



# Power savings

Energy Trust rebates can help nurseries switch to LED lighting and lower power bills

All of the LED lights in the cold storage warehouse at Baley Nurseries are more cool-toned to more closely resemble daylight and provides more accurate color perception, said Carlton Davidson. The old high-pressure sodium lights had a yellow/orange hue that made you misinterpret colors and made it harder to see yellow or gold markings tags on the trees. PHOTO BY VIC PANICHKUL

BY VIC PANICHKUL

**N**URSERY OWNERS might still be in shock at their electricity bill since rate increases approved by the Oregon Public Utilities Commission took effect in January. But there's still a way to quickly trim electricity consumption: update lighting.

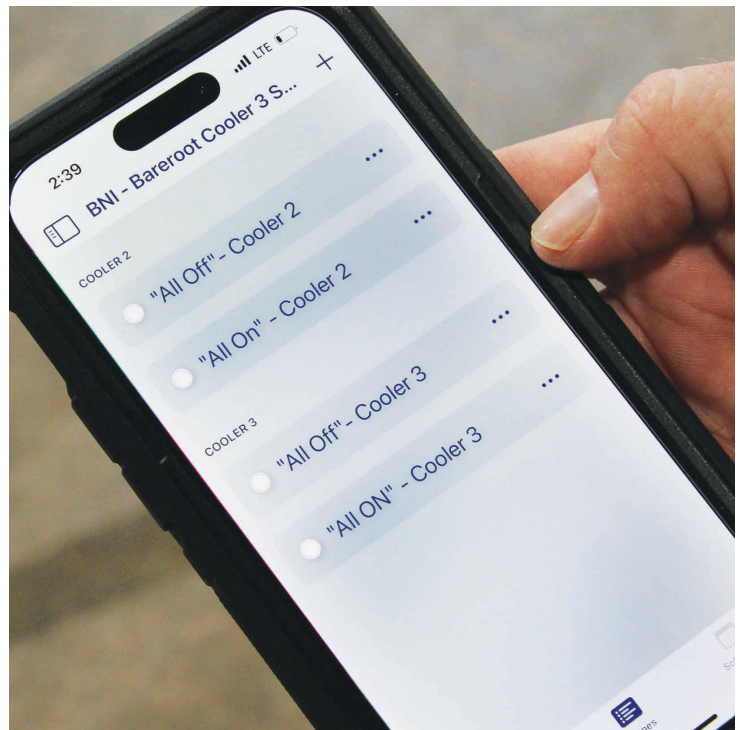
For warehouses and cooler spaces still using incandescent lighting, fluorescent lighting, or high-bay metal-halide lights, upgrading to LEDs can make a significant impact on monthly energy bills. Plus, Energy Trust of Oregon has rebates to help offset installation costs. "Most nurseries still have fluorescent lighting — T8 and T5 tubes — for office space and storage. Often in warehouses, they'll have T5 high output lights," said Laurent Stievenard, sales manager at **Pacific Lamp Wholesale**. "When I go to nurseries, I see old fluorescent or metal-halide lamps. Just switching them to LED would save 50 percent of the energy consumption."

The LED lights throw off more lighting for less wattage.

"Metal-halide bulbs run from 400W to 1000W in the 'UFO' fixtures (round high-bay lamps that look like flying saucers)," Stievenard said. "To get the same amount of brightness with LEDs, you only need 200W bulbs."

Growers can also save energy by using motion sensors so that the lights go off when nobody is in the room or facility. "When you start integrating motion sensors, you can save up to 90 percent," Stievenard said.

Motion sensors and lighting controls have advanced ➡



The LED lamps in the cold storage warehouse are networked together and connected to wifi so that they can be controlled via a phone app. The app allows Bailey to not only control the intensity of the lights on the fly, but also the tone of the light (warm or cool). The lights are also set on a schedule so that they turn off and on at certain times. PHOTO BY VIC PANICHKUL

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over the years, just as light bulbs have. There are motion sensors that dim lights before they go out completely, lights that are equipped with light sensors so that they dim if a nearby skylight is providing enough light and then raise when the sunshine fades. And that's not all.

"There are even smart lighting systems now where you can dim or raise lights through an app on your phone," Stievenard said.

### Better color ranges with LED

LED bulbs have also advanced with a range of color temperatures available, from warmer lighting that mimics natural sunlight, to cooler, brighter lighting. Different color temperatures, measured in kelvins, might be appropriate depending on the application.

"Sometimes you'll go into an office and it's really intense lighting, because they're using that 5000K hue," said Carlton Davidson, who oversees operations planning and scheduling for **Bailey Nurseries'** West Coast operations. "Some people complain that it bothers their eyes. So in our offices, we use more of a warm light, which is between 2700K and 3000K so it's a lot easier on the eyes, more like your traditional soft white incandescent light bulb."

For LEDs, 2700K represents warmer light like that produced by incandescent bulbs and 5000K is cooler light like sunlight.

"In the warehouse, the ceiling is 20–30 feet above you and you want more of a brighter daylight so you can see true colors," Davidson said. "We're dealing with bare root trees in the warehouse, so that brighter light lets you see better than the old high pressure sodium lights, which gave a yellow cast."

Technology in LED lighting has advanced so far that "you can even switch the kelvins from warm light to cool light with the flick of a switch," Davidson said.

### Tapping into Energy Trust

Energy Trust of Oregon offers assistance to help nurseries save money on power consumption due to lighting.

"We have a great lighting program,



At Surface Nursery, high-bay sodium and mercury-halide lights were replaced with UFO-style LED lights. Every incandescent and fluorescent bulb at the nursery was replaced with LED, said Vice President Shawn Nerison. PHOTO BY SHAWN NERISON

and it's what we recommend for businesses looking for a quick way to see energy savings," said Ashley Bartels, marketing manager for energy programs at Energy Trust of Oregon.

LEDs use up to 90% less energy than traditional incandescent bulbs, and can last up to 25 times longer, according to the U.S. Department of Energy.

There's a range of lighting incentives available, but they fall into two main categories: rebates and calculated incentives.

Rebates are cash incentives set at certain dollars per item. For instance, rebates for lighting controls are between \$30–\$60 per sensor. High bay lights are between \$120–\$300 per light, depending on size, and if you add controls for those lights, the incentives can be \$175–\$355 per light.

Calculated incentives are for larger and more complicated projects that might

involve more than lighting or more than one facility. Talking to an Energy Trust representative can be a helpful first step in figuring out what works best for your facility and which incentives are available.

"We just increased our calculated incentives, so now is the time to look into new lighting," Bartels said. "Energy Trust can come out to your property to do an assessment and walk you through your options and savings potential."

Calculated incentives are based off energy savings the business receives from implementing the project.

"The calculated incentives were raised from \$3 per therm (a therm equals 100,000 BTUs) to \$5 per therm, and cover up to 90 percent of the project cost," Bartels said. They would also involve an assessment of the project by an Energy Trust partner.

For small businesses, Energy Trust also currently has a special, limited-time program that would install LEDs at no cost. To qualify, nurseries should have to have under 50,000 square feet of lighted space, or under 50 employees. The offer is eligible small to medium-sized business customers who install energy-efficient lighting solutions at their existing commercial building, multifamily property, or industrial facility.

To date, Energy Trust has helped nearly 1,000 Oregon small businesses update their lighting at little to no cost. **Bailey Nurseries** and **Surface Nursery** are two Oregon Association of Nurseries members who have taken advantage of Energy Trust incentives to upgrade lighting. In interviews with *Digger*, each provided different examples of how the incentives were used.

### Do-it-yourself approach

Surface Nursery worked with Pacific Lamp, who walked through the facility, and did an audit, and wrote a lighting plan for them in 2022. The nursery then purchased the equipment from Pacific Lamp and installed it themselves.

“We had sodium and mercury halide lights, and we removed all the old fixtures and put in high-bay UFO LED lights,” said Shawn Nerison, vice president of Surface Nursery. “We replaced fluorescent bulbs in the office with LED bulbs. You don’t need ballast anymore and we put in 4-foot-long LED bulbs. They fit in the same fixture.”

Surface made improvements throughout their operation. “We did four warehouses and our shop, coolers, offices, and equipment storage buildings,” Nerison said.

The nursery also replaced outdoor

lights on buildings and the parking lot with LED lights. “I don’t think there are any more incandescent or fluorescent lights,” Nerison said. “Our cost was literally \$1 per light fixture. [For] a project totaling \$23,000, I literally wrote a check for \$150.”

Once the equipment arrived, the nursery went to work installing the lighting, one building at a time. They later received a call from Energy Trust to verify that the work was done. Energy Trust asked for pictures showing the new fixtures installed.

The project was easy, in part because Pacific Lamp was familiar with Energy Trust programs, and had experience working with other nurseries.

“My goal is to find older lighting technology and to find savings for the nursery,” Stievenard said. “The Energy Trust rebates are so substantial, so



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typically we don't charge for our service.”

For Surface Nursery, the only cost was the materials. There was no installation cost to pay, because Surface was going to install everything themselves. “The cost for the project was \$23,775 and the rebate from Energy Trust covered \$23,625,” Stievenard said. “The nursery paid \$150. I take care of everything. I do all the paperwork and I apply for the Energy Trust rebate on their behalf and the nursery pays for what the rebate doesn't cover.”

The rebate covers materials only, so if the nursery can't do the work themselves, Pacific Lamp can quote labor costs. “Ninety percent of nurseries install the lighting themselves,” Stievenard said. “They're very easy to install.”

While this project was more limited in scope, Energy Trust's incentives also work for large-scale projects.

### The big bang

Bailey Nurseries initiated the process for the project at its Dayton facility in 2019 but the project didn't start until 2020. The project totaled \$340,000, and Energy Trust covered 85 percent of the project costs. “We were very fortunate that the incentives in the lighting arena were very favorable,” Davidson said.

The incentive program was wide in scope. “It covered every single light bulb in Dayton and it covered every single light fixture, interior and exterior,” Davidson said.

It covered offices, warehouses, refrigeration coolers, pole barns, exterior detached buildings that house equipment and machinery. “It was a complete walk-through by the vendor and the electrician,” Davidson said. “There wasn't a fixture that wasn't touched and converted to LED.”

The older lights were fluorescent or high-pressure sodium fixtures. When the nursery converted the high-pressure sodium fixtures, they went from a 400W to a 150W fixture.

“We did have a good incentive partly too because our lighting is controlled,” Davidson said. “We have the ability to control the lights through an app on our phone or computer so we can set sched-



Surface Nursery worked with Pacific Lamp and purchased all of the lights, like the high-bay UFO-style lamp above, from Pacific and handled the installation themselves. PHOTO BY SHAWN NERISON

### Energy Trust programs

Energy Trust of Oregon no-cost small-business lighting program:

**TinyURL.com/ETNoCost**

Office and industrial lighting rebates: [TinyURL.com/ETOfficeIndustrial](http://TinyURL.com/ETOfficeIndustrial)

Greenhouse and nursery upgrade rebates: [TinyURL.com/GreenNursery](http://TinyURL.com/GreenNursery)  
Horticultural lighting and lighting controls: **TinyURL.com/HortLights**

For questions on Energy Trust lighting incentives, call 800-326-2917 or email [Lighting@EnergyTrust.org](mailto:Lighting@EnergyTrust.org)

### Resources

Pacific Lamp Wholesale: Laurent Stievenard, sales manager, 10725 SW 5th St., Beaverton, Oregon, [Laurent@PacLamp.com](mailto:Laurent@PacLamp.com), 415-527-8911

Farnham Electric: 1050 NE Lafayette Ave., McMinnville, Oregon, [info@FarnhamElectric.com](mailto:info@FarnhamElectric.com), 503-472-2186

North Coast Electric: 27600 SW 95th Ave., Wilsonville, Oregon, 503-570-6174

ules when lights come on and when they turn off. We can also control the intensity of the light.”

And all of the fixtures in their warehouse and coolers have a photo cell, so they turn on when someone walks in, and turn off when there's no motion in the space.

Bailey worked through their long-time electrician, Farnham Electric in McMinnville, and supplier North Coast Electric in Wilsonville. North Coast Electric has a special projects department, and within that department, they have a pretty good relationship with Energy Trust.

“So it was the electrician, the supplier and the nursery working together and the supplier coordinated everything through Energy Trust,” Davidson said. “They tracked the dollars for us and they did the proposal. They worked with Energy Trust on all the details. We looked at the paperwork and gave them the final approval.”

Because the project took several months to complete, Bailey paid in stages as each stage was completed. Energy Trust came out to verify completion and once it was, the rebate form was submitted and Bailey got a check from Energy Trust, Davidson said.

“Going through this project made me think about my own house,” Davidson said. “That same year I switched over my Christmas lights to LED.” He also did a home remodel and switched every bulb out to LED.

“Part of the reason we did this project wasn't just for money savings but for conservation, to be more sustainable, and it's about good stewardship,” Davidson said.

As a nursery and an industry, stewardship encompasses more than just being good stewards of the land, but good stewards of resources as well. ©

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