

The Honorable John Lively, Chair
House Committee on Climate, Energy and Environment

Dear Chair Lively and Committee Members,

Re: House Bill 2960

We have an **ENERGY ISSUE** in this country because we have an unsatiable appetite for fossil fuels. We need to address this issue with every available renewable and clean technology – solar, wind, tidal, wave, hydrogen, and yes, nuclear.

We have a **PLASTIC WASTE ISSUE** in this country because we have an unsatiable appetite for plastic in every corner of our daily lives. We need to address this issue with every technology we have – reduce plastic packaging and single use plastics; design for recyclability; reduce and reuse; mechanical recycling; and yes, sometimes *chemical recycling*. We can't stop using plastics tomorrow, and even if we did, we have a HUGE WASTE PLASTICS problem. It's not a technology problem, we have recycling technologies, it is a people problem, and that is a difficult problem to solve.

I absolutely agree that we need to reduce plastic production, but at the moment we only recycle about 5-10% of what we produce. The rest ends up elsewhere, in landfills, in lands everywhere, and in the oceans. When these plastics sit out in the sun and ocean they degrade so that they can no longer be effectively recycled. Even if they are properly recycled, they can only go through a handful of times being used before their properties degrade. In these cases, chemical recycling is the best option, which is one reason virtually every major oil company is doing it. Not to save the environment like they might claim, but to make money and meet government regulations.

HB2960 proposes a ban on chemical recycling, and specifically on **pyrolysis**, which is the breaking down of the large molecules (polymers) in the absence of air (oxygen), to useable materials such as diesel fuel, kerosene, wax, and chemical building blocks (called monomers). **It is NOT COMBUSTION.**

However, the picture below **IS COMBUSTION** of the most unfortunate kind. This is a pile of **irrigation drip tape** used by all the onion farmers in Eastern Oregon. Hundreds of miles of drip tape waste plastic (HDPE #2) are produced every year. It is dirty and bulky and nobody will take it. So, it sits in piles out in the fields and sometimes it spontaneously combusts, like the pile in the picture.

The onion farmers asked OSU Ag Extension for help with this drip tape plastic waste problem, and they came to our OSU Polymer Lab for help because we have been studying pyrolysis of various mixed waste streams to a “farm diesel” product for the past 8 years. Our goal is to design small-scale, simple pyrolysis reactors for underserved communities. **Our preferred plastic waste stream is HDPE, e.g. drip tape.** We can very efficiently turn drip tape into farm diesel. In Summer 2024 we did two demonstrations for the onion farmers at the Malheur County Ag Experiment Station, of a small-scale (1 kg) pyrolysis reactor using drip tape right from the fields to diesel fuel. We blended the diesel with the regular farm diesel used in a tractor. They were excited. We secured a grant from Malheur County to design a slightly larger reactor (20 kg per batch) for the Malheur Ag Extension Experiment Station to be deployed in Summer 2025, to further prove concept. The ultimate goal is for the Malheur region is to place a 500kg batch reactor produced by PDO Technologies (Founder and CEO Kevin DeWhitt gave verbal testimony at the hearing) in a central location so that farmers can bring their waste drip tape and convert it to farm diesel, which they can take back to their farms to offset their costly diesel use.

A local solution to a major plastics waste problem solved using pyrolysis to produce diesel. If HB2960 goes into law, the result may well be just as you see in the picture below, but many times over.

If you would like to reach me and my OSU colleagues to further discuss this issue, please do not hesitate to contact me.

Respectfully,
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