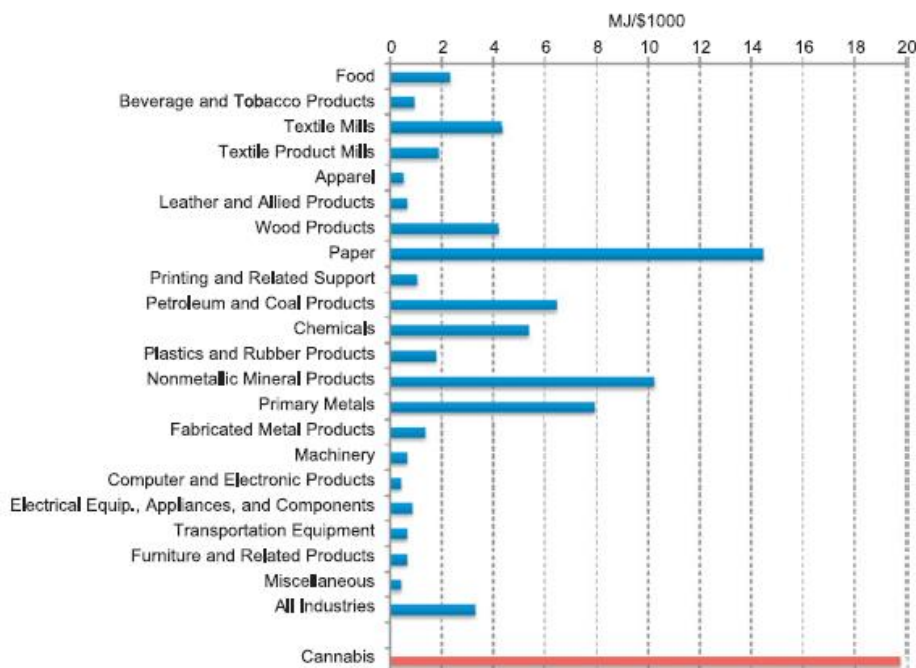


## AGENCY COMMENT - CANNABIS TITLE 20 AMENDMENTS

Comment from: Leigh Ratterman, Climate Action Specialist, City of Missoula

10/19/2021

Indoor marijuana cultivation is one of the most energy-intensive industries, requiring artificial lighting to help plants grow, and heavy-duty HVAC systems to regulate ventilation and cooling. Many of the operations use High Intensity Discharge (HID) lighting which consumes a lot of electricity and generates a lot of heat. Total energy costs for indoor grow operations vary between 20-50% of total operating costs and use ten times as much energy per square foot as a typical office building in the Southwest. (Southwest Energy Efficiency Project, 2017)



**Fig. 3.** Comparative energy intensities, by sector (2006).

(Source: Mills, 2012)

The City of Missoula Development Services Division estimates approximately 70 medical marijuana-related businesses operating within the city. With the legalization of recreational cannabis in the State of Montana, the City of Missoula can expect to see a significant increase in marijuana businesses and cultivators. The likely increase in cultivation within the city will result in a significant increase in energy demand, which is directly correlated to greenhouse gas emissions and associated changes in our climate.

The City of Missoula has adopted ambitious Climate Action goals, and is committed to reducing greenhouse gas emissions, promoting energy efficiency, and planning for a resilient Missoula given climate changes that we are already experiencing. The City of Missoula needs to factor these considerations into all its decision-making to achieve its goals. Energy efficiency standards should be considered and included in zoning as related to marijuana cultivation in the City of Missoula.

### **Are there less energy-intensive ways to grow marijuana?**

For indoor operations, light-emitting diode (LED) lights are much more efficient than HID bulbs and generate less heat which reduces the cooling needs of the operation. LED lights have a higher upfront cost but use about half as much energy as traditional lights which result in a decrease in operation costs. Northwestern Energy has an energy efficiency rebate program which can help narrow the cost gap between the LEDs and HIDs.

### **What states or local governments have regulated the energy consumption of marijuana cultivation?**

- State of Massachusetts: lighting energy usage requirement (maximum watts/sq. ft.), with exemption for on-site renewable energy.
- State of Illinois: lighting energy usage requirement (maximum watts/sq. ft.), energy efficient HVAC equipment, and water use efficiency.
- Boulder County, CO: cultivators must pay into a carbon offset program, or purchase local renewable energy.
- California: local government regulations around renewable energy and energy efficiency.

### **What should the City of Missoula consider?**

Montana House Bill 701 allows local government to establish standards for the cultivation, manufacture, and sale of marijuana that protect the public health, safety, and welfare of residents. As the City of Missoula continues to experience the effects of a rapidly changing climate such as drought, increased wildfire, and lessening snowpack, reducing the carbon emissions associated with climate change is a top priority for our city. The City of Missoula should work with Missoula County to ensure energy conservation in marijuana cultivation facilities by looking into incorporating a Use Standard into the zoning code.

### **Sources**

Kolwey, Neil. "A Budding Opportunity: Energy efficiency best practices for cannabis grow operations." Southwest Energy Efficiency Project, December 2017.

Mills, Evan. "The carbon footprint of indoor Cannabis production." Energy Policy, Volume 46, July 2012, Pages 58-67.