

HIGH-EFFICIENCY HVAC PAYS OFF FOR CLOUD COVER CANNABIS

ROOFTOP UNITS CUT ENERGY COSTS BY AN ESTIMATED 37 PERCENT

Cloud Cover Cannabis prides itself on using the best technology to achieve the highest quality cannabis product. When selecting the heating, ventilating and air conditioning system for its new 36,000-square-foot indoor cultivation facility in Portland, the company did extensive research to identify just the right system. Energy Trust of Oregon helped by providing technical assistance and an engineering analysis on the HVAC system.

"Cannabis production facilities typically require significant cooling and have high dehumidification needs," said Ankur Rungta, co-founder. "Energy is a big factor in our operating cost equation, and standard systems set up a cycle where dehumidification units create heat while HVAC units are fighting it. We weren't interested in systems that inefficiently worked against one another."

Rather than installing standard rooftop units with constant speed fans and standalone dehumidification, Cloud Cover Cannabis opted for units with hot gas reheat, allowing independent control over temperature and humidity using a single integrated system. "Energy Trust's technical analysis study validated that we were choosing units that added value and would pencil out from an energy perspective," said Rungta.

With hot gas reheat technology, the rooftop units cool incoming air to drop excessive moisture, then use the bi-product heat to reheat the air to the desired set-point. The units also have variable frequency drive fans, which further reduce energy use by synchronizing fan speed to produce the exact air flow needed.

PROJECT-AT-A-GLANCE

Hot gas reheat HVAC/ dehumidification system

Financial analysis

- \$594,000 project cost
- \$124,100 cash incentive from Energy Trust
- \$52,000 estimated annual energy cost savings

Estimated annual savings

- 698,300 kilowatt hours
- 380 tons of carbon dioxide

Launching a new cultivation facility always has a lot of budget challenges. Energy Trust's cash incentive helped us close the gap so we could have the system we wanted.

Ankur Rungta, co-founder, Cloud Cover Cannabis











Each unit has sophisticated direct digital controls that precisely regulate temperature, humidity, carbon dioxide and other variables—creating ideal conditions for every environment, whether it's a vegetative, flower or clone room. Employees can monitor all these variables from a computer, making it easier to manage every stage of cannabis growth.

The rooftop units were a sizable long-term investment for Cloud Cover Cannabis, at \$594,000. A \$124,100 cash incentive from Energy Trust helped offset the extra cost of the high-efficiency units. This rooftop system slashes annual energy costs by an estimated \$52,000, but it also contributes to a better product.

"Operationally, we're thrilled," said Rungta. "We're not only saving dollars, we're controlling temperature and humidity to within a few tenths of our target set-points. As we complete our first set of harvests, we're experiencing robust yield and very high-quality product. We expect this system to be a major factor in achieving our goal of producing the best indoor cannabis in Oregon."

Get more from your energy. Visit **www.energytrust.org/grow** or call **1.866.368.7878**.

Energy Trust of Oregon

421 SW Oak St., Suite 300, Portland, OR 97204

1.866.368.7878

energytrust.org

Energy Trust of Oregon is an independent nonprofit organization dedicated to helping utility customers benefit from saving energy and generating renewable power. Our services, cash incentives and energy solutions have helped participating customers of Portland General Electric, Pacific Power, NW Natural, Cascade Natural Gas and Avista save on energy costs. Our work helps keep energy costs as low as possible, creates jobs and builds a sustainable energy future. **Printed on recycled paper that contains post-consumer waste. 9/18**