



THE CANNABIS
CONSERVANCY



GREEN CANNABIS

A NEW HUE FOR SUSTAINABILITY



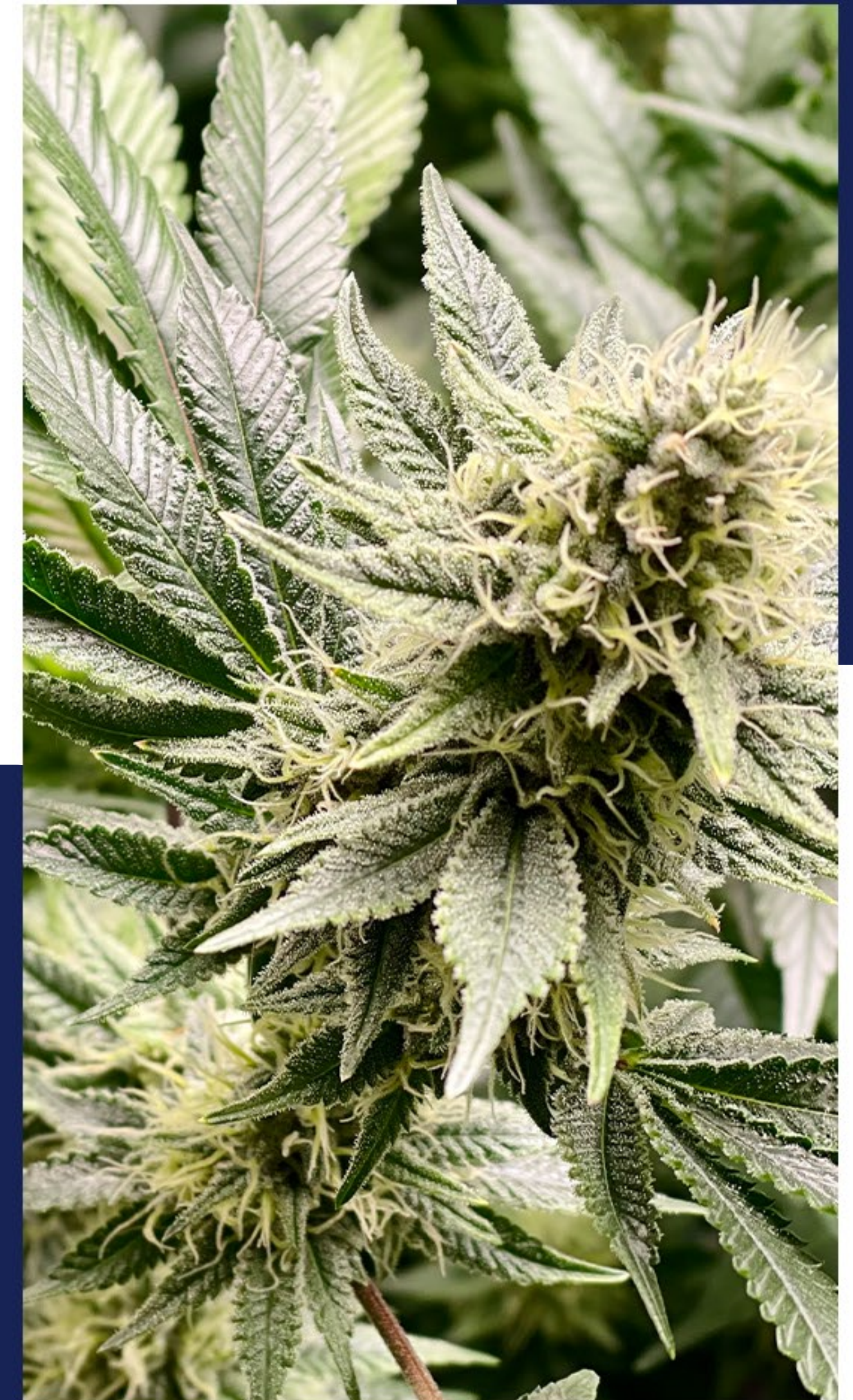
This guide shows how consciously cultivated cannabis can contribute to a green future. It will empower you to show your leadership and honesty within the cannabis community. Create products with great quality, add value to your dispensary, and show your commitment to lasting stewardship of the planet. This guide is about building trust and showing up for our community to support an elevated quality of life for all.



"THE CARE OF THE EARTH IS OUR MOST ANCIENT AND MOST WORTHY, AND AFTER ALL OUR MOST PLEASING RESPONSIBILITY, TO CHERISH WHAT REMAINS OF IT AND TO FOSTER ITS RENEWAL IS OUR ONLY HOPE."
- WENDELL BERRY



"[WE HAVE AN] INVITATION TO BUILD, INNOVATE, AND EFFECT CHANGE, A PATHWAY THAT AWAKENS CREATIVITY, COMPASSION, AND GENIUS."
- PAUL HAWKEN
PROJECT DRAWDOWN





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Hugging our trees like friends is only one pillar of sustainability. We must also consider how to create an equitable society and viable economy. Blending these three pillars together creates a foundation for a resilient industry that will be enjoyed for generations to come.

THE PILLARS OF SUSTAINABILITY

ENVIRONMENT



Ecosystem Services

- Air Quality
- Water Quality
- Waste Management
- Soil Health and Fertility
- Biodiversity
- Resource Efficiency

SOCIETY



Environmental Justice

- Human Health
- Community Development
- Access & Affordability
- Education
- Resource Security
- Economic Opportunity

ECONOMY



Fair Labor Practices

- Employee Health and Safety
- Business Leadership & Ethics
- Business Model Resilience
- Employee Engagement, Diversity, & Inclusion
- Supply Chain Management

HELPING CONSUMERS MAKE AN EASY CHOICE

The best way to engage a community in making sustainable choices is to make it convenient. As a Consumer Packaged Good (CPG), cannabis is a low-commitment way for consumers to prioritize the planet. The key is making the ecological impact of products visible and easy to understand.

The cannabis industry has an opportunity to be accountable and more transparent with consumers. These efforts also result in positive brand image, employee pride, and consumer loyalty. Many growers and retailers use third-party verified ecolabels like The Cannabis Conservancy's SIMPLY ECO Certification or Sun+Earth Certified. The same idea is behind labels like USDA Organic, Fair Trade, and Rainforest Alliance Certified.



60%

of consumers are already looking and willing to pay more for products they recognize as environmentally conscious¹.

68%

of CPG companies published reports of their environmental and social impacts².

54%

of CPG business executives labeled sustainability innovation agenda as critical².

SOCIAL SUSTAINABILITY

An equitable society has equally distributed burdens and benefits. It treats all communities and people fairly and includes them equally in decisions that impact their quality of life. An equitable society is such a central part of sustainability because historically, marginalized communities have been disproportionately harmed by poor environmental health and a lack of economic opportunity.

The National Cannabis Industry Association (NCIA), an industry ally of TCC, has six key goals for social equity within the cannabis industry³:



Repair the damage to individuals caused by discriminatory enforcement of prohibition.



Repair the damage to individuals caused by Address financial barriers to market entry.



Create more equitable licensing outcomes through the application process.



Support companies and individuals entering the industry from disproportionately impacted communities.



Ensure the industry reflects the local community.



Invest tax revenue in communities harmed by prohibition.



IT'S AS EASY AS SCOPE 1,2,3...

The idea of Greenhouse Gas (GHG) accounting emerged in the 90s, and by 2001 the first corporate standard on how to measure emissions was published. The full life-cycle of cannabis production interacts with the world in a lot of ways!

Emissions are categorized into Scope 1,2 or 3.

Scope 1

Emissions that come from sources directly owned by a company (driving company vehicles, fertilizer application, HVAC)⁵.

Scope 2

Indirect emissions from purchased electricity

Scope 3

Purchased materials, outsourced services, waste, and loss of soil carbon from land use changes etc.

Thankfully, there's a few things we can do to reduce our impact.



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of Fortune 500 companies were following a GHG Protocol⁴ by 2016.



OPTIMIZING ENERGY CONSUMPTION

Growing cannabis indoors is extremely energy intensive, using 10 to 100 times as much energy as buildings in other industries. Every average-sized, indoor plant requires 70 gallons of oil worth of energy⁶. About 80% of GHG emissions from that goes to creating an artificial climate through HVAC/dehumidifying systems and grow lights.

That much power can't be offset by switching to renewable energy alone, so we have to reduce how much energy we need:



Retrofitting facilities with LED grow lights can increase your energy efficiency.



Optimizing factors like volumetric air changes per hour (ACH) can improve GHG emissions from electricity consumption by up to 230%.



Growing outdoors or in greenhouses can reduce emissions from electricity by up to 96% and 42% respectively⁷, but is prohibited in many areas.



AIR

Plants produce 89% of Volatile Organic Compounds (VOCs) in the atmosphere, and Cannabis is no exception with its terpene-rich trichomes. While on their own terpenes have therapeutic value, but in urban environments they can react with other gasses and create pollutants that are bad for respiratory health. Diesel powered generators, pesticides and solvents used to make concentrates can also cause air pollution.

How to reduce your indoor air quality impact:



Using carbon filtration reduces your indoor air quality impact by at least 50%.



Venting greenhouses at night gives VOCs a chance to decay before they can react with sunlight and pollutants.



Controlling air flow and maintaining equipment for solvent storage and extraction can also make a big impact⁸.



WASTE

The majority of waste in the Cannabis industry comes from disposal of surplus plant material and product packaging. By reducing waste at the source and finding opportunities to reuse materials, we can get more value out of products.

Ways to reduce both producer and end-consumer waste:



Policies that support waste diversion and extended producer responsibility.



Fiber recovery, composting and packaging recycling.



Joining take-back programs.



TAKING A HOLISTIC APPROACH:

SOIL

Soil is where all of the spheres of the planet meet - air, water, and life all cycle through the land beneath our feet. There's at least 950M acres of farmland across the world that have been abandoned. This is land where erosion, fertility loss, salinization, and compaction have resulted in 50 to 70% of carbon once stored in the ground being released back into the atmosphere⁹.

The Cannabis industry has a chance to be part of bringing that soil back to life through regenerative practices:



Growing Cannabis outdoors would only take 0.01% of U.S. farmland to meet today's demand for Cannabis, a small footprint with a big impact.



Putting nutrients in the soil, retaining water, and deterring pests.



Producing high quality flower that bring people and nature together.



TAKING A HOLISTIC APPROACH:

WATER

While cannabis is a resilient plant, in states like California it uses the same amount of water as other agricultural crops to reduce stress and improve the quality of flowers produced. In the past, many farms were located near streams and rivers in watersheds with sensitive species like coho salmon, and steelhead trout.

Withdrawing too much water from these areas can harm wildlife in summer.

The Cannabis industry has a chance to be part of bringing that soil back to life through regenerative practices:



“Forbearance periods” to make sure water levels stay high enough during the summer.



Rainwater catchments with storage tanks and ponds can reduce withdrawal rates from surface and groundwater sources.



Water conserving irrigation and scheduling methods use less water and prevent the runoff of elements that can be toxic to plants and animals we share the environment with¹⁰.



TAKING A HOLISTIC APPROACH: CONSERVATION & GENETICS

Biodiversity is the cornerstone of life.

Conserving species richness is a critical part of preventing disease and natural disasters, preserving cultures, and even creating new medicines. We have a role in protecting soil, water, and air through how we grow Cannabis.

Protecting the life around us is necessary for a resilient industry.



Conserving Cannabis genetics by tracking the lineage of seeds and clones is essential for communicating the medicinal effects of products, maintaining the integrity of strains, and improving the cultivation of plants.



Decreasing the use of GMOs supports genetic diversity and reduces the risk of damage from environmental changes.



Integrated Pest Management (IPM) plans protect our health while enhancing beneficial insect populations that prevent economically damaging pest pressures.



TAKING A HOLISTIC APPROACH:

ENVIRONMENTAL JUSTICE & SOCIAL EQUITY

The environmental justice movement was born out of decades of BIPOC communities being disproportionately harmed by environmental threats¹¹. This burden is the direct result of environmental racism; regulations, policies, and intentional neglect that restrict the capacity to prepare for, cope with, and recover from the impacts of climate change.

Focusing on sustainability creates space for the inclusion, mutual respect, and consent of all people regarding the use of land and resources.



The EPA's EJScreen Tool can show you what pollution sources, health disparities, critical service gaps, and climate change impacts are relevant to your area.



Cannabis policy directly relates to 15 out of 17 UN Sustainable Development Goals and over one-third of the targets listed under them¹³.



We have an opportunity to reduce the Cannabis industry's contribution to climate change, and protect BIPOC communities who have historically been prosecuted by the War on Drugs from further harm.





Green Cannabis: A New Hue for Sustainability is brought to you in collaboration with **The Cannabis Conservancy**. We are encouraging those who enjoy this guide to donate to **Sun + Earth Certified**, a nonprofit whose mission supports regenerative cannabis grown under the sun, in the soil of mother earth, without chemicals by fairly-paid farmers. This guide is part of a guide series conducted by the **Cannabis Creative Movement**, which is a joint effort fueled by **PufCreativ** and **The 9th Block** agencies.



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