

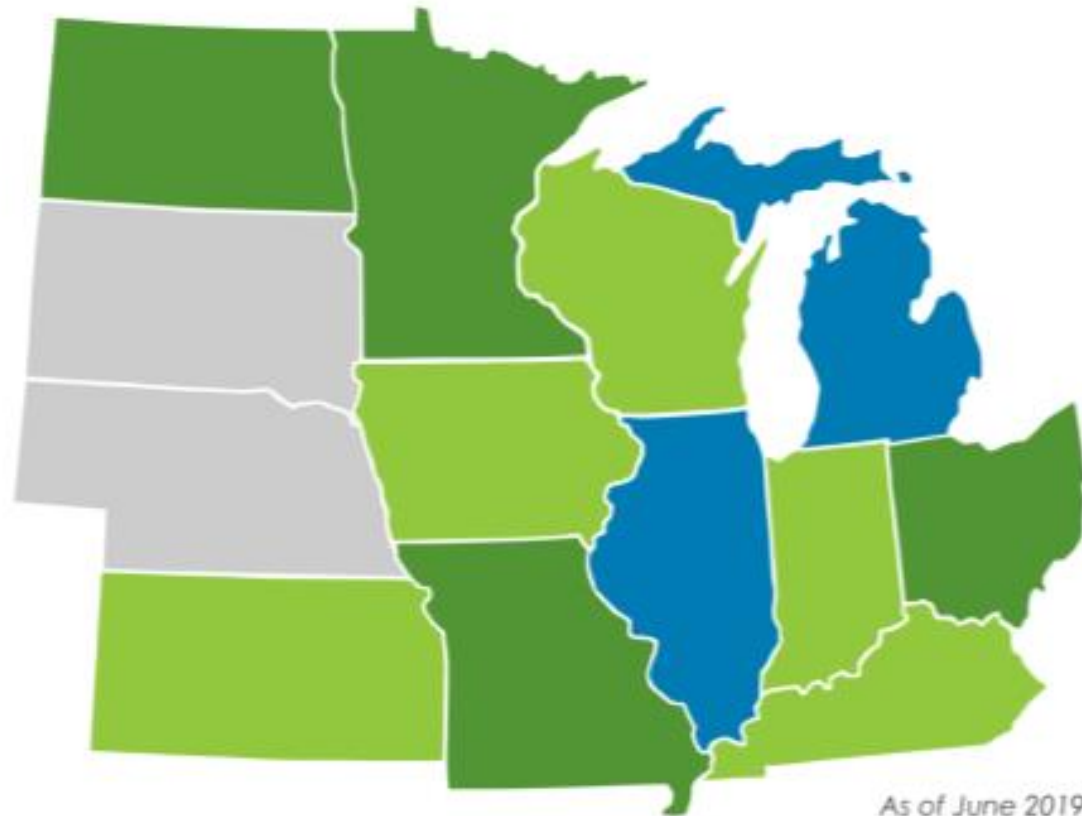


Legal Cannabis is Here: What Can Illinois Learn from Early Adopters?

IL SAG Meeting
November 19, 2019



Midwest Cannabis Market

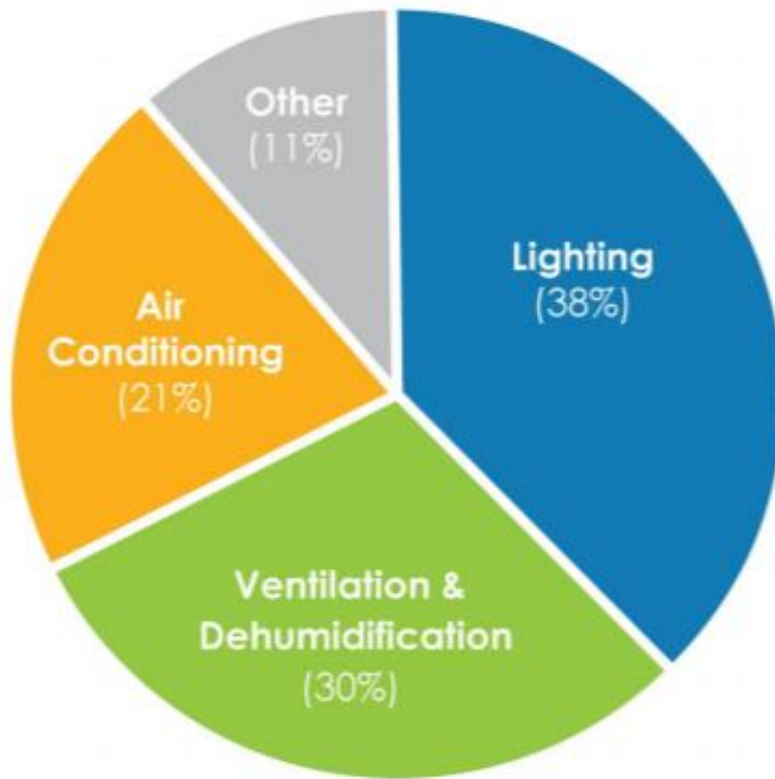


-  Recreational legal
-  Medicinal legal
-  CBD oil legal

Utility Impacts

Energy Usage in Cannabis Growth

Breakdown of Energy Use in Cannabis Growing Operations



- Midwest energy usage will include:
 - Substantially more space heating because of colder climate
 - Increased natural gas usage

Utility Impacts

Unanticipated Load

- Very little data, no widely accepted Energy Usage Intensity by facility
 - New Frontier Data estimates ~262.05 kWh/ft² of flowering canopy
 - this does not take the entire facility into consideration
 - represents small sample size from East & West Coasts
- Unanticipated load growth can negatively impact EE targets
- Denver reporting 4% of city's electric load dedicated to cannabis

Utility Impacts

Transmission & Distribution Strain

- Cannabis cultivators typically retrofit abandoned buildings, requiring upgraded utility infrastructure to meet new load
- Oregon experienced localized brown-outs due to strain on grid from cannabis operations
- SMUD has a proposed 1 square mile cannabis business park needing 36.5 MW that they currently cannot support

Utility Impacts

Transmission & Distribution Strain

- Southern CA Edison has received unanticipated line extension requests for historically low growth areas
- Many utilities dealing with stranded assets once cannabis cultivator goes out of business due to high costs
- New focus in CA on using EE to reduce increased capacity needed to meet new demand

Illinois Legalization Legislation

Cultivation and Production Centers

- Recreational licenses awarded in phases
 - New commercial cultivation centers capped at 30
 - 210,000 ft² of canopy in flowering stage
 - 150 craft grow licenses in total
 - 5,000 ft² canopy, can increase to 14,000
 - Staggered license caps, 40 by 7/1/20, additional 60 by 12/21/21, additional 50 if needed
 - Existing medical facilities
 - New energy savings requirements in 2022
 - Infuser and dispensary licenses capped
 - Infusers can also be energy intensive with industrial processing practices

Illinois Legalization Legislation

Facility License Requirements

- IL has EE requirements
 - Energy report with application
 - Lighting power density of 36 watt/ft²
 - Ductless mini-split, VRF, or “more efficient equipment”
- IEC with MEEA submitted comments to IL Dept. of Ag. to be resource and identify potential issues
 - Working to ensure data sharing mechanism with utilities, standardized energy report, and ongoing technical assistance

Potential Opportunities

Utility Incentives

- The 36 watt/ft² LPD taken from Massachusetts, new baseline study anticipated to show high rates of noncompliance
 - LEDs 3-4x the cost of HPS
 - LED adoption very slow with indoor agriculture, DOE says ~10%, even less with cannabis
 - Noncompliance may create a path for utility incentives

Potential Opportunities

Utility Incentives

- HVAC language intent to set efficiency baseline
 - Many HVAC system designs will meet or exceed efficiency levels when incorporating dehumidification versus standalone dehumidification required with mini-split or VRF
 - Utility commissioning and incentives could help ensure efficient system design and compliance with Dept of Ag rules
- May be an opportunity for shell measures

Open Questions

- How can we encourage EE to mitigate utility risk?
- What are the potential energy savings for natural gas?
- Will the current energy savings provisions create noncompliance or price smaller cultivators out of the market?
- Can utility EE programs help support environmental justice goals of legislation?

Thank you!

*Stacey Paradis & Molly Graham
Midwest Energy Efficiency Alliance*

sparadis@mwalliance.org

mgraham@mwalliance.org

