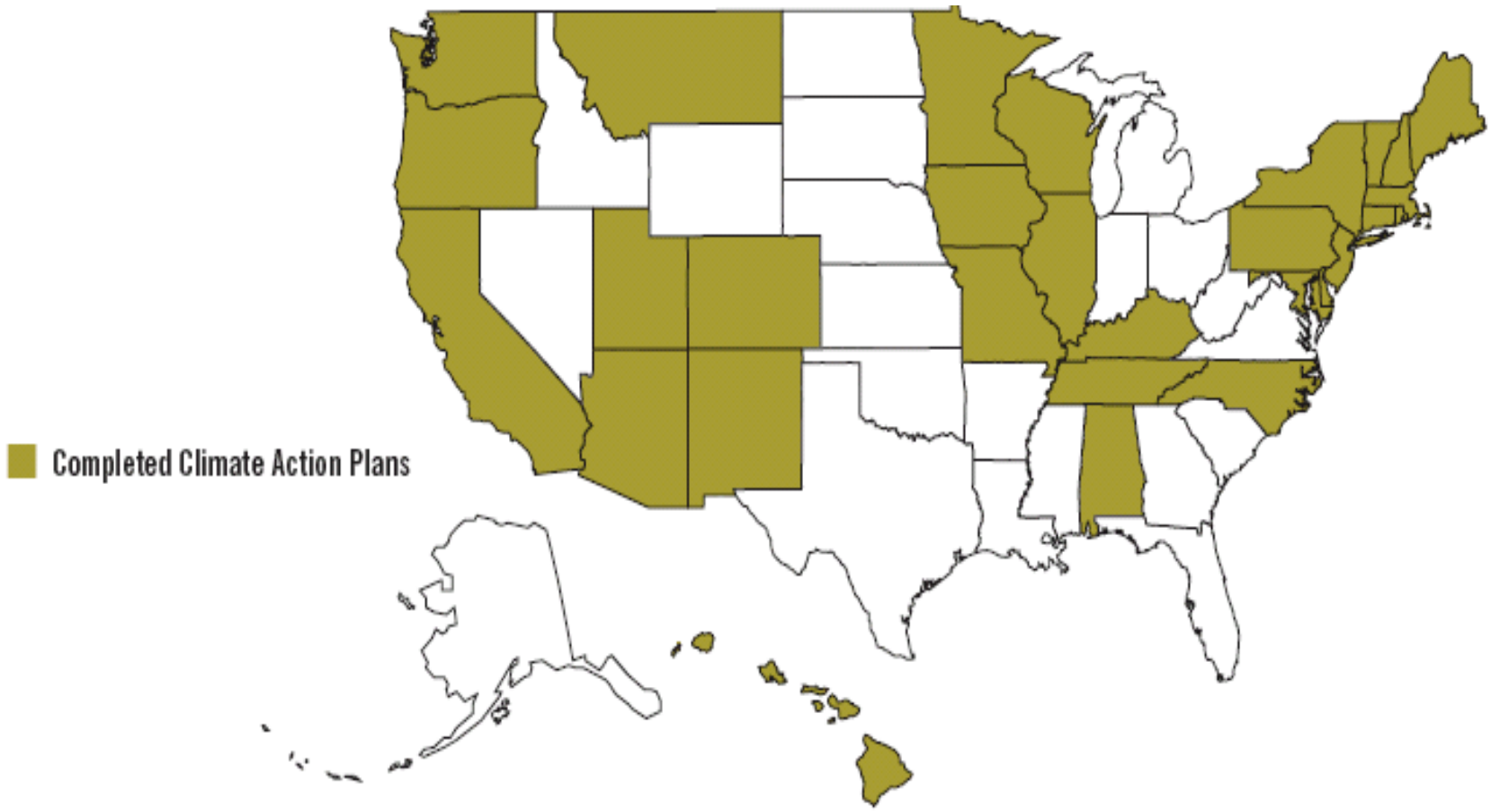
Funds that Support Energy Efficiency and Renewable Energy

Funds that Support Energy Efficiency

Funds in Development

States with Greenhouse Emission Targets (2006)

States with Completed Climate Action Plans (2006)



IPCC WG1 Summary for Policymakers – Summarized!

- IPCC summary assumes climate change is an area of focus for the reader
- IPCC summary is not an introduction to the science of climate change
- Specific policy area decision makers at local and state level are rarely focused on climate change

Potential Climate Change Impacts

Climate Changes

Temperature

Precipitation

Sea Level Rise

Health Impacts

Weather-related Mortality
Infectious Diseases
Air Quality-Respiratory Illnesses

Agriculture Impacts

Crop yields
Irrigation demands

Forest Impacts

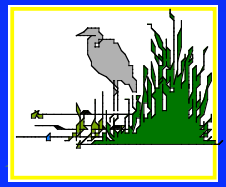
Change in forest composition
Shift geographic rangeof forests
Forest Health and Productivity

Water Resource Impacts

Changes in water supply
Water quality
Increased competion for water

Impacts on Coastal Areas

Erosion of beaches
Inundate coastal lands
Costs to defend coastal communities



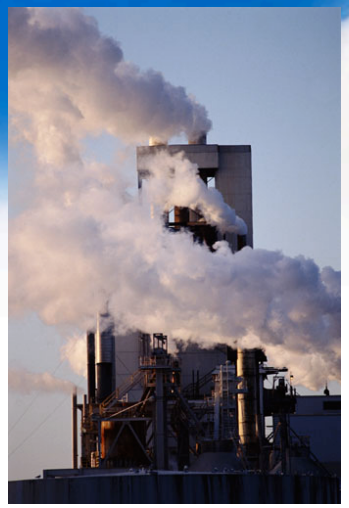
Species and Natural Areas

Shift in ecological zones
Loss of habitat and speci

EPA

EPA

Health Impacts from Burning Fossil Fuels



Greenhouse Gas Emissions

Air Pollution

Climate Change

Heat-Related Deaths

Infectious Diseases

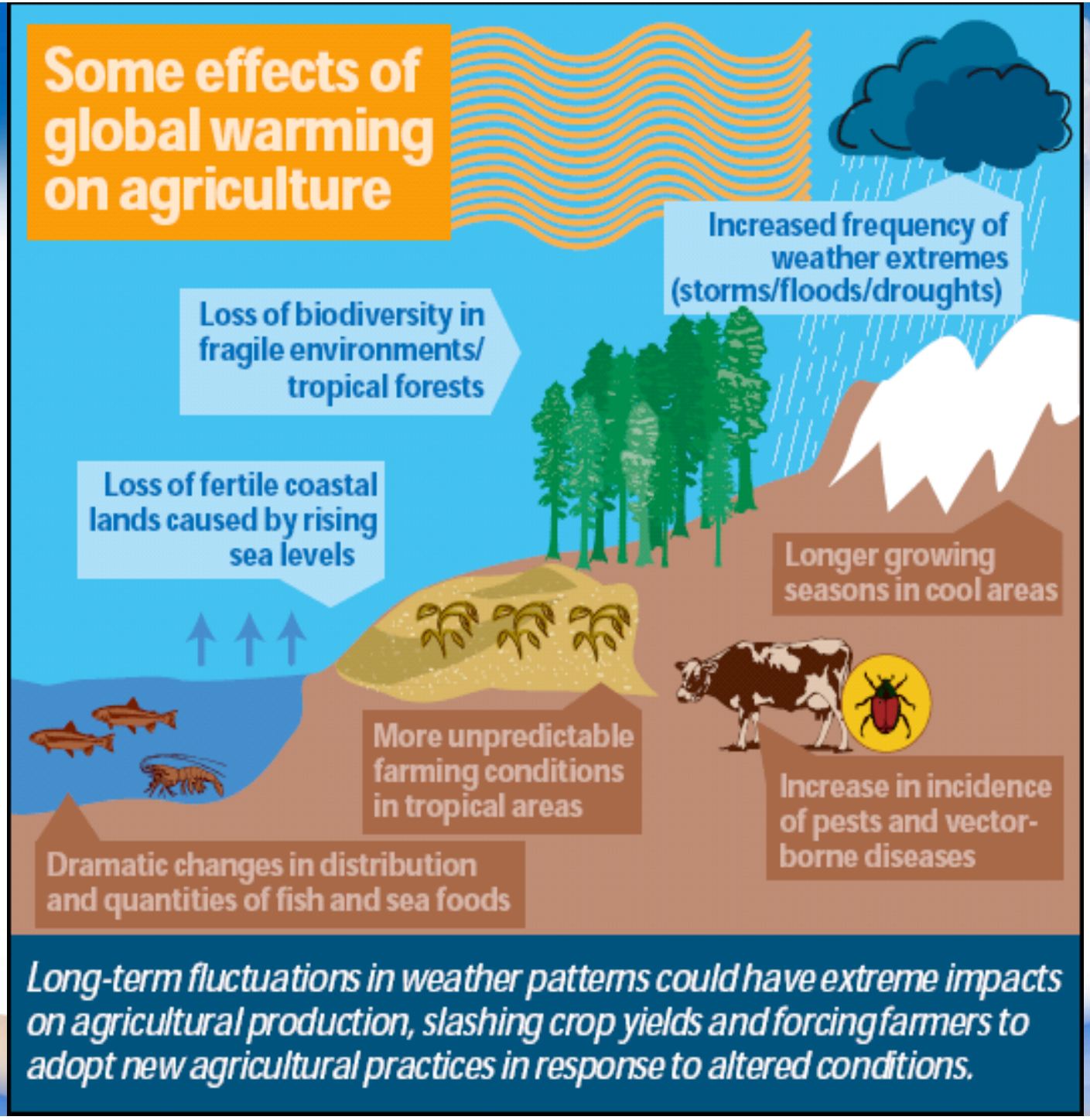
Asthma Attacks

Other Respiratory Illnesses

Injuries from Extreme Weather Events

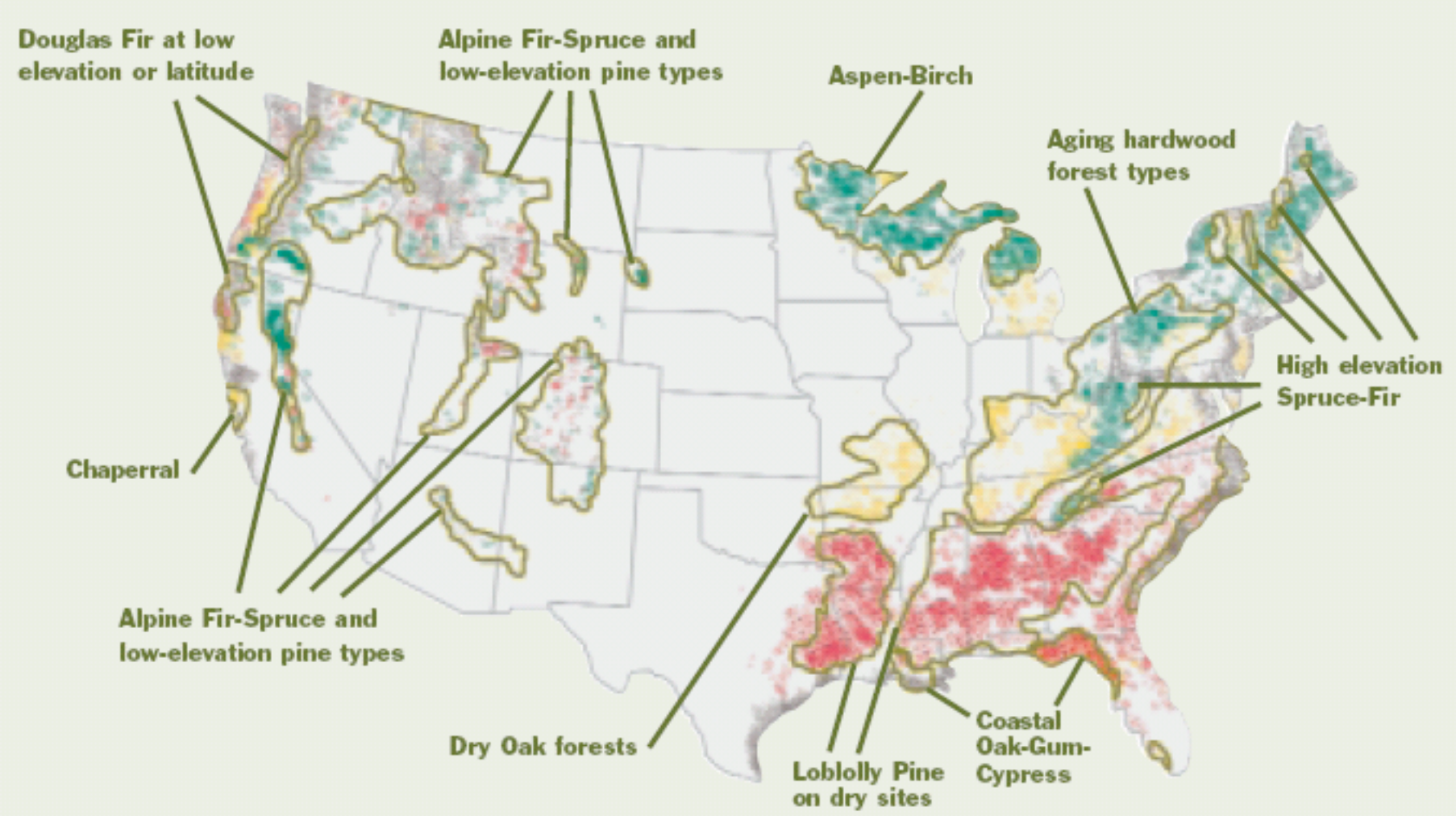
Premature Death from Lung and Heart Diseases

Allergies


Some effects of global warming on agriculture
Increased frequency of weather extremes (storms/floods/droughts)
Loss of biodiversity in fragile environments/ tropical forests
Loss of fertile coastal lands caused by rising sea levels
Longer growing seasons in cool areas
More unpredictable farming conditions in tropical areas
Increase in incidence of pests and vector-borne diseases
Dramatic changes in distribution and quantities of fish and sea foods
Long-term fluctuations in weather patterns could have extreme impacts on agricultural production, slashing crop yields and forcing farmers to adopt new agricultural practices in response to altered conditions.

Sub-sector	Some Potential Agricultural Impacts From Climate Change
Cropping	➢ Increased crop water-use efficiency due to higher carbon dioxide concentrations but potentially reduced grain quality ➢ Reduced water availability due to both reduced rainfall and increased evaporation ➢ Reduced crop yield ➢ Changes to world grain trading ➢ Increased risk of pests, parasites and pathogens
Horticulture	➢ Changes to frost frequency and severity may cause lower yields and reduced fruit quality ➢ Damage from more extreme events such as hail, wind and heavy rain ➢ Increased risk of pests and disease ➢ Warmer conditions may impact on chilling requirements of some fruit cultivars
Viticulture	➢ Higher ripening temperatures may reduce optimum harvesting times ➢ Potential changes to phenology and wine quality ➢ Warmer conditions may allow new varieties to be grown in some areas ➢ Reduced water supply for irrigated crops ➢ Investment impacts due to long investment cycles
Grazing & livestock	➢ Increased growth from higher carbon dioxide levels but potentially offset by reduced rainfall and higher temperatures ➢ Higher temperatures reducing milk yields ➢ Decreases in forage quality ➢ Increased rainfall variability reducing livestock carrying capacity ➢ Increased risk of pest, parasites, and pathogens

Forest Types that are Vulnerable to Climate Change



Climate Change and Water Management

- Changes in water supply and availability
- Water quality
- Increased competition

If not now, when?

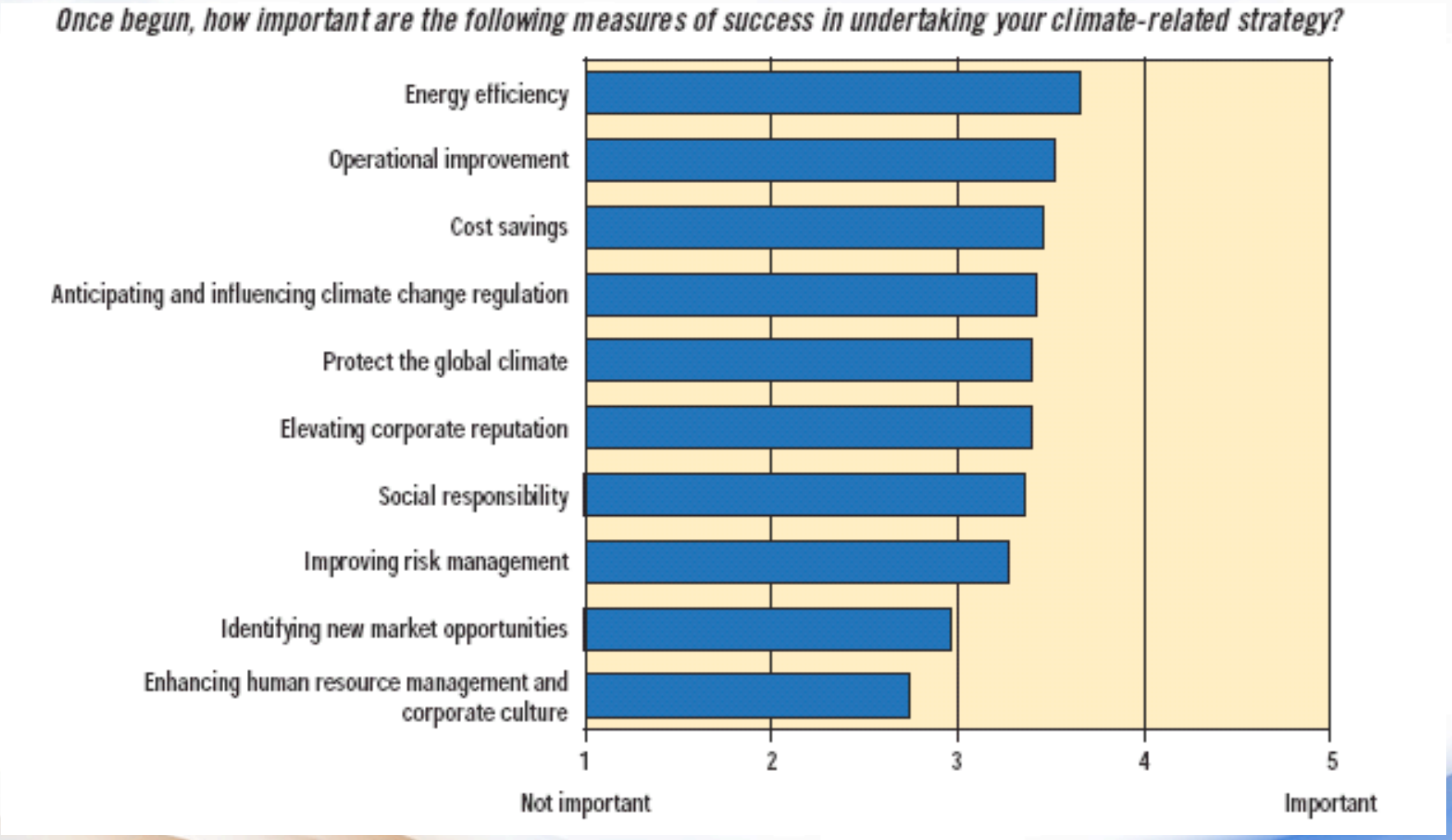
- Investing knowledge in the next generation of policymakers

- Rocky Mountain High School Climate Colloquium – April 13th, 2007
  - **Policy areas**
  - **Mitigation versus adaptation**
  - **Finding solutions**

Policy Windows

- Align climate change planning with current opportunities in long term planning
- Not just about state/local policy
- Private sector “opportunities” bolstered by public policy

Why do Companies Take Action?



New Markets: Economic Benefits of Adaptation and Mitigation

Table 1. Example Business Growth Opportunities for Climate Friendly Technologies

Technology Type	Illustrations of Size and Type of Market Opportunities
Efficient vehicles	Billions of new drive train components, millions of tons of lightweight body materials, advanced electronics, etc.
Efficient buildings	Billions of efficient appliances, millions of high efficiency heating and ventilation systems, advanced systems controls, etc.
Low-carbon coal power	Hundreds of new plants worldwide—each requiring thousands of specialty components, advanced materials, etc.
Geologic storage of CO_2	Hundreds of underground reservoirs—drilling services, injection well equipment, monitoring equipment, etc.
Wind power	Millions of windmills—revenue for landowners, hundreds of tons of advanced materials, billions of bearing components, etc.
Solar power	Tens of millions of solar panels, tons of advanced materials, control systems, new revenue source for buildings, etc.
Biofuels	Billions of tons of crop yields, major markets for advanced seed stocks and crop inputs, revenue from millions of acres of now-marginal land, thousands of biofuel plants, millions of "flex-fuel" vehicles, etc.

Resources

- Australian Government Dept of Agriculture and Environment
  http://www.greenhouse.gov.au/impacts/agriculture.html

- Climate Change 101 (2006) Pew Center on Global Climate Change and the Pew Center on the States.
  http://www.pewclimate.org/

- Climate Change in Context (2003) by John Anderson, Harvard Medical School, The Center for Health and the Global Environment.
  http://chge.med.harvard.edu/education/secondary/cccontext/documents/ccpresentation.ppt


The End