

## **Problems of Industrial Agriculture, and Solutions in Cannabis Cultivation: The Fight Against Global Warming**

Soil is the second largest reservoir of carbon on the planet, after our oceans. Yet the rate at which industrial farming is destroying our soils is alarming. In the past four decades alone, a third of the world's farmland has been destroyed. Most frighteningly is the effect this soil degradation has on the earth's climate. As our soils degrade, they lose the ability to hold their vast amounts of carbon, thus releasing disastrously large amounts of CO<sub>2</sub> into our atmosphere.

Indoor cannabis cultivation is one of the most energy intensive industries in the U.S., and the unsustainable way cannabis is grown indoors releases disastrous levels of greenhouse gas pollution into the atmosphere.

A 2012 study from the US Dept of Energy's Lawrence Berkeley National Laboratory estimated that growing legal and illegal cannabis indoors in the United States used \$6 billion dollars of electricity per year- primarily due to power grow lights and cooling systems, which come to approximately one percent of America's total electricity use. Annually, that amount of consumption is equivalent to greenhouse gas emissions from that of three million average cars. And that was 2012, just before the states began legalizing cannabis for so-called recreational use. For some additional points of reference: According to a report by one clean energy research firm, indoor cannabis cultivation's energy-use is 50-200 times more energy-intense than a typical office building. And according to a peer-reviewed study last year in the Journal of Energy Policy, a mere single kilo, or 2.2 pounds, of pot grown indoors, leaves a carbon footprint equivalent to driving across the country seven times.

In Massachusetts, after recognizing that indoor cannabis cultivation could significantly derail their commitment to reducing carbon emissions, the state restricted its cannabis cultivation's electrical use by capping it at 36 watts per square foot of cultivation space. In Boulder, Colorado, it is required that all medical and recreational cannabis growers report their energy use to the city and offset 100% of their electricity use with renewables.

As legalization is now at the doorstep of New York, the opportunity to employ equivalent or even improved globally responsible growing practices is at hand. Shifting cultivation outdoors can nearly eliminate energy use for the cultivation process.

Exchanging harmful intensive industrial farming for regenerative farming practices can provide us the opportunity to regenerate our degraded soil. Most importantly – as simply reducing carbon emissions is no longer enough – such practices will allow our soils to not only regain their ability to hold their CO<sub>2</sub>, but actively *pull* harmful CO<sub>2</sub> out of the atmosphere. By introducing regenerative farming practices on outdoor cannabis farms, we can utilize one of our best weapons in the fight to halt global warming.