

National Association of Cannabis Businesses

Sustainability Standards

Developed in collaboration with The Cannabis Conservancy

Introduction

Our world is straining under the pressures that have resulted from unsustainable practices, and it is important that we build systems in the emerging cannabis industry that promote environmental, social, and economic sustainability. The National Association of Cannabis Businesses places sustainability as a top priority and fundamental value for all of our members. NACB members must work toward compliance with the following standards, developed in collaboration with The Cannabis Conservancy™. All organizations must meet the General Standards (Section 1-3), plus any Specific Standard (Section 4-7), if your core business is in cultivation, processing, distribution and transport, or retail.

These Sustainability Standards were created to establish a foundational baseline of sustainable practices and collaborative systems relevant to the entire cannabis industry. Sustainability is a journey of continual improvement, and this living document will evolve to encourage perpetual progress in the cannabis industry. These standards were holistically designed to be attainable and adoptable with a mix of prescriptive and aspirational language to allow for organizational variation and promote ingenuity.

Definitions

“Adulterants” include physical, chemical, and biological contaminants that may impede on the safety and efficacy of a product.

“Baseline Biodiversity Assessment” should include the footprint, duration, and frequency of activities or operations known to cause biodiversity impacts. The assessment should identify protected areas, areas with threatened ecosystems or species, and areas important to key ecological processes.

“Biodiversity” refers to the living variation from genes and traits to species within an ecosystem. The term implies benefits related to ecological integrity and ecosystem services provided by the natural environment.

“Carbon Offset Programs” reduce an organization's direct and indirect greenhouse gas emissions through additional, external projects. Projects should store carbon or enhance greenhouse gas emissions removal from the atmosphere. Offsets are verified emissions reductions that can be purchased to address scope 1, 2, and 3 emissions.

“Circular Economy” is an economic model that highlights circular rather than linear processes to retain the highest value and utility of products at all times.

“Compliance” includes the acknowledgment of and adherence to laws and regulations governing Cannabis operations in the business’ State.

“Consumer” is defined as any individual that purchases a good or service in the cannabis industry supply chain.

“Cultivation Plan” refers to a document prepared before the growing season starts which maps out the production area and operations.

“Due Diligence” is defined as a comprehensive, proactive process to identify the actual and potential negative social, environmental, and economic impacts of an organization’s decision and activities over the entire life cycle of a project or activity, with the aim of avoiding and mitigating negative impacts.

“Ecosystem Health” describes the conditions of an ecosystem in which its dynamic characteristics (biological, physical, and chemical) are expressed within a normal range of activity.

“Emergency Plan” is a document that defines potential types of accidents and environmental impacts associated with operations. The plan specifies procedures for preventing and mitigating identified risks.

“Energy Efficiency” is using less energy to perform the same function or task.

“Energy Productivity” is the amount of energy consumed per each unit created.

“Energy Intensity” reflects energy consumption per area per year and is typically measured in kBtu/sq.ft./yr or kWh/sq.ft./yr.

“Environmental Contamination” includes any biological, chemical, or physical substance that enters the environment and adversely impacts soil, water, air, or living organisms.

“Greenhouse Gas Emissions” includes the release of gases that trap heat in the atmosphere because of operations. Greenhouse gasses include Carbon Dioxide (CO₂), Methane (CH₄), Nitrous oxide (N₂O), and Fluorinated Gases.

“Genetically Modified Organisms” include living organisms whose genomes have been modified through engineering or transgenic technology to create gene combinations that would not otherwise exist in nature or through traditional crossbreeding methods.

“Green Procurement” is the purchase of environmentally friendly products and services. Green procurement can also include the selection of contractors and suppliers and incorporate the setting of environmental requirements in a contract.

“Harassment” is defined as unwelcome, repeated, or continuing conduct that is based on race, color, religion, sex, national origin, age, disability, or genetic information that a reasonable person would consider intimidating, hostile, or abusive.

“Hazardous Waste” is defined as any material that is ignitable, corrosive, reactive, and/or toxic.

“Integrated Pest Management” aims to solve pest and disease issues while minimizing risks to people and the environment. IPM is an ecosystem-based strategy for long-term prevention and management of pest and disease-related damage which utilizes action thresholds, monitoring, prevention, and control methods.

“Life Cycle Costing” is a method to calculate the total cost of goods throughout their lifecycle.

“Personal Protection Equipment” is equipment worn to minimize exposure to physical, biological, and chemical hazards that may cause injury or illness. PPE should be relevant to operations and the environment in which they take place.

“R-value Insulation” references an insulating material’s resistance to conductive heat flow. The R-value is dependent on material type, thickness, and density.

“Renewable Energy Certificates” (RECs) are awarded when one megawatt-hour of electricity generated from a renewable source is delivered to the electricity grid. RECs allow for the tracking, accounting, and ownership of renewable energy generation and use. RECs are necessary to substantiate carbon footprint reduction claims.

“SEER Rating” is a measure of energy efficiency for air conditioning systems. It is calculated by dividing the cooling output by the energy input over a period of time.

“Social Equity” is impartiality, fairness, and justice for all people in social policy. Social equity takes into account systemic inequalities to ensure everyone in a community has access to the same opportunities and outcomes.

“Social Responsibility” is the commitment of an organization to act in a transparent and ethical manner for the benefit of all.

“Soil Management” is the practice of conserving or improving the soil ecosystem by increasing organic matter and biodiversity and preventing soil erosion.

“Supply Chain” refers to the material and informational interchanges in the lifecycle of goods and services stretching from acquisition of raw materials to delivery of finished products to the end-user. All vendors, service providers, and customers are links in the supply chain.

“Sustainable Energy Use and Conservation Policy” is a document that guides decisions involving the procurement and consumption of energy to minimize greenhouse gas emissions.

“Sustainable Practices” is defined as actions that support ecological, societal, and economic health.

“Sustainable Water Use and Conservation Policy” is a document that guides decisions involving the procurement and use of water to protect natural water resources.

“Waste Minimization Policy” serves to guide responsible material procurement and waste management based on zero-waste principles.

“Recycling” is the process of collecting, sorting, and processing waste stream materials for reprocessing into new source materials.

“Waste Stream” defines the flow of specific materials from their source through recovery, recycling, or disposal.

“Xeric” refers to landscape design and plant species adapted for dry environments and minimal water use.

“Zero Waste” is a principle that covers the use and management of materials throughout the lifecycle to maximize the material’s value while preserving natural resources and minimizing adverse environmental impacts related to waste.

General Standards for All Cannabis Companies

Section 1: Company Governance

Legal Compliance

- 1.1 Members must be in compliance with all pertinent laws and regulations of all applicable jurisdictions with documented records demonstrating compliance.

Fair Operating Practices

- 1.2 Members will not offer bribes to obtain or retain business or any other undue advantage. Members shall create internal protocols to combat bribery and extortion.
- 1.3 Members will operate in accordance with competition laws and refrain from entering into anti-competitive agreements or practices.

Leadership

- 1.4 Members shall implement policies ensuring ethical conduct that prevent conflicts of interest and misrepresentation.

Consumer Interests

- 1.5 Members will respect the privacy of consumers and take reasonable measures to ensure the security of all personal data collected.
- 1.6 Members will conduct business in a manner that protects consumer health and safety.

Responsible Contracting

- 1.7 Members shall conduct all contract negotiations and agreements fairly, transparently, and in good faith.

Worker Health and Safety

- 1.8 Members provide a safe and healthy working environment by providing adequate and suitable Personal Protection Equipment (PPE) and having an emergency plan appropriately designed for the operation. The emergency plan should include all pertinent aspects of the company, including but not limited to health and safety; mechanical, equipment, and infrastructure accidents or failures; and product and environmental contamination.
- 1.9 Members must conduct their activities in a safe and environmentally responsible manner through the education and training of their employees and partners. Members must conduct regular training workshops for all employees on how to implement sustainable practices within their daily operations. Training must include PPE, emergency preparedness, Standard Operating Procedures (SOPs), contamination prevention, equipment, and operational process training, resource efficiency maximization, and principles of zero waste management. The education and training plan must have clearly defined implementation, documentation, and timely maintenance provisions.

Policy and Development

- 1.10 Members must develop and implement a Sustainability Policy that seeks to mitigate the environmental impacts of all aspects of the business.

This policy should include:

- Energy Policy
- Water Policy
- Waste Policy
- Operational Efficiency/Facility Maintenance Policy
- Green Procurement Policy

- Worker Rights Policy
- Social Equity
- Diversity, Equity, and Inclusion Policy
- Community Engagement Policy

Each policy should include the following specifics:

- Self-Inspection Program
- Responsible Party Designation
- Hazard Analysis Report with Critical Control Points

- 1.11 Members should familiarize themselves with current [Sustainable Development Goals](#) and Environmental, Social, and Governance standards and norms and begin to incorporate these principles in their decision-making.

Recordkeeping

- 1.12 Members must maintain records that monitor their resource use in the areas of energy consumption, water usage, and waste diversion. These records should form the basis of the business' baseline metrics. Records should include targeted sustainable impact areas and associated key performance indicators. Records should focus on transparency and accountability with regard to environmental and social issues.
- 1.13 Members shall implement an electronic document and recordkeeping system to reduce paper waste.

Procurement Policies

- 1.14 Members shall prioritize sustainable products in their purchasing policies when financially feasible. Procurement preferences should focus on the recyclability and reusability of products. Preference shall also be given to the least hazardous and low-emitting materials.
- 1.15 Member packaging should contain a minimum of 30% post-consumer recycled content.
- 1.16 Members must take the energy efficiency aspect of equipment into the decision-making Process for new purchases.

Marketing, Labeling, and Sustainable Packaging

- 1.17 Members must avoid making unsubstantiated sustainable or environmental benefit claims about their products or services commonly referred to as Greenwashing. All marketing claims must be verifiable to avoid deception or consumer confusion. Products should not be marketed as recyclable unless they can be widely and reasonably collected from the consumer, separated, or otherwise recovered from the waste stream through an established recycling program.
- 1.18 Members must engage in fair, factual, and unbiased marketing practices and provide accurate,

verifiable, and clear information to enable consumers to make informed decisions.

- 1.19 Members shall design products with consideration for the life cycle of the product and its effects on the environment.
- 1.20 Members shall design packaging to use minimal and environmentally friendly sustainable raw materials.

Supply Chain

- 1.21 Members shall create a Tier 1 supplier map to take a holistic view of their entire supply chain and understand each step a product takes in order to identify environmental impacts and waste hotspots.
- 1.22 Members should be in active communication with their Tier 1 suppliers and discuss their environmental and social policies. Members shall incorporate a product's sustainable packaging and materials into their product purchasing strategic decision-making process. Members shall encourage their supply chain to adopt sustainable purchasing practices.
- 1.23 Members shall implement a green procurement policy with a preference to sourcing from local and minority businesses. Members should strive to participate in a regional circular economy based on closed-loop systems. Preference should be given toward sourcing materials with a 3rd party environmental or social certification.
- 1.24 Members will not source agricultural materials and products from areas at high risk for drought.
- 1.25 Members should purchase materials in quantity and sizes that reduce packaging waste.

Section 2: Social and Human Impact

Employee Engagement, Diversity, Inclusion

Accountability

- 2.1 Members shall commit to positive contributions that progress social, environmental, and economic progress. Members shall engage will all employees and foster a diverse and inclusive workplace.
- 2.2 Members will commit to helping with programs and developmental initiatives working towards assisting communities, particularly those that have been disproportionately impacted by cannabis prohibition. Such programs and initiatives include education, job training, loan and grant programs, incubator and small business development.

- 2.3 Members shall conduct business according to the [Universal Declaration of Human Rights](#) in their product decision-making and throughout their supply chain, product and packaging lifecycle, and promotional materials.

Worker Rights

- 2.4 Members must treat all workers and job applicants equally without regard to the person's race, color, gender, gender identity, pregnancy, sexual orientation, HIV/AIDS status, disability, marital status, religion, political opinion, nationality, class, or other personal characteristics.
- 2.5 Members shall encourage the participation and inclusion of underrepresented groups by providing relevant opportunities, elevating equity, and activating diversity.
- 2.6 Members must enact an anti-harassment policy and educate all workers on the policy.
- 2.7 Members must have a documented conflict resolution process that is freely available and includes a complaint and appeals process.
- 2.8 Members must have written contracts for all workers that are fair, equitable, transparent, and created through good faith negotiations.
- 2.9 Members shall fairly compensate all workers for the duties performed based on a living wage specific to the cost of living based on the worker's geographic region.
- 2.10 Members shall enact a written inclusion and diversity policy. Members shall provide opportunities for professional growth and development.
- 2.11 Members shall be positive influencers of DEI practices and encourage forward progress within the cannabis industry.

3: Environment

Land Management

Environmental Impact Assessment

- 3.1 Members shall support and promote biodiversity on their site and/or in their surrounding community. Landscape service contracts should include an acceptable materials approved list and any new landscaping should consider xeric or native pollinator plant species.

- 3.2 Members shall assess the environmental impacts of their operation and strive to improve local ecosystem health. The assessment must take into account their geographic location and significant local environmental concerns.
- 3.3 Members shall identify the areas of potential significant environmental risks and impacts their operation has in the following areas:
- Materials Use
 - Indoor Air Quality
 - Greenhouse Gas Emissions
 - Water Consumption
 - Odor Control
 - Effluent Discharge
 - Regulatory Compliance
 - Solid Waste Generation
 - Energy Consumption
 - Land Use

Environmental Impact Reviews

- 3.4 Members must have a system in place to address complaints related to their environmental impacts. This system should contain a documented action plan.

Water

Water Accounting

- 3.5 Members shall maintain records of water usage and develop water use benchmarks based on appropriate production units.

Water Conservation

- 3.6 Members will implement procedures and equipment which improve water efficiencies. Goals shall be established to increase the percentage of water sourced from rainwater catchment or recycled water.

Wastewater

- 3.7 Members will conduct a water analysis of any runoff or discharge produced from cannabis production, processing, or manufacturing including measuring the amount of runoff or discharge.
- 3.8 Members will verify that water used for cannabis production and/or manufacturing does not contain contamination. Verification is conducted through a water analysis prior to the application

during production. If water filtration is necessary, members will use the most resource-efficient technology available.

Energy

Energy Accounting

- 3.9 Members will conduct an energy assessment and develop energy efficiency, energy productivity, and energy intensity benchmarks.
- 3.10 Members will measure and record net energy usage based on production systems and time of year.

Energy Efficiency

- 3.11 Members will implement procedures and equipment which improve energy efficiencies. Purchased equipment should have an EnergyStar qualification or appropriate SEER rating. Equipment in low occupancy areas should have automated sensors to conserve electricity when not in use. HVAC systems should have climate-appropriate set points with sensors located in appropriate locations. The building envelope should have adequate insulation and seals around all openings.
- 3.12 Members will implement a facility maintenance plan to ensure the operational efficiency of all equipment and production processes.

Emissions and Offsets

- 3.13 Members will assess their purchased power generation mix to determine associated greenhouse gas emissions. Any generators on-site must be used only for emergency backup power.
- 3.14 Members will strive to purchase Renewable Energy Certificates (RECs) or enroll in a Carbon Offset program.

Waste Management

Waste Diversion

- 3.15 Members shall conduct a waste assessment to determine the amount and type of waste generated by each process. Based on these findings a documented plan shall be developed that emphasizes waste reduction, pollution control, and waste recycling and reuse.
- 3.16 Members shall establish waste minimization procedures based on Zero Waste principles with a

preference towards reusability and diverting organic material from the waste stream. Waste management contracts should include obligations that waste diverted from the solid waste stream is not landfilled or incinerated. Procedures for trash container availability and control shall be implemented.

Circular Processing

- 3.17 Members shall choose packaging materials based on their sustainability and ability to be reused, recycled, or composted along with a materials weight, safety, and level of environmental impact.
- 3.18 Members shall design packaging that minimizes materials and takes into consideration the environmental impact and life cycle of each material and/or product.

Hazardous Materials

- 3.19 Members must classify Hazardous Materials by risk (amount, frequency, level of harm to personnel and the environment) and stored and disposed of in a manner consistent with federal, state, and local laws, regulations, rules, or other requirements. Suitable, less hazardous material alternatives should be identified and trialed.

Section 4: Cultivation Specific Operations

Cultivation Policy and Risk Mitigation

- 4.1 Members are actively using a Cultivation Plan which identifies all agricultural practices and recognizes sustainability as an organizational priority. This plan must include clearly maintained descriptive records for all protocols and procedures.
- 4.2 Members shall assess their risk of contamination in regards to agricultural practices and inputs during each stage of production and develop policies and practices based on their risk assessment.
- 4.3 Members shall use products to clean equipment that is the least hazardous and most environmentally friendly available. All agricultural inputs and cleaning products must be stored in a clean, secure, and appropriate area.

Biodiversity

- 4.4 Members shall use inputs and products during cultivation that are non-genetically modified organisms.
- 4.5 Members shall conduct an Environmental Impact Assessment and set ecosystem health and services goals.

- 4.6 Members shall conduct a baseline biodiversity assessment and set biodiversity conservation goals.
- 4.7 Members shall obtain a Letter of Assurance when sourcing propagation material to ensure no prohibited materials were applied. Members shall incorporate regionally specific genetics when selecting seed or plant stock.
- 4.8 Members shall strive to continually improve soil fertility and quality.
- 4.9 Members shall utilize a pest management plan based on integrated pest management (IPM) principles and shall use a hierarchy of practices: prevention, observation, intervention including a variety of physical/mechanical/biological methods. Protocols are in place to identify pests and diseases then remove, quarantine, and treat plants.
- 4.10 Members shall promote sustainable agricultural production by encouraging a reduction in the use of chemical fertilizers and pesticides, greater efficiency in their application, and increased use of biological inputs.

Cultivation Equipment

- 4.11 Members shall restrict the use of short-lived or single-use synthetic ground covers.
- 4.12 Members shall implement agricultural techniques and equipment to improve irrigation efficiencies.
- 4.13 Members shall maintain efficient lighting, heating, cooling, and dehumidification systems and have a phase-out plan for inefficient equipment replacement.

Section 5: Manufacturing Specific Operations

Risk Mitigation

- 5.1 Members must perform a hazardous risk assessment for all manufacturing processes.
- 5.2 Members must have protocols in place to ensure materials and products are not exposed to contamination.
- 5.3 Members must have a product quality and safety plan in place with documented standard operating procedures and training records.
- 5.4 Members must operate processing and manufacturing systems in a safe, sanitary, and dedicated space which includes proper ventilation, first aid, preventative equipment, eye washing station, bathrooms, and handwashing station.

- 5.5 Members must utilize appropriate policies and procedures for a safe extraction or infusion process.
- 5.6 Members must utilize appropriate cleaning and sanitizing materials and procedures for the facility, equipment surfaces, product contact surfaces, and product containers.
- 5.7 Members must manage hazardous waste in both a compliant and environmentally conscious manner. Waste must be appropriately characterized using approved methods of analytical waste stream testing.

Resource Efficiency

- 5.8 Members must develop unit manufacturing performance benchmarks to determine input and output efficiency.
- 5.9 Members shall utilize efficient equipment and procedures for solvent-based extraction to increase solvent recovery, recapture, and reuse.
- 5.10 Members should assess their total greenhouse gas emissions and establish baseline metrics.

Section 6: Distribution and Transport Specific Operations

- 6.1 Members shall assess their transportation fleet to determine total greenhouse gas emissions and establish baseline metrics.

Transportation System Efficiency

- 6.2 Members shall develop a strategic fuel efficiency plan that outlines the optimization goals of the company.
- 6.3 Members shall develop a fleet efficiency implementation plan that outlines the measures to be taken to improve fuel efficiencies, such as transitioning to low emission vehicles, route optimization, load optimization, and driver training.
- 6.4 Members shall consider the environmental impact of the mode of transportation in their strategic decision-making. The types of transportation from least to most impactful are Freight, Rail, Trucking, Air.

Section 7: Retail Specific Operations

Retailer Responsibility

- 7.1 Members must incorporate [sustainability principles](#) in their product decision-making and throughout their supply chain, product and packaging lifecycle, and promotional materials.

- 7.2 Members will conduct business that builds respectful and positive relationships with all stakeholders.
- 7.3 Members will create a safe space free of discrimination and harassment for all customers and community members within their retail environment.
- 7.4 Members will establish a proactive consumer feedback system to record and report any product or consumer issues and relay feedback to the relevant distributor or manufacturer in a timely manner.
- 7.5 Members will actively engage in product recalls.

Retail Employee Training

- 7.6 Members shall train their public-facing employees about all products the company sells to ensure accurate and verifiable information is conveyed to consumers.
- 7.7 Members will educate their public-facing employees on third-party certifications obtained by brands sold in stores to ensure accurate representation of any claims discussed with consumers.

[END OF STANDARDS]