

The Environmental Impact of the Cannabis Industry

With cannabis now fully legal across Canada, and CBD health products rising in popularity across the States and other countries, demands for marijuana and products related to the plant have increased. With this comes an inevitable increase in production and need for packaging of these products, and publications are continuing to bring attention to how the weed industry is a [“glutton” for fossil fuels](#). While the health and lifestyle benefits of consuming cannabis products continue to be applauded, how do they fare on the environmental spectrum? Is their current method of production, packaging and distribution sustainable and environmentally friendly?

As brands vie for space on the market, and sellers promote their newly legal products, given the [rise of conscious consumerism](#) it's not surprising that the environmental impact of the cannabis industry is beginning to receive its fair share of scrutiny.



The Environmental Cost: Cannabis Production

We all know about the harmful environmental effects of animal farming. But what about cannabis farming? The carbon footprint and fossil fuels generated by cannabis farming is a growing concern. The two main methods for growing cannabis are indoor and outdoor farming, both of which carry different environmental footprint implications and costs.

Originally, cannabis was always cultivated outdoors. According to experts, no crop can be grown indoors on a commercial scale, as nothing can replace the energy of sunlight. However, while growing cannabis outdoors may require less energy, [it also requires more water](#), which is problem in drought affected areas such as California where marijuana is under rapid production.



The quantity of water currently required to cultivate cannabis is an issue for both indoor and outdoor farms. A [study](#) published by the California Department of Fish and Wildlife in 2015 entitled “Impacts of Surface Water Diversions for Marijuana Cultivation on Aquatic Habitat in Four Northwestern California Watersheds,” examined the negative effects of the water diversion needed for marijuana cultivation on stream flows and aquatic wildlife, which has been devastating to threatened fish populations. The report also showed that the cannabis industry requires 22 litres of water per plant per day, compared to the 12 litres needed by a wine-producing grape plant. [The ecological impacts](#) of cannabis are no less concerning.

In response to these findings, CDFW founded the Watershed Enforcement Team to enforce greater regulatory efforts to protect imperiled resources from the negative effects of marijuana cultivation which results from its excessive water demands and

resulting pollution. All growers in California must now submit a CDFW lake and streambed alteration notification and comply with all laws and regulations, in efforts to promote sustainable and responsible growing methods and protect natural resources.

The benefit of growing cannabis indoors as opposed to outdoors is increased control over the growing environment, with regards to temperature levels, light sourcing, CO₂ production, humidity, and a stable habitat which avoids the risk of outdoor elements. But does this increased efficiency come at a cost? The energy required by lighting is the main point of contention, and raises concerns about light pollution and increased carbon footprint. Indoor growth energy bills can reach upwards of \$4,500 in most cases, because of the need for high wattage light bulbs, while a [study by Evergreen Economics](#) found that indoor cannabis production found that 38% of their energy consumption comes from lighting, with 30% from venting and 21% from air-conditioning. None of these statistics bode well for environmentally-friendly modes of production.

Marijuana plants need large quantities of CO₂ to grow, and this carbon dioxide is more readily available in outdoor environments which naturally do not require the same ventilation and lighting systems as indoor facilities. Also, because the necessary nutrients are more accessible in the soil outdoors, indoor farms need to use fertilizers and nutrient solutions to ensure their plants grow successfully. This is why [environmentalists point to the smaller carbon footprint](#) of outdoor cannabis farms.



The Environmental Cost: Cannabis Packaging

It's no secret - [product packaging and image can boost sales](#) as is the central component of any brand's marketing campaigns. But what costs are entailed?

Considering it is now a legal substance in their country, Canadians have [already expressed dissatisfaction](#) about the excessive plastic packaging of cannabis products, which risks becoming "lavish litter" as more companies and growers are springing up, eager to market and distribute their ware. Regular purchasers describe how their deliveries are packaged in plastic containers, cardboard boxes, plastic casing, and brown paper, with [one customer remarking](#) that his "initial reaction was a bit of shock that such little amount of plant matter came with so much packaging...Crazy. It's unneeded"

Given this consumer awareness, it's not surprising that going forward we can expect that the top performers in the cannabis industry will be the brands who emphasize

transparency and assurance about how their product is packaged and sourced. The solution is more complicated than it seems, as legal marijuana packaging already comes with its own unique challenges before the environmental side is even considered. Each state has its own package safety regulations, especially with regards to child-proof and THC packaging, and shelf life requirements. This is often the explanation behind the excessive packaging - according to [Health Canada's guidelines](#), packaging must prevent contamination and tamper-proof, among other stipulations, making it harder for companies to meet sustainable standards.

A Greener Cannabis Industry: The Future



There's no denying it, the legalization of marijuana has the potential to be excessively detrimental to the environment - it already is. Many producers say the government

guidelines are to blame, and this is certainly an area which needs to be improved in the future. Given the immaturity of cannabis' legal status, it is sure to receive more attention from a governmental and regulation standpoint in the future. Cannabis sustainability policies are also something to look out for in future election campaigns, and will influence voters towards candidates proposing the most environmentally aware solutions.

Brands and companies also have a role to play, and many are already pioneering sustainable packaging within the cannabis industry. According to [Crativ Packaging](#), food grade polypropylene is the best option, as it meets all packaging regulations. Interestingly, they argue that paper-based options are not necessarily more environmentally friendly, as they require large amounts of energy, water, and chemicals to manufacture, and can result in toxic and hazardous chemical emissions. They also claim that the printing process for polypropylene containers will become more economical in the future.

Other companies raising their voices in the realm of sustainable packaging are [Sun Grown](#) and [Sana Packaging](#), who both claim to “recognize the unique challenges and opportunities of the cannabis industry and seek to create original sustainable solutions.”

Meanwhile, [Clean Green Certified](#) offers producers a certification which assures consumers they have cultivated using “sustainable, natural, and organically-based practices,” which model international organic and environmentally friendly program standards which often include onsite inspections and lab testing.

Going forward, “Baseline usage data is the key for cannabis producers to see where they currently stand, and to help them make decisions about best practices and technology upgrades that drive a lower cost per pound,” [says Derek Smith](#), Executive Director of the Resource Innovation Institute. This data promises to help both local governments and producers to reduce negative energy and production impacts from within the cannabis industry, as awareness of the problem continues to receive a positive and motivated reception to further instigating environmentally friendly practices.