

# Public Service Department Act 164 Energy Recommendations for Cannabis Establishments

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Cannabis Control Board Meeting

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# Public Service – What we do



Represent the public interest in matters regarding energy, telecommunications, water and wastewater, including least cost planning oversight for electric distribution and efficiency utilities



Serve as the State Energy Office



Develop the Vermont Comprehensive Energy Plan



Update and promulgate rules for the Vermont Commercial (and Residential) Building Energy Standards

... And much more !!!

# Presentation Overview



# Act 164 – PSD Requirements

The recommendations shall include:

- (1) **recommended building energy standards** for cannabis establishments if different from existing commercial building standards;
- (2) **recommended energy audits** for cannabis establishments, including the recommended frequency of audits and who should perform the audits; and
- (3) **energy efficiency and conservation measures** applicable to cannabis establishments

# Statutory Considerations - Greenhouses

- Act 164 requires recommendations on whether there should be building energy standards for cannabis establishments if *different from existing commercial building standards*
  - Appears to imply that existing commercial building standards at minimum would apply.
- Existing Commercial Building Energy Standards (CBES) does not include any definitions or requirements for greenhouses
  - Typically exempt given the definitions for and exemption of farm structures within the CBES statute (30 V.S.A. § 53)
- Statute language in 7 V.S.A. § 869(a)(1), makes it clear that cannabis growing establishments are not to be regulated as farming or considered an agricultural crop
  - Therefore, they are not exempt from the existing CBES.
- The Department's recommendations include greenhouses as well as commercial buildings to be used for growing cannabis.

# Discussions prior to recommendations

Public Utilities  
Commission

VT Agency of  
Agriculture

VT Dept. of Public  
Safety, Division of Fire  
Safety

Energy Efficiency  
Utilities (Efficiency VT,  
Burlington Electric  
Dept. & Vermont Gas)

Resource Innovation  
Institute

Massachusetts  
Department of Energy  
Resources

National Buildings  
Institute (contractor)

Initial  
Meetings



Straw  
Proposal



Revised  
Proposal



Written  
Comments



Final  
Proposal

# Recommendations

Three areas of recommendations:

- Energy Standards
- Energy Audits
- Other recommendations
  - Measures to be implemented
  - Licensing conditions.

# Recommendations – Energy standards

The Department recommends energy standards for buildings used for cannabis cultivation that differ from the existing CBES in certain areas, as well as the development of standards for cannabis grown in greenhouses.

## Summary of Recommended Code Requirements for Cannabis Establishments

	Greenhouses	Buildings
Envelope	0.7 U-factor	CBES
Lighting	PPE $\geq$ 1.7, CBES	PPE $\geq$ 1.9, CBES
Ventilation	CBES, IBC, Fire	CBES, IBC, Fire
Heating and Dehumidification Equipment	CBES+	CBES+
Renewable Requirement	0.5W/s.f of floor area	0.5W/s.f of floor area
Fan Efficacy	2021 IECC	2021 IECC
Pumps	CBES	CBES



# Recommendations – Energy standards

## Indoor Opaque-Walled Building:

- Envelope – CBES requirements, including air sealing and commissioning.
- Lighting – CBES requirements for non-growing areas of the buildings. Spaces used for growing meet a specific Photosynthetic Photon Efficacy (PPE) equal to or greater than 1.9.
- HVAC – CBES requirements, except for equipment serving growing spaces shall be exempt from requirements for economizers as well as heat recovery.
  - If a facility uses carbon dioxide enrichment, has extraction operations, or hazardous material handling, ventilation requirements in the Vermont Fire & Building Safety Code also apply.

# Recommendations – Energy standards

## Greenhouses:

- Envelope – Minimum of  $u-0.7$ .
- Lighting – PPE equal to or greater than 1.7.
- HVAC – CBES requirements, except for equipment serving growing spaces. which should be exempt from the requirements for economizers and heat recovery.
- Low energy use greenhouses – CBES exemption for low energy buildings shall apply
- Low lighting load greenhouses – If total connected lighting load is less than 40 kW exempt from lighting requirements.

# Recommendations – Energy audits

- Self-reporting by the facility of their energy consumption, measured against cannabis production, rather than regular energy audits.
- Establish a baseline for the facility that can be used to show improved or decreased performance over time.
- Audit if the metric falls below the established baseline.
- Tools: for example, U.S. Department of Environmental Protection (EPA) Energy Star Portfolio Manager (free) or proprietary software such as RII tool that allows the tracking of energy and production on one platform.

# Recommendations – Other

## Measures:

- Solar Ready: require the use of Appendix CA of CBES
  - For facilities that choose to meet the CBES point requirements through the installation of solar, must install systems equaling a minimum of 0.5 Watts per square foot of floor area.
- Ventilation systems shall include provisions for a filter capable of removing or reducing odor from the drying plant if it is within 1 mile of other premises.
- Use of thermal curtains for greenhouses that operate year-round.

# Recommendations – Other

## Licensing Conditions:

- “Ability to serve” letter secured from the Distributed Utility (DU) to demonstrate sufficient line capacity to power the facility.
- Demonstrate that excessive demand will not be placed on electric distribution services OR estimate cost for upgrades with a plan on how they would be undertaken without unreasonable burden to the ratepayer.
- Energy management plan should be completed, which covers the following areas:
  - Envelope (including any air sealing)
  - Lighting specs.
  - HVAC and any load controls measures to be implemented.
  - Where they have or will work with an EEU or DU to improve energy profile.

# Thank You!