

# Oregon Department of **ENERGY** Biennial Energy Report

NASEO Annual Meeting  
September 26, 2018



# A Brief History of ...

- ODOE was created in 1975
- First Biennial Energy Plan in 1983
  - Forecast loads
  - Identify and evaluate resources
- Late 1960s “Hydro Thermal Plan”
- **1978 WPPSS & largest bond default in history**
- **1980 Northwest Power Act created the Northwest Power and Conservation Council**



*History and*



# NW Power Act and Least Cost Planning

- Established the Council as the regional planning body
- Statutory priorities for resource acquisition:
  - 1<sup>st</sup> energy efficiency
  - 2<sup>nd</sup> renewables
  - 3<sup>rd</sup> traditional resources
- This is the Dawn of Least Cost Planning!
- First Power Plan in 1983, working on the 8<sup>th</sup> Plan now
- Utility specific IRPs (1989 OPUC Least Cost Plan



# So where does that leave our BER?

- Refresh in 2017 with HB 2343
  - *A comprehensive report with data and information on energy resources, policies, trends and forecasts in Oregon.*
  - *The purposes of the report shall be to inform local, state, regional and federal energy policy development, energy planning and energy investments, and to identify opportunities to further the state energy policies*
- What added value does the BER bring to the energy planning space?
- Initial external and internal discussions of what relevant important energy issues of the day to include in the BER
- *We awoke a sleeping BER from her hyBERnation!*



# The BER

- **Chapter 1 – Energy Stats for Oregon**
- **Chapter 2 – Important Policy Issues of the BER**
  - **Chapter 2.1 - Climate Change**
  - **Chapter 2.2 - Energy Efficiency**
  - **Chapter 2.3 - Renewable Energy**
  - **Chapter 2.4 - TransBERtation**
  - **Chapter 2.5 - Consumer Protection and Equity**
  - **Chapter 2.6 - Resiliency**
- **Chapter 3 – Recommendations**



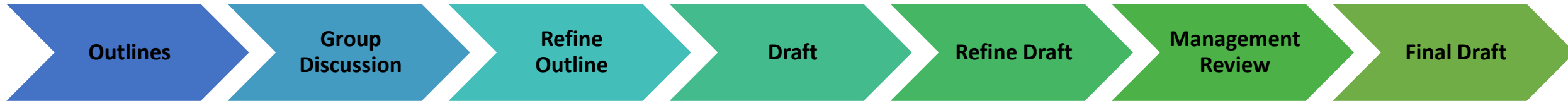
*Are we doing?  
Are we doing?  
Needs to be done?*



C. Preventive measures	Recommendation	Type of recommendation
Antibiotics for asymptomatic bacteriuria (ASB)	C.1: A seven-day antibiotic regimen is recommended for all pregnant women with asymptomatic bacteriuria (ASB) to prevent persistent bacteriuria, prevent birth and low birth weight.	Recommended
Antibiotic prophylaxis to prevent recurrent urinary tract infections	C.2: Antibiotic prophylaxis is only recommended to prevent recurrent urinary tract infections in pregnant women in the context of rigorous research.	Contact specific recommendation (research)
Antenatal anti-D immunoglobulin administration	C.3: Antenatal prophylaxis with anti-D immunoglobulin in non-sensitized Rh-negative pregnant women at 28 and 34 weeks of gestation to prevent RhD alloimmunization is only recommended in the context of rigorous research.	Contact specific recommendation (research)
Preventive antitubercular treatment	C.4: In endemic areas, <sup>14</sup> preventive antitubercular treatment is recommended for pregnant women after the first trimester as part of worm infection reduction programmes. <sup>15</sup>	Contact specific recommendation
Tetanus toxoid vaccination	C.5: Tetanus toxoid vaccination is recommended for all pregnant women, depending on previous tetanus vaccination exposure, to prevent neonatal mortality from tetanus. <sup>16</sup>	Recommended

# BER Development Process

- Assigned Chapter Leads
- Iterative Process



- Peer review and stakeholder input
- Governor's Office review
- Final BER due to the Legislature November



# Lessons Learned

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- **Data! Data! Data!**
- **Early scoping**
- **Early guidance**
- **Harnessing collective knowledge**
- **Chapters evolve**
- **Involve peers and stakeholders**
- **Start early**
- **Timelines, deadlines and project management**
- **Senior management review**

# BERisms

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**It's not HyBERboly! This report is going to leave you flabBERgasted by how BERrific it is!**

**I know this is unBERable but it is only tip of the iceBERg!**

**I don't want you to go BERzerk! So I'll stop jabBERing before you think I'm a gooBER.**

**But just in case you want to join us in celebration on NovemBER 1<sup>st</sup> we are going have a BER-b-q on our WeBER with BERgers and drink BERs until some of us are no longer SoBER. Then because we were BERned out – we will slumBER.**

**Any then we'll start the next BER on NovemBER 2<sup>nd</sup>!**





# Thanks for your time!

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ODOE

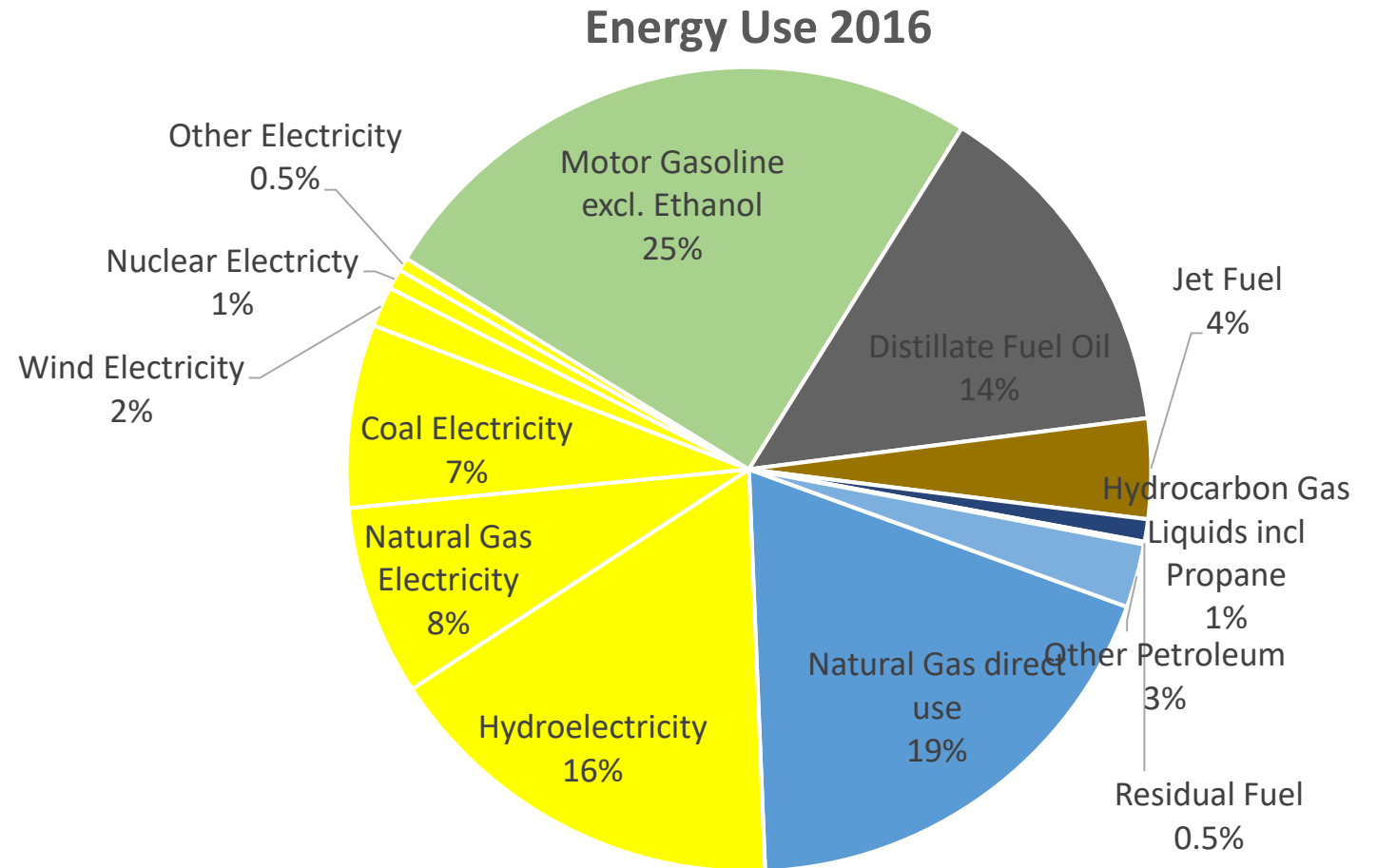
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# Chapter 1

- Oregon Overview: facts and figures, how we compare
- Where our energy comes from
- How our energy is used
- Cost of energy
- Effects of energy use



# Chapter 2

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- 2.0 Policy landscape/ecosystem
- Chapter 2.1 Greenhouse Gas Reduction Pathways for Oregon
- Chapter 2.2 Energy Efficiency and Conservation: Electricity and Natural Gas in Oregon
- Chapter 2.3 Renewable Electricity in Oregon: Changing Drivers, New Challenges
- Chapter 2.4 Building a Cleaner, More Sustainable Transportation Sector
- Chapter 2.5 Energy options: Consumer Protection, Energy Burden, Equity, and Environmental Justice
- Chapter 2.6 Oregon's Energy Systems: Resiliency and Climate Adaptation

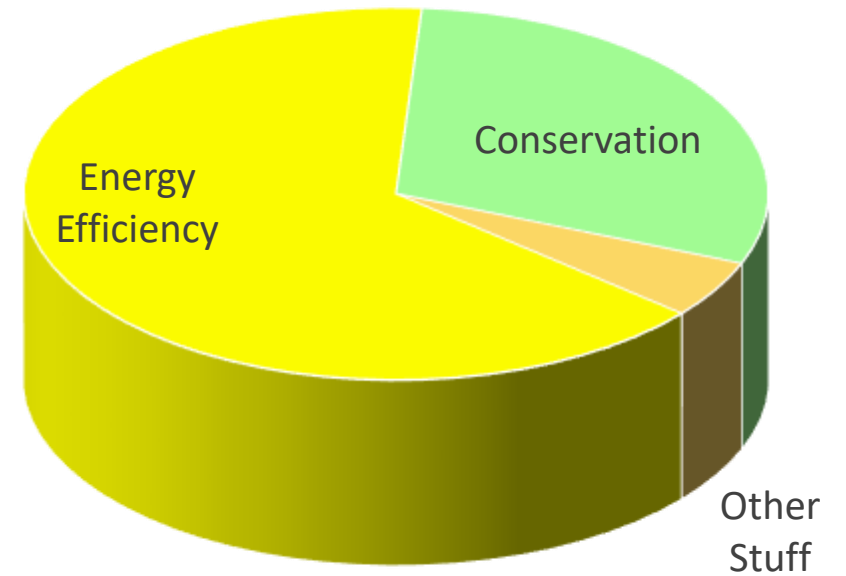
# 2.1 Greenhouse Gas Reduction Pathways for Oregon

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- Some progress, but not yet on a pathway to a deeply decarbonized, clean energy future
- Oregon’s “Business As Usual” pathway ≠ limiting global temperature to under 2 degree Celsius → significant and unprecedented risks to society and the environment from climate change
- True costs and benefits of a low carbon energy transition requires consideration of multiple issues:
  - intergenerational and social/env equity and justice
  - near-term vs. long-term costs and benefits, and how distributed across society
  - co-benefits of reduced pollution; potential for environmental tradeoffs
  - costs of climate change itself under “Business As Usual”
  - first-mover and other economic advantages of a clean energy economy
  - energy independence
- Opportunity to capitalize on low carbon technological progress, transform how energy is made and used in the state, and make a deep decarbonization pathway feasible across all sectors of the economy

## 2.2 Energy Efficiency and Conservation: Electricity and Natural Gas in Oregon

- Energy Efficiency is Oregon's 2nd largest electricity resource behind hydroelectricity.
- Energy Efficiency is the least cost electricity resource for the region, and costs less than wind, solar, or natural gas generation.
- Adding a GHG price/value to energy efficiency funding is a game changer
- Efficiency technologies and conservation practices continue to evolve. We haven't run out of measures or practices.



WorkStream InfoGraphic, Not To Scale

## 2.3 Renewable Electricity in Oregon: Changing Drivers, New Challenges

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- **Renewable Growth:** Significant increases in capacity and consumption
- **Key Drivers:** RPS and PURPA; federal (e.g., PTC and ITC) and state (e.g., RETC and BETC) incentives; growing interest among consumers; dramatic drops in tech costs
- **50% RPS Challenges:** Will require new strategies to integrate variable resources and to balance the trade-offs (e.g., land use and fish protection)
- **Flexibility:** Increasing the flexibility of the electric system—through flexible supply, controllable loads, and markets—will be key to integrating renewables at least cost

## 2.4 Building a Cleaner, More Sustainable Transportation Sector

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- Largest consumer of energy, emitter of GHG emissions, and consumer of Oregon dollars.
- On a vehicle basis we are reducing consumption & emissions but growth of vehicles and VMT are countering this progress.
- Additional policies are needed to reduce emissions to meet Oregon's GHG goals.
- Accelerated EV adoption can reduce GHG emissions & reduce energy costs.



# 2.5 Energy Options: Consumer Protection, Energy Burden, Equity, and Environmental Justice

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- **Energy burden exacerbates economic gaps and inequity** – comprehensive consideration across electricity, heating, and transportation related energy sectors could support more effective solutions for many Oregonians.
- **Electric Sector:**
  - the PUC’s recent SB 978 report illustrates the significant technological advancements and policy drivers in the electric sector over the past fifteen years
  - interest in exploring changes to the electric utility business incentives in ways that allow for greater equity and customer choice in Oregon
- **Heating and Transportation Sectors:**
  - While the transportation and heating sectors have had different technological advancements and policy drivers, similar analysis on programs and business incentives that allow for greater equity and customer choice could inform pathways to achieving the state’s environmental goals and reducing the energy burden on Oregonians.
- **Comprehensive information and analysis about benefits and impacts** of energy to Oregonians, in particular how it may relate to equity and environmental justice, is not available in the state.

## 2.6 Oregon's Energy Systems: Resiliency and Climate Adaptation

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- **Threat Awareness:** New science increasing awareness of the threats to the energy system from Cascadia, climate change, and cybersecurity or terrorist attack
- **New Solutions:** Rapid advancements in distributed energy technologies creating new opportunities to improve the resiliency of energy systems to these threats
- **What's Possible:** Oregon could take advantage of these new technologies to improve the resiliency of its energy systems in targeted areas
- **What's Needed:** There is an opportunity to take advantage of this new awareness of threats and new opportunities to address them through engagement with communities and identification of mechanisms to finance investments in energy resiliency