

**Testimony to the House Energy & Environment Committee  
on House Bill 2704**

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Founded in 1968, the Oregon Environmental Council (OEC) is a nonprofit, nonpartisan, membership-based organization. We advance innovative, collaborative and equitable solutions to Oregon's environmental challenges for today and future generations.

**Oregon Environmental Council strongly supports HB 2704 to reduce climate and air pollution.**

**Petroleum-based transportation is a large, and growing source of climate pollution.**

The transportation sector contributes the largest share of climate pollution in Oregon—nearly 37% of Oregon's greenhouse gas inventory. While transportation greenhouse gas emissions declined and plateaued between 2010-2013, they rose during 2014 and 2015. We expect 2016 levels to surpass those in 2015, and for the rising trend to continue through 2017. (See Figure 1.)

**Figure 1. Oregon Greenhouse Gas Inventory<sup>1</sup>**

	1990	1995	2000	2005	2010	2011	2012	2013	2014	2015
<b>Total Emissions (Million MTCO<sub>2</sub>e)<sup>2</sup></b> (including emissions from the use of electricity)	<b>56</b>	<b>65</b>	<b>71</b>	<b>66</b>	<b>64</b>	<b>62</b>	<b>60</b>	<b>60</b>	<b>60</b>	<b>63</b>
<i>Preliminary<sup>3</sup></i>										
<b>Emissions by Key Sectors</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Transportation (including sector electricity use)	21.0	22.6	24.4	24.7	23.2	22.3	22.3	21.3	21.4	23.2
Electricity use	16.6	21.2	23.3	20.2	20.1	18.6	17.9	18.0	18.0	18.7
Natural gas use	5.0	6.5	7.7	7.4	7.9	8.1	6.8	8.2	7.8	7.8
Residential & Commercial	3.6	3.3	3.7	3.7	3.9	3.9	3.8	3.8	3.9	4.1
Industrial	5.3	5.8	6.4	4.5	3.7	4.1	4.0	3.8	4.1	4.3
Agriculture	4.9	5.5	5.3	5.7	5.2	5.5	5.5	5.2	5.2	5.2
<b>Total statewide greenhouse gas emissions</b>	<b>56</b>	<b>65</b>	<b>71</b>	<b>66</b>	<b>64</b>	<b>62</b>	<b>60</b>	<b>60</b>	<b>60</b>	<b>63</b>

Transportation electrification is a critical tool for reducing climate pollution from the transportation sector. Electric drivetrains are inherently more efficient—over three times more so—than internal combustion engines. There are many options for zero- or low-carbon electricity generation, including wind, solar, geothermal, hydro, and wave power.

To hit our long-term climate goals, Oregon's Statewide Transportation Strategy found that every tool in the toolbox is needed to reduce emissions in the transportation sector.

<sup>1</sup> Available at: <http://www.deq.state.or.us/aq/climate/docs/ghginventory.pdf>

Importantly, electric or hybrid electric vehicles need to make up 65% by 2035 and 95% by 2050 of Oregon's passenger vehicle pool.<sup>2</sup> Oregon is currently not on a growth trajectory to meet those goals, and additional public policy is needed to get there.

### **Electric vehicles reduce toxic air pollution.**

Gasoline and diesel contain many toxic substances that harm lungs, hearts, and brains. Vehicle pollution causes cancer and contributes to premature deaths in Oregon.<sup>3</sup> While federal vehicle and fuel standards have reduced the amount of toxics emitted by individual vehicles, air quality benefits are eroded by more cars on the road and more vehicle miles traveled. Both have increased in Oregon over the last few years.

Toxic compounds in vehicle exhaust include: benzene, toluene, ethylbenzene, xylenes, formaldehyde, 1,3-butadiene, and diesel particulate matter, among others. A 2015 study found that pregnant women exposed to high levels of polycyclic aromatic hydrocarbons (PAHs) from vehicle exhaust had children with impacted brain development. According to the researcher:

“The effects were extraordinarily powerful,” says Dr. Bradley Peterson, director of the Institute for the Developing Mind at Children's Hospital Los Angeles and lead author of the study. “The more prenatal exposure to PAH, the bigger the white matter problems the kids had. And the bigger the white matter problems, the more severe symptoms of ADHD, aggression and slow processing they had on cognitive tasks.”<sup>4</sup>

Unlike petroleum-powered vehicles, electric vehicles emit no tailpipe pollution. Fortunately, electric models for passenger cars, school buses, transit buses and even forklifts are currently available.

### **Rebates are effective.**

While electric vehicles offer lower total cost of ownership (less maintenance, cheaper fuel), the upfront vehicle cost is currently higher. “Cash on the hood” rebates have proven to be effective at defraying upfront costs and increasing the number of vehicles purchased. Oregon needs more electric vehicles to reduce climate and air pollution, and Oregon needs rebates to achieve those goals.

### **Increasing access for all.**

Oregon Environmental Council strongly supports elements of the Charge Ahead Oregon Program that expands access for low-income and rural Oregonians to benefit from electric vehicles.

### **We respectfully encourage support of HB 2704.**

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<sup>2</sup> See page 136 at: [https://www.oregon.gov/ODOT/TD/OSTI/docs/STS/STS\\_TechAppendices.pdf](https://www.oregon.gov/ODOT/TD/OSTI/docs/STS/STS_TechAppendices.pdf)

<sup>3</sup> See: [http://oeconline.org/wp-content/uploads/2016/05/Diesel\\_2016.pdf](http://oeconline.org/wp-content/uploads/2016/05/Diesel_2016.pdf)

<sup>4</sup> See: <http://time.com/3757864/air-pollution-babies/>