BUSINESS ENERGY ASSESSMENT SUITE

April 4, 2023

Presenter:

Lauren Foster

Xcel Energy Program Manager

Business Energy Assessment Suite

Agenda Order

1. Commercial Streamlined
2. Building and Targeted
3. Outdoor Agriculture
4. Indoor Agriculture
5. Questions?

Streamlined Assessments			Building Assessment	Targed Building Assessment
Agricultural Energy	Indoor Agriculture	Commercial		
$	$	$	$$	$$$
…free series of recommendations that increases on-farm economic and environmental sustainability	…affordable series of recommendations that influence energy management's best practices within my agriculture business	...a handful of prioritized operational and equipment recommendations	…a more comprehensive list of operational and equipment recommendations	... the most comprehensive, prioritized list of operational and equipment recommendations
…a 2-year energy roadmap focused on near-term project completion			…a 3-year energy roadmap with all energy-related improvements prioritized by cost effectiveness and customer plans	... a 5-year energy roadmap with all energy-related improvements prioritized by customer budget and goals

Commercial Streamlined Assessments Program

April 4, 2023

Presenter:

Bryan Baker

Engineering Supervisor

Welcome!

Agenda

- **Introduction**
- **ASHRAE Level 1 Audits**
  - *Identify Energy-Savings Opportunities*
  - *Bill Analysis, Benchmarking, & End-Use Breakdowns*
  - *Sample Report*
- **More Than Just Audits**
  - *Project Advising*
  - *Bid Solicitation & Proposal Reviews*
  - *Rebate Support & Processing*
  - *Referrals to Other Relevant Programs*
- **Program Resources**
- **Q&A**



Bryan Baker

Engineering Supervisor

- Lead CR engineer for Colorado, New Mexico, and Minnesota programs.
- 9+ years at CLEAResult implementing energy efficiency programs for Xcel Energy.
- B.S. in Electrical Engineering

ASHRAE Level 1 Audits



An engineer will perform an on-site (or virtual) assessment of your facility to identify both capital and low-cost / no-cost energy-saving opportunities.

Small businesses may also qualify for direct installation measures such as free LED lamps (bulbs), smart thermostats, and faucet aerators.



A written report is delivered after the assessment, report review conducted, and any needed follow-up support provided to the business.

- Detailed Facility Description
- Bill Analysis
- Benchmarking & End-Use Breakdowns
- Energy-Saving Opportunities

(with detailed cost and payback estimates)

Sample CSA Report

Xcel Energy®

Business Name
Energy Analysis Report

Business Address

Customer Contact

Prepared on behalf of
Xcel Energy by:
CLEAResult

Xcel Energy Rep
Energy Efficiency Specialist

Xcel Energy
1414 West Hamilton Ave - PO Box 8
Eau Claire, WI 54701

CLEAResult Auditor
Energy Analyst

CLEAResult
3461 Ringsby Ct., Suite 420
Denver, CO

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Sample CSA Report

Calculated Savings Opportunities

All energy savings estimates are based on facility provided information and assumptions of typical energy use. For quantified savings potential, a detailed study of the system, including measured data collection would be required. Additionally, project costs presented in this report are estimates based on consumer reference data. For detailed project costs, it is recommended to obtain a quote from the appropriate contractor or vendor.

CSO-1: LED LIGHTING

Lights at this facility consists of T8 two and three lamp troffers and T12 four lamp troffers. The analysis below (Exhibit 6) assumes Type B LED bulb replacements for all T8 tubes and full fixture replacements for the T12 troffers. The analysis on the next page (Exhibit 7) contains analysis for a full LED fixture replacement for both T8s and T12s.



Upgrading to long-lasting, high-efficiency LED fixtures and lamps can help reduce energy use, lower replacement & maintenance costs, and improve the light quality in your business. Additional savings can be achieved by installing Networked Lighting Controls (NLC) in conjunction with an LED upgrade.

The expected useful life (EUL) of a measure indicates how long the installed measure will continue to deliver energy savings to the facility. For this measure the EUL is 13 years, the estimated annual energy savings is 30,903 kWh/yr, and the estimated peak demand reduction is 6 kW/yr. The full business case is presented below.

The Type B LED replacement tubes qualify for Xcel Energy's Business LED Instant Rebate program, where eligible rebates are applied at the point of sale when purchased from a Participating Distributor. Please contact Jane Harris (303-446-7888 / Jane.Harris@CLEAResult.com) for assistance in connecting with a Participating Distributor.

Consider retrofitting the existing fluorescent T8 and fluorescent T12 lighting with LED fixtures, retrofit kits, or replacement lamps. An Xcel Energy lighting specialist can help connect you with a participating contractor/distributor, review bids, and assist with your lighting rebate application after project completion.

Exhibit 6: Estimated measure savings and resulting business case

Business Case			
Electrical Savings	30,903 kWh/yr	Estimated Project Cost	13,328 $
Demand Reduction	6.2 Peak kW	Energy Cost Savings	3,792 $/yr
Natural Gas Savings	0 Therms/yr	Potential Incentive	2,852 $
Effective Useful Life	13 years	Simple Payback (after incentive)	2.80 years

CSO-2: HVAC UNIT REPLACEMENT

The existing equipment is comprised of twenty-two rooftop units (RTUs) with varying cooling capacities, manufacturers, and manufacture dates and had an estimated total cooling capacity of 98-tons. The RTU manufacturers included Carrier, York, Inner City, ICP, Rheem, and Reznor and had manufacture dates ranging from 1990 to 2017. The analysis below assumes an incremental project cost of high efficiency RTU replacements of the six RTUs manufactured between 1990-1998 manufactured by York, Carrier, and Inner City, all with cooling capacities of 5 tons or less.



High-efficiency units are available now that can provide significant energy savings, improve occupant comfort, and reduce energy costs.

The expected useful life (EUL) of a measure indicates how long the installed measure will continue to deliver energy savings to the facility if adequate routine maintenance is performed as required. For this measure the EUL is 20 years, the estimated annual energy savings is 3,030 kWh/yr, and the estimated peak demand reduction is 1 kW/yr. The full business case is presented below.

Incremental project cost represents the difference between replacing your existing equipment with a high efficiency model vs standard efficiency model; the full project cost may be significantly higher. Savings estimates are similarly calculated, and actual energy & bill savings may be larger if your existing equipment is below current efficiency standards.

These units are approaching or are at the end of their intended useful life. Consider developing a plan to replace them with cost-effective high efficiency equipment.

Exhibit 8: Estimated measure savings and resulting business case

Business Case			
Electrical Savings	3,030 kWh/yr	Estimated Project Cost	3,768 $
Demand Reduction	0.8 Peak kW	Energy Cost Savings	372 $/yr
Natural Gas Savings	0 Therms/yr	Potential Incentive	0 $
Effective Useful Life	20 years	Simple Payback (after incentive)	10.10 years

More Than Just Audits

- Our expert energy efficiency advisors can help you prioritize projects, connect with participating trades, review bids, and provide rebate support.



Lighting & Controls



Food Service Equipment



Motors & Drives



Refrigeration



HVAC

More Than Just Audits, Continued

- We work closely with Xcel Energy's other program teams and can help connect you with our other offerings.
  - Multifamily Building Efficiency
  - Compressed Air Studies
  - Steam Trap Surveys
  - Data Center Efficiency & Design Assistance
  - Solar*Rewards & Windsource Subscriptions
  - EV Solutions
  - Energy Efficiency Financing

Program Resources

Enrollment / General Questions:

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Building and Targeted Building Assessments

April 4, 2023

Presenter:
Vaughn Engler
Michaels Energy

Xcel Energy Business Energy Assessment Program

What is it? What can it do for me?



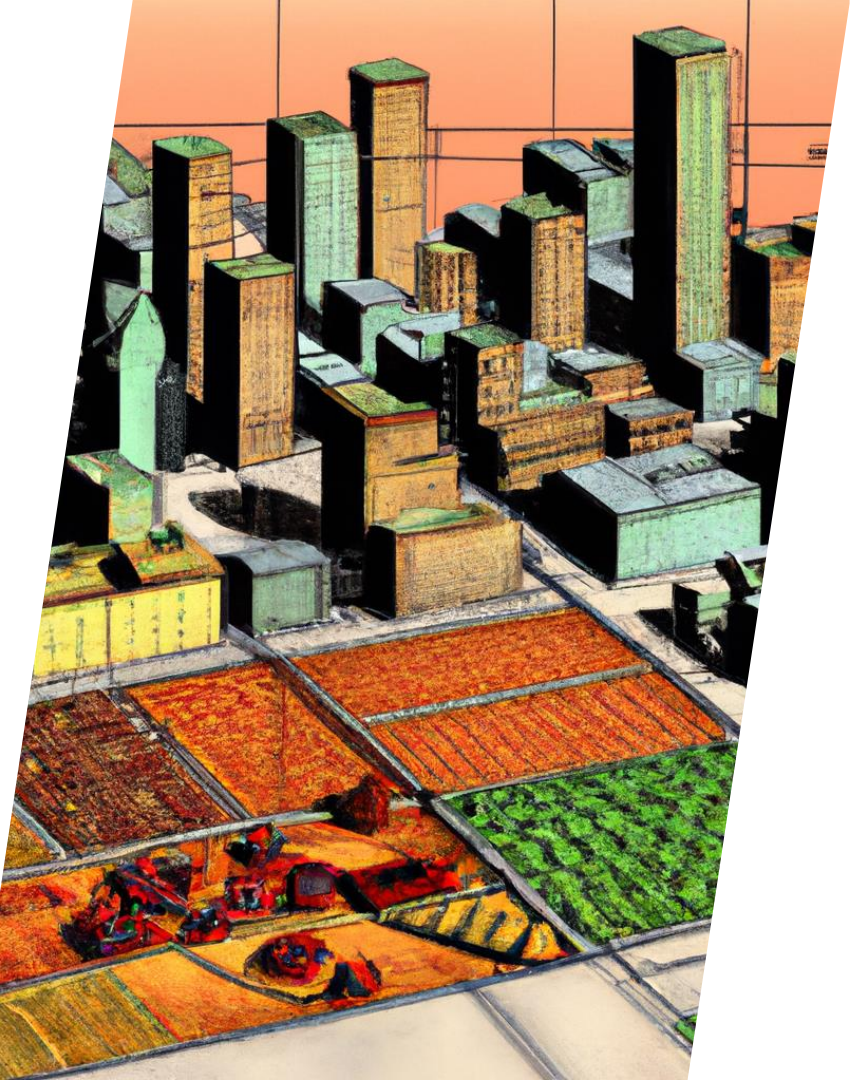




Business Energy Assessments

Agenda:

- What is the Business Energy Assessment (BEA)?
- Who does this serve?
- What are the benefits?
- Examples



Types of Assessments

- Small Business Energy Solutions
- Outdoor Agricultural Energy Streamlined Assessment
- Indoor Agricultural Energy Streamlined Assessment
- Commercial Streamlined Assessment
- Building Assessments
  - Targeted Assessment
- In-Depth Study

Why Get a Building Assessment?

Customized facility energy assessments for Xcel Energy customers.



Get ideas to solve building problems and plan for investments



Meet building performance standards or building certification



Save operating costs and get maximize rebates and tax incentives

BEA Program Process



APPLY FOR ASSESSMENT



DISCOVERY CALL



WHOLE-BUILDING ON-SITE ASSESSMENT

HVAC TUNE-UP



CUSTOMIZED ENERGY ROADMAP



IMPLEMENTATION SUPPORT



Energy Roadmap

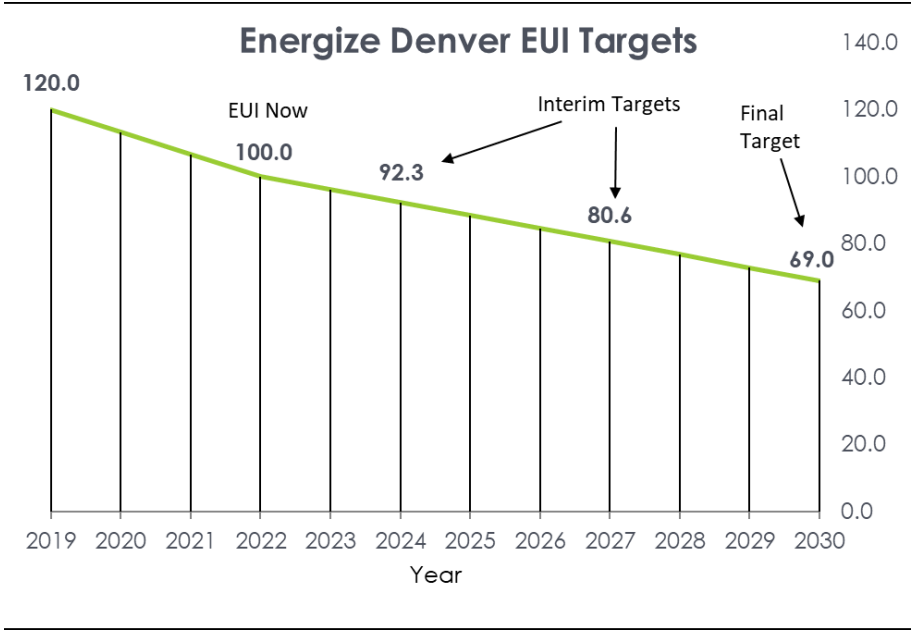
- Historical Energy Consumption Analysis
- Equipment replacement options
- Low Cost/No Cost Adjustments, summary of implemented measures
- Estimated costs to make energy upgrades or improvements
- ROI + rebates
- EUI Impact



Flexible Approach

- Energize Denver Ordinance
- City of Boulder Building Performance Ordinance
- Assess Specific Projects

Example Facility – Medical Office Building



- High energy consumption
- Affected by Energize Denver Ordinance

Example Facility – Medical Office Building

- Low Cost/No Cost Opportunities
  - Damper Controls
  - System Scheduling
  - Snowmelt System Controls
  - Pumping Control Issues
- Capital Measures
  - Lighting Controls



FAQ

- Is it free?
  - Xcel Energy subsidizes costs. Some facilities still have a co-pay depending on building size.
- Will you help apply for rebates?
  - Yes! We can help apply for rebates including custom rebates

Contact

Michaels Energy BEA Implementer

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Xcel Energy Portfolio Manager

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Outdoor Agriculture Assessments

April 4th, 2023

Presenter:
Amelia Snyder
Resource Innovations

Business Energy Assessments: Outdoor Agriculture

• Categories

- ✓ Irrigation
- ✓ Greenhouse
- ✓ Dairy
- ✓ Cold Storage
- ✓ Feedlots
- ✓ Poultry and Swine Operations
- ✓ Hemp Producers

• Requirements

- ✓ $4,800+ in on-farm energy costs annually
- ✓ Not cannabis producers

• Example Project

- ✓ 43.5% savings in Electrical Consumption
- ✓ 39.8% reduction in Natural Gas Consumption
- ✓ Project cost: $199,351. Rebates available: $22,410
- ✓ Estimated payback of 6.2 years

Deliverables

Energy Conservation Opportunities (ECOs)

- Cost-effective, realistic and appropriate recommendations for the customer

Rebate Opportunities

- Detailed descriptions of qualifying rebates for each facility.
- Custom rebate opportunities for projects that do not fall under typical rebate offerings.

Energy Usage Analysis

- Analysis of current building performance and a deep dive into where energy is being used.

Project Implementation Assistance

- Management assistance for customers who are unable to dedicate time to conservation projects.

Indoor Agriculture Streamlined Assessments Program

April 4th, 2023

Presenter:

Joe Sullivan

Program Manager – Franklin Energy Solutions

Agenda

- **Intro**
- **Market & Demographics**
  - *Who qualifies?*
  - *State of CO Industry*
- **Program Offering**
  - *On-site assessment & advising*
  - *Sample report*
  - *Energy Savings Opportunities*
  - *Plant growth Optimization*
- **Rebates**
  - *Prescriptive & custom*
  - *LED Grow Lighting*
  - *50% bonus!*

Joe Sullivan

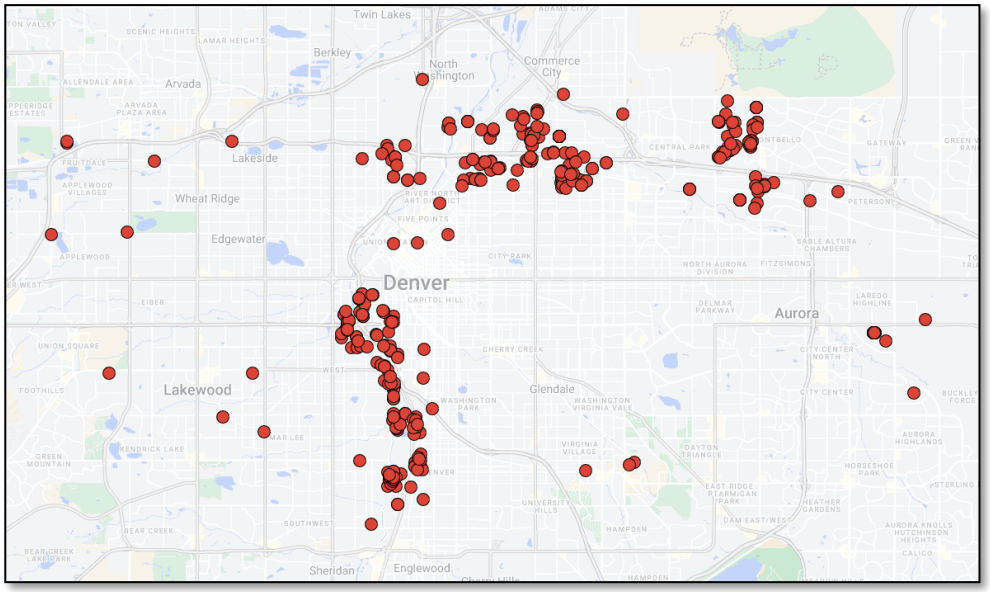


- PM & Technical Lead Indoor Ag
  - CO & CA Programs
  - Building & Energy Codes
- 5-years with the USDA + 8-years utility program implementation experience

Indoor Ag in CO

- 500+ customer in Xcel territory.
  - Indoor warehouse operations & greenhouses
  - Any crop grown artificial light.
  - Cannabis, vertical farms, tomatoes, microgreens, & other assorted vegetable crops

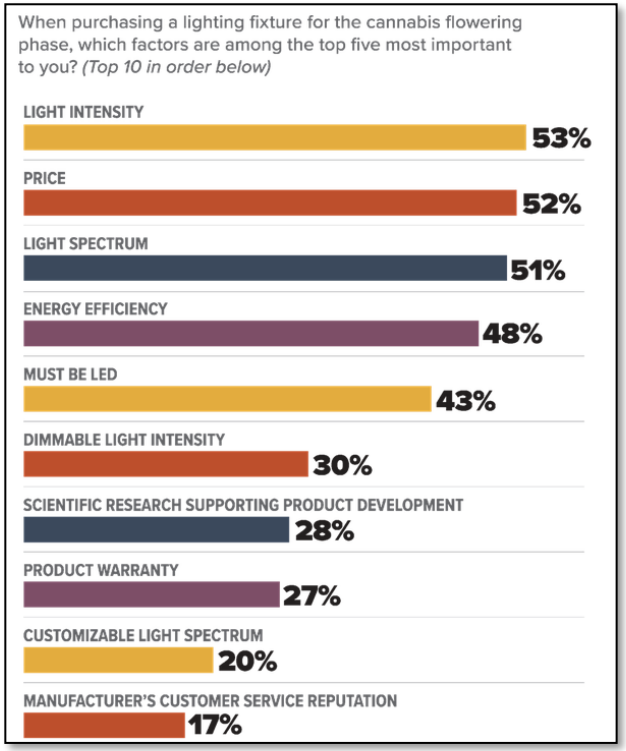
Denver Area Indoor Grows



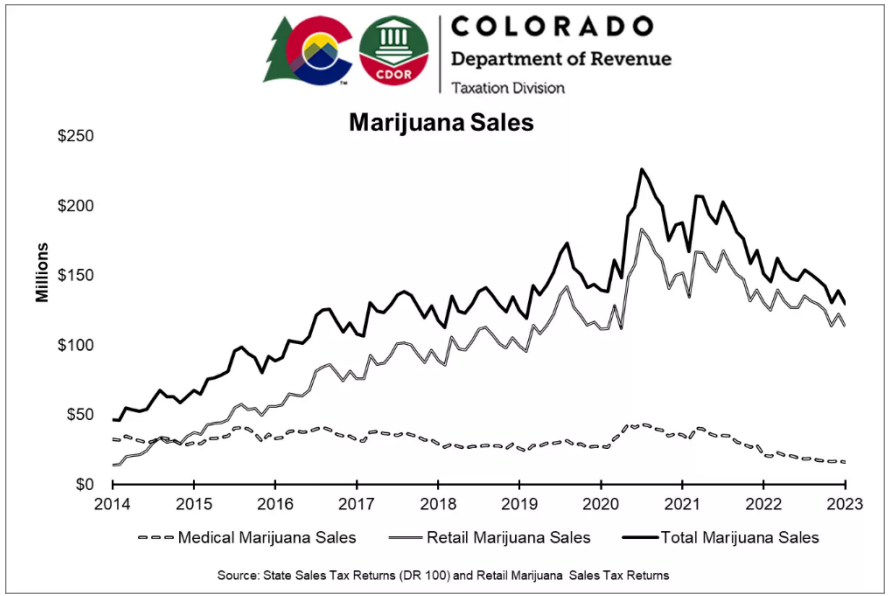
Big Business & Big Savings

- $2 billion+ industry
- High EUI → ave. facility 800+ kBtu/ft^2
  - Office EUI = 52.9 kBtu/ft^2
  - Hospital EUI = 234 kBtu/ft^2
- 350,000+ kWh savings per project
  - Lighting, HVAC, Dehumidification, Fans, & Controls
- Historically low participation in utility programs

EE Technology now ready to be widely adopted



Changing Market Conditions



- Reduced revenue & decreased profitability
- High lending rates
- Energy is top 3 largest operational expense, but it can be an **asset** not and **cost**
- Utility rebates are the best financial resource for grows

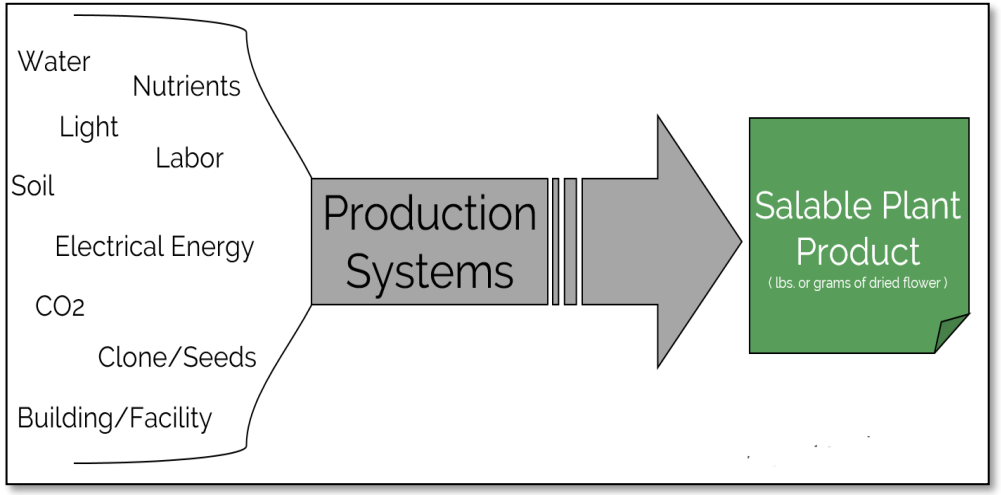
Program Outline

Energy Assessment

- Indoor ag energy specialist conducts an on-site evaluation of facility identify opportunities to save energy and optimize plant growth optimization.

Assessment Report & Advising

- Report delivered after the assessment and reviewed with customer to prioritize opportunities.
- Project & technology support



Sample Report

Facility Energy Usage

In this section we explore how your facility uses energy throughout the year to help identify potential savings opportunities.

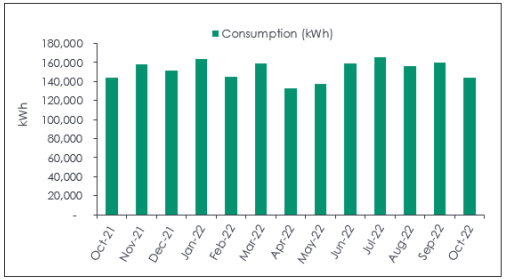
Annual Energy Use

Figure 1 and Figure 2 show the electrical consumption and demand use over time at your facility.

Observations:

- Average monthly electric consumption throughout the last 12 months has been 152,258 kWh.
- The highest month of consumption was in June 2022 at 152,258, with the lowest being in April 2022 at 132,960 kWh.
- Demand (kW) is on average around 304 with the lowest reading at 247 and the highest at 342

Figure 1: Annual Electricity (kWh) Consumption



Energy Conservation Opportunities

Please refer to the Opportunity Description following this table for a detailed description of recommendations.

Table 6: Energy Conservation Opportunities

DESCRIPTION	LOCATION	QTY	ENERGY SAVINGS (KWH)	DEMAND SAVINGS (KW)	COST SAVINGS ($)	Estimated Rebate[1] ($)	Estimated Simple Payback (yr)
LED Retrofit	*Flower*	270	521,727	136.6	$59,512	$133,185	2.5
	Veg	165	542,864	66.5	$42,469	$45,552	2.8
High Efficiency Circulation Fans	*Flower & Veg*	86	18,308	2.09	$1,393	$1,045	2.8
Dehumidification Unit Retrofit	*Flower & Veg*	17	28,751	4.10	$2,405	$1,650	17.7
HVAC Unit Upgrade	*Flower & Veg*	26	40,342	11.5	$4,847	$4,720	8.4
TOTAL			**1,151,992**	**220.7**	**$110,626**	**$186,151**	

Opportunity Descriptions:

- **LED Retrofit[2]:** Replace HPS lighting and MH with LEDS in all Flower and Veg rooms. See Lighting Performance section for PPFD and spectral analysis of your current system. Install an LED system that meets or exceeds current light levels.
  - Recommended Measure – Flower: (270) 1,000W HPS → (272) 700W Horticultural LEDs
  - Recommended Measure – Veg: (78) 1,000W MH → (81) 653W Horticultural LEDs & (65) T5HO 8 Lamp → (84) 145W Horticultural LEDs
  - **LIMITED-TIME BONUS LED REBATE!** Take advantage of bonus lighting rebates to earn 50% more when you purchase LED grow lights. To qualify, equipment must be purchased after July 1st. Install equipment and submit rebate application by 12/01/2022. Check out our information sheet for full details.

1. *Prescriptive rebates for LED grow lights with the 50% bonus cannot exceed 75% of the total project cost (material + labor). The actual rebate received may differ than what is reflected above.*

Benchmarking

Benchmarking is used to compare the building energy performance to similar buildings based on size, usage, and geographic location. It is a key first step to understanding and improving energy performance and reducing energy use. Benchmark values are typically determined from The United States Energy Information Administration's Commercial Building Energy Consumption Survey (CBECS) report. However, the CBECS has yet to develop benchmark values for Indoor Agriculture facilities. Therefore, we have used data that's been gathered from other indoor agricultural producers in Colorado to develop baseline benchmarking values.

Table 2 summarizes some of the key performance metrics for your facility.

Table 2: Key Performance Metrics

KPI	Definition	Facility	Benchmark
Energy Use Intensity	Total annual energy used by the facility (electricity + natural gas) divided by total canopy area - (kBtu/ft²/yr)	944	1,267
Energy Cost Intensity	Annual energy bill cost divided by total canopy area - ($/ft²/yr)	$24.69	$34.09
Lighting Power Density	Total wattage of grow lighting divided by total canopy area - (W/ft²).	57	36

Lower Energy Use Intensity, Energy Cost Intensity, and/or Lighting Power Density can indicate better energy performance.

Figure 6 shows the annual energy cost at your facility compared to similar indoor agricultural producers across Colorado.

Observations:

- Energy Use Intensity is over two times higher in this facility versus the benchmark in other indoor cultivation facilities.
- Energy Cost Intensity was $4 more per sq. ft. than other indoor cultivation facilities across Colorado.
- Light Power Intensity was higher than the benchmark by 21 Watts per square per foot.

Sample Report

Appendices

Vapor Pressure Deficit

Vapor pressure deficit (VPD) is a measurement describing the vapor pressure differential from inside a leaf, compared to the air pressure in the room. It rolls air temperature, leaf temperature and relative humidity into one easy to manage number. It is a direct method of evaluating the potential water stress on plants by providing a predictive value of expected evapotranspiration. The VPD values below are the difference between the Vapor Pressure of the air and the Vapor Pressure of the leaf. This number accurately reflects the Vapor Pressure Deficit and the impact it has on your plants.

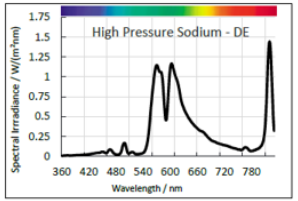
Figure 10 reflects the VPD that was measured in your Veg room on the air temperature, relative humidity (RH), and leaf surface temperature recorded at the time of your assessment.

Figure 10: Flower VPD

RH (%)

°F	76	74	72	70	68	66	64	62	60	58	56	54	52	50	48	46	44	42	40	38	36	34
63	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.62	0.66	0.7	0.7	0.8	0.8	0.9	0.9	0.9	1.0	1.0	1.0	1.1
64	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.6	0.62	0.66	0.7	0.7	0.8	0.8	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.2
66	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.1	1.2	1.2
68	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.3
70	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.3	1.4
72	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.5
73	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.9	0.9	1.0	1.0	1.1	1.2	1.2	1.3	1.4	1.4	1.5	1.5	1.6	
75	0.4	0.5	0.6	0.6	0.7	0.7	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.3	1.3	1.4	1.4	1.5	1.6	1.6	1.7
77	0.5	0.5	0.6	0.7	0.7	0.8	0.8	0.9	1.0	1.0	1.1	1.2	1.2	1.3	1.3	1.4	1.5	1.5	1.6	1.7	1.7	1.8
79	0.5	0.6	0.6	0.7	0.8	0.8	0.9	1.0	1.0	1.1	1.2	1.2	1.3	1.4	1.4	1.5	1.6	1.6	1.7	1.8	1.8	1.9
81	0.5	0.6	0.7	0.7	0.8	0.9	1.0	1.0	1.1	1.2	1.2	1.3	1.4	1.5	1.5	1.6	1.7	1.7	1.8	1.9	1.9	2.0
82	0.6	0.6	0.7	0.8	0.9	0.9	1.0	1.1	1.2	1.2	1.3	1.4	1.5	1.5	1.6	1.7	1.8	1.8	1.9	2.0	2.1	2.1
84	0.6	0.7	0.8	0.8	0.9	1.0	1.1	1.2	1.2	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.9	2.0	2.0	2.1	2.2	2.3
86	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.2	2.3	2.4
88	0.7	0.8	0.9	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6
90	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
91	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9
93	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0
95	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.8	2.9	3.0	3.1	3.2
97	0.9	1.0	1.1	1.3	1.4	1.5	1.6	1.7	1.9	2.0	2.1	2.2	2.3	2.4	2.6	2.7	2.8	2.9	3.0	3.2	3.3	3.4
99	1.0	1.1	1.2	1.3	1.5	1.6	1.7	1.8	2.0	2.1	2.2	2.3	2.5	2.6	2.7	2.8	3.0	3.1	3.2	3.3	3.5	3.6
100	1.0	1.2	1.3	1.4	1.6	1.7	1.8	1.9	2.1	2.2	2.3	2.5	2.6	2.7	2.9	3.0	3.1	3.3	3.4	3.5	3.7	3.8

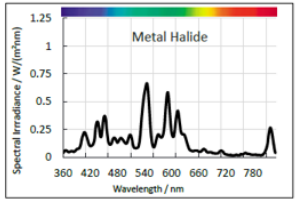
Figure 7: Flower Light Spectrum



Observations:

- Your HPS-DE spectrum is approximately 48% Red and 5% Far-Red.
- Approximately 5% of the spectrum is Blue and 0.18% is UV
- This equates to a 0.10 Blue to Red ratio

Figure 8: Vegetative Light Spectrum



Observations:

- Your HPS-DE spectrum is approximately 14% Red and 2.5% Far-Red.
- Approximately 38% of the spectrum is Blue and 0.3% is UV
- This equates to a 2.75 Blue to Red ratio

Table 4 reflects the average lighting intensity measured in each of your room types.

Table 4: Current Lighting Metrics

Measurement	Location	Results	Recommended Levels
Photosynthetic Photon Flux Density (PPFD) - µmol/m2/s	Flower	896	750 - 1100+ µmol/m2/s
	Veg	629	300 – 600 µmol/m2/s

Observations:

- Flower PPFD is within the recommended levels.
- CO_2 enables plants to utilize more light for photosynthesis. If you add CO_2 to your growth environment, your flowering plants may benefit from higher PPFD.
- Vegetative PPFD is slightly above the recommended levels.

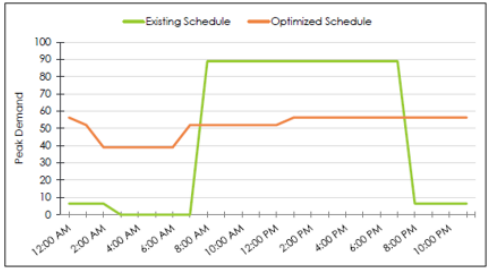
Daily Lighting Demand Profile

Choosing when to operate your lights can be complicated. It not only has an effect on energy use but also you cultivation operations and labor schedules. Changing when your room schedules overlap and staggering them based on the photoperiod and total wattage, can decrease your demand (kW) demand charges and save you money.

The demand (kW) charge on your electric bill is based on one hour of the month when your energy demand (kW) is at it's highest. Based on the equipment information and operation schedules we gathered during your assessment, we optimized your lighting schedules to reduce facility demand (kW) in your cultivation areas. The results reflected below represent one of the many combinations for daily on/off schedules that would reduce your peak demand (kW).

Figure 9 shows you daily horticultural lighting demand for your entire facility compared to an optimized light schedule that would reduce electric demand (kW).

Figure 9: Daily Lighting Demand Profile



Observations:

- Your current lighting schedule yields 88.91 kW facility electric demand, while the optimized version would yield 49.58 kW.
- Making changes to your lighting schedules, as reflected in Table 5 below, would save you 39.33 kW per month and save you $10,115 per year on your electric bill.[1]

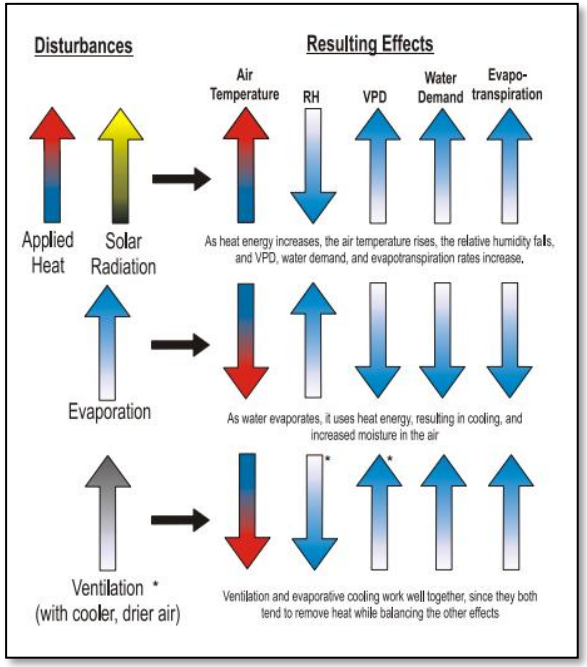
Table 5: Light Schedule Summary[1]

Room	Existing		Optimized	
	Start	End	Start	End
Room 1	8:00 AM	3:00 PM	7:00 AM	2:00 AM
Room 2	8:00 AM	8:00 PM	1:00 AM	1:00 PM
Room 3	8:00 AM	8:00 PM	1:00 PM	1:00 AM

1. *To experience $ savings on your electric bill, you must install a control system and implement an energy efficiency measure through one of Xcel Energy's cost-saving programs to request a re-set of your billed demand.*

Optimization Opportunities

Everything Is Connected



Lighting – Light Intensity (PPFD)

HVAC – Temp / RH & VPD

Dehumidification – RH & VPD (pints/day)

Pumps - Water & nutrients (gpm)

Fans - Air Flow (m s-1)

Rebate Program by Equipment Type

Prescriptive

Lighting





Irrigation

Water & Nutrient Delivery







Custom

Dehumidification





HVAC-D



Environmental Controls

Lighting, CO2, & Climate









NEW! Prescriptive LED Grow Lighting Rebates

- Earn up to $0.70/Watt installed for the installation of horticultural LEDs for:
  - Retrofit and/or new construction projects.
  - For retrofit project rebates are based on replacement of HPS, MH, CMH, T5,or T8 with new horticultural LED products.
  - Fixtures must have a minimum photosynthetic photon efficacy of 1.8 µmol/J.

Additional 50% rebate bonus!!!

- Up to $1.05/Watt installed
  - Purchases must be made 4/1/2023 – 11/15/2023
  - Submit applications by 21/1/2023.
  - Bonus rebates are capped at 75% of labor plus equipment tax

Thank You!

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