

Facing Climate Change



GMAP Agenda September 28, 2010

- Goal.
- Statewide Projections, and State Agency and Ecology Emissions.
- Understand the causes and contributors to greenhouse gas emissions.
- Develop reduction strategies and tools to assure state greenhouse gas (GHG) targets are met.
- Understand impacts of climate change; develop response plan.
- Continue leadership position in promoting national and regional efforts to reduce emissions and prepare for/adapt to changing climate.
- Challenges for continued forward momentum.

Facing Climate Change



Goal

Provide leadership and assistance in reducing greenhouse gas emissions and preparing for the impacts of a changing climate.

Well positioned to meet the goal

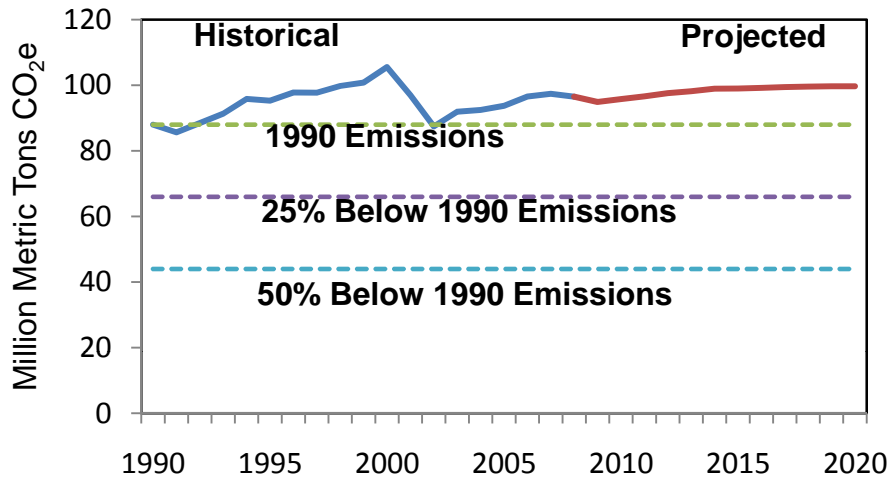


- Many planning tools to help us be “climate ready” and prepare for impacts.
 - State Environmental Policy Act (SEPA).
 - Shoreline Master Programs.
 - Watershed Plans.
- Can take advantage of the shift away from fossil fuels.
 - Comprehensive green economy jobs initiative.
 - Large potential for growing and producing biofuels.
 - Majority of electricity is from hydropower.
 - Wind power is growing.
- Large, committed advocacy community and public.
 - National leader in energy efficiency and renewable energy.
 - Adopted many of the Climate Action Team recommendations.

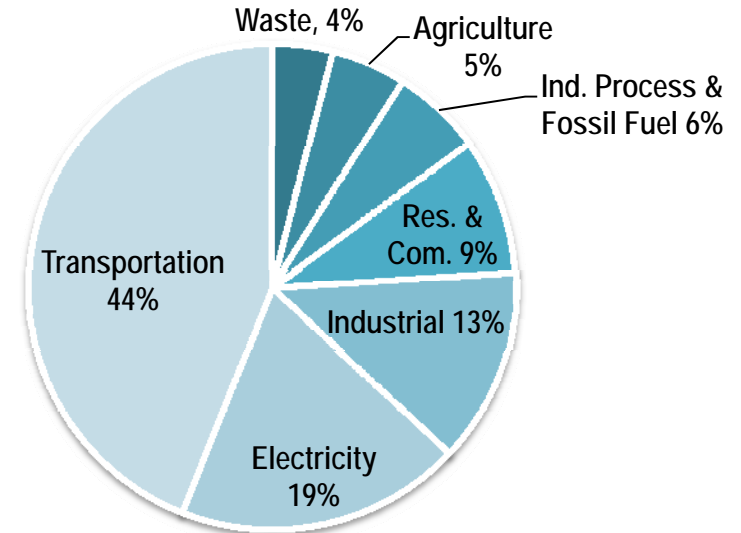
1990-2008 Statewide Emissions and Projections to 2020 Target



Draft Washington GHG Emissions



Draft 2008 GHG Emissions by Sector



Data Analysis

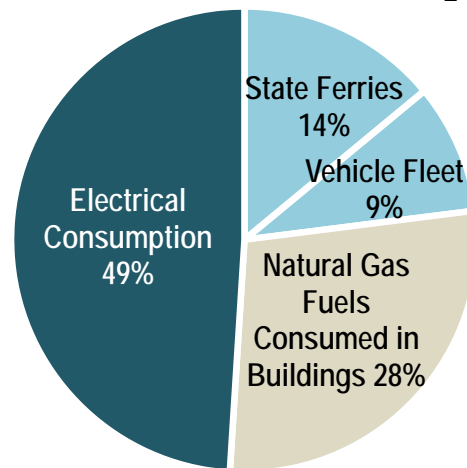
- Emissions dropped between 2000 and 2002 largely because of the permanent shutdown of the aluminum industry.
- Draft 2008 statewide emissions are 96 million metric tons of carbon dioxide equivalent (MMtCO₂e).
 - 9% higher than 2020 target.
- Even assuming full implementation of current reduction policies, the State will not meet its 2020 GHG reduction target.
- Meeting 2035 and 2050 targets will require implementing major new policies.
 - Population and economic growth tend to go hand in hand with emissions growth.

2010 ACTION PLAN	WHO	WHEN	STATUS
GHG reporting rule database	Kathy Stone, Neil Caudill	4Q 2012- 1Q 2013	Collaborating with EPA on facility database. Working with Dept. of Licensing on supplier database.
Adapt California's state inventory database	Gail Sandlin, Kathy Stone, Chuck Pierce	2011	Expect CA to deliver database October 2010

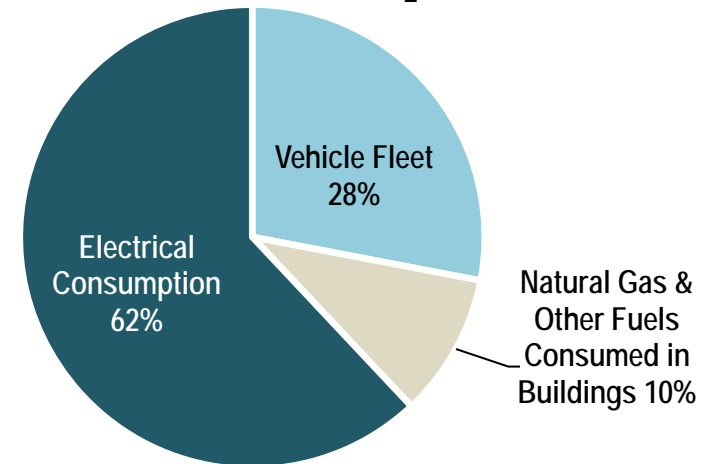
2008 Greenhouse Gas Emissions – State Agencies and Ecology



2008 State Agency GHG Emissions
Total: 1,245,616 MT CO₂e



2008 Ecology GHG Emissions
Total: 6,506 MT CO₂e

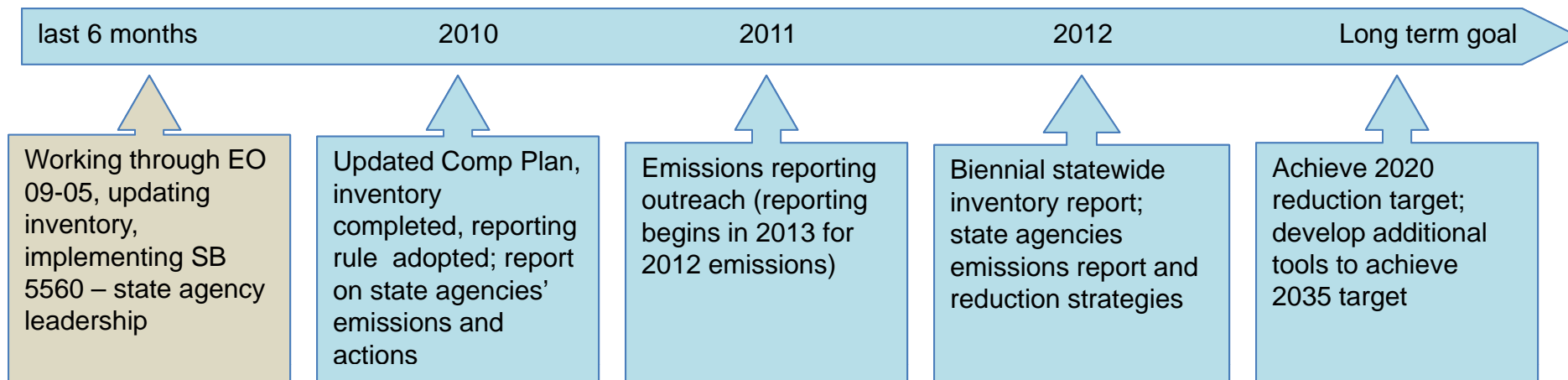


Data Analysis

- State agencies' emissions represent about 1.2% of the total Statewide emissions.
- Ecology's emissions are 0.5% of the state agencies' emissions.
- About 74% of total state agency emissions are from lighting, heating & cooling of owned and leased facilities.
- Emissions from the state ferries are 14% of the total state agencies emissions.
- Not included in data are emissions from business travel, employee commute, and waste.

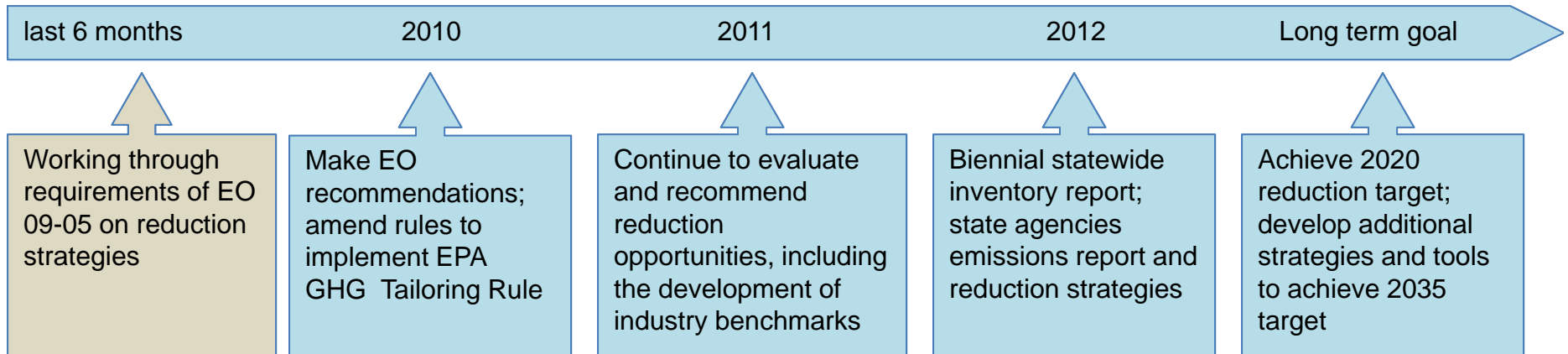
2010 ACTION PLAN	WHO	WHEN	STATUS
<ul style="list-style-type: none"> • Consolidate and analyze GHG emissions reports submitted by state agencies to Ecology • Summarize actions taken by agencies in the past five-years • Begin developing strategies to meet the mandatory emissions reduction targets set for state agencies 	Hedia Adelsman and Joanna Ekrem	Dec 2010	<ul style="list-style-type: none"> • The data has been consolidated and analysis started. • Results from the survey on actions taken by agencies are due to Ecology end of Sept.

Strategy #1: Understand the causes and contributors to greenhouse gas emissions



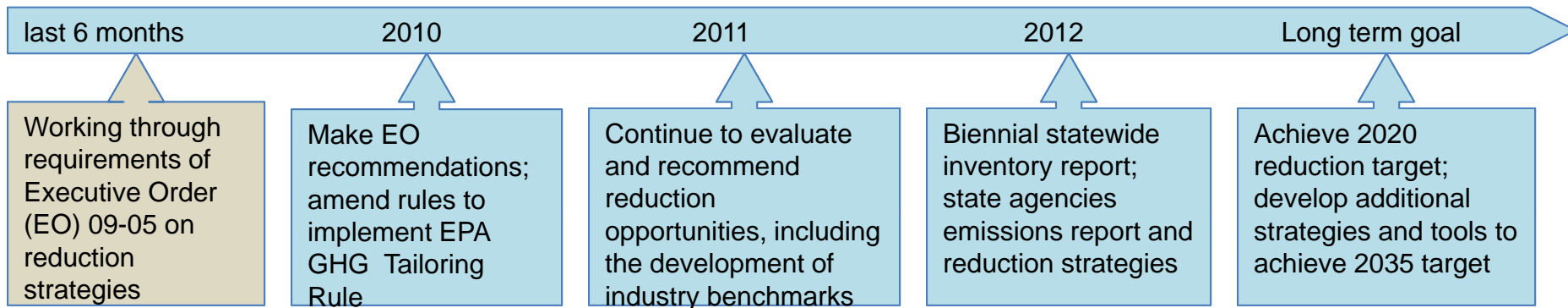
2010 ACTIONPLAN	WHO	WHEN	STATUS
Greenhouse gas reporting rule adoption	Neil Caudill	December, 2010	CR-102 filed 8/26/10
Biennial emissions inventory	Gail Sandlin	December, 2010	On track
Report Ecology emissions to The Climate Registry	Gail Sandlin and Larry Keller	March 2010	Completed 2008 inventory
Develop emissions calculator and survey of actions taken in the past 5 years by state agencies	Hedia Adelsman Joanna Ekrem	July 2010	Completed
Consolidate all state agencies' reported emissions data and actions for legislative report	Hedia Adelsman	December, 2010	Consolidated data for most agencies covering over 95% of the total emissions
Identify and provide public education and engagement opportunities on causes and contributors to emissions	Janice Adair Justin Brant Dave Workman	After inventory is complete	

Strategy #2: Develop reduction strategies and tools to assure state GHG targets are met



2010 ACTION PLAN	WHO	WHEN	STATUS
Evaluate and make recommendation on adoption of a low carbon fuel standard	Bob Saunders Brett Rude Justin Brant	Nov ,2010	Draft recommendation in September
Evaluate and make recommendations on the development of one or more industry benchmarks	Janice Adair Stu Clark	July, 2011	White paper evaluating benchmarking is complete; recommendation being developed
Evaluate and recommend whether or not the state should create a forestry offset program	Stephen Bernath	October, 2010	On target
Work with TransAlta to establish an agreed order to that will meet the GHG emissions benchmark for utilities	Stu Clark	Dec, 2010	Negotiations are on-going; Governor's Office leading
Work with companies that emit 25,000 metric tons or more each year on strategies to reduce their emissions	Eli Levitt Justin Brant Janice Adair	Dec, 2010	Strategies provided by stationary sources; utilities provided information on September 16, 2010
Assist state agencies in developing reduction strategies	Hedia Adelsman Joanna Ekrem Justin Brant	Begin in Dec, 2010	All agencies must have reduction strategies by June 30, 2011

Strategy #2: Develop reduction strategies and tools to assure state GHG targets are met (continued)



2010 ACTION PLAN	WHO	WHEN	STATUS
Amend State Prevention of Significant Deterioration rules to include GHG emissions as required by EPA	Stu Clark	December, 2010	On target
Track progress on meeting statutory reductions and prepare biennial report	Justin Brant Janice Adair	December, 2010	In preparation
Develop guidance for developers and lead agencies on including GHG emissions in SEPA analysis	Janice Adair Brenden McFarland Annie Szvetcz	December, 2010	Revising first draft based on comments received Q&A posted on web September 17, 2010
Identify and develop education and outreach opportunities on reduction strategies	Justin, Stu, Dave, Janice	Ongoing	
Carbon Smart Energy Audit of Ecology HQ, ERO, Padilla Bay, and NWRO buildings	Carol Fleskes	September 2010	Completed
Implement low and no cost building energy efficiency measures	Carol Fleskes	As soon as funding is available	Projects identified , working details for a financing package
Carbon Smart employee engagement	Rhonda Hunter Eli Levitt	Ongoing	First survey complete in November 2010

The costs of climate change are significant

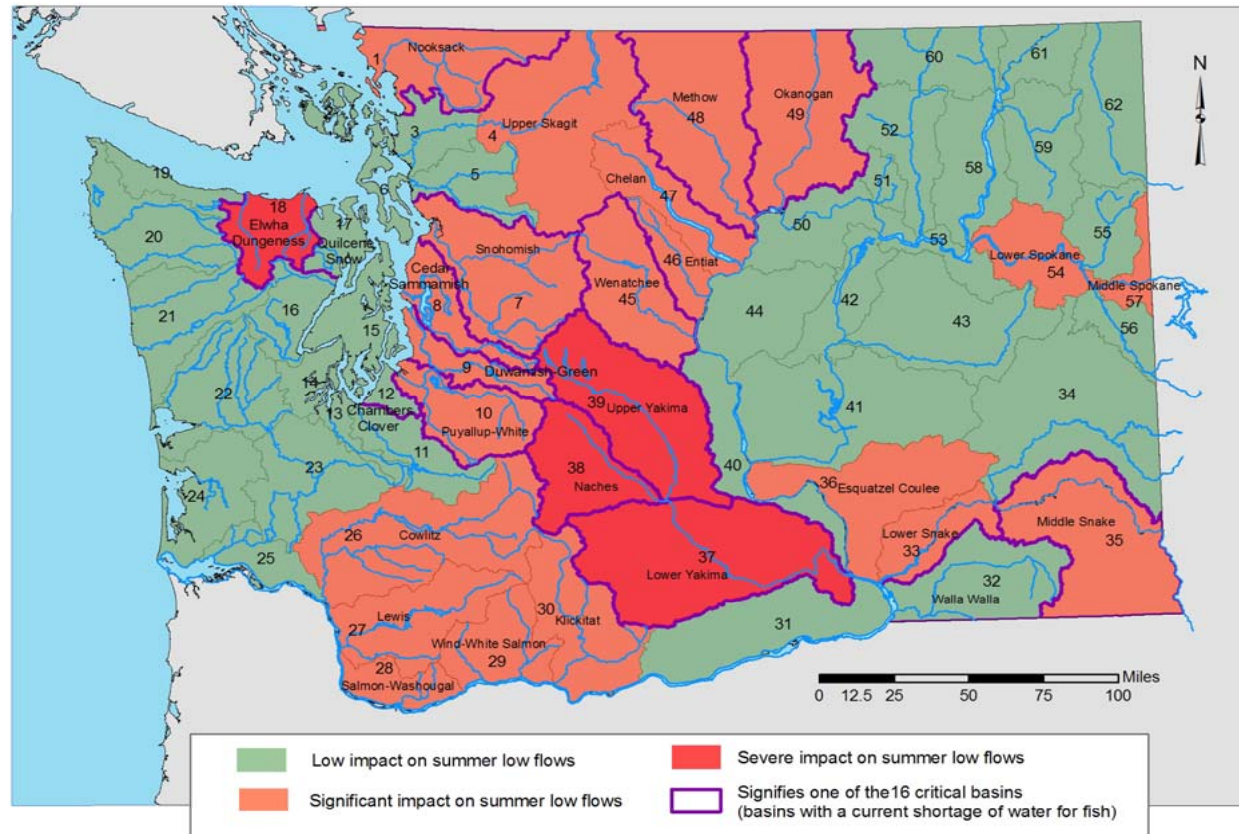


- If no additional actions are taken to reduce emissions, climate change could cost WA households an additional \$1,250 per year by 2020 due to:
 - Increased energy costs (reduced hydropower and increased demand).
 - Use of less energy efficient technologies.
 - Increased public health costs.
 - Coastal and storm damage.
 - Reduced salmon populations.
 - Reduced food production.
 - Increased wild land fire costs.
 - Lost tourism and recreational opportunities.

<http://www.ecy.wa.gov/pubs/0901006.pdf>

Impacts of Climate Change on Water Resources

2040 Projected Climate Change Impact on Summer Flows by WRIA



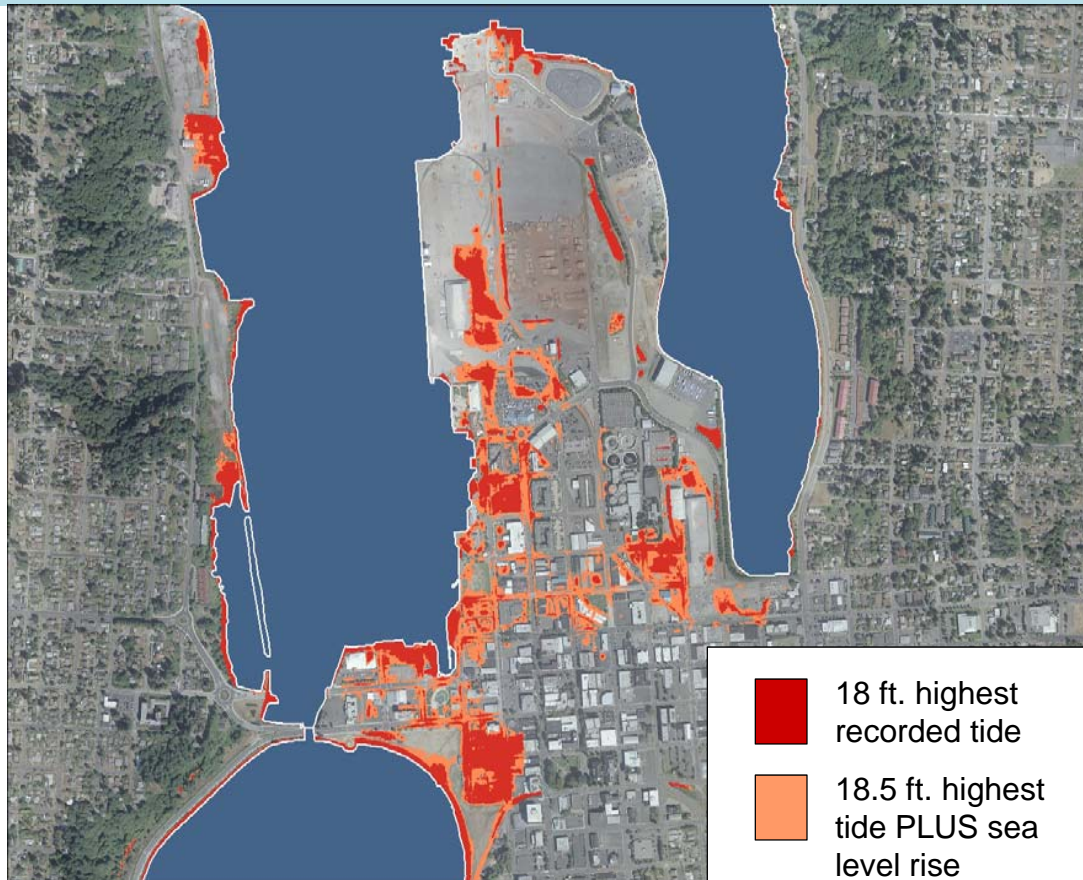
Data Analysis

- Impacts of climate change on summer flows will likely be different in river basins that depend either on snowpack, precipitation or both.
- Water supply for agriculture, people and fish will likely be:
 - Severely impacted in the **red** colored basins.
 - Significantly impacted in the **pink** colored basins.
 - Less impacted in the **green** colored basins.

Basin categories are based on the 2009 Assessment done by the University of Washington Climate Impacts Group

2010 ACTION PLAN	WHO	WHEN	STATUS
Water Smart Washington recommendations Develop strategies and actions on how to address and prepare for the impacts of climate change on water resources - Will be incorporated in state response strategy	Evan Sheffels, Kurt Unger; Stephen Bernath; Paul Pickett	Water Smart WA being developed Preliminary information from state strategy advisory groups by Dec. 2010	Legislation drafted Preliminary draft of strategies and actions under review by the advisory groups

Flooding Risk in Olympia due to Sea Level Rise



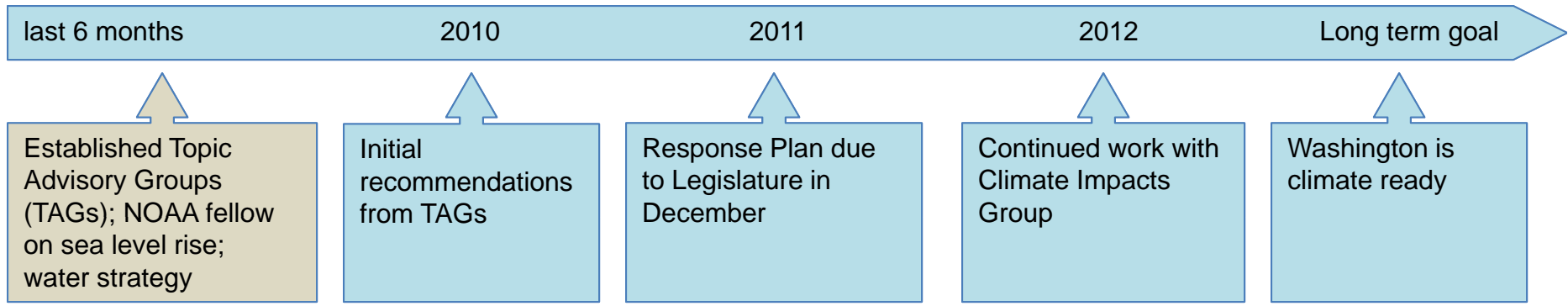
Map Source: City of Olympia

Data Analysis

- Projections of sea level rise for the Puget Sound range from 3” to 22” by 2050 and 6” to 50” by 2100.
- Sea level rise will have significant impacts on the built environment.
- The figure shows predicted flooding in downtown Olympia with 6 inches (medium estimate for 2050) of sea level rise added to an 18 foot tide (the highest recorded tide in 1977).
 - **Red** – highest recorded tide in 1977.
 - **Pink** – highest recorded tide PLUS medium estimate sea level rise for 2050

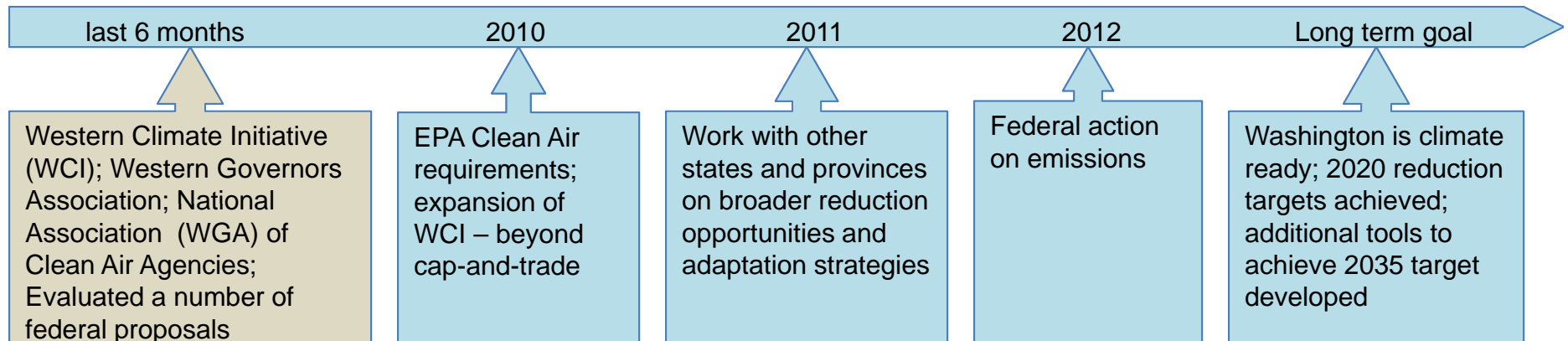
2010 ACTION PLAN	WHO	WHEN	STATUS
<ul style="list-style-type: none"> • Recommend strategies and actions – for the state response and to address EO directives • Survey local jurisdictions’ activities related to sea level rise • Contract with the National Academy of science for additional technical analysis of sea-level rise impacts 	Kate Skaggs, Tom Clingman, Hugh Shipman, George Kaminsky, and Eli Levitt	Preliminary information by December 2010 Report by December 2011	Recommended strategies under development, Local government survey in draft, Contract work ongoing

Strategy #3: Understand the impacts of climate change; develop a response plan



2010 ACTION PLAN	WHO	WHEN	STATUS
Chair Steering Committee for Response Strategy	Hedia Adelsman	October, 2010	Guidance and outline of Response plan to advisory groups
Work with Advisory Groups and CIG to develop initial draft response recommendations, including tools and guidance required in EO 09-05 (sea level rise and water resource impacts)	Hedia Adelsman Joanna Ekrem	December, 2010	Draft recommendations will be integrated by June 2011
Update economic analysis of climate change impacts on Washington's economy, specifically loss of natural water storage and forest pests	Janice Adair	December, 2010	Interagency agreement with University of Oregon in place
Create clearinghouse for relevant scientific and technical information about the impacts of climate change on state's ecology, economy and society	Hedia Adelsman Joanna Ekrem Eli Levitt	December, 2010	Complete designing, collecting, organizing information for the central clearinghouse
Serve as central convener for the development of vital programs and necessary policies to help the state adapt	Hedia Adelsman Eli Levitt Joanna Ekrem	Initial ID of programs in December	Concurrent with State strategy work
Identify and provide/develop public education and outreach opportunities on impacts	Dave Workman Kim Schmanke CPG	November, 2010	Under development; meet with environmental community in Oct.

Strategy #4: Continue leadership position in promoting national and regional efforts to reduce emissions and prepare for/adapt to changing climate



2010 ACTION PLAN	WHO	WHEN	STATUS
New WCI Charter that includes joint work on reduction strategies beyond cap and trade	Janice Adair	October – November , 2010	Co-chair charter work group; new charter being drafted approval scheduled for November meeting
Expand WCI membership	Janice Adair	Post Election	
WGA Adaptation Work Group	Janice and other programs (SEA, CRP)	Ongoing	Report adopted by WGA July 2010
Chair Climate Change Action Coordination Team for West Coast Governors Agreement on Ocean Health	Eli Levitt	Ongoing	Work plan adopted June 2010
Implement BC/WA Agreement on coastal impacts of climate change	Eli Levitt	December 2010	Videoconference on armoring & green shores being planned
Serve as Chair of National Association of Clean Air Agencies' Global Warming Committee	Stu Clark	On going	

Many challenges for continued forward momentum



- Requires transforming our energy market.
 - Underpinning of our economy.
- Without a price on carbon, reduction strategies often don't pencil out.
 - Emitting GHG emissions are free; reducing emissions are not.
 - Economy continues to falter.
- Political will for a needed comprehensive approach has waned and the issue has become partisan.
- Sector-by-sector reductions are expensive to develop and achieve, and difficult to administer.
- Public education, outreach, and communication is challenging.

**But doing nothing is not an
option**