



Technical Engineering and Energy Solutions



EXPERIENCE

We have technical expertise in agricultural lighting, HVAC, dehumidification, filtration, and combined heat and power (CHP).



PHILOSOPHY

Client confidentiality is part of our culture. We are unbiased, collaborative, and manufacturer neutral.



MISSION

Our goal is to help you grow your crop as efficiently and economically as possible.

ERS has substantial experience conducting design review and energy efficiency assessments in commercial and industrial facilities through our work as implementers of the Efficiency Maine Custom program and through energy efficiency assessments with private clients. In addition, ERS has performed ground-breaking analysis of indoor cannabis cultivation facilities through extensive metering and analysis conducted for Boulder County and National Grid. We have also performed design reviews and energy efficiency assessments for cannabis cultivation facilities as well as other indoor horticultural facilities for Efficiency One, the NYSERDA, Eversource CT, and National Grid.

ERS has completed a wide variety of tasks: toured dozens of cultivation facilities; met with and interviewed cultivators, vendors, designers, and utility program staff; conducted scoping audits of facilities in Maine and Massachusetts; and performed detailed analyses of retrofit and new construction opportunities in support of utility incentive programs. We have also performed detailed sub-metering for measurement and verification on cannabis cultivation facilities, which has given us unparalleled insight into the energy dynamics of grow rooms. We have been active in sharing these insights with the community at large by publishing papers, publishing interviews, presenting at conferences, and conducting workshops with utilities, cultivators, and other energy professionals.



Sample Clients and Projects

Boulder County

- ERS is conducting in-depth energy assessments of all licensed cannabis cultivation facilities in Boulder County
- The project will provide baseline energy use and productivity analysis for each facility to identify best practices
- The project includes on-site assessments, analysis of facilities systems, and identification of cost-effective measures and payback calculations

Efficiency One/Nova Scotia

- ERS conducted a cannabis grow lighting baseline study for Efficiency Nova Scotia's demand side management incentive program and their evaluation consultant
- The final report recommended a procedure for determining energy savings of both new construction and retrofit projects

Efficiency Maine

- Scoping audits of commercial-scale cannabis cultivation facilities
- Demand impact research related to cannabis cultivation facilities

National Grid

- Detailed whole-facility energy assessments and M&V of cannabis cultivation retrofit and new construction facilities
- Potential measures include lighting, HVAC/dehumidification, envelope, CHP, and engine-driven chillers

Eversource CT

- ERS is providing technical assistance services for a tomato greenhouse project
- ERS is working with the Program Administrator to characterize the baseline against which the high-efficiency options will be compared
- Potential measures include glazing, curtains, heat storage, CO₂ production and recycling, heating systems (root-based radiation vs. fan-coil units), CHP, and horticultural lighting

CLIENT TESTIMONIALS

"We were introduced to Nick Collins and ERS through our local utility, National Grid. We asked ERS to perform a wide analysis on prospective lighting and mechanical solutions that would fit our business. We provided 5 different models including our primary selection. It became abundantly clear that we selected the right company and, more importantly, the right individual to take the lead on this analysis. Nick was knowledgeable and extremely resourceful in helping us to refine each model. From there, he put together a comprehensive analysis that helped us to arrive at the most cost-effective solution for our business.

In our experience, it was rare to find a company that had such a wide area of expertise capable of analyzing such diverse solutions. We were very happy with Nick's level of knowledge and professionalism. We would certainly use ERS again, as they proved to be a valuable business partner before, during, and after the work was performed."

—Peter DeCaro, Chief Executive Officer, Medicinal Alternatives

"ERS's experience and insights into the fundamentals of energy use and efficiency in indoor cannabis cultivation facilities is unparalleled. I have been extremely impressed with Nick's ability to identify energy waste in grow operations that elude others, to pinpoint meaningful yet practical remedies to optimize these facilities, and to communicate these recommendations in ways that meets growers where they are. ERS is a natural partner for when you want to have confidence in getting a full and complete picture of how to optimize indoor cannabis cultivation facilities."

—Sam Milton, Climate Resources Group

"It was important to our company to find a group of people who understood what it takes to make a facility as complex and expansive as ours function the way it should. Cannabis is unique in that many different trades need to come together and work in harmony. Nick/ERS's help was crucial in determining our needs and capacity requirements and picking the products that best suited our processes. Our problems were approached from a scientific standpoint, versus our previous experiences of having our projects approached from a salesman's point of view, which allowed us to end up with the best possible outcome."

—Cultivation Operations Manager, Northeast-based cultivation facility

"I consider ERS to be one of the most cannabis-knowledgeable engineering firms that I have come across. Desert Aire has supplied mechanical equipment to around 400 grow rooms, and I have not met a more knowledgeable engineering company. Your understanding of the grow process and your analysis of grow rooms is at an unmatched level. I am very pleased that you will be offering your skill at designing grow rooms to the indoor growers in the western US."

—Jim McKillip, Desert Aire Western Regional Manager



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