



Oregon Small Woodlands Association

HB 2020 Recommendations to

Joint Committee on Carbon Reduction Members

May 3, 2019 Corrected April 26, 2019 comments

Re: HB 2020 Cap & Trade Bill as currently written has many flaws

My name is Jim James. I am the Executive Director of Oregon Small Woodlands Association, an organization that represents the interests of Oregon's family forest owners. Although, Oregon Small Woodlands Association (OSWA) has no position on HB 2020, if HB 2020 becomes law, there are many changes it will need to make to be successful in meeting its goals in Oregon.

OSWA believes some, but not all of the goals of HB 2020 have merit. However, HB 2020's goal of reducing transportation-related greenhouse gas emissions (GHG) 80% from the 1990 GHG level (i.e. a 91% reduction per capital) by 2050 is flawed. In essence, this requires 91% of our vehicles, homes, and business will have to convert from fossil fuel to some alternative, which today are not affordable or do not exist.

While those with money and room for a charging station plus a new Tesla as their third car, may think HB 2020 might work for them, our real concern is for the average worker/retiree who already stretches every month to cover their mortgage/rent, car payment, food, health care, kids, college, etc. and don't have discretionary funds. They typically have 1 or 2 used cars/pickups, which under HB 2020 will have to be filled with increasingly expensive fuel until forced into new fuel cell or electric vehicles (EVs). At the minimum, HB 2020 needs to replace disappearing Federal incentives, although even that level of incentive won't start to make a new fuel cell or EV affordable, especially if a family needs to have multiple vehicles the size of an SUV, van, or pickup (none of which exist yet, but are projected to be in the neighborhood of \$90,000 each), and require rapid recharging so each vehicle is soon ready to go. With the exception of Tesla, today's fuel cell and electric vehicles are compacts, which won't fit the needs of most families, businesses, or contractors. To significantly spur sales, far greater incentives are needed than existed in 2018. However, all incentives, alternative-fuel vehicle premium, public charging stations, and utility grid upgrades eventually have to be paid, so each \$ spent comes by way of someone's sacrifice, so we need to be smart, yet frugal. To make headway in the struggle for affordable housing and other social needs, we must avoid making anything significantly more expensive and HB 2020 currently would not do this.

Every EV needs a home charging station but a 120v plug-in will only give 30-50 miles range (in 8-10 hours), so many will need a 240v Level 2 charger to get a 112-280 miles range (in 8-10) hours. A Level 2 charging station needs garage space and a 100 amp circuit, which could mean significant service rewiring. While such installations are expensive for single family homes, they will become far more complicated for apartments, high rises, street parking, and parking lots, and so there will be frequent spatial, metering, and aesthetic issues to overcome, with most resulting in higher cost.

California's Clean Vehicle Rebate Program currently gives rebates (state+air district+utility) of \$1,500 to \$5,000 for electric or fuel cell vehicles, up to \$17,000 for Level 2 charging stations, and up to \$100,000 for Level 3 DC fast-charging stations, although final costs can be much higher depending on the site and the local grid capacity. Level 2 charging may also be needed at work, shopping, etc. An estimated 150,000+ Level 3 DC fast-charging stations will be needed to support the projected 5.4+ million vehicles in 2050 along transportation corridors, and HB2020 will need to decide what incentives will be provided. Level 3 DC stations require room for charging, waiting vehicles, and access, so there's a strong possibility of congestion around any public DC fast-charging station. The aesthetics of these stations and any added electrical grid along scenic highways, could be an issue in many locations. Different EVs have different charging regimes, so accommodating each will be necessary to avoid excessive battery heating and damage. Serious safety issues will arise when someone's charge runs out on a freeway ramp, as a simple can of gas will no longer help.

Light or heavy duty EV trucks don't exist today, and although Elon Musk claimed he might deliver these for \$200,000+ in a few years, most industry insiders have doubts.

Other companies are also working on this, but I doubt if any can deliver a heavy EV truck for under \$400,000 without major battery innovation, and it will likely require a far higher charging rate than is possible even with Level 3 DC charging stations. Such premium charging stations will be necessary both at a truck's home base, as well as at regular intervals along the highway. To encourage EV and fuel cell truck manufacture, incentives for both truck purchase and charging stations are essential, so the question is how large will they be? At this time, HB 2020 has not addressed funding for either.

EV battery capacity has been shown to decline 20% after 8 years and to be notoriously problematic in cold weather, since battery capacity itself reduces about 20%, regenerative braking is limited, recharging rates are slower, and heating/defrosting needs increase. All things considered, EV range drops by 40 to 50% during cold weather. Rural ranchers, farmers, and tree farmers work through cold weather and need multiple vehicles and 3 or 4 pieces of equipment, each one suited for specific tasks a few weeks a year. While HB 2020 intends to force conversion of nearly all ICE (internal combustion engines) to an alternate energy source, without adequate incentives for purchasing alternative vehicles/equipment and for public charging stations, how will this be possible for these families? Aren't they an "impacted community"?

Contractors and loggers also often need 2 or 3 pieces of used equipment and several gas-power hand tools per worker to maximize worker efficiency on a range of tasks every day. With well over 300,000 pieces of heavy equipment forced to convert to EV or other alternative energy source under HB 2020, the cost of doing so will be over \$90 billion and there will be need for mobile DC fast-charging or hydrogen refueling trucks. While an enormous technical challenge to manufacture, it is the kind of extreme effort needed to reach HB2020's goal for drastically reducing GHG emissions. Aren't these families also an "impacted community"?

HB 2020 intends to force building owners to convert from natural gas to electric or geothermal heat pumps, and so the local electrical grid will need to be upgraded to provide far higher capacity and reliability. Electric heat pumps become inefficient below about 38F, so natural gas, propane, or some other energy source will still be needed for efficient space heating during cold weather. Today, emergency generators and space heating for critical locations, such as hospitals and emergency shelters, all run on either natural gas or diesel, and they would either need priority for the remaining quota of fossil fuel or a yet to be invented fuel source. There will also be new electrical grid demand from vehicles that convert to EVs and so the total electrical load and its distribution will change significantly. The regional electrical grid will also need to be upgraded, although detailed study is needed to define the scope. Since we will become even more dependent on each part of the grid, protecting it from storms, natural disasters, EMPs (electromagnetic pulses), and terrorism will become more essential.

Oregonians now drive 40,000,000,000 miles/year, and to recharge 4+ million EVs over 8-10 hours is equivalent to an average draw of about 6,000MW, or about 1/3 of the state's entire grid capacity. (Historic trends infer that these values will increase by 50% by 2050) While grid night demand is historically low, this won't necessarily be the case if it has to serve existing users, plus the energy needed for 4+ million Oregon EVs vehicles, as well as fill the energy needs of millions of natural gas users. The impact of these additional loads will be particularly felt when the intermittent output of alternative energy sources, such as wind and solar, shut down during nighttime, snow, or calm wind, as hydropower and fossil-fuel power plants will again prove essential to meet base loads. EV recharging and other future load scenarios were not adequately addressed in the Department of Energy's 2018 Biennial Energy Report.

Preliminary cost estimates put the added carbon tax, electric vehicles, charging stations, and other costs at about \$360 billion to \$582 billion (about \$86,000 to \$139,000 per capita), which would all eventually be paid by Oregonians. For comparison, this is 13 to 21 times the PERS pension deficit, or 1.3 to 2 times higher than each Oregonian's share of the US national debt, or 3 to 5 times higher than the average Oregon student debt. Since there is such high cost associated with HB2020, one has to ask:

- Why the urgency to commit to such an aggressive GHG goal?
- Why do we need to be in such a panic and throw everything we've got at an option that we know so little about?

- Is this really the only social need that we have and do we want to put all others aside?
- Do we really want to be the first “Green New Deal” state, going so far beyond carbon-neutral and add such financial burden to the state's economy and ourselves?

It's curious that while no one disagrees that forests are the most proven and cost-effective tool for helping Oregon be carbon-neutral, there is no incentive in HB 2020 to encourage more forest carbon sequestration and to reduce wildfire risk. In fact, there were no less than 5 bills in this legislature aimed at stopping private forest management. Private forest management must have protection if we value carbon sequestration and sound environmental stewardship as resources to reduce our carbon footprint.

OSWA is particularly concerned that half of the carbon revenues will go toward social engineering & environmental justice agendas, when they have absolutely nothing to do with reducing carbon footprint. This looks like old-fashioned pork barrel politics, and why should our hard-earned money support this? These funds are sorely needed to make progress toward converting the transportation sector away from fossil fuel. Environmental justice claims of past disproportionate exposure in Oregon are without scientific basis or merit, particularly since most of our hazardous waste sites and incinerators are in remote areas and site-specific health risk assessments have already been done to verify that they are well within acceptable standards.

EV battery cobalt has a dark side due to worker exploitation, human rights violations, and aberrant working conditions in countries where nickel, lithium, and cobalt are produced. According to UNICEF, the Democratic Republic of the Congo (DRC) is particularly bad, with over 40,000 children working in cobalt mines for \$1-\$2/day, and demand doubling every 3-4 years. While some battery manufacturers have tried to limit cobalt content to about 3%, they can't eliminate it without jeopardizing battery safety and heating. Plans to increase battery capacity and charging rates make it particularly difficult to limit cobalt content. Cobalt is a byproduct of copper and nickel mining, which effectively limits supply, so costs will rise if demand increases substantially, as will child worker exploitation. At this time, there is uncertainty regarding the future market price of cobalt, whether cobalt will ever be replaced, and whether battery manufacturers are motivated to force worker condition change.

The social activists wanting to be appointed to the EJTF and the OCP have too many conflicts of interest, and have an obvious agenda to remake Oregon to their liking, wanting ordinary citizens to get out of the way and let them fix it as only they know how. The veil of secrecy surrounding HB 2020 and its various sets of amendments is ominous, considering the potential size of its money pit. This combination is a recipe for disaster as it will soon run out of other people's money to spend. It was particularly ironic that the highly touted series of public hearings on HB 2020 were so heavily orchestrated and essentially shutdown rural testimony too early. I hope that HB 2020 will not be another case of “you're going to have to pass it to find out what's in it”

OSWA is sensitive that HB2020 appears to be a runaway train, and sincerely hope that someone will be able to ask questions about how the noble goal of “doing something to reduce our carbon footprint” was hijacked by social engineering and the environmental justice agendas. OSWA sincerely suggests:

- Due consideration of the more realistic goal of Oregon becoming carbon-neutral by 2050, and protect today's forest managers and silviculture from unwarranted harassment.
- Since our pocketbooks can only stretch so far, let's not be guilted into believing the social engineering and environmental justice claims of victimization and agree to any form of compensation. Rural communities are the only ones that might be disproportionately impacted by reducing the carbon footprint.
- We need to carefully plan and budget our limited resources to achieve reasonable carbon reduction, and not create a huge bureaucracy that seems to have its own agenda and lacks accountability.
- Conduct a rigorous peer-reviewed study defining how HB2020 would play out and the per capita costs for each Oregonian, before making any decision to adopt HB 2020
- Providing ample time to disperse readable information explaining what HB2020 entails and provide opportunity for informed citizen testimony. The late arrival and overwhelming number of HB 2020 amendments is startling, and will result in very little, if any, opportunity for peer-review or citizen comment. While I hope that this was not planned, it is clearly not acceptable for such a far-reaching and significant piece of legislation.
- We need to be very cautious before allowing government to mandate the future, since this has never worked in the past. I suggest a phased approach, with significant citizen involvement, so there can be a reset of goals, objectives, and costs as necessary and the opportunity to vote before proceeding to the next phase.

In summary: As currently proposed, HB 2020 Cap & Trade bill looks like a disaster waiting to happen. Although the goals have some merit, the approach being taken will have disastrous effects on Oregonians with very little being done about Carbon. It will have ominous social and financial cost to Oregonians, perhaps not just now, but for generations to come. There are five issues that warrant serious discussion before HB 2020 becomes law:

- 1) the identified “impacted communities” don't have merit nor any scientific basis to support the claim that they have been disproportionately impacted by fossil fuels, but instead represent environmental justice and social-engineering agendas, which have absolutely nothing to do with reducing Oregon's future carbon footprint. HB 2020 seeks to assign half of the “cap & trade” revenue to this agenda, creating a huge drain on the resources needed to incentivize reducing carbon footprint. Rural Oregonians who manage natural resources, are the real

impacted communities and HB 2020 fails to recognize how they will be disproportionately impacted by cap & trade nor advocate for protecting their livelihood, their ability to compete in the marketplace, and their very existence.

- 2) The Carbon Policy Office and the Environmental Justice Task Force are largely self-appointed demagogues with numerous conflicts of interest and seek autonomous authority. These positions should instead be filled based on qualifications and impartiality, rather than alignment with a political agenda. There also needs to be far more oversight from the Citizens Advisory Committee and the legislature, and most importantly, Oregon citizens.
- 3) The goal of reducing green-house gas (GHG) emissions by 80% from the 1990 level would be the most ambitious goal in the world and takes Oregon a long way beyond being carbon-neutral, i.e. when GHG emissions are offset by forest sequestration (40×10^{-6} tones CO₂e/year, or a 43% reduction from the 1990 level). Becoming carbon-neutral will still require substantial sacrifice from all Oregonians, but could be a more reachable goal by 2050, if technology bails us out and there aren't too many unintended consequences. An 80% reduction in GHG goes so far beyond Oregon's GHG share, one has to ask; who will benefit from our significantly greater sacrifice, and will there even be a measurable impact on world GHG level, particularly since China and India will continue to increase their GHG emissions?
- 4) Tesla's Q1 sales decline again demonstrated that sales of electric vehicle (EV) and the other still-evolving technologies, such as fuel cells, are very sensitive to incentives. Since federal credits are rapidly disappearing, Oregon will need to decide what credits/rebates HB 2020 will provide to encourage the transition to EVs, fuel cells, and other technologies. HB 2020 proposes to siphon half of the carbon auction proceeds off to social-engineering and environmental justice agendas, but I do not want my hard-earned life savings to go toward these agendas. It should also be noted that to date, analyses of the electrical grid has failed to adequately address how the electrical grid would have to change and expand as the grid would have to serve its existing users, plus the energy needs of 4+ million Oregon EVs vehicles, as well as millions of today's natural gas users. The impact of these additional loads will be particularly felt when the intermittent output of alternative energy sources, such as wind and solar, shut down during nighttime, snow, or calm weather, as hydropower and fossil-fuel power plants will again prove essential to meet base-load demand.
- 5) Since cap & trade requires such a substantial commitment of resources for the foreseeable future, such a far-reaching and encompassing program should proceed in at least 5 phases, to enable thorough public review of scope, costs, benefits, and accomplishments, with a ballot measure before each phase, to verify the public's continued support of the program as it plays out.

Please do not pass HB 2020 until these 5 issues are thoroughly explored and presented for public comment.