# Oregon Business Leaders' Greenhouse Gas Emission Reduction Task Force



Business-Smart Strategies for Decarbonizing Oregon's Economy

March 2017

# **Task Force Membership**

#### John Carter, TNC Trustee Merritt Paulson, Portland Timbers

Rich Brown, Bank of America Bruce Daucsavage, Ochoco Lumber Mark Edlen, Gerding Edlen Jill Eiland, Retired, Intel Corporation Scott Folk, Roseburg Forest Products Jack Isselmann, Greenbrier Companies Margaret Kirkpatrick, Retired NW Natural, TNC Trustee Bob Levy, Windy River and L&L Farm Marty Myers, Threemile Canyon Farms Jim Piro, Portland General Electric Steve Pratt, Retired ESCO Corporation, TNC Trustee Curtis Robinhold, Port of Portland, TNC Trustee Lane Shetterly, Shetterly, Irick and Ozias Debra Smith, Central Lincoln PUD Sam Tannahill, A to Z Wineworks/Rex Hill Winery Chris Taylor, Google Bill Thorndike, Medford Fabrication Bill Wyatt, Port of Portland, TNC Trustee

# Why The Nature Conservancy Supported the Task Force



- Climate change is the number one environmental threat.
  Mitigating and adapting to climate change is going to be expensive.
  To augeood we need a
- To succeed we need a strong economy.

# **Emissions Impact Concentrations and Climate Change**



**CO<sub>2e</sub> CONCENTRATIONS** 

2075

650 PPM

2100

Source: Figure from Energy Innovation, Data from Climate Interactives C-Roads Model

# Task Force Technical Team

John Tapogna, ECONorthwest Margi Hoffmann, Hoffmann Consulting Bill Edmonds, NW Natural Matt Krumenauer, Future Resource Strategies Henry Lorenzen, NW Power and Conservation Council Catherine Macdonald, The Nature Conservancy

#### Task Force Purpose and Goal

To design a 5-Year Action Plan for significantly reducing greenhouse gas emissions in Oregon while creating jobs, growing the economy, and positioning the state to provide leadership and model positive change.

# Task Force Meeting Discussion Topics

Primer on Oregon's Greenhouse Gas Emissions Characteristics of Emission Reduction Policies Energy Efficiency Role of Research and Development Agriculture and Forestry Transportation **Carbon Pricing Finance Mechanisms** State Administration of Climate Mitigation

#### **Oregon Low-Carbon Credentials**

Oregon's total carbon dioxide – 38<sup>th</sup> Place

Oregon's energy consumption per capita – 38<sup>th</sup> Place

GHG emissions declined by 8%, from 2005 – 2015

Per capita emissions down 21%, same period

# The Business Case for GHG Emission Reduction

By reducing energy needs and waste, businesses can improve their bottom-line.

There are substantial and diverse risks facing the United States economy and assets.

Businesses that reduce their GHG footprint and produce products to reduce the emissions will have a significant market advantage.

Jurisdictions with low-carbon, low-cost energy and supportive policies for reducing GHG emissions will be well positioned to incite business expansion and attract new businesses.

# Oregon's GDP Largely Decoupled from GHG Emissions



Sources: GDP: U.S. Bureau of Economic Analysis, Jobs and Population: St. Louis Federal Reserve FRED database, GHG Emissions: Oregon DEQ

# Oregon is Not Projected to Meet GHG Goals



Source: ODEQ, 2016

# Challenges to Meeting GHG Goals

- The State goals are non-binding.
- The Oregon Global Warming Commission is underresourced.
- State agencies aren't mandated to implement measures to reduce GHG emissions.
- Federal and state investments in reducing GHG emissions have declined.
- Existing state policy/investment playing field is complex.
- Without careful design reducing GHG emissions can have significant impacts on Oregon's economy.

### Oregon's GHG Emissions by Sector



# Transportation and Oregon's Economy

- More than \$300 billion in goods are transported in Oregon
  - Trucks, which connect inter-modal facilities, carried 72 percent of the total
- 20 percent of all jobs in Oregon —346,400—were transportationrelated or dependent
- Congestion is expensive, it increases emissions and it is getting worse.
  - The number of vehicles on Portland's roads increased by 6.3 percent in 2015.
  - In 2040, a typical Portland household will spend 69 hours in slow, stop-and-go traffic this will represent 14 percent of their travel time up from about five percent in 2010.

# Strategy: Address congestion in the Portland Metropolitan Area to get freight and people moving

- Design a Congestion Pricing & Improved Transit Program for the Portland Metropolitan Area
- Strategically invest to:
  - Accelerate adoption of Intelligent Transportation Systems; and
  - Address key bottlenecks in the Portland Metropolitan Area.



Source: Oregon Department of Transportation, 2013

# Strategy: Accelerate conversion to alternative-fuel vehicles

- Stimulate investment in alternative-vehicle infrastructure.
- Develop a blueprint for deploying renewable natural gas.
- Design and implement alternative-fuel vehicle incentives to achieve maximum GHG benefits.

Miles per Gallon of Gasoline-Equivalents by Major Vehicle Categories



Source: U.S. Department of Energy: Alternative Fuels Data Center, 2015

# Strategy: Regain Oregon's leadership in energy efficiency

- Adopt progressive building codes.
- Design Oregon's energy efficiency incentive programs to buy down the incremental cost of meeting the new codes.
- Develop state tax incentives for building owners who provide energy efficiency retrofits for their renters.

Relative Energy Savings from Building Codes Standards



Source: Earth Advantage 2017

#### **Energy Efficiency Installation Creates Jobs**



Source: ECONorthwest

# **Energy Savings Creates Jobs**



Source: ECONorthwest

# Strategy: Invest in the development of a thorough analysis and modeling effort to inform development of any carbon pricing program.

Growing Global Momentum for Carbon Pricing



Source: World Bank 2015

Economists View that Carbon Pricing is the Least Cost Approach to GHG Emission Reduction



University of Chicago Booth School of Business 2011

# Strategy: Maximize Oregon's Potential to benefit from agriculture, forestry and ecosystem based climate mitigation solutions

- Develop comprehensive land based-carbon accounting.
- Invest in forest carbon analysis to document the implications of woody biomass utilization.
- Extend and expand incentives for biomass utilization.
- Modernize irrigation to reduce energy consumption, generate electricity and increase water conservation.

Land-based carbon mitigation could provide up to 37 percent of global GHG emission reduction needed by 2035



Source: Emission Reduction Estimate Griscom et al. *in review* 

# Strategy: Modernize how Oregon invests in GHG emission reduction

- Reauthorize the Energy Incentive Programs with improvements to maximize private sector investment.
- Authorize Oregon's Small-Scale Energy Loan Program to use credit enhancements and other financial tools to better leverage private investments and transform it into a fully functioning Green Bank.

States with or exploring ways to leverage scarce public resources with sophisticated banking and finance mechanisms



Strategy: Require and fund the state agencies to advance effective climate mitigation and adaptation measures

- Increase state capacity for coordination, policy analysis and planning to proactively manage GHG emission reduction efforts.
- Give agencies statutory direction on their role and expected contributions to meeting the state's climate goals.

# **Designing Smart Policies**

- Set goals and let the market find the best solutions.
- Require consistent, predictable performance improvement.
- Go upstream in the manufacturing process to capture 100 percent of the market.
- Facilitate private sector investment and innovation.
- Reward performance, not investment.
- Invest in new infrastructure when it is designed, rather than waiting to retrofit or replace it.



# **Additional Criteria**

- Prevent business leakage.
- Avoid or mitigate disproportionate impacts to rural economies.
- Avoid or mitigate impacts on low income Oregonians.
- Build on Oregon's strengths.
- When possible, align policies and programs to meet multiple state goals.

# Conclusions

- It is possible to grow the value of goods and services while reducing GHG emissions.
- Well designed public policies and investments have an important role to play.
- Oregon needs to strengthen its approach to reducing emissions and addressing climate adaptation.



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https://www.nature.org/cs/groups/webcontent/@web/@oregon/documents/ document/prd\_312248.pdf