February 14, 2022

Testimony in Favor of HB 4141

- The most efficient internal combustion engine is the diesel. On a life cycle basis diesels use less energy from well to wheel than any other combustion engine.
- While electric engines may be zero emission at the tailpipe, the difference in respirable pollutants between new technology diesel engines and electric is marginal.
- Electric power options are many years off in the heavy-duty sector and further out in the non-road engine market place. And those available now present a substantial capital investment barrier that is only achievable by rare, highly motivated parties or those with substantial financial subsidy.
- We can wait for this market to develop and entry prices to come down but in the meantime, Oregonians experience billions of dollars in avoidable health costs and climate impacts in everyday life that can be attributed to diesel engine exhaust every year.
- HB 4141 is about making diesel engines part of the environmental solution. Any argument that this has anything to do with banning diesel engines or diesel fuel misunderstands the history of this technology.
- Diesel engines have changed remarkably in the last twenty years and so has the petroleum fuel that predominantly energizes them. Diesel engines have become so low emitting that on a cost per ton basis are very competitive with even electric vehicles as a pollution reduction strategy. Diesel fuel has become more refined with fewer contaminants and higher energy content and enhanced combustion capabilities.
- Even so, in facing the climate challenge we are fast approaching the limits of relying on a petroleum-based fossil fuel. Renewable diesel can be that fuel that sustains continued use of efficient diesel engines, lowering their respirable pollutant and climate footprints, at affordable marginal costs as alternative technologies develop and mature.
- Renewable diesel, because it is a drop-in product that requires no further engine modification to use, also means further emission reductions for those fleets still using older diesel engine technology. While the challenges of pollution mitigation for health and climate needs cannot be met solely by fuel switching, a more widespread use of renewable diesel can result in significant gains.
- Research considerations as authorized in HB 4141 should also consider other forms of synthetic diesel fuels (a bizarre term because hydrocracked petroleum diesel is somehow natural or authentic?). Synthetic diesel fuels have been developed using any carbonaceous feedstock in either liquid, solid or gaseous form. Twenty years ago while working at DEQ, I was investigating the possibility of utilizing forest waste as a feedstock for synthetic diesel fuel. Before being taken off that project, I had gotten so far in discussions with researchers at Oregon State University in the nanotechnology program. They, in a back of the envelope discussion, considered it feasible to construct a truck mounted processing facility that could take forest slash on site to the initial stages of syn diesel production. I would recommend further exploration of the feasibility of turning waste material into a low emission diesel fuel.

- Overall HB 4141 sets the stage for further progress on improving the performance of diesel engines and the fuel they use.