July 23, 2020

Dear Commissioners;

Thank you for your work implementing Executive Order 24-04.

I write to alert the Commission to the under-appreciated potential for agriculture to contribute to addressing the climate emergency.

The emerging recognition of agriculture's climate emergency contribution arises from the combination of regenerative agricultural practices (RA) and agriculture friendly solar power (AVS). Large, monolithic solar installations exclude crops and pastures but *dual-use* systems can sustain both crops and livestock.

Wisely, Oregon has in place land use regulations that aim to protect high value farmland from conventional monolithic solar development. Dual use systems, in contrast, have the support of the American Farmland Trust whose mission is to protect farm land from development. Dual use is an essential tool in preventing the loss of farmland. (https://farmland.org/encourage-solar-energy-that-doesnt-sacrifice-agricultural-land/)

Studies, some of them long term and global, report that between one fourth and all of current annual CO_2 emissions could be sequestered if half of global croplands were managed with RA (https://rodaleinstitute.org/wp-content/uploads/rodale-white-paper.pdf https://www.onpasture.com/wpcontent/uploads/2017/10/Lal-Soil-carbon-sequestration-to-mitigate-climate-change.pdf}.

Studies published by Chad Higgins' group at OSU report that one percent of global croplands equipped with dual-use systems could produce electrical power equal to all of the current global demand (https://solarindustrymag.com/study-underscores-huge-potential-of-agrivoltaics https://www.nature.com/articles/s41598-019-47803-3?error=cookies_not_supported&code=58c1bab5-d39b4f88-acca-4baeab97e4d9).

Solar panels mounted at heights sufficient to allow tractor access can support pasturing and the production of food crops in arid lands otherwise not suitable for either one. Vegetation growing underneath solar panels cools them thereby extending their life and increasing power output.

The Commission has recognized that the transportation sector is our greatest challenge in achieving CO_2 emissions reductions, and that the current rate of electrical vehicle adoption is far less than is needed.

Solar power is a supply looking for a demand. EV adoption is a demand looking for a supply.

Equipping long distance highway routes with sufficient grid delivered power is a daunting financial and siting challenge and an impediment to progress. Establishing solar systems near the points of use can reduce this problem. Integrating solar power within existing range and farmland operations, rather than competing with those uses, can improve public acceptance, increase farm profits, and accelerate the urgently needed de-carboning of transportation.

Site selection and engineering studies are needed urgently to determine the optimum locations for dual use systems along our highways. Both the Northwest Power and Conservation Council and the Commission can contribute to driving this opportunity forward in Oregon and throughout the four state compact.

NPCC's October 2019 PNW *Power Supply Adequacy Assessment for 2024* (https://www.nwcouncil.org/sites/default/files/2024%20RA%20Assessment%20Final-2019-10-31.pdf) identifies trends in Loss-of-Load-Probability exceeding 5 percent starting next year and increasing through 2032 due to reductions in coal-fired generation.

We have the opportunity now to replace this missing capacity with solar energy while simultaneously making the agricultural sector a net carbon sink and accelerating the adoption of electrically powered transportation.

Placing these opportunities at the center of power planning in our region can avoid delaying our climate emergency response, a delay that would be created by reliance on "transitional" carbon fuels like natural gas. We can't afford the additional emissions, nor the loss of CO_2 drawdown opportunity.

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