

# Inslee's carbon cap gets heated response from senator

## Ecology announces new rule

By DON JENKINS  
Capital Press

The chairwoman of the Washington Senate agriculture committee said Friday she was angry and frustrated that Gov. Jay Inslee's administration has imposed a carbon cap, a policy lawmakers rejected and that she warned will have broad and bad consequences for farmers.

"It's going to be a huge impact — from the potato growers to the processors to the workers in the fields and everybody in between," said Sen. Judy Warnick, R-Moses Lake.

The cap will be the first of its kind in the U.S. and will take effect Oct. 17, the Department of Ecology announced Thursday. Inslee ordered the cap earlier this year after the Legislature rejected his proposed legislation.

At a press conference in Seattle, Ecology Director Maia Bellon said she was confident the state's Clean Air Act gave the administration authority to act without legislative approval.

She said the cap was Washington's "down payment on our fair share" for countering climate change.

"This is the biggest day in my career," she said.

The cap will apply immediately to 24 power plants, oil refineries and landfills that each emit more than 100,000 metric tons of carbon a year.

In 2020, the rule will cover another dozen large industrial carbon emitters, including Agrium Inc.'s fertilizer plant in Kennewick.

Ecology delayed imposing a cap on Agrium and other energy-intensive businesses that could be put at an economic disadvantage if forced to cut emissions immediately.

Ecology said that over the next three years it will analyze the carbon output of each business compared to their international peers.

"The new rule issued by Ecology sets a high bar," Agrium spokesman Paul Poister said in an email. "The time frame is short and there remain questions around how many companies will comply. We look forward to continuing to work with the department and our business partners with implementation of this significant change in state policy."

By 2035, the cap will apply



Courtesy of Washington Department of Ecology  
Washington Department of Ecology Director Maia Bellon announces the state's carbon cap Sept. 15 at a press conference in Seattle. "This is the biggest day in my career," Bellon said.

to 60 to 70 facilities that emit 70,000 metric tons of carbon a year, according to Ecology.

Ecology projects the cap will apply to McCain Foods in Othello in 2023 and J.R. Simplot, also in Othello, in 2026.

Tyson Fresh Meats in Wapato could come under the cap, though its emissions are currently below the threshold, according to Ecology.

Facilities will be required to reduce their carbon output by an average of 1.7 percent a year, according to Ecology. Plants can earn reduction credits by investing in renewable energy projects such as dairy biogas digesters.

Ecology spokeswoman Camille St. Onge said the agency did not attempt to project the cap's affect on temperatures. The policy will help the state meet a goal set by the Legislature in 2008 to cut the state's carbon output by half of 1990's level by 2050, she said.

"We know the key to solving climate change is for every state and (Canadian) province to take part," St. Onge said. "It will be interesting to see how our contribution will pan out."

Warnick questioned the value of the policy and the governor's decision to take action after lawmakers said no.

"It's taking away from one branch of the government, the legislative branch, the ability to act in the best interest of our citizens and communities," she said. "It's going to have trickle down effects that are hugely detrimental to our agricultural producers and other agricultural industries."

Ecology projects the cap will increase electricity and fuel costs only slightly, while the benefits, including drought relief, will be significant for agriculture.

In comments submitted to Ecology, the Washington Farm Bureau and the Washington Association of Wheat Growers warned that higher industry and fuel costs will be passed along to farmers. The Northwest Food Processors Association also opposed the rule.

The Western Environmental Law Center issued a statement Sept. 16 blasting the carbon cap for not forcing facilities to cut emissions faster. The center said the cap "legalizes dangerous levels of greenhouse gases."

The center had asked Ecology to extend the cap to farms.

Ecology said that applying the cap to thousands of farms would be an administrative burden and that agriculture emits only 5 percent of the state's greenhouse gases.

# NRCS grant funds Oregon orchard soil nutrition study

By ERIC MORTENSON  
Capital Press

Oregon orchardist Mike Omeg will test a soil and plant nutrition program developed by an Amish farmer with an eighth-grade education who has become one of the country's leading advocates of alternative farming methods.

Omeg, who grows cherries near The Dalles, will work with Oregon State University and Washington State University staff on a three-year grant provided by the USDA's Natural Resources Conservation Service. They'll compare parts of the orchard managed with conventional, industry-standard methods to sections operated with what Omeg described as "intensive nutrient management" of the soil and trees.

The latter method includes applying a mix of mulch and compost to the soil and bi-weekly analysis of plant sap in cherry tree leaves. The sap analysis provides a timeline of the plant's health and reportedly can give advance warning of pest and disease problems.

Omeg said the system is based on plant and soil biology.

"Instead of trying to balance calcium by applying more to the soil," he said as an example, "what you try to do is stimulate the soil biology so that (it) makes more calcium available."

Omeg said he and the university researchers are trying to determine if a nutrient- and soil-centered management approach will work on a commercial scale.

They'll compare cherry yield and quality, especially size and firmness. They'll also evaluate trees' susceptibility to powdery mildew, a major disease problem for cherries, under the two management programs.



Mike Omeg, a cherry grower in The Dalles, Ore., has received an NRCS grant to experiment with soil and plant nutrition methods.

"The third thing we'll do is look at what the economic costs are," Omeg said. "What's the income versus expense. In order to be viable, it's got to be profitable. It needs to be something that makes sense economically."

The work is funded by a \$74,612 NRCS grant, and the method is drawn from the work of Ohio farmer John Kempf, founder of Advancing Eco Agriculture, a consulting firm. Kempf, part of an Amish community in Northern Ohio, has only an eighth grade education but drove himself to understand the disease and pest problems he was seeing on his family's fruit and vegetable farm.

Omeg, who is a member of the Capital Press Board of Directors, met Kempf at a soil conference four years ago, hit it off and put his methods into action on 50 acres of his orchard in The Dalles.

"Their program in the first year already beat mine in net return per acre," Omeg said. "I was very surprised."

He hopes the project will

demonstrate the approach is commercially viable in Northwest orchards.

Other NRCS grants awarded recently in Oregon include:

- \$75,000 to Portland State University to reduce nitrous oxide emissions and groundwater nitrate on Southern Willamette Valley farmland.

- \$74,989 to WyEast Resource Conservation and Development to develop a computer application that will allow producers to forecast irrigation needs and pump more efficiently.

- \$150,000 to EcoTrust Forest Management, Portland, to develop an investment fund that will combine public and private money and improve forest productivity and conservation in Oregon and Washington.

- \$351,028 to the Xerces Society, Portland, to establish a "Bee Better Farming" certification program. The certification is intended to be an incentive for producers and others to take part in large-scale pollinator conservation programs.

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## Quest for robotic apple picker continues

By DAN WHEAT  
Capital Press

PROSSER, Wash. — While pickers are busy harvesting apples by hand throughout Central Washington, efforts continue to replace those hands with robots.

A robot able to pick apples fast enough and gently enough to be economically viable could be a huge boost to the apple industry in labor savings and in meeting labor shortages.

Manoj Karkee, associate professor of biological systems engineering at the Washington State University research station in Prosser, and a new company, Abundant Robotics, of Menlo Park, Calif., tested robotic picking in Central Washington orchards last year and again this fall.

About a dozen companies around the world and another three to five research groups are working on the robotic harvest of apples, citrus, bell peppers, cucumbers and other fruits and vegetables predominantly picked by hand, Karkee said.

"There are a lot of aspects. We have made good progress. I would think in three to five years something will be commercially available and in another five to 10 years more common place," he said.

Karkee is project lead and a member of the WSU Center for Precision and Automated Agricultural Systems at Prosser. The project is funded with a \$548,000 USDA National Ro-



Dan Wheat/Capital Press  
Joe Davidson, a Washington State University mechanical engineering doctoral student, demonstrates use of a robotic apple picker at a WSU field day in Prosser, Wash., on Sept. 17. Such a device could be a big labor saver for the apple industry.

botics Initiative grant awarded in 2013. The study is scheduled to conclude in a year but will continue with other funding, he said.

A mechanical hand grasps and picks fruit aided by cameras and sensors to identify fruit color, shape and texture.

"Last year, 10 to 15 percent of fruit was left in the tree. This year, we're trying to improve that," Karkee said.

Dan Steere, CEO of Abundant Robotics, declined comment. The company was announced as a spinoff of SRI International, of Menlo Park, in an SRI news release on Aug. 10. SRI used its own money and received a \$550,000 grant from the Washington Tree Fruit Research Commission in Wenatchee and is testing a vacuum system that sucks apples off trees. While theoretically more gentle, early problems have included sucking leaves, bits of limb and pulling stems that can damage fruit.

The company's vision and vacuum systems have been able to pick more than one apple per second, Steere has told other media.

Karkee said he brought SRI officials to Washington to collaborate and SRI and the WSU team pursued different projects, SRI the vacuum system and WSU the mechanical hand.

The WSU team is agricultural engineers with a crop science and engineering perspective and Abundant Robotics has been involved in robotics for applications other than agriculture, he said.

"Our goal is more to understand basic knowledge and unknowns of how human pickers pick apples and how we use that in robotics. How we can use both together," Karkee said. "Our product focuses on that conception rather than the big production and commercialization like Abundant Robotics."

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