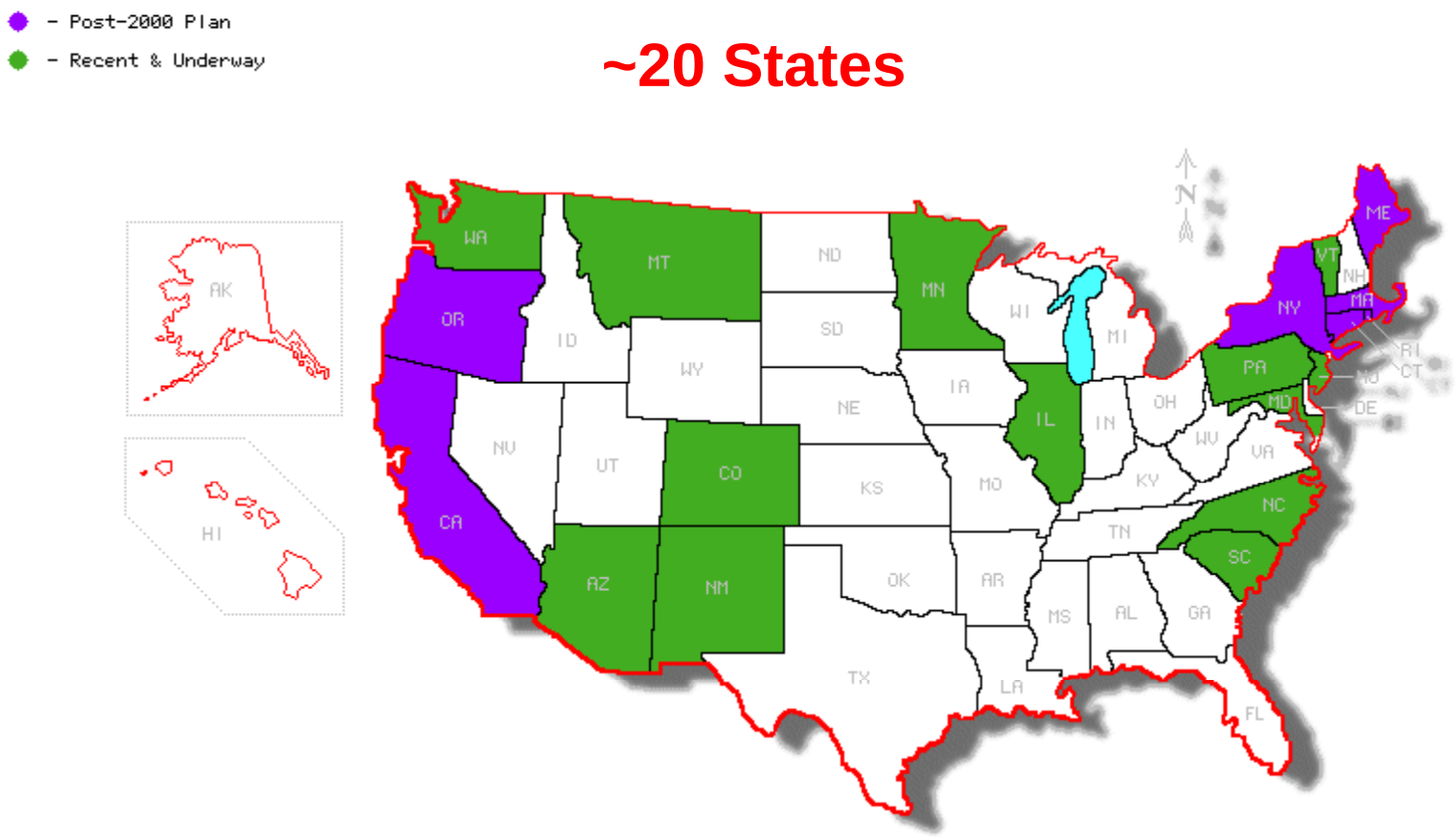
Addressing Climate Change

The World, Maryland and the USM

USM Board of Regents
September 7, 2007

Many States are Developing Greenhouse Gas Reduction Goals



Source: Center for Climate Strategies

State	1990-2020 GHG Forecast	State Goals	Climate Plan Coverage
Arizona	144%	2000 levels by 2020; 50% below by 2040	106%
California	40%	E.O.: 2000 level by 2010; 1990 by 2020; 80% by 2050 AB-32: 1990 levels by 2020	100%
Colorado	81%	?	TBD
Connecticut	32%	1990 level by 2010; 10% below by 2020; 75% by 2050	100%
Florida	?	2000 level by 2017; 1990 level by 2025; 80% below 1990 by 2050	?
Massachusetts	?	1990 level by 2010; 10% below by 2020; 75% by 2050	?
Maine	34%	1990 level by 2010; 10% below by 2020; 75% by 2050	100%
Maryland	52%	TDB: 1990 level by 2020; 80% below 2006 levels by 2050	TBD
Minnesota	48%	Next Generation Energy Act: 15% below 2005 levels by 2015; 30% by 2025; 80% by 2050	TBD
Montana	31%	1990 level by 2020; 80% below by 2050 (consumption & production)	89%-105%
North Carolina	113%	?	TBD
NEG/ECP	?	1990 level by 2010; 10% below by 2020; 75-85% ultimately	TBD
New Jersey	?	E.O. 54: 1990 level by 2020; 80% below 2006 levels by 2050	TBD
New Mexico	65%	2000 level by 2012; 10% below by 2020; 75% below by 2050	133%
New York	24%	5% below 1990 by 2010	?
Oregon	52%	1990 level by 2010; 10% below by 2020; 75% by 2100	85%
Puget Sound	37%	1990 level by 2010; 10% below by 2020; 75% by 2100	100%
Rhode Island	35%	1990 level by 2010; 10% below by 2020; 75% by 2050	100%
Vermont	26-59%	25% below 1990 levels by 2012; 50% below 1990 by 2028; 75% by 2050	TBD
Washington	40%	E.O.: 1990 levels by 2020; 25% below 1990 by 2035; 50% below 1990 by 2050	TBD
WCI	54%	- TBD	TBD

Source: Center for Climate Strategies

Commission on Climate Change

- **Established by April 20 Executive Order by Governor O'Malley.**
- **22 members, including state agency heads (including Chancellor Kirwan) and 6 members of General Assembly; chaired by Secretary of the Environment Shari Wilson.**
- **Advise Governor and General Assembly on matters related to climate change.**
- **Develop a Plan of Action to address the drivers and causes of climate change, to prepare for the likely consequences and impacts of climate change to Maryland, and to establish firm benchmarks and timetables for implementing the Plan of Action.**
- **Supported by 3 Working Groups (including many USM experts):**
  - **Scientific and Technical Working Group**
  - **Greenhouse Gas and Carbon Mitigation Working Group**
  - **Adaptation and Response Working Group**

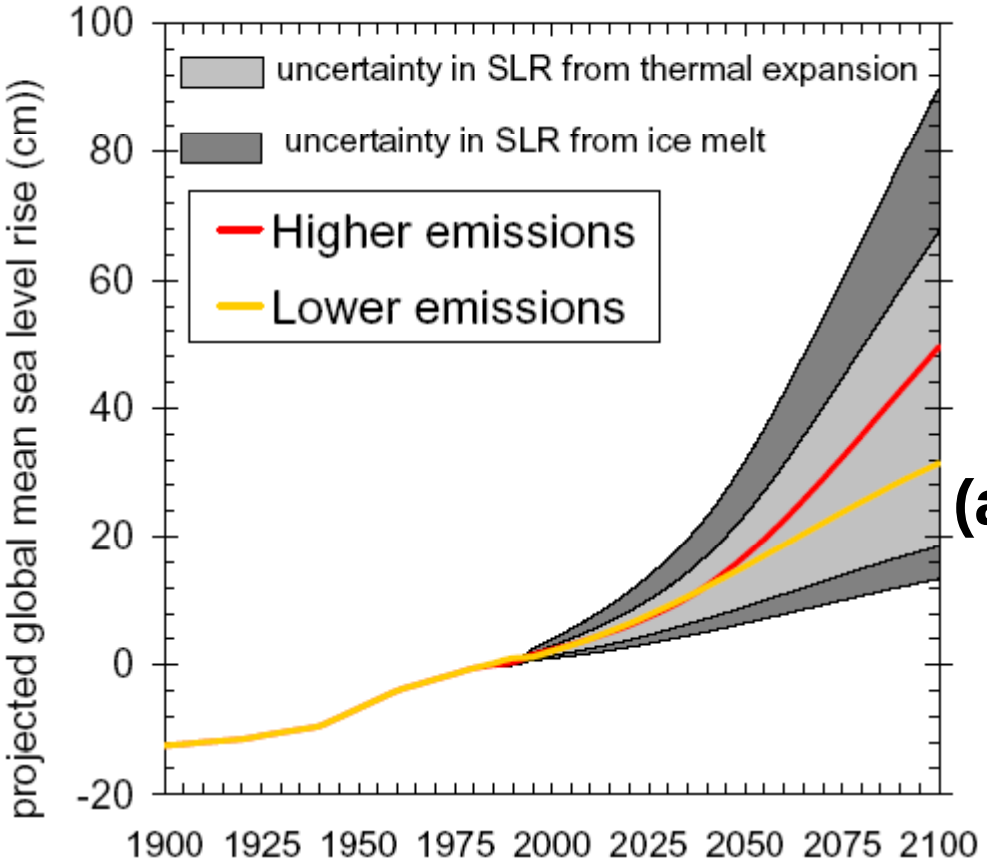
http://www.mde.state.md.us/air/mccc/

Commission on Climate Change

Products and Milestones

- **Within one year present to the Governor and General Assembly the Plan of Action, including:**
  - **Comprehensive Climate Change Impact Assessment**
  - **Comprehensive Greenhouse Gas and Carbon Footprint Reduction Strategy**
  - **Comprehensive Strategy for Reducing Maryland's Climate Change Vulnerability**
- **Report to the Governor and General Assembly on or before November 1 an update on the development of the Plan of Action, implementation timetables and benchmarks, and preliminary recommendations, including draft legislation.**

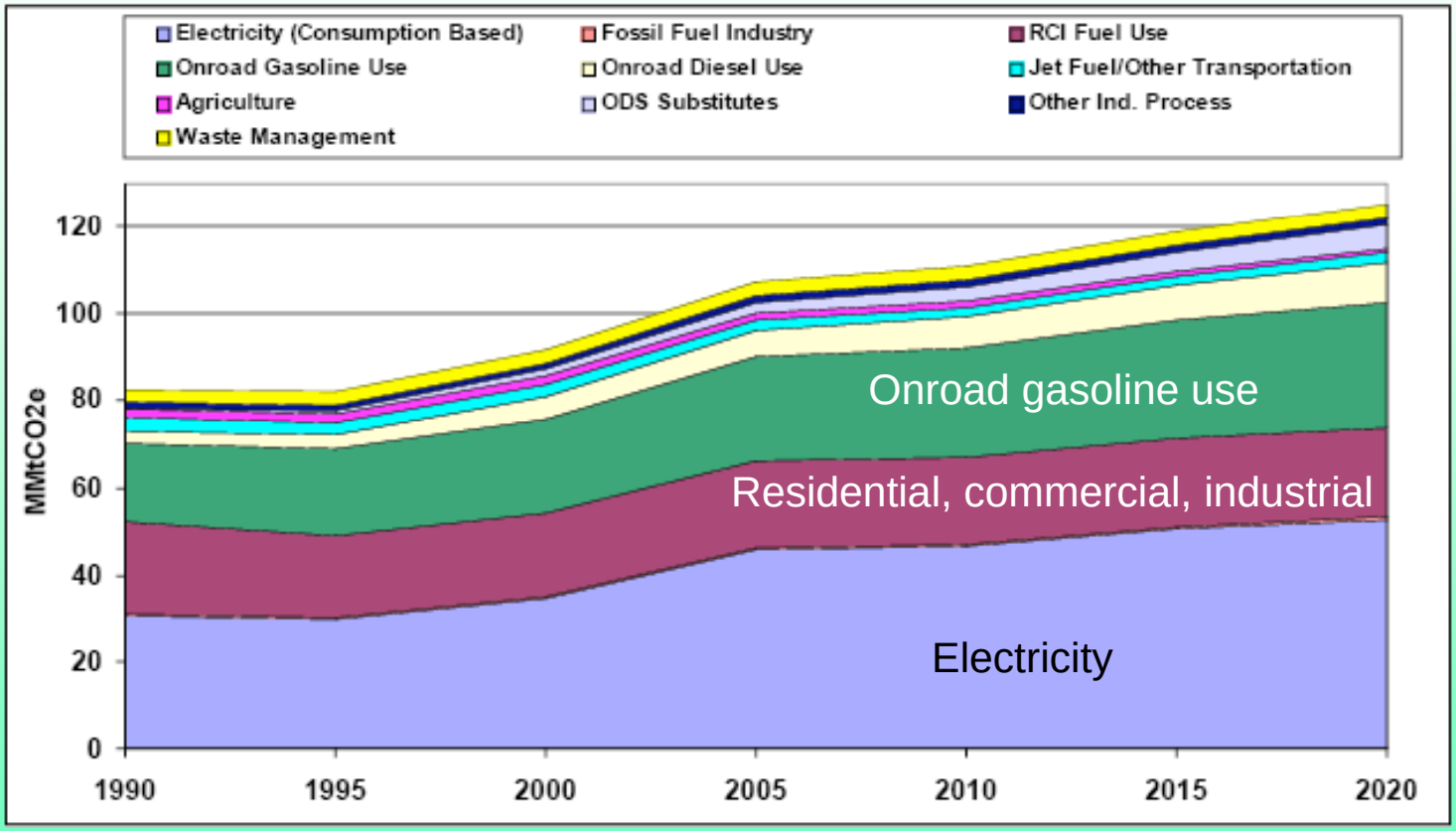
Sea-level Rise Projections



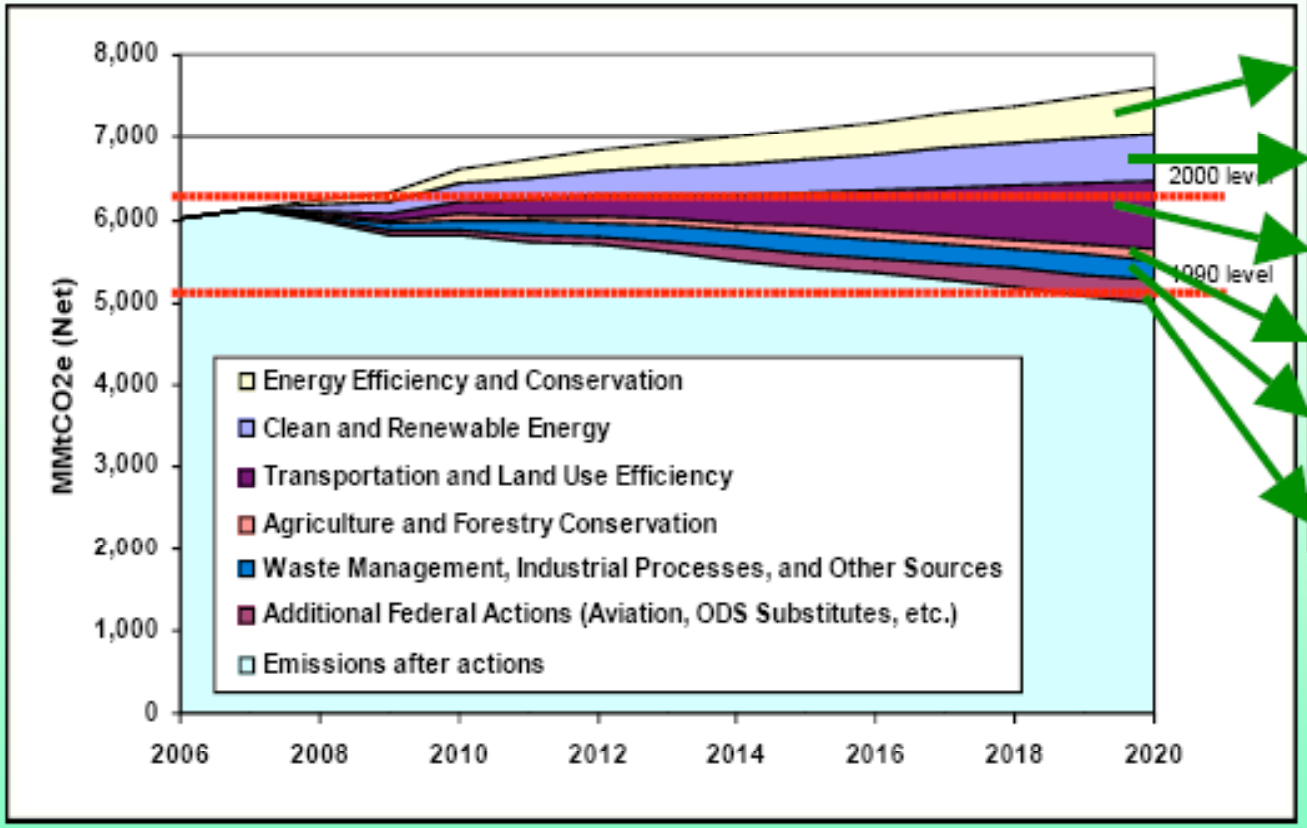
Will need to estimate Relative Sea-level Rise (adjusted for subsidence)

www.northeastclimateimpacts.org/

Maryland Gross GHG Emissions by Sector, 1990-2020



Leadership States' "Wedges"



% of Gap	Sample Cost
~24%	-$10 to -$30
~24-30%	$7 to $21
~20-36%	-$32 to -$36
~6-9%	-$1 to -$5
~11-18%	?
~6-18%	?

Conclusion:

Closing the gap is quite doable

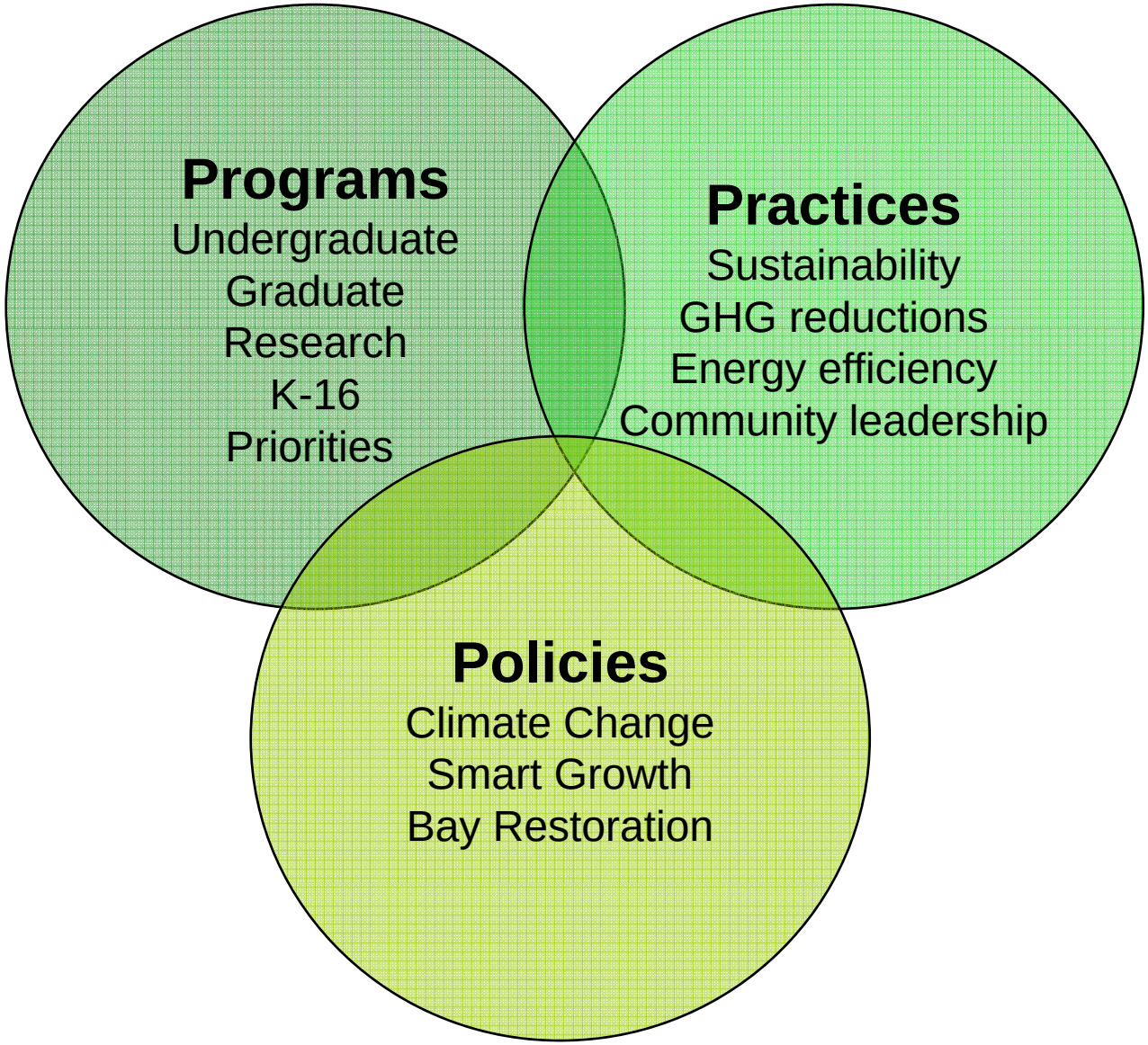
MARYLAND

National "Gross-Up" of States' Actions

Potential US 2020	% of "US 1990" Goal	M Tons GHG	Sample Cost/Cost Savings	Total Savings (Best Guess)
Energy Efficiency and Conservation	~24%	555	-$10 to -$30	-$11 Billion
Clean and Renewable Energy	~24%	565	$7 to $21	$8 Billion
Transportation and Land Use Efficiency	~36%	831	-$32 to -$36	-$28 Billion
Agriculture and Forestry Conservation	~6%	132	-$1 to -$5	-$0.4 Billion
Waste Management, Industrial Processes, and Other	~11%	246	?	?
Additional Federal Actions	(~6-18%)	264	?	?
Total				

NPV 2007-2020: -$117 Billion

USM Environmental Sustainability Initiative
Three Integrated Pillars



Practices

- Presidential leadership: ACUP Climate Commitment
- Facilitating campus GHG emission audits and reduction plans
- Governor’s EmPOWER Maryland Initiative: 15 by 15
- Green design for new facilities and renovations
- Smart Growth in our communities
- Leadership by Administrative VPs
- Student, faculty and staff engagement

Presidents signing the Commitment are pledging to eliminate their campuses' greenhouse gas emissions over time. This involves:

- Completing an emissions inventory
- Within two years, setting a target date and interim milestones for becoming climate neutral.
- Taking immediate steps to reduce greenhouse gas emissions by choosing from a list of short-term actions.
- Integrating sustainability into the curriculum and making it part of the educational experience.
- Making the action plan, inventory and progress reports publicly available.