

Confronting Waste Management Challenges in Cannabis Production

Many industries around the world are actively seeking ways to reduce their carbon footprint, and the cannabis industry is no exception. As marijuana legalization and appreciation continue to grow, so does an underlying issue: plastic waste.

The Growing Issue of Plastic Waste

Strict packaging requirements are common in most states, often emphasizing single-use designs. The U.S. market for cannabis packaging is expected to grow significantly over the next decade, from \$842.7 million in sales in 2021 to an estimated \$9.3 billion in 2030, according to a report by Grand View Research.

Michael Markarian, CEO of Contempo Specialty Packaging, acknowledges that plastic waste is a persistent problem in the cannabis industry. “While it is a major problem, the bigger issue is the poor reputation the cannabis industry is getting as it relates to sustainability. Something none of us want,” he says.

Environmental Impact of Cannabis Products

The booming legal weed industry, while beneficial for businesses and employment, also increases plastic waste. Products such as pre-rolls, edibles, cartridges, and concentrates pose significant environmental threats due to their packaging.

Energy and Water Waste Concerns

Energy and water consumption are also growing concerns within the cannabis sector. Data on water and energy use are limited due to federal prohibition, preventing agencies like the Department of Energy from funding necessary research. However, energy use, particularly for indoor cultivation, is one of the biggest environmental impacts of the cannabis industry.

In cities, cannabis is often grown in retrofitted industrial warehouses, which are not designed for agriculture. In other areas, large-scale greenhouses are used. Some municipalities, like Denver, make indoor growing the only practical option.

Solutions to Reduce Waste

Several measures can help reduce waste and improve sustainability in the cannabis industry. Installing light-emitting diode (LED) bulbs can help growers lower energy use and meet regulatory standards. Implementing greenhouses instead of indoor areas can also be beneficial. However, outdoor growing, primarily in the western U.S., can lead to increased water usage, which is problematic given the region’s drought conditions.

Research published in 2021 by New Frontier Data indicates that the cannabis industry uses only a fraction of the water compared to other agricultural commodities like grapes, rice, and wheat in California. This data includes both legal and illegal markets. Climate Scientist Eloisa Lewis suggests harvesting rainwater for cultivation and extraction to reduce waste and costs, and decrease dependence on external water supplies.

Reducing Plastic Waste

Cannabis businesses can adopt various strategies to reduce plastic waste, such as using tin and glass packaging. “Tin packaging is infinitely recyclable and reusable,” Markarian mentions. There is also a rise in compostable packaging, which offers a less harmful end-of-life option from a waste perspective.

Additives that accelerate the rate of plastic biodegradation are also available, though some can cause plastics to fragment into microplastics, which remains controversial.

Is Sustainable Packaging Affordable?

A common concern among cannabis growers is the affordability of eco-friendly packaging options. Markarian acknowledges that while these options come with added costs, they offer a valuable investment in branding and market differentiation. “Spending an extra \$0.25 per unit is not something anyone wants to do, but you are investing in your brand and differentiating yourself,” he says.

Businesses can gain a larger market share by investing in sustainable packaging, distinguishing themselves in a highly competitive market.

Wherever you choose to start in your sustainability journey, whether it’s switching to LED lights, harvesting rainwater, or choosing non-plastic packaging, there are numerous ways to reduce your business’s carbon footprint. Embracing these practices can not only enhance sustainability but also improve your brand’s reputation and competitiveness.

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