SUMMARY

In 2004, Governor Kulongoski set three goals for reducing greenhouse gas emissions that continue to guide the state today: (1) arrest emission growth by 2010, (2) reduce emissions 10% below 1990 levels by 2020, and (3) reduce emissions 75% below 1990 levels by 2050. Oregon met its first goal, but is currently not on track to meet the other two. Over the past 10 years, an incredible amount of time, energy, community involvement, and science has gone into planning for a low carbon Oregon. Key strategies include redesigning communities to reduce car trips and reducing dependence on fossil fuels. Oregon has mapped out the necessary strategies to meet its reduction goals - but the challenge is finding new funding mechanisms to fully implement existing plans.

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INTRODUCTION

Scientists have found that Earth’s climate is changing as a result of greenhouse gas emissions. There are simply too many greenhouse gases in our atmosphere, primarily carbon dioxide, but also methane, nitrous oxide, and fluorinated gases. The effects of unchecked emissions growth are already being felt and are expected to intensify. The world is on a trajectory to raise global temperatures 4-6 degrees Celsius above pre-industrial levels by the end of the century.1 This increase is already causing serious environmental change and is expected to be catastrophic for the earth’s ecosystems and human civilization, which developed entirely within a period of stable climatic conditions.

In the coming decades, Oregon will very likely experience hotter temperatures and reduced water supply.2 The wildfires the state witnessed in 2014 could become the norm. Forest landscapes could also see an increase in insect outbreaks and tree diseases. Yet, relatively speaking, Oregon and the Pacific Northwest are expected to fare better than the rest of the country. The region’s water supply will surely outlast its neighbors to the south, meaning one of the biggest impacts Oregon could face is an influx of climate refugees.3

Oregon is a perfect test bed for a low carbon society in the United States. This white paper will review Oregon’s major greenhouse gas (GHG) reduction strategies to date and outline what to expect in 2015.

THE BENEFITS OF LEADING

The co-benefits of GHG reduction strategies happen to be policy goals for a livable, prosperous Oregon. From a public health standpoint, fewer emissions will mean cleaner air and water. Citizens are healthier when they have options other than a car for transportation. Policies that reduce emissions also strengthen our economy, create jobs, and increase resiliency.4

A number of global investment firms and government assessments have detailed the risks associated with continued fossil fuel investments. The majority of the planet’s remaining fossil fuels must stay in the ground in order to maintain a habitable planet.5 Renewable energy, clean technology, and efficiency can begin to replace fossil fuels today, and the sooner Oregon transitions to the new energy economy the better off it will be. Simply put, it will cost far more to do nothing and carry on with business as usual.

The moral arguments for action equal the economic ones. We owe it to our children and future generations to protect the planet they will inherit. There is also a responsibility to act because climate change will disproportionately impact low-income communities and communities of color. Oregonians have the capacity to act, and will not be acting alone. Cities and regions around the world are leading on this issue in the absence of national and international action.

MAJOR POLICY INITIATIVES

An incredible amount of time, energy, community involvement, and science has gone into planning for a low carbon Oregon. The major initiatives of the past 10 years are outlined below, but this is not an all-inclusive list. Corvallis, Eugene, Portland, and many other cities and

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counties have taken steps toward reducing GHG emissions.

The primary sources of GHG emissions in Oregon are gasoline use in vehicles and electricity use in homes and businesses. The transportation sector is the largest emissions contributor, but the industrial, agricultural, and residential sectors all play a role. The transportation sector is comprised of light duty vehicles, freight, and air traffic. To date, the strategy has been for municipalities to focus on light vehicle travel within their boundaries, since freight and air traffic would require considerable coordination outside of the state.

Governor Kulongoski convened an advisory group on global warming that set three target goals which continue to guide the state: (1) arrest emission growth by 2010, (2) reduce emissions 10% below 1990 levels by 2020, and (3) reduce emissions 75% below 1990 levels by 2050. Carbon is embedded in everything. Oregon is one of only a few states that has developed multiple inventories that track in-state emissions, consumption-based emissions (i.e. emissions related to goods we import), and emissions from the expanded transportation sector (freight and air travel).^6^ By all measures, we did succeed at arresting emissions growth by 2010. Yet it was largely because of the global economic recession, milder winters, and natural gas replacing coal. Oregon is not on track to meet its 2020 and 2050 goals, but we have already mapped out the strategies needed to reach those goals. The only thing needed is full implementation of existing plans.

**House Bill 3543 (2007) – Creation of the Global Warming Commission and OCCRI**
HB 3543 formally incorporated the Governor’s reduction goals into law. It also established the Oregon Global Warming Commission and the Oregon Climate Change Research Institute (OCCRI) to help reach those targets. OCCRI connects researchers in the Oregon University System with state and federal researchers. It also acts as the anchor institute for two federally funded science centers - the Department of Interior’s Pacific Northwest Climate Science Center and NOAA’s Pacific Northwest Climate Impacts Research Consortium. The OCCRI collaborates on regional climate assessments for the Legislature that report on climate science as it pertains to Oregon.

The Oregon Global Warming Commission coordinates state and local reduction efforts and provides biennial progress reports to the Legislature. In 2010, the Commission began the “Roadmap to 2020” project that identified 40 key sector actions which would put Oregon on track to meet its 2020 GHG reduction goal. In its 2013 update to the Legislature, the Commission reported that no significant progress had been made on 21 of the 40 goals. The only significant progress being made is on energy efficiency and compact urban footprints. Partial progress is being made on expanding urban transit and supporting electric vehicles. There is still significant work to be done, and 2020 is only a few short years away.

**House Bill 2001 (2009) and Senate Bill 1059 (2010)**
HB 2001, also known as the Oregon Jobs and Transportation Act, directed transportation funding around the state to build capacity and create jobs. A provision about lowering GHG emissions was added to the bill to further embed climate change in transportation planning. SB 1059 charged ODOT and the Department of Land Conservation and Development (DLCD) with developing alternative scenarios for reducing emissions from light duty vehicles in the state’s metropolitan areas. The Oregon Sustainable Transportation Initiative (OSTI) was formed between ODOT and the DLCD to coordinate similar efforts needed on HB 2001 and SB 1059.

As a result of these bills, reduction targets were adopted for each of the six Metropolitan Planning Organizations (MPOs). The targets call for a 17-21% reduction of GHG emissions from light vehicle travel, which each metropolitan area needs to achieve by 2035 in order for the state to be on track to meet its 2050 GHG reduction goal.^6^

Scenario planning is a tool that allows metropolitan areas to map a low carbon future. The Legislature imposed different scenario planning requirements on the state’s MPOs. Portland Metro is the only MPO required to implement a reduction strategy based on scenario planning results. Metro will complete the Climate Smart Communities process in December 2014.

Eugene-Springfield is required to conduct scenario planning, but it is not required to implement a strategy. The other MPOs are encouraged to consider scenario planning, but they are not required to do so. The Corvallis MPO recently completed a strategic assessment, a

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voluntary precursor to scenario planning. The Rogue Valley and Bend MPOs are also interested in completing a strategic assessment.

**Cool Planning: A Handbook on Local Strategies to Slow Climate Change (2010)**

The Oregon Transportation and Growth Management Program (a second collaborative effort between ODOT and DLCD) released a handbook for communities trying to reduce GHG emissions. The premise of the handbook is that local community design is one of the most important tools for reducing emissions. It promotes smart growth strategies such as compact, mixed use-developments that make it easier to walk and ride a bike. It also promotes changing travel habits through new business models such as car-sharing and auto insurance rates based on miles traveled. It strongly advocates for ending detrimental automobile subsidies such as free parking, which encourages auto-dependence and sprawling development patterns. American cities are largely designed around the private automobile, but low carbon cities will need better ways of moving people and goods.

**Oregon Climate Change Adaptation Framework (2010)**

Reducing greenhouse gas emissions is a climate change mitigation strategy. Climate change adaptation is another burgeoning area of interest for planners and local decision makers, in case mitigation strategies are not enough. The 2010 framework proposes actions of little or no cost to the state. Examples include further research on adaptation measures and better monitoring of natural resources. The framework stresses the need for additional adaptation planning at the local and regional levels.

**Governor Kitzhaber’s 10-Year Energy Action Plan (2012)**

Our energy strategies are simple and straightforward: continue to increase efficiency to meet 100% of new demand, and replace carbon-intensive sources with renewable energy. The region already excels at energy efficiency, and continues to add new renewable generation to the grid every year. In the not-too-distant past the region was racing to build new coal plants. The last remaining one, Boardman, will stop burning coal by the end of the decade.

The Governor’s plan identifies the state as a market driver for energy innovation. For example, local governments can play a crucial role in the clean energy market transformation by electrifying vehicle fleets and supporting green building practices. Historically government has done much of the heavy lifting when we make giant leaps forward. Now we are counting on collaborations between the public, private, and nonprofit sectors, but governments can still spur innovation by mandating higher standards. It is estimated that cities could cut their collective building energy usage by 30% if the most rigorous building codes were adopted.¹⁰

**Oregon Statewide Transportation Strategy (2013)**

OSTI’s report outlines strategies that could reduce statewide GHG emissions 60% below 1990 levels by 2050 from the transportation sector alone. The two main components of reducing light vehicle transportation emissions are creating a smarter fleet (better vehicles and better fuels) and reducing vehicle miles traveled (VMT). To that end, the STS promotes advancements in vehicle and fuel technologies and more efficient land use. Additional strategies include improving systems operations and increasing transportation options. For example, Intelligent Transportation Systems (ITS) in Washington County use cameras on signals to track vehicle platoons and adjust the signal timings to maximize traffic flow, which reduces emissions from idling. Yet tweaks to the existing auto-dominated system will only go so far. Increasing transportation options means increasing transit frequency and growing the bicycle network so that private automobiles are not the only choice for convenient travel.

**Pacific Coast Action Plan on Climate & Energy and Senate Bill 306 (2013)**

In October 2013, California, Oregon, Washington, and British Columbia agreed to jointly take action on climate change. California has a successful carbon cap-and-trade system in place, and the carbon tax in British Columbia is wildly exceeding expectations. Oregon and Washington agreed to set a price on carbon emissions, with the eventual goal of linking up to form a regional carbon market. With a regional GDP of $2.8 trillion, the four signers of the Pacific Coast Action Plan are the fifth largest economy in the world.¹¹ The region is poised to lead the world toward a low carbon future.

In response, SB 306 approved funding for a carbon pricing feasibility study that will be released in November 2014. The preliminary report found that it is not only feasible but desirable to replace distortionary income taxes with revenue from a carbon tax.¹² Placing a price on carbon is often cited as the single most effective action we could take to reduce emissions.¹³ California and British

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Columbia are proving that it will not harm the economy, as defenders of the status quo often claim.

**ON THE HORIZON**

2015 will be a big year for climate action in Oregon, and possibly the world. The biggest issues before Oregon are a price on carbon and finding new funding mechanisms to fully implement existing policies and plans. Incidentally, a price on carbon would provide new revenue that could potentially fund existing plans. The STS identifies funding as the first and foremost consideration for implementing its vision. The preliminary conclusion of Portland Metro’s Climate Smart Communities Scenarios Project is that enhancing already adopted plans and projects could exceed reduction goals, if they are fully implemented. Metro is estimating an annual budget shortfall of $167 million for transit funding. Funding is needed to maintain existing systems, increase operations, invest in new transit projects, and to redesign streets. See “Innovation or Insolvency: Oregon’s Options for Transportation Funding Sources” white paper at www.oregonapa.org, and know that without progress on transportation funding we will not meet our GHG reduction goals.

The EPA’s Clean Power Plan draft rule will also impact our emissions. If finalized, Oregon will be required to submit a plan for reducing power sector emissions 48% by 2030. The EPA is estimating 27% of that reduction will come from renewables and efficiency measures. The EPA expects natural gas to help most states reach their reduction goals, but natural gas is still a fossil fuel that emits methane and carbon. Recently Oregonians have strongly opposed new fossil fuel facilities, some of which are being denied operating permits by the Oregon Department of State Lands.

In 2015 the Legislature will review and possibly amend the GHG target rules for the state’s metropolitan areas. It will also decide whether or not to continue funding OSTI. At this point, it is clear what needs to be done to transition to a low carbon society. We have a tremendous amount of data, powerful modeling tools, and the capacity within our communities to enact reduction strategies that create more prosperous and livable places. All that is left to do is heed our own good advice.

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