



**SUSTAINABLE
WINEGROWING
BRITISH COLUMBIA**
Inspired people growing outstanding wine

2023 WINERY STANDARD



Sustainable Winegrowing British Columbia
Winery Standard 2023

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I. SUSTAINABILITY CERTIFICATION

Sustainability happens when the use of resources, the direction of investments, the aims of technological advances and the drivers of institutional change are all in harmony and enhance both current and future potential to meet human needs and expectations. For the wine production industry, sustainability is caring for the health of the surrounding environment and all the people involved in the production processes, maintaining and improving the longevity and profitability of the business and, of course, caring for the quality of the grapes that go into the bottles of wine; planet, people, and profits.

Sustainability efforts include a broad and proactive approach towards production management and enhancement, environmental stewardship, and social equity. It focuses on rational use of natural resources, conservation of biodiversity and ecosystem services, reduction of negative impacts, restoration of natural ecosystems, minimization of carbon footprints, and more resilient vineyard agroecosystems.

As resource and labour efficiency are improved, the use of inputs is reduced, and ecosystem services are improved, so production costs are lower and profit margins improve. In the more than 20 years that have passed since sustainable winegrowing standards began their development, vineyards have proven that sustainability is synonymous with business success.

With the current shifts and emerging trends of international trade, sustainability is no longer a “nice to have” but a “must” to be competitive in the global marketplace. Numerous export markets from Europe to Asia and the U.S. now require farms and traders some type of sustainability certification or independent sustainability verification to access markets. Retail markets that focus specifically on sustainable and responsible produced wines are expanding, and research and evidence show that consumers want to support conscientious businesses that are doing well by doing good caring for nature and communities.

Wineries certification through the Sustainable Winegrowing British Columbia (SWBC) Program validates the implementation of meaningful and rigorous winemaking standards that encompass the best of sustainable winegrowing programs around the world. SWBC can help wineries to grow their businesses, and improve their family livelihoods and their communities sustainably, offering the British Columbia wine industry the opportunity to set the standard for quality, sustainable winegrowing in Canada.

The SWBC Sustainable Wineries Standard is created on the premise that sustainability is a path, not a destination. In this light, the foundation of sustainable production is continual improvement, constant identification and pursuit of new opportunities, mainstreaming what works, and adjusting what does not work. As goals are achieved and broader accomplishments are shared, there will be waves of impact beyond the winegrowing industry.

II. INTRODUCTION TO WINERY MANAGEMENT STANDARDS

The SWBC Program Certification is a voluntary scheme based on accepted best practices and customized to accommodate the characteristics and needs of the wine industry of British Columbia. The Program offers two different certification standards:

1. The SWBC Sustainable Vineyards Standard, applicable for grape growing operations.
2. The SWBC Sustainable Wineries Standard, applicable for wine making operations.

To be granted an SWBC Program Certificate, vineyards and wineries must demonstrate that they:

- Comply with applicable local, regional, provincial and national laws related to the topics of this standard, or with the requirements of this standard, whichever is stricter.
- Adhere to the requirements described in SWBC Assurance Framework.
- Comply with all other requirements and regulations of the SWBC Program Certification.

III. THE SWBC STANDARDS PERFORMANCE SYSTEM

1. SWBC STANDARDS CRITERIA

There are two different types of criteria in the SWBC Sustainable Vineyards Standard and the SWBC Sustainable Wineries Standard, essential criteria and continuous improvement criteria, described in detail below.

Throughout the SWBC Standards, **highlighted** terms have a specific definition provided in the Terms and Definitions Section of each document. These definitions are considered as binding elements of the criteria.

1.1 Essential criteria (EC)

Essential criteria (EC) cover all the highest priority and highest-risk environmental, social, and labor issues. EC are evaluated during the first certification audit and checked again during every following certification audit. Vineyards and wineries are required to comply with all applicable essential criteria (100% compliance) to be

granted a certificate by SWBC, or to maintain their existing certification.

1.2 Continuous improvement criteria

Continuous improvement criteria (CIC) require vineyards and wineries to gradually increase their commitment towards sustainability and best practices over time. Starting with the year-three Certification audit, operations must achieve 30% compliance with the CIC in each section and 50% overall CIC compliance. This compliance increases to 50% for each section and 80% overall CIC compliance by the third certification audit in Year 6.

2. SWBC STANDARDS COMPLIANCE REQUIREMENTS

2.1 Criteria compliance

SWBC evaluates essential and continuous improvement criteria as follows:

1. **Compliant.** The audited operation meets all the provisions of each evaluated criteria.
2. **Non-compliant.** The audited operation does not meet or only partially meets the provisions of each evaluated criteria.
3. **Non-applicable.** The subject of the criterion is not present within the audit scope and cannot be evaluated.

2.2 Audit and self-assessment compliance

The certification cycle, audit assessments and self-assessments are described in Section VI of the *SWBC Assurance Framework*. The table below indicates when each of those assessments occur during the first certification cycles and the criteria that certified wineries must comply with during the assessments in that cycle.

Certification cycle	Assessment type	Criteria	
		Essential (EC)	Continuous improvement (CIC)
Year 0	1st Certification Audit	100%	
Year 1	Self-assessment	100%	
Year 2	Self-assessment	100%	

Certification cycle	Assessment type	Criteria	
Year 3/0	2nd Certification Audit	100%	Minimum 30% for each section and 50% global
Year 4/1	Self-assessment	100%	Maintain or increase compliance (as per 2nd audit results)
Year 5/2	Self-assessment	100%	Maintain or increase compliance (as per 2nd audit results)
Year 6/0	3rd Certification Audit	100%	Minimum 50% for each section and 80% global

Operations that continue with the certification must undergo a certification audit three years after the original certification decision. This starts a new certification cycle, and certification audits will be conducted once every three years thereafter). Self-assessments must be completed each year of the cycle between certification audits.

3. CERTIFICATION AUDITS

Certification audits are conducted in Year 0 and Year 3 of each certification cycle. They are conducted by an approved third-party and the SWBC Sustainability Committee reviews the results of these audits to decide on the certification status of the audited operation.

- a. Certification audits will always be conducted on site, during a period of activity where workers, grapevines and/or processing are present.
- b. During the first certification audit, compliance with all standard criteria will be evaluated to provide baseline information for the sustainability status of the operation. Vineyards and wineries must comply with all Year 0 Essential Criteria.
- c. The second certification audit (Year 3) will evaluate compliance with all Essential and Continuous Improvement Criteria requirements for continued certification as described in Section 2.1.2 for wineries and 2.1.3 for vineyards. Operations can request the evaluation of compliance with additional criteria. After this audit and with SWBC feedback, certified operations will develop an improvement plan to comply with continuous improvement criteria to help ensure that the operations continue their certification and achieve SWBC Program objectives and goals.
- d. During the third certification audit in Year 6, and in all subsequent certification audits, compliance with all standard criteria will be evaluated to measure of progress compared with the baseline deter-

mined during the first certification audit. Vineyards and wineries must comply with all essential criteria as described in sections 2.1.2 and 2.1.3. After this audit and with SWBC feedback, certified operations will develop refined improvement plans to comply with continuous improvement criteria to help ensure that the operations continue their certification and achieve SWBC Program objectives and goals.

- e. All following certification audits will evaluate progress on improvement plans and continual improvement criteria as well as continual compliance with all essential criteria.

3.1 Certification Audit Scope

- a. Certification audits cover the applicable criteria of the *SWBC Sustainable Vineyards Standard* and the *SWBC Sustainable Wineries Standard* according to the compliance requirements set forth in Sections 2.1.2 and 2.1.3.
- b. Section A.3 of the *SWBC Sustainable Wineries Standard* will only apply to new wineries' infrastructure and/or significant renovation projects.
- c. Vineyard and wineries certification audits cover all properties and processes indicated by a vineyard/winery in its certification application or in subsequent scope expansion or modification requests, including leased lands and facilities. These include but are not limited to vineyards and related production areas; natural ecosystems, waterbodies, and other conservation areas and their respective buffer and protection zones; processing and storage facilities; workshops and other reparation and maintenance facilities; worker housing and sanitary and eating facilities; internal roads and transportation routes; irrigation and drainage equipment and infrastructure; waste processing and disposal areas and infrastructure; and administrative offices and similar areas where documents relevant to certification are maintained.
- d. During the audit, vineyards and wineries may be required to provide access to employees, both permanent and temporary workers including administrative staff, without the presence of operation management, supervisory personnel, or owners and their representatives. Should this occur, the audit team is under no obligation to reveal the names of interviewees or the content of the interviews in any way that would reveal their identity.

IV. THE SWBC WINERY STANDARD

Goal A: Set A Sustainability Foundation

Continuous improvement towards a sustainable system for winemaking depends on the implementation of an integrated approach to analyze all the sustainability dimensions as a coherent whole, and integrating them into

a long-term strategy to plan, assess and adjust the activities and practices to be implemented in the wineries.

To carry out the analysis of all sustainability dimensions in a given production system, it is necessary first that producers acknowledge the importance of sustainability efforts, on-board their collaborators and count on reliable up to date information that can be transformed specific actions.

Expected Outcomes of Goal Area A are:

- Applicable federal, provincial, regional and local law and regulations that are relevant to this standard are complied with.
- Time and resources are allocated to support and enable the transformation of their facilities into sustainable production systems.

Compliance with applicable law and regulations

Wineries assessed under the *SWBC Sustainable Wineries Standard* are less likely to create environmental risks that could lead to regulatory enforcement. All wineries are required to comply with applicable local, provincial and national laws relevant to the requirements of this standard.

Expected outcome - Applicable federal, provincial, regional and local law and regulations that are relevant to this standard are complied with.

Type of Criteria	Compliance Criteria
Essential	A.1. Wineries identify all laws, regulations, and requirements that are applicable to their operations, their region and the content of this standard and understand how to comply with them.
	A.2. Wineries' operations are not in violation of national, provincial, or local laws that are relevant to this standard, or any associated administrative rules or requirements as determined by regulatory agencies through an enforcement action.
	A.3. Wineries can demonstrate compliance with relevant laws and regulations. Documental evidence is kept for at least five years.

Commitment with sustainability

Wineries are committed to the compliance of this standard’s criteria and the continuous improvement of their

efforts for sustainability.

Expected outcome - Time and resources are allocated to support and enable the transformation of their facilities into sustainable production systems.

Type of Criteria	Compliance Criteria
Essential	<p>A.4. Wineries source at least 50% of the grapes they process from certified vineyards in order to be certified or maintain their certification.</p>
	<p>A.5. Wineries have formally integrated sustainability into the business strategy (e.g., company mission, vision, values), and have included the sustainability commitment/policy in employee orientation and handbook (if applicable); including:</p> <ul style="list-style-type: none"> a. description of the winery policies and procedures; b. description of sustainability policies and goals; c. a physical orientation (tour) to workplace facilities and processes; and d. job descriptions and the applicable health and safety procedures to be followed.
	<p>A.6. Wineries set an annual budget for sustainability continuous improvement actions and environmental stewardship.</p>
Continuous improvement	<p>A.7. Wineries develop and implement a continuous training plan for all their staff members that:</p> <ul style="list-style-type: none"> a. includes information about sustainability practices, environmental safeguards and requirements for different tasks, functions and areas; b. ensure that consumer- and public-facing (frontline) staff correctly understands and can efficiently communicate what it means to be a certified sustainable winery, and how it contributes to resource conservation and efficient management; and c. includes task-related procedures and instructions, and general and task-related occupational health and safety information.

Type of Criteria	Compliance Criteria
Continuous improvement	<p>A.8. Wineries include a section about their sustainability efforts in their company brochures, website, and other promotional materials.</p>
	<p>A.9. Wineries have designated an interdepartmental or cross-functional team that:</p> <ol style="list-style-type: none"> is comprised of different levels of employees (hierarchical levels) to assist them in driving forward all sustainability initiatives; takes charge of the communication of goals and progress to other staff members; meets at least once a year to review all sustainability and environmental stewardship data and information generated by the requirements in this standard; makes recommendations for environmental management corrective actions and improvements.
	<p>A.10. Wineries track the costs of specific environmental stewardship and sustainability improvements or actions and determine any related cost savings. Wineries demonstrate that savings are reinvested in these actions and improvements at levels that ensure their long-term implementation.</p>

Goal B: Water Efficiency and Conservation

Water is a vital and necessary resource for life and winemaking. The implementation of strategies to optimize both the acquisition and use of water resources is critical to ensure its conservation and sustainable use.

The standard focuses on understanding how the water is transported and used within the winery operation, with the objective of optimizing processes and activities to maximize water use efficiency and savings, and responsibly managing wastewater.

Expected outcomes of Goal Area B are:

- Water use efficiency is maximized within the wineries' facilities.
- Best practices and mechanisms for cleaning are implemented to reduce water use while cleaning and sanitizing facilities and equipment, decreasing the risk of releasing harmful chemicals into the environment.
- Landscaped areas and other greenspaces are designed and maintained to reduce water consumption and improve efficiency of water use.

- Wastewater generated within the wineries' facilities is managed to minimize risks to humans, the environment, and biodiversity.

Water quality and efficient use

The efficient use of water is fundamental to guarantee both the future availability of water resources and the profitability of wineries' businesses. To achieve water efficiency, wineries need to focus on the characterization of actual water use scenarios, the reduction of overall water consumption by unit of wine produced, and the quality of the water that is entering their operations.

Expected outcome - Water use efficiency is maximized within the wineries' facilities.

Type of Criteria	Compliance Criteria	
Essential	B.1. Wineries identify all water sources used for the winery, including surface and groundwater, and all permanent and seasonal water courses, wetlands, and other aquatic ecosystems and their related protection zones within their properties.	
	B.2. Wineries implement water pre-treatment mechanisms to ensure all parameters are within the optimal ranges based on the results of water analyses.	
Continuous Improvement	B.3. Wineries analyze the quality of the water they are using: <ol style="list-style-type: none"> if incoming water is supplied from a managed aqueduct, wineries request the aqueduct operator to provide them with the most recent water quality laboratory analysis results; or if incoming water is from a well or surface waterbody within the property, wineries test water quality for all the following parameters: 	
	Parameter	Standard Units
	Electrical conductivity (EC)	dS/m
	pH	pH units
	Sodium adsorption ratio	Sodium adsorption ratio
Sodium (to be used in determining sodium adsorption ratio)	mg/L	

Type of Criteria	Compliance Criteria	
	Magnesium (to be used in determining sodium adsorption ratio)	mg/L
	Calcium (to be used in determining sodium adsorption ratio)	mg/L
	Biochemical oxygen demand (or total organic carbon, if BOD/TOC ratio can be determined accurately)	mg/L
	Total nitrogen (Total N)	
	Total potassium (Total K)	mg/L
	Chloride	mg/L
	<p>B.4. Wineries install mechanisms to measure the volume of water use within their facilities, including processing areas, lawns and other landscaping area, administration offices, worker facilities, and consumer and public areas. (Essential Criteria)</p>	

Type of Criteria	Compliance Criteria
Continuous Improvement	<p>B.5. Wineries develop and implement a water conservation and use efficiency plan to organize all related objectives and actions. The plan includes:</p> <ol style="list-style-type: none"> data about water sources and availability, current use (water use per liter or case of wine produced), and future water need estimations; targets and actions for improving efficiency and saving water; installation of water saving devices, such as: flow restrictors in faucets and sinks, automatic and motion-sensitive water dispensers and faucets, low-flow toilets (equal or less than 4.85 lpf) and/or dual flush toilets, and/or leak or breakage detection equipment; records of water consumption based on regular readings from water measurement devices; routine and timely maintenance of the water system, including inspection of hoses, pipes, taps, connections, pumps, and all other equipment; procedures for employees to report leaks or water use issues, and for timely follow up and reparation; regular analysis of consumption data to detect maintenance or consumption challenges and guide further water efficiency goal and strategies; staff responsible for monitoring consumption, record keeping, analyzing results, and executing improvement recommendations; and internal strategies to communicate and remind their staff members and visitors about the actions they can take to help achieve water efficiency and savings targets, as well as the actions that wineries are taking towards such targets.

Efficient cleaning processes

Cleaning and sanitizing processing areas and equipment, including tanks, crushers, and presses, is one of the largest users of water within wineries. The implementation of better practices for cleaning and sanitation can significantly contribute to an increase in water use efficiency and the overall reduction of total water consumption.

Expected outcome - Best practices and mechanisms for cleaning are implemented to reduce water use while cleaning and sanitizing facilities and equipment, decreasing the risk of releasing harmful chemicals into the environment.

Type of Criteria	Compliance Criteria
Essential	<p>B.6. Wineries implement measures and mechanisms to save water during the cleaning processes within their facilities, such as:</p> <ul style="list-style-type: none"> • installing spring-loaded shut-off nozzles on all cellar hoses; • using spray balls or other rotating devices with low-flow recirculated solution to sanitize and rinse tanks; • pre-cleaning crush operations, equipment and floors using combinations of brushes, push brooms, and squeegees to prevent grape residues from drying over equipment surfaces before the general wash down; and/or • cleaning cellar floors and equipment with high pressure, low volume cleaning devices with spring-loaded shut-off nozzles.
	<p>B.7. Wineries implement standard operating procedures (SOPs) for tank and barrel cleaning that maximize water use efficiency.</p>
	<p>B.8. Wineries include water efficient equipment cleaning SOPs as part of the continuous improvement training plan (Criterion A.5). Wineries train all relevant staff in how to implement and monitor their equipment cleaning SOPs and ensure that trainings and procedures are translated for those members of staff not fluent in English.</p>
Continuous improvement	<p>B.9. Wineries use boilers and cooling towers that are sized correctly, efficient, and under a regular maintenance program.</p>
	<p>B.10. Wineries employ dry cleaning methods to remove sediment on tanks prior to using cleaning water.</p>
	<p>B.11. Wineries recycle a portion of tank/barrel wash and/or rinse water for the next wash/rinse cycle or for other cleaning activities</p>
Continuous improvement	<p>B.12. Wineries use cleaning products that significantly increase water use efficiency for tanks and/or bottling line sanitation; and include a description and the instructions of use of such products in their SOPs</p>
	<p>B.13. Wineries invest in buying barrel cleaning equipment with high pressure and low flow nozzles or retrofit old barrel washers to new nozzles</p>

Improvement of outdoor water use efficiency

Most wineries receive visitors both for wine-tasting events and businesses purposes, so the landscape around winery facilities must appeal to clients. At the same time, wineries need to be conscious of and conserve the

amount of water that is used to maintain outdoor greenspace.

Expected outcome - Landscaped areas and other greenspaces are designed and maintained to reduce water consumption and improve the efficiency of water use.

Type of Criteria	Compliance Criteria
Essential	<p>B.14. Wineries implement measures to improve the efficiency of water use outdoors for landscaping, such as:</p> <ul style="list-style-type: none"> • watering during early morning, pre-dawn hours or at night, when evaporation is lowest; • using mulching around plants and trees to retain moisture; and/or • adjust irrigation schedules each season and avoid watering during the rainy season.
	<p>B.15. Wineries regularly inspect all outdoor water distribution systems to:</p> <ol style="list-style-type: none"> a. repair any broken or defective sprinkler heads/nozzles, meters, and water pipes, lines and valves; and b. verify that heads/nozzles are the proper rating/type for that application and are positioned to prevent hardscape areas from being sprayed.
Continuous improvement	<p>B.16. Wineries conduct a meeting with their landscaping staff/service at least twice a year to:</p> <ol style="list-style-type: none"> a. Discuss measures taken to optimize water use efficiency. b. Make sure they are complying with the requirements of this standard and applicable law and regulations. c. Update their water conservation and use efficiency plan (see Criterion B.5).
	<p>B.17. Wineries reduce their lawn area or establish drought tolerant and native species to reduce the use of water for irrigation.</p>
	<p>B.18. Wineries program their irrigation systems to use shorter, repeated cycles of watering rather than one long soak.</p>
	<p>B.19. Wineries install drip and micro-spray irrigation systems for their outdoor areas</p>

Type of Criteria	Compliance Criteria
	B.20. Wineries have rain gardens, permeable pavement and other landscape features and practices that increase rainwater capture and water infiltration into the soil.

Responsible management of wastewater

Wastewater management is inextricably linked to efficient winery operations and long-term profit. It is as much a business matter as an environmental or technical issue, as the benefits of effectively and responsibly managing wastewater include reduced operational costs, reduced time and labour costs from improved cleaning procedures, reduced water supply costs, wastewater disposal fees or surcharges, avoidance of environmental impacts, and enhanced relationships and reputation with consumers, local communities, and regulators.

Expected outcome - Wastewater generated within the wineries' facilities is managed to minimize risks to humans, the environment, and biodiversity.

Type of Criteria	Compliance Criteria
Essential	B.21. Wineries demonstrate that wastewater discharges from processing operations, greywater, and sewage and treatment systems follow applicable laws and regulations and are treated to avoid negative effects to environmental and human health.
	B.22. Wineries demonstrate that the on-site wastewater treatment system can handle peak flows.
Continuous improvement	<p>B.23. Wineries have written procedures and have assigned personnel responsible for all inspection, maintenance, cleaning, and repair activities conducted on their wastewater treatment systems. This includes:</p> <ul style="list-style-type: none"> a. wastewater sumps and pump controls, interceptors, and or traps inspected at least monthly and cleaned at least annually or as needed; and b. inspect septic systems at least once every year and remove sludge as needed. <p>Wineries keep records of all inspection and maintenance activities conducted in their wastewater treatment systems.</p>

Type of Criteria	Compliance Criteria
	B.24. Wineries take actions to ensure that the stormwater management system is not connected to the sanitary or septic systems. Stormwater is never mixed with wastewater.
	B.25. Wineries protect stormwater drains from contamination by installing catch-basin inserts or drain covers, storing materials, especially hazardous substances, in installations protected from flooding and the elements and away from storm drains, and keep waste containers indoors, if possible, as well as any other measures and mechanisms prevent the introduction of materials, liquids, or other substances into the stormwater drainage system.
	B.26. Wineries design, document and implement a wastewater spill emergency plan.
	B.27. Wineries install BOD and coliform controls or other wastewater treatment controls to improve operating efficiency.

Goal C: Energy Efficiency and Management

With the implementation of sustainable best practices, wineries can significantly reduce their overall energy consumption, lowering their carbon footprint and their energy bill. Wineries that aim for energy efficiency can also reap the immediate benefits of reduced operational costs and increased profitability and increase their appeal to those markets and consumers with environmental and sustainability awareness. The standard focuses on understanding how energy is used within winery operations and optimizing winery processes and activities to optimal efficiency and maximum savings in energy use.

Expected Outcomes of Goal Area C are:

- Energy use is monitored to analyze consumption and identify efficiency and savings opportunities.
- Lighting and equipment efficiency is improved to reduce overall energy consumption.

Energy use baselines and efficiency improvement

Wineries should collect data that allow them to analyze their energy use and identify improvement opportunities. They assess the results of improvement actions and adjust their activities to continually improve energy efficiency and savings.

Expected Outcome - Energy use is monitored to analyze consumption and identify efficiency and savings opportunities.

Type of Criteria	Compliance Criteria
Essential	<p>C.1. <u>Wineries</u> calculate and establish an energy consumption baseline. The baseline includes information about both electricity and fuel consumption (heating oil, diesel and gas for vehicles) for all functional areas or operations.</p>
	<p>C.2. <u>Wineries</u> review their energy consumption bills year over year to identify any unexpected increases and analyze potential opportunities to improve efficiency.</p>
Continuous improvement	<p>C.3. <u>Wineries</u> design and implement an energy efficiency plan that includes:</p> <ul style="list-style-type: none"> a. targets to improve energy efficiency; b. regular staff check-ins to discuss opportunities for improvement and receive feedback on the progress towards the established targets; and c. analysis of energy uses within the wineries' facilities using the data described in Criteria C.1 and C.2. as well as information from annual energy efficiency assessments when performed (C.5).
	<p>C.4. <u>Wineries</u> conduct an annual energy efficiency assessment that:</p> <ul style="list-style-type: none"> a. includes the analysis of energy use in processing areas, administration offices, tasting rooms and outdoors; and b. identifies opportunities for improving energy efficiency.
	<p>C.5. If their facilities have a PV solar array, wineries:</p> <ul style="list-style-type: none"> a. program automated reports on system status and energy generation; and b. establish a system for regular inspection of the system to verify its correct operation and energy generation statistics with a focus on detecting possible inverter failures.

Management of lighting and winery equipment for energy efficiency

Lighting and use of office and processing equipment are the largest users of energy within wineries; and because of this reason, the implementation of better practices to manage lights, electronics and processing machinery can significantly contribute to the overall reduction of the total energy consumption.

Expected Outcome - Lighting and equipment efficiency is improved to reduce overall energy consumption.

Type of Criteria	Compliance Criteria
Essential	<p>C.6. <u>Wineries</u> schedule and complete maintenance activities (and keep written records of them) for:</p> <ul style="list-style-type: none"> a. vehicles and other machinery running on fuel; b. refrigeration systems, at least twice a year; c. air compressors and air lines, at least once a year; and d. heating, ventilation and air conditioning systems (HVAC), at least twice a year, including: <ul style="list-style-type: none"> e. cleaning or replacing filters on heating and air-conditioning units; f. cleaning air-conditioning condenser coils; and g. maintaining proper function of economizers on air-conditioning units. <p>C.7. <u>Wineries</u> conduct routine inspections for glycol temperature settings and ensure they are reset after cold stabilization.</p>
Continuous improvement	<p>C.8. <u>Wineries</u> install electronic thermostats to set and schedule temperatures within their facilities.</p>
	<p>C.9. <u>Wineries</u> ensure that heating and cooling set points are set 2°C to 3°C apart so that the air conditioner does not cycle (turn on and off) frequently.</p>
	<p>C.10. During heating season, wineries heat their facilities to a maximum of 21°C when occupied and 16°C when unoccupied, during winter (heating season). During the rest of the year, they keep their facilities (except barrel halls and warehouses) cooled no lower than 24°C when occupied, and not cooled when unoccupied (unless for morning pre-cooling).</p>
	<p>C.11. <u>Wineries</u> use night-time air cooling for cellars.</p>
	<p>C.12. <u>Wineries</u> have written procedures to ensure that hot water temperatures are kept to the minimums necessary to carry out their tasks correctly.</p>
	<p>C.13. <u>Wineries</u> replace light bulbs with energy efficient alternatives (includes a-19, mr-16, par 20 and 30).</p>
	<p>C.14. <u>Wineries</u> transition all 400 W metal halides and/or high-pressure sodium lighting to LED or other energy efficient alternative</p>

Type of Criteria	Compliance Criteria
	C.15. <u>Wineries</u> transition to LED exit signs throughout their facilities; and installing occupancy sensors in their bathrooms.
	C.16. <u>Wineries</u> install timers and/or photocells to control outdoor lights.
	C.17. <u>Wineries</u> ensure that all purchases of new machinery and equipment, including office and processing lines, are certified energy efficient models, if available in the market; and documentation shows that purchasing requires emergency efficiency to be considered.
	C.18. <u>Wineries</u> ensure their existing equipment efficiency by: <ul style="list-style-type: none"> a. evaluating glycol lines to ensure that all of them are insulated and the correct length and size; b. having the glycol tank insulated; and c. having the hot water lines insulated.
	C.19. <u>Wineries</u> train their staff members on: <ul style="list-style-type: none"> a. implementation of practices to reduce energy consumption within the wineries' facilities; b. correct use and maintenance of energy-efficient equipment; and c. monitoring and evaluation of energy efficiency performance.
	C.20. <u>Wineries</u> install an air curtain or plastic barrier between cooled areas and loading areas to conserve indoor hot/cold air.
	C.21. <u>Wineries</u> use variable instead of constant air volume systems.
	C.22. <u>Wineries</u> convert cellar evaporator fans to electrically commutated motors.
	C.23. Outside of winter, wineries ensure that at least 85% of outdoor tanks are insulated, prioritizing those used for cold stabilization with R value documented
	C.24. <u>Wineries</u> recapture waste heat from other processes to serve heating or cooling needs.
	C.25. <u>Wineries</u> implement an energy management software for the refrigeration system for cellar cooling, tank cooling, and evaporative condenser/cooling tower operation; and program regularly checks for set points, seasonal timing, and modes (to ensure they run on "Auto," and not "Bypass.")

Type of Criteria	Compliance Criteria
	C.26. Wineries use high-efficiency hot water heaters/boilers at their facilities, such as tankless water heaters and solar water heaters.
	C.27. Wineries flush hot water tanks by strictly following the manufacturer instructions to maintain their equipment's efficiency.

Goal D: Responsible Waste Management

The winemaking process involves the generation of a significant amount of waste, including stems, pomace, and lees. Wineries also generate other types of waste such as from repair shops, cleaning, administration, and visitor reception areas.

The main sustainability goals of managing the waste are to reduce waste and to maximize the economic benefits from the waste resource while maintaining acceptable environmental standards. To be practical, the system implemented to manage waste should also be affordable and tailored to the needs of each specific operation, which is the reason why characterizing and quantifying waste streams are important for developing a waste management system.

This standard focuses on identifying the types of waste streams that are generated within the wineries and understanding the best ways of managing them and treating and disposing wastes. Implementing best practices to reduce waste generation from the start and designing a sustainable purchase process also reduce waste.

Expected outcomes of Goal Area D are:

- Best practices for waste management are implemented to reduce the amount of waste generated.
- Waste streams generated within the wineries are managed to minimize environmental and human health risks.
- A sustainable purchase process is developed and implemented to increase the purchase of sustainable goods and reduce waste.

Reduced waste generation

Wineries can put in place practices to reduce the amount of waste that is produced by their operations. By minimizing the amount of waste, wineries can save money and support their sustainability agenda.

Expected outcome - Best practices for waste management are implemented to reduce the amount of waste generated.

Type of Criteria	Compliance Criteria
Essential	<p>D.1. <u>Wineries</u> reduce the amount of paper they use, by implementing actions such as:</p> <ul style="list-style-type: none"> • establishing double-sided printing and reduced document margins as the standard practice, if printing is needed; • encouraging digital documents for all in-house uses, including the documentation requirements of this standard; • using electronic billing methods to invoice customers and receive payments; and/or • signing up for electronic banking and e-statements.
	<p>D.2. <u>Wineries</u> eliminate the use of bottled water for staff and customers, and instead provide water fountains or coolers with reusable or compostable glasses and cups.</p>
Continuous improvement	<p>D.3. <u>Wineries</u> eliminate single-use plastics within their hospitality facilities, including plastic bags for customers, plastic straws, and disposable plastic tableware, substituting with recyclable or compostable alternatives if necessary.</p>
	<p>D.4. If plastic bags are used for collection and storage of recyclables, wineries use clear bags to assist in sorting and reused them whenever possible.</p>
	<p>D.5. <u>Wineries</u> ensure that new barrels are re-used as much as possible either within the winery or through sale to another facility or for other uses.</p>
	<p>D.6. <u>Wineries</u> eliminate the use of Styrofoam (extruded polystyrene foam) within their facilities and replace Styrofoam used for shipping with compostable or recyclable alternatives, or both.</p>
	<p>D.7. <u>Wineries</u> use refillable containers for sugar, salt, pepper and other condiments in their facilities to eliminate individual packets.</p>
<p>D.8. <u>Wineries</u> collect lees and contact local vendors to pick them up for reuse, and prevent that they go straight to drain</p>	

Waste management plan

Designing a waste management plan is the first step towards responsible management of waste streams

that are generated within all wineries’ facilities. With the design of a comprehensive plan, wineries have the necessary structure to prepare, schedule, and implement a set of best waste management practices for the different waste streams.

Expected outcome - Waste streams generated within the wineries are managed to minimize environmental and human health risks.

Type of Criteria	Compliance Criteria
Essential	<p>D.9. Wineries design and develop a waste management plan that:</p> <ul style="list-style-type: none"> a. identifies and quantifies the different types of waste generated within their facilities; b. identifies the applicable laws and regulations regarding each specific type of waste; c. defines specific management actions for each type of waste, including actions for collection, classification, and disposal, and the composting of organic processing residues, landscape trimmings, and food waste when possible; d. designates specific areas on site for collecting, separating, storing, and composting waste, as applicable; e. define specific procedures and emergency plans for spill containment and cleanup processes; f. identifies haulers and recyclers that are qualified and authorized by authorities to handle waste and include activities to verify that waste handlers are not dumping waste illegally; g. defines periodic waste reduction and diversion goals and communicates progress to staff to encourage further actions and receive feedback; h. includes periodic internal audits to assess waste management activities, keep track of progress towards defined goals, and adjust the plan accordingly.
	<p>D.10. Wineries keep waste container areas protected from water and other elements to prevent contamination and leachate runoff.</p>
	<p>D.11. Wineries store safely all unwanted, unused, and expired hazardous waste and substances according the recommendations on their label or material safety data sheets (MSDS) until they can dispose of them safely or return them to the supplier.</p>

Type of Criteria	Compliance Criteria
Essential	<p>D.12. <u>Wineries</u> ensure that all hazardous waste is:</p> <ul style="list-style-type: none"> a. stored in a secure manner with controlled access; b. stored within containment structures in the case of liquid wastes, with nearby access to spill contention and clean up equipment; c. stored separately to minimize hazards. For example, corrosives are not stored near flammable wastes; d. not stored near water bodies and open drains, or on bare ground; e. handled in compliance with all federal, provincial and local regulations; and f. either collected or taken to a designated facility, for recycling or correct final disposal.
Continuous improvement	<p>D.13. <u>Wineries</u> assign staff responsible for conducting annual evaluations of the waste management plan and updating it according to the findings of such evaluations.</p>
	<p>D.14. <u>Wineries</u> inspect containers on a regular basis to contain and repair any possible leaks or spills, prevent littering, and avoid the presence of disease vectors and other pests.</p>
	<p>D.15. <u>Wineries</u> install recycling bins for cardboard, paper, plastic, and metal recycling in the areas where these wastes are generated.</p>
	<p>D.16. <u>Wineries</u> post signs to indicate which materials can and cannot be disposed of in the recycling bins</p>
	<p>D.17. <u>Wineries</u> their staff their staff members to ensure that separation of materials is done correctly (see Criterion A.6).</p>
	<p>D.18. <u>Wineries</u> work with the local waste management company, waste handlers, and buyers of recyclable materials to maximize waste diversion.</p>
	<p>D.19. <u>Wineries</u> install recycling bins in all customer and staff areas next to the regular trash bins.</p>
	<p>D.20. <u>Wineries</u> separate all capsules and ensure that all aluminum capsules are recycled.</p>
<p>D.21. <u>Wineries</u> conduct an annual waste audit to create a waste diversion plan. (Essential Criteria)</p>	

Type of Criteria	Compliance Criteria
Continuous improvement	D.22. Wineries use the results of their annual waste audit progressively reduce their waste diversion rate, excluding pomace.

Sustainable purchasing process

A sustainable purchasing process is a collection or series of actions where wineries set and implement requirements for selecting and purchasing materials and products with the waste stream in mind. Procurement personnel focus on purchasing of goods that reduce waste generation and can be recycled and reused and prioritize relationships with suppliers willing to contribute to the ongoing and future sustainability efforts.

Expected outcome - A sustainable purchase process is developed and implemented to increase the purchase of sustainable goods and reduce waste.

Type of Criteria	Compliance Criteria
Essential	<p>D.23. Wineries design and implement a written sustainable purchasing policy that:</p> <ol style="list-style-type: none"> prioritizes products associated with waste that represents the biggest shares of total waste generation; establishes criteria for selecting products and suppliers based on waste management and reduction goals and the possibility of reducing incoming sources of waste, such as packing materials, or increasing the possibilities of waste diversion, such as through supplier recycling, potential reuse, or the possibility of biodegradable materials; includes the review of product and supplier selection criteria at least annually and provides for adjustments to better achieve waste reduction goals; includes training activities for staff members working in procurement (see Criterion A.5); and is communicated to all staff members and suppliers.

Type of Criteria	Compliance Criteria
Continuous improvement	<p>D.24. Wineries purchase and use paper and cardboard containing at least 30% of post-consumer waste. This includes, but is not limited to:</p> <ul style="list-style-type: none"> a. copy and printer paper; b. janitorial and sanitary products; and c. disposable bags and boxes for wine sales in tasting rooms.
	<p>D.25. Wineries only buy barrels made of wood that is sustainably harvested from a verifiable source.</p>
Continuous improvement	<p>D.26. Wineries reduce their waste footprint by implementing measures such as:</p> <ul style="list-style-type: none"> • working with local businesses and sourcing local products when possible; • purchasing cardboard made with at least 50% post-consumer waste recycled content; • purchasing pulp shippers made with minimum 50% post-consumer recycled content; • purchasing office and copier paper with 50-100% post-consumer waste; • using refilled or remanufactured laser and copier toner cartridges; • purchasing business cards with minimum 50% post-consumer waste recycled content; and/or • providing a customer e-card in shipments sharing recycled content and the environmental benefits of shipping materials.
	<p>D.27. Wineries ask their suppliers to reduce their use of cardboard and plastic or allow the return of packaging material for re-use, or both [<i>with the intent to have industry cooperation with suppliers</i>].</p>

Goal E: Climate Action

Climate is the environmental factor with the greatest impacts on both fruit composition and wine quality. Each wine-producing region is characterized by specific climatic conditions that ultimately contribute to wine terroir, and climate variability is surely changing some of those conditions. Increases in temperatures and growing degree-days, changes in temperature trends along seasons, occurrence of extreme weather events, fluctuations and changes in precipitation regimes, and changes in aridity index are among the most concerning effects of climate change in the wine producing industry.

Acknowledging that the wine industry is not only under threat because of climate variability but is also a driver of environmental and climate change itself, the standard focuses on the actions that can be implemented by wineries to reduce their contribution to the global variation of climate.

Expected outcomes of Goal Area E are:

- Overall greenhouse gases (GHG) emissions are reduced.
- Hazardous substances are handled in a manner that reduces associated environmental and human risks.
- Response to extreme weather events is improved to mitigate their impacts on wineries' operations.

Reduced GHG Emissions

A reduced carbon footprint is achieved when businesses implement a set of practices for better management of greenhouse gas (GHG) emissions, energy consumption, chemical, and waste. Most of the practices that are evaluated by this standard contribute directly or indirectly to reduce GHG emissions, there are additional measures that wineries can take.

Expected outcome - Overall greenhouse gases (GHG) emissions are reduced.

Type of Criteria	Compliance Criteria
Essential	E.1. Wineries take actions for the conservation and restoration of local natural carbon sinks such as forests, riparian lands; peatlands, and grasslands.
	E.2. Wineries do not burn any waste nor construction debris [this does not include vineyard or landscaping debris].
	E.3. Wineries calculate their total CO2 equivalent GHG emissions and set goals to reduce or compensate them, or both.
Continuous improvement	E.3. Wineries calculate their total CO2 equivalent GHG emissions and set goals to reduce or compensate them, or both.
	E.4. Wineries manage their providers and give preference to local inputs and suppliers that ensure backhauling and full loads, whenever possible, to optimize conveyance and reduce oil consumption.

Type of Criteria	Compliance Criteria
Continuous improvement	<p>E.5. Wineries increase their reliance on clean-renewable sources of electric energy to at least 80% of their total energy consumption, either by producing the energy themselves or by buying clean-power.</p>
	<p>E.6. Wineries have a no-idle policy to minimize wasted fuel and related emissions, and signs are posted where delivery trucks park.</p>
	<p>E.7. Wineries encourage fuel-saving initiatives, when feasible, including:</p> <ol style="list-style-type: none"> a. reducing car and plane trips by using videoconferencing or other forms of meeting software; b. encouraging employees to use public transportation by providing them with schedules, maps, general information, and incentives such as flexible work times to accommodate transportation schedules; c. providing bicycle parking areas and shower rooms; d. offering incentives for carpooling; and/or e. allowing remote work.

Safe and reduced use of hazardous substances

The use of hazardous substances, including chemical products, is one of the greatest contributors to GHG emissions within a winery because of the characteristics of these substances—volatility, emitted vapors and gases—and composition, or because they are misused. Taking steps toward the safe handling and use of hazardous substances, or the reduction of types and quantities of products used, is one sure way to contribute to a lower carbon footprint.

Expected outcome - Response to extreme weather events is improved to mitigate their impacts on wineries' operations.

Type of Criteria	Compliance Criteria
Essential	<p>E.8. <u>Wineries</u> design and implement pest control practices for both indoor and outdoor areas. For those cases where a pest control service is contracted, wineries specify in their contracts that:</p> <ul style="list-style-type: none"> a. use of IPM is mandatory, including non-chemical pest prevention with no perimeter spraying; and b. suppliers are expected to provide documentation to support all the pest control actions taken by the contractor on a yearly basis.
	<p>E.9. <u>Wineries</u> ensure that all handling of hazardous substances complies with all federal, provincial, and local regulations.</p>
	<p>E.10. <u>Wineries</u> have a complete inventory of each hazardous substance present in their facilities, including:</p> <ul style="list-style-type: none"> a. name and active ingredient. b. intended use. c. dates, place, volumes, and rates of applications. d. material safety data sheets (MSDS). e. disposal methods.
	<p>E.11. <u>Wineries</u> store hazardous substances in a locked facility with restricted access.</p>
	<p>E.12. <u>Wineries</u> have written procedures for spill containment and cleanup included in their emergency response protocols. These procedures are available in the areas where hazardous substances are handled and to staff in charge of handling them.</p>
Continuous improvement	<p>E.13. <u>Wineries</u> only use low-toxic chemical products in non-aerosol containers such as Green Seal certified (greenseal.org), Safer Choice (epa.gov/safer choice), or those with a Good Guide rating of 8.1 or higher (goodguide.com). (NG). These include chemicals used for cleaning, pest control, and maintenance of landscaped areas.</p>
	<p>E.14. <u>Wineries</u> do not use products with added anti-bacterial agents such as triclosan. These include but are not limited to products for dishwashing, hand washing, and equipment cleaning.</p>

Type of Criteria	Compliance Criteria
Continuous improvement	<p>E.15. Wineries conduct training activities for those members of staff handling hazardous substances. Training is included in the Continuous Training Plan (see Criterion A.6) and covers the following topics:</p> <ul style="list-style-type: none"> a. the winery policies on purchasing and use of hazardous substances; b. the Workplace Hazardous Materials Information System (WHMIS); c. the winery procedures for spill containment, cleanup, and their emergency response protocol (see Criterion F.2); and d. recordkeeping.
	<p>E.16. Wineries use one or a few low-toxicity multipurpose cleaners, rather than many special-purpose cleaners.</p>
	<p>E.17. Wineries use unbleached or chlorine-free paper products, or both, for example copy paper, paper towels, napkins, and coffee filters.</p>
	<p>E.18. Wineries print promotional materials with non-toxic vegetable or other low-VOC inks.</p>

Preparation for disasters and extreme weather events

The effects of climate variability are already evident worldwide, and wineries that prepare to offer a timely and effective response to extreme weather events are ensuring not only the longevity of their business, but also reduce their impacts on the surrounding landscape.

Expected outcome - Response to extreme weather events is improved to mitigate their impacts on wineries' operations.

Type of Criteria	Compliance Criteria
Continuous improvement	<p>E.19. According to their emergency response protocols, wineries train staff on emergency responses to possible disasters and extreme weather events that can harm their staff members, their facilities and their surroundings.</p>

Type of Criteria	Compliance Criteria
Continuous improvement	E.20. Wineries ensure that stormwater management systems promote infiltration, minimize impervious surfaces, and use crushed gravel or other porous material instead of asphalt or concrete for driveways and parking areas.
	E.21. Wineries establish vegetated buffer strips between existing waterways such as streams and ponds and their facilities.

Goal F: Social Equity

Social sustainability considers the implementation of policies and practices that benefit all the people that are connected to a business, from workers and their families to the members of neighboring communities.

Ensuring the wellbeing of workers is necessary to guarantee the sustainability and productivity of the wineries, and the participation of local communities is essential for the success of all sustainable management and conservation initiatives at the landscape level.

A socially sustainable wine business should be driven to encourage and cultivate quality of life, social equity, and diversity.

Expected outcomes of Goal Area F are:

- Staff members have the necessary skills and knowledge to carry out their tasks efficiently and safely and contribute to the sustainability of the winery operations.
- Occupational health and safety risks for workers and visitors are identified and addressed to prevent and minimize accidents and associated health problems.
- Workers are paid decent salaries and receive additional benefits.
- Measures are implemented to ensure business longevity.
- Mechanisms are implemented to minimize negative impacts on neighbors and local communities and engage them to leverage potential improvement and sustainability opportunities.

Employee training

Winery employees are essential for the implementation of all the best practices that allow the business to advance towards sustainability in its operations. Having employees that are not only trained but also committed

to advance the winery sustainability agenda is the best way to ensure that the use of resources is optimized.

Expected outcome - Staff members have the necessary skills and knowledge to carry out their tasks efficiently and safely and contribute to the sustainability of the winery operations.

Type of Criteria	Compliance Criteria
Essential	<p>F.1. Wineries create a written employee handbook and guarantee that all employees have free access to it. It must include at least the following elements:</p> <ul style="list-style-type: none"> a. company mission, vision, and values, including the commitment to sustainability and sustainable practices; b. job descriptions and company standards and regulations; c. training and development policies; d. employee evaluation processes, grievance policy, and disciplinary actions; e. harassment and discrimination policies; f. policies and processes for communicating concerns and suggestions about workplace or working conditions; g. salary, benefits and incentives; h. health and safety policies and practices; and i. a handbook review and update schedule. <p><i>The handbook is part of employee orientation content (see Criterion A.4).</i></p>
Essential	<p>F.2. Wineries develop and implement an emergency response protocol that includes:</p> <ul style="list-style-type: none"> a. written procedures to address emergency situations within the winery facilities; b. information about handling of hazardous substances (see Criteria E.12 and E.15); and c. preparedness for disasters and extreme weather events (see Criterion E.19). <p>F.3. Wineries assign an annual budget line item for to fund their Continual Training Plan, dollarized or in-kind (see Criterion A.6).</p>

Type of Criteria	Compliance Criteria
Essential	F.4. <u>Wineries</u> implement a system to encourage employees to submit suggestions or concerns about workplace conditions, such as safety conditions, job training, employee development opportunities, business performance, and operational efficiencies, without fear of retributions or negative repercussions.
	F.5. <u>Wineries</u> make trade journals, industry newsletters and other learning and knowledge resources available to the management team and employees.
Continuous improvement	F.6. <u>Wineries</u> encourage employees to attend training seminars or other educational programs, and the company pays for the training costs or allows employees paid time off from work to attend, or both, in accordance with the continuous training plan (Criterion A.6).
	F.7. <u>Wineries</u> require their management team to regularly attend regional and provincial meetings, seminars, and symposiums that are related to sustainability, winemaking, or any other topic related to vineyard practices, goals, and objectives and that benefits and improves their work.
	F.8. <u>Wineries</u> implement at least one formal recognition program for employees, outside contractors and/or suppliers, and have some recognitions related to sustainability.
	F.9. <u>Wineries</u> organize field trips for their staff members at least twice a year, to learn about environmental stewardship and overall sustainability.
	F.10. <u>Wineries</u> have a current membership in the local growers' associations and the management team attends their meetings and participates in their events

Workers health and Safety

Agricultural and processing work is by nature physically demanding. It can involve long periods of standing, bending, stooping, carrying and other repetitive movements in awkward body positions, often outside. It involves a wide range of different management practices and types of machinery. Achieving safe work conditions is key to improving productivity and the general wellbeing of winery workers.

Expected outcome - Occupational health and safety risks for workers and visitors are addressed to prevent and minimize accidents and associated health problems.

Type of Criteria	Compliance Criteria
Essential	<p>F.11. <u>Wineries</u> develop and implement a health and safety program that:</p> <ul style="list-style-type: none"> a. is developed according to industry standard resources and is based on a risk analysis of production activities and tasks; b. includes all the requirements of applicable law and regulations; c. is adjusted to the operations size and type.
	<p>F.12. <u>Wineries</u> place warning signs for potential hazards throughout their facilities, and make sure that the signs are in a language that is understood by workers and visitors.</p>
	<p>F.13. <u>Wineries</u> provide personal protection equipment (PPE) free of charge to workers according to the identified health and safety risks for the tasks. Workers are trained in the proper use of PPE and are required to use it while carrying out task with identified risks. Employees that handle hazardous substances and chemicals:</p> <ul style="list-style-type: none"> a. receive, at no cost, personal protective equipment (EPP) as indicated by the label of the substances applied or handled or the material safety data sheet (MSDS), whichever is stricter; and b. have access to facilities to bathe and change their clothes after finishing working with these substances and before leaving the workplace at the end of the workday.
Continuous improvement	<p>F.14. The management team conducts employee health and safety meetings at least once a month, and record attendance and document all the issues discussed, and actions agreed. Employees should be able to express concerns about working and safety conditions without fear of repercussions.</p>
	<p>F.15. <u>Wineries</u> have a planned and documented schedule for maintaining all equipment, machinery, and infrastructure.</p>

Type of Criteria	Compliance Criteria
Continuous improvement	F.6. <u>Wineries</u> encourage employees to attend training seminars or other educational programs, and the company pays for the training costs or allows employees paid time off from work to attend, or both, in accordance with the continuous training plan (Criterion A.6).
	F.7. <u>Wineries</u> require their management team to regularly attend regional and provincial meetings, seminars, and symposiums that are related to sustainability, winemaking, or any other topic related to vineyard practices, goals, and objectives and that benefits and improves their work.
	F.8. <u>Wineries</u> implement at least one formal recognition program for employers, outside contractors and/or suppliers, and have some recognitions related to sustainability.
	F.9. <u>Wineries</u> organize field trips for their staff members at least twice a year, to learn about environmental stewardship and overall sustainability.
	F.10. <u>Wineries</u> have a current membership in the local growers' associations and the management team attends their meetings and participates in their events

Workers salaries and benefits

For many workers, good salaries and benefit packages are an important way in which businesses can show their appreciation. Together with workplace conditions, they are a powerful tool to attract and retain qualified workers and reduce turnover.

Expected outcome - Workers are paid decent salaries and receive additional benefits.

Type of Criteria	Compliance Criteria
Essential	F.16. <u>Wineries</u> ensure that all salaries are at or above the market value for the region according to each type of job and position. Under no circumstance, workers' salaries will be lower than the established minimum wage for the region.

Type of Criteria	Compliance Criteria
Continuous improvement	<p>F.17. Wineries offer additional benefits to their employees and document such benefits. Additional benefits may include but are not limited to private or supplementary medical insurance, transportation, wine allowance, additional vacation or personal leave, and dental care.</p>
	<p>F.18. Wineries offer family support services to all their employees. Examples of family support services include but are not limited to the following [at the discretion of the employer]:</p> <ul style="list-style-type: none"> • flexible work schedules; • housing opportunities, referral information, and resources; • community resources information; • childcare or childcare referral program; • nutrition, health and wellness resources and/or referrals; • employer participation in groups dedicated to increasing housing opportunities; and/or • employer involvement in improving access to housing, health care, and child-care programs.

Business longevity

Implementing sustainability actions and improvements requires long-term vision and commitment. A winery that does not perceive the economic benefits of sustainability will soon revert to inefficient practices that waste money and resources. It is also important that wineries plan, and understand the types of people, and leaders, they will need in the future.

Expected outcome - Measures are implemented to ensure their business longevity.

Type of Criteria	Compliance Criteria
Continuous improvement	

Type of Criteria	Compliance Criteria
Continuous improvement	<p>F.19. Wineries track data about the costs of sustainability actions related to this standard, and any perceived additional income or cost reduction.</p> <p>Wineries use this information as part of their annual management system review to decide on continued or new actions and improvements and adjust the management system and related policies and procedures accordingly.</p>
	<p>F.20. Wineries have a long-term plan that encompasses the key issues for their future. This plan is periodically reviewed based on the operations’ financial, sustainability, and production information. The plan should include or consider, among other issues:</p> <ul style="list-style-type: none"> • future production, sales, and income scenarios and goals; • ideas and plans for winery expansion; • infrastructure and equipment improvements and needs; • a long-term staffing and recruiting strategy based on projected staff needs; • a succession plan for renewing or new leadership, or renewing ownership on smaller properties; and/or • possible resource—economic, human, and natural resources—constraints and ways to address them, including future sustainability actions and improvements.

Neighbours and community

Wineries are integral parts of their surrounding communities. Communities are sources of goods and services, employees, and need and share many of the same resources as wineries. Thus, it is important that wineries make concerted efforts to engage with communities and neighbors to take into account their concerns about production activities and resource use, and to tell them about their operations sustainability programs and efforts.

Expected outcome - Mechanisms are implemented to minimize negative impacts on neighbors and local communities and engage them to leverage potential improvement and sustainability opportunities.

Type of Criteria	Compliance Criteria
Essential	F.21. Wineries actively engage with neighbors and local communities, inform them about their operations and about the sustainable practices implemented, and identify and document relevant concerns about their operations.
	F.22. Wineries implement a procedure for making information regarding upcoming changes in relevant operations available to neighbors, community members, and other relevant stakeholders in a consistent and timely fashion.
	F.23. Wineries manage work place conditions to avoid noise and visual pollution of their surroundings.
Continuous improvement	F.24. Wineries have a written procedure to follow up on complaints made by neighbors and local communities. Winery workers understand how to receive any of these complaints or concerns.
	F.25. Wineries analyze the ways that light, noise, fumes, and traffic from operations may impact neighbors and implement mitigation measures.
	F.26. Wineries seek opportunities to host events at their facilities to showcase their operations and best practices and build better relationships with local people.
	F.27. Wineries reduce light pollution by minimizing site lighting and incorporating in winery design technologies such as DARK SKY approved lighting, downward facing directional lighting, low-angle spotlights, and low reflectance surfaces.

Goal G: Eco-Efficient and Sustainable Winery Infrastructure

The design of sustainable wineries is one of the lead sustainability efforts to make a difference in the quality of life of employees, neighbors and communities, and to reduce the overall impacts of building new infrastructures or making significant renovations. And the benefits for winery owners to promote environmental stewardship are both socially responsible and economically rewarding.

For the purposes of the standard, this set of criteria only apply to new winery infrastructure and significant renovation projects. Wineries can reach out to the Sustainable Winegrowing British Columbia staff to get more guidance on how new infrastructure and renovations can proactively accommodate the Certified Sustainable Winery Standards criteria.

Expected outcome - Wineries ensure that all new constructions and renovations are designed under sustainability and efficiency principles.

Type of Criteria	Compliance Criteria
Essential	<p>G.1. <u>Wineries</u> ensure that the design and construction of new infrastructure, or renovation of existing infrastructure over \$250k, needs to meet the applicable BC Energy Step Code and the Canadian Green Building Council LEED Gold (or equivalent) Standards.</p>
Continuous improvement	<p>G.2. <u>Wineries</u> increase the quantity and type of insulation to reduce heat gain and or loss. This includes [but is not limited to]:</p> <ul style="list-style-type: none"> a. using of high-grade insulation materials to insulate buildings and other equipment like tanks (particularly any outdoors), glycol tank, glycol and hot water piping; and b. placing sections of the buildings underground and barrel storage areas in areas here walls can be in direct contact with the soil to diminish the need for cooling; and c. blocking sunlight from building surfaces by planting trees along south and west faces of the winery. <p>G.3. <u>Wineries</u> implement a mechanism to keep track and records of total water and energy consumption.</p> <p>G.4. <u>Wineries</u> utilize recycled, reused, residual and/or other low or zero emission materials for building their new/renovated facilities. Low or zero emission materials include [but are not limited to]: certified wood, low-VOC latex paints and formaldehyde-free carpet glue.</p> <p>G.5. <u>Wineries</u> increase daylight levels within their facilities by orienting their buildings to maximize daylight, and designing and placing additional windows, skylights or clerestories, or any other method to increase the natural lighting of buildings. These mechanisms ensure to avoid direct light into tanks and barrels.</p>
Continuous improvement	<p>G.6. <u>Wineries</u> increase natural ventilation within their facilities by implementing mechanisms that allow both the entry of natural ventilation and the evacuation of CO₂.</p> <p>G.7. <u>Wineries</u> prepare and implement a plan to manage stormwater to promote infiltration, minimize impervious surfaces and identify rainwater harvesting opportunities.</p> <p>G.8. <u>Wineries</u> incorporate renewable energy sources within building design and renovation plans, including sources for geo-thermal, solar and wind power.</p> <p>G.9. <u>Wineries</u> implement gravity flow water distribution systems if feasible.</p>

Type of Criteria	Compliance Criteria
Continuous improvement	G.10. Wineries include a wastewater pre-treatment system prior to discharge to the municipal system in the building and site design.
	G.11. Wineries define specific goals for recycled content materials, regional materials, rapidly renewable materials, FSC-certified wood, and salvaged materials use; and monitor the progress towards such goals.

V. SWBC Certified Winery Metrics

Standard	Metric	Description	How to Measure
Goal B. Water Efficiency and Conservation	Liters of water used per case of wine produced.	Criteria B.4. EC Wineries measure the volume of water use within their facilities, including processing areas, lawns and other landscaping area, administration offices, worker facilities, and consumer and public areas.	Calculate total water consumption, Divide by total cases.
Goal D. Responsible Waste Management	Total waste reduction.	Criteria D.21 EC Wineries conduct an annual waste audit to create a waste diversion plan.	Calculate total waste, compare yr. on yr. (This is a % reduction and may level off with time. % recycled is also a good metric. This metric can also be used for total GHG calculation.)

Standard	Metric	Description	How to Measure
Goal D. Responsible Waste Management	All paper products contain at least 30% post-consumer waste.	D.24 EC Wineries purchase and use paper and cardboard containing at least 30% of post-consumer waste. This includes, but is not limited to: a. copy and printer paper; b. janitorial and sanitary products; and c. disposable bags and boxes for wine sales in tasting rooms.	Calculate total purchase of paper and cardboard product YR0, and each thereafter. Determine percentage containing 30% post consumer waste. Work toward 100% of paper product purchase with 30% post consumer waste. (Eventually aim for 50%).
Goal E. Climate Action	Total Energy consumption per case of wine produced.	Criteria C.1. EC Wineries calculate and establish an energy consumption baseline. The baseline includes information about both electricity and fuel consumption (heating oil, diesel and gas for vehicles) for all functional areas or operations.	Calculate Kwatt & fuel, Combine for total energy consumption. Compare Yr on Yr. (% reduction of total consumption) Also can be an internal metric of % reduction over time, & used as part of GHG calculation).
Goal F. Social Equity	Number of lost-time accidents per year		Calculated as part of Health and Safety. Compare Yr. on Yr. (% reduction)

VI. Terms and definitions (Alphabetical)

1. C.

Competent professional: An individual (or group of individuals) with demonstrated professional expertise, skills, experience and credentials in a specific subject area.

2. H.

Hazardous substances: Any item or chemical which can cause harm to people, plants, or animals when released by spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment, because it has one or more of the following intrinsic 'hazardous properties': explosiveness, flammability, ability to oxidize (accelerate a fire), human toxicity (acute or chronic), corrosiveness (to human tissue or metal), eco-toxicity (with or without bioaccumulation), or the capacity, on contact with air, soil or water, to develop one or more of the above properties

Hazardous waste streams: Hazardous waste streams include all the substances listed by the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (According to Annexes I and II), as follow:

WASTE STREAMS	
Y1	Clinical wastes from medical care in hospitals, medical centers and clinics.
Y2	"Wastes from the production and preparation of pharmaceutical products"
Y3	Waste pharmaceuticals, drugs and medicines
Y4	Wastes from the production, formulation and use of biocides and phytopharmaceuticals
Y5	Wastes from the manufacture, formulation and use of wood preserving chemicals
Y6	Wastes from the production, formulation and use of organic solvents
Y7	Wastes from heat treatment and tempering operations containing cyanides
Y8	Waste mineral oils unfit for their originally intended use
Y9	Waste oils/water, hydrocarbons/water mixtures, emulsions
Y10	Waste substances and articles containing or contaminated with polychlorinated biphenyls (PCBs) and/or polychlorinated terphenyls (PCTs) and/or polybrominated biphenyls (PBBs)
Y11	Waste tarry residues arising from refining, distillation and any pyrolytic treatment

WASTE STREAMS	
Y12	Wastes from production, formulation and use of inks, dyes, pigments, paints, lacquers, varnish
Y13	Wastes from production, formulation and use of resins, latex, plasticizers, glues/adhesives
Y14	Waste chemical substances arising from research and development or teaching activities which are not identified and/or are new and whose effects on man and/or the environment are not known
Y15	Wastes of an explosive nature not subject to other legislation
Y16	Wastes from production, formulation and use of photographic chemicals and processing materials
Y17	Wastes resulting from surface treatment of metals and plastics
Y18	Residues arising from industrial waste disposal operations

WASTES HAVING AS CONSTITUENTS	
Y19	Metal carbonyls
Y20	Beryllium; beryllium compounds
Y21	Hexavalent chromium compounds
Y22	Copper compounds
Y23	Zinc compounds
Y24	Arsenic; arsenic compounds
Y25	Selenium; selenium compounds
Y26	Cadmium; cadmium compounds
Y27	Antimony; antimony compounds

WASTES HAVING AS CONSTITUENTS	
Y28	Tellurium; tellurium compounds
Y29	Mercury; mercury compounds
Y30	Thallium; thallium compounds
Y31	Lead; lead compounds
Y32	Inorganic fluorine compounds excluding calcium fluoride
Y33	Inorganic cyanides
Y34	Acidic solutions or acids in solid form
Y35	Basic solutions or bases in solid form
Y36	Asbestos (dust and fibers)
Y37	Organic phosphorus compounds
Y38	Organic cyanides
Y39	Phenols; phenol compounds including chlorophenols
Y40	Ethers
Y41	Halogenated organic solvents
Y42	Organic solvents excluding halogenated solvents
Y43	Any congener of polychlorinated dibenzo-furan
Y44	Any congener of polychlorinated dibenzo-p-dioxin
Y45	Organohalogen compounds other than substances referred to in this Annex (e.g. Y39, Y41, Y42, Y43, Y44)

CATEGORIES OF WASTES REQUIRING SPECIAL CONSIDERATION:

Y46	Wastes collected from households
Y47	Residues arising from the incineration of household wastes

3. P.

Personal protection equipment (PPE): Personnel Protective Equipment (PPE) refers to equipment worn to minimize exposure to hazards that cause serious workplace injuries and illnesses. These injuries and illnesses may result from contact with chemical, radiological, physical, electrical, mechanical, or other workplace hazards. Personal protective equipment may include items such as gloves, safety glasses and shoes, earplugs or muffs, hard hats, respirators, or coveralls, vests and full body suits.

Plan: A document or a set of documents, including a diagram or a list of intended actions, used to define and achieve an objective or goal. For the purposes of this standard, a plan contains objectives, quantitative targets and parameters, timebound management actions, resources and responsible personnel.

4. W.

Waste diversion rate: Percentage of waste recycled, reused and/or composted, vs. the waste sent to landfill. This rate does not consider the generation of pomace, as it will artificially inflate the diversion tonnage.

Wineries: For the purpose of this Standard, wineries refer to the individual or entity that owns a wine making facility and is responsible for all the decisions concerning its management.