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legislators at the caucus discussed their impacts and how small changes to those sectors could help drive transitions to cleaner resources.

On the coast, dairies are big business. Tillamook Creamery has 78 dairy farms in Tillamook County alone. But cows, primarily through burping, are Oregon's largest emitter of methane, a gas that according to the Intergovernmental Panel on Climate Change has a warming effect 86 times as potent as carbon dioxide over a 20-year period.

"Cows are adding to our problems with greenhouse gas emissions," said Sen. Michael Dembrow (D-Portland), who is a co-vice chair of the Joint Interim Committee on Carbon Reduction. "It may be that we can change their diet and add some kelp to it and that will help, but what we also need to do is make sure that we are disposing of their waste appropriately using bio-digester technology."

He said this will not only prevent some greenhouse gases from being emitted but the waste can also be used to create energy.

The other omitted greenhouse gas emitter, logging, is the No. 1 source of carbon pollution in the state according to two recent studies, one from the Center for Sustainable Economy and one from Oregon State University.

But critics say these reports don't accurately account for the carbon stored in wood products once they leave the forest or the carbon that is offset by using products such as cross-laminated timber in place of building materials with larger carbon footprints, such as steel or concrete.

Just how much carbon is stored in forest products will soon be examined by the Oregon Department of Forestry, said Angus Duncan, who chairs the Oregon Global Warming Commission. The commission's draft report to the Legislature from its Forest Carbon Accounting Project will be complete once that data are included.

The commission's findings indicate Oregon's forests have remarkable carbon sequestration potential – on par with Amazon rainforests, Duncan said.

"The core message of our work," Duncan said, "is you've got to do the math, and you've got to know what the carbon consequences are of your choices in the forest – to harvest, to not harvest, to thin and do prescribed burns, all sorts of management choices, or just leaving the forest alone. All of those have carbon consequences, and we can calculate those now, and if we can, we need to."

Forestry's role in Oregon's carbon-reduction future, as discussed at the summit, would be more about promoting Oregon's wood products and increased thinning to avoid intense wildfires than using the state's rainforests to their full carbon-sequestration potential.

"You won't hear a word about clear-cutting in there," John Talberth, president of the Center for Sustainable Economy, told Street Roots as he held up the side of a banner highlighting Oregon clear-cuts outside the summit. He said his organization was there to "shake things up."

On Aug. 22, Lincoln City was blanketed in wildfire smoke as summit attendees entered the casino. Many speakers – including Oregon's Democratic U.S. senators, Ron

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Wyden and Jeff Merkley, as well as local politicians and industry representatives – seized on the opportunity to stress the need for thinning and fuel reduction in Oregon's forests, which they said have become overstocked with fuel following years of fire suppression.

"We have to reduce the carbon being emitted from these wildfires due to the changing conditions on the landscape," said Rep. David Brock Smith (R-Port Orford).

Although thinning when coupled with prescribed burning is shown to reduce the intensity of wildfires in some instances, ramped-up logging might not be the answer if carbon reduction is the goal.

That's because logging releases more carbon back into the atmosphere than fire, said Oregon State University researcher Beverly Law, who studied carbon release from Oregon fires between 2001 and 2015.

During an afternoon panel, Law highlighted two land-use strategies that she said have been shown to both increase carbon storage and lower carbon emissions the most in Oregon forests: increasing the harvest cycle from 45 to 80 years and setting aside additional carbon reserves. These approaches, she said, have the added benefit of watershed protection and increased biodiversity.

She also recommended taking preventive action in forests that are vulnerable to fire, such as in Southwestern Oregon and areas in Eastern Oregon, but said that prescriptive approach should not be applied broadly across all forests.

It's also possible to make carbon sequestration profitable in a carbon-pricing system, but to date, sinking carbon is pennies on the dollar to harvesting timber.

Tribal governments, however, have some unique mechanisms that can make it pencil out. The Confederated Tribes of Warm Springs plans to switch the revenue-making

function of their forests from timber to carbon storage, explained tribal council member Carina Miller to summitgoers. The tribe has already started to do this with 24,500 acres of their forestland in California under that state's cap-and-trade program, and it hopes to do the same in Oregon.

"Bottom line, we need to move from an extractive economy to a restorative one," Miller said.

During a debate on whether Oregon's forests should contribute to worldwide carbon reduction efforts through renewable products or by sequestering carbon, Elaine Oniel, of Consortium for Research and Renewable Industrial Materials, had a different take.

She recalled visiting a gathering of architects and engineers in June at New York's Empire State Building, where the focus was their desire to build more sustainably with greener materials.

"These are the builders of the world. Many of them own international companies, and they say we build the equivalent of a New York City every 35 days," she said. She then posed the question of what materials would be used to construct all those buildings.

Would it be wood? Concrete? Steel?

"If we're going to build it out of wood, which is the lowest carbon intensity of all those materials, then the question is, where is it going to come from?" she asked. "There is an imperative for the forest sector in the Pacific Northwest to pick up that grand challenge and say, how can we supply materials to the world to address this global problem? We have some of the best growth rates in the world, and we have laws – a system of sustainability."

But the decades-old debate over how to manage Oregon's forests shouldn't get in the way of achieving cap-and-invest policies, said Cass Moseley, after some heated comments

from the audience and much back and forth among other panelists. Moseley is a research professor with the Institute for a Sustainable Environment at the University of Oregon.

Climate change is not something where we have to have an industry versus environment conversation. We need to have industry and environment conversation," Moseley said.

While Oregon has been flirting with cap-and-invest for several years, other states, provinces and countries have already acted – from China to Quebec and California to the East Coast, where several states have implemented cap-and-trade on their energy sectors.

Oregon could eventually link up with these existing carbon markets should it succeed in implementing its own system.

And, if Oregon adopts cap-and-invest in 2019, it will be the second state to cap carbon across multiple sectors, and according to lawmakers, the first "normal" state to initiate such a program.

Oregon's economy and resources are vastly smaller than California's, giving Oregon the opportunity to create a more realistic path toward pricing carbon for other states to follow.

"The natural resource areas, in general, are outside of the cap and trade," said summit organizer Sen. Arnie Roblan (D-Coos Bay), "but they're big contributors to the solution. So how do we make sure that we invest in them, with some of this resource, and do it in the most efficient and best way that we can do that?"

Roblan and other coastal lawmakers are looking for ways the "invest" portion of cap-and-invest can provide their communities with economic growth.

Harnessing wave energy, using seaweed's carbon sequestration ability and increasing Oregon's production of cross-laminated timber are all on the table.

"We've been having a long and robust conversation about the role of carbon pricing in Oregon's economy going well back over 10 years," said Kristen Sheeran, a carbon policy adviser to Gov. Kate Brown. She said the root cause of climate change is the market's failure to place a value on limiting greenhouse gases, and this legislation would correct that failure.

"We invested a lot of money to do the studies we need, to have the staff we need, to have the conversations we need, to follow-up on the work that's been done over the last two years," House Speaker Kotek said during a lunchtime panel.

She said whatever legislation comes out of the process should do two things: "reduce carbon and serve the economic needs of our state."

Sitting next to her, Senate President Courtney added that earlier this year, "I made it very clear at the time, to the business lobby ... we're not doing it in '18, but we're doing it in '19, and you better come to the table because if you don't, don't come to Peter."

Courtney said that with leadership on the committee coming from Dembrow, a Democrat, and Cliff Bentz (R-Ontario), he's hoping Oregon's carbon reduction legislation can be a bipartisan effort.

"It should have been done years ago," Courtney said. "We have a crisis here."

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