



FOR IMMEDIATE RELEASE

Commercial Cannabis: Expanding the Carbon Footprint

WINDSOR, VT -- The national landscape around legal, commercialized cannabis has changed significantly since 2012, when both Colorado and Washington became the first states to legalize cannabis for recreational use. Many of the publicized issues related to legal cannabis are focused on issues including road safety, mental health, and youth access. However, commercial marijuana production also presents environmental impacts, including high-energy consumption.

Prior to Vermont legislative session disruptions due to COVID-19, VT decision makers had commercial cannabis up for review. Commissioner June Tierney of the Vermont Department of Public Service: “As is the case with any new potential commercial energy load, this is an issue that bears consideration by system planners in the energy sector. At this time, the Department’s principal regulatory focus is on the COVID-19 emergency response.”

The language in the House or Senate bills prior to the COVID-10 emergency made no reference to the energy consumption requirements of commercial cannabis. According to the State of Vermont’s 2016 Comprehensive Energy Plan, VT hopes to meet 90% of overall energy needs from renewable sources by 2050. The state also aims to reduce greenhouse gas emission levels to 40% below 1990 levels by 2030, and to 80-95% below 1990 levels by 2050.ⁱ

A 2012 studyⁱⁱ at the Berkeley National Laboratory found that legalized indoor marijuana-growing operations account for 1% of total electricity use in the US, at a cost of \$6 billion per year. In the US alone, marijuana processing and distribution contribute to 15 million tons of greenhouse gas emissions (CO₂) annually—the equivalent of driving three million average cars. The reports also found that a typical indoor marijuana grow room has the same power density (200 watts per square foot) as a data center. HVAC, dehumidification and ventilation make up 50% of a grow’s electricity load, and lighting accounts for 33%. On a smaller scale, a four-plant lighting module uses as much electricity as 29 refrigeratorsⁱⁱⁱ.

Growers from other states report that attempts to decrease energy consumption, such as using LED lights, have impacted their ability to yield desired amounts of product in a timely manner. Solstice, a Washington State-based cannabis grower, worked with a local utility company to establish incentives for energy efficiency upgrades. While the 1,000-watt high intensity discharge lamps supported good root and leaf development, the production of smokeable “buds” took an

additional 4 weeks longer than traditional lighting conditions. Growers from multiple states report that LED technology has yet to support the flowering side of production^{iv}.

Just two years after legalization, Denver's 362 marijuana grow facilities consumed more than 2% of the city's electricity usage. Statewide facilities are behind roughly half of Colorado's new power demands. With Vermont's increase in solar arrays, one would imagine that solar is a viable option. Although solar is a support to the industry, the energy consumption required to impact a business's bottom line cannot be met with solar energy alone. According to a 2017 article in Solar Power World, even with significant efficiency rebate programs from utilities, only 1 to 2% of growers nationally use efficient manufacturing products, such as LED lighting. Solar is often not at the top of their must-have upgrades. To further complicate matters, because cannabis remains illegal at the federal level, many businesses are not eligible for government rebates or incentives for solar projects^v.

According to the U.S. Energy Information Administration State Profiles, while Vermont consumes four times the energy it produces, it currently leads the nation for the least amount of energy use. Vermont's energy goals show a commitment to decreasing greenhouse gas emissions. The energy used for commercial marijuana cultivation, regardless of its source, leaves a heavy carbon footprint. Once the COVID-19 emergency passes and Vermont's legislators refocus on the issue of mass commercial production of cannabis, they must consider the energy impact of the initiative, which complicates our state's environmental goals.

For more information about policy solutions, contact greenpeakalliance.org

ⁱ https://publicservice.vermont.gov/publications-resources/publications/energy_plan

ⁱⁱ Mills, E. (2012, Muly). The Carbon Footprint of Indoor Cannabis Production. Energy Policy, 46. Doi:10.1016/j.enpol.2012.03.023

ⁱⁱⁱ <https://www.ncsl.org/research/energy/electricity-use-in-marijuana-production.aspx>

^{iv} <https://www.theguardian.com/us-news/2016/feb/27/marijuana-industry-huge-energy-footprint>

^v <https://www.solarpowerworldonline.com/2017/08/can-solar-help-legal-marijuana-growing-industry/>