



**INTERNATIONAL  
WINERIES FOR  
CLIMATE ACTION**

# Prospective Member Guide

Join us in taking collective  
action to decarbonize the  
global wine industry.

LAST UPDATED: DECEMBER 2022



# IWCA Member Wineries

 A to Z WINEWORKS	 ALMA CARRAOVEJAS	 Cakebread Cellars	 CHATEAU TROPLONG MONDOT 1 <sup>er</sup> GRAND CRU CLASSE	 Constellation Brands	 CRIMSON WINE GROUP
 CULLEN WINES WILLAGRAUP & MARGARET RIVER	 EMINA	 FAMILIA TORRES Fondada en Chile desde 1870	 FELTON ROAD	 GLORIA FERRER	 HERÈNCIA ALTÈS Craft • Protect • Inspire
 Jackson FAMILY WINES	 Medlock Ames	 MIGUEL TORRES Pioneer in Chile since 1979 Chile	 RIDGE VINEYARDS Exceptional single-vineyard wines since 1962	 SILVER OAK TWO MEY	 SPOTTSWOODE ESTATE VINEYARD & WINERY
 SULA VINEYARDS	 SYMINGTON Family Estates	 vspt WINE GROUP	 UNDURRAGA ESTABLISHED IN 1885	 YEALANDS WINE GROUP MARLBOROUGH — NEW ZEALAND	

# IWCA Applicant Members

 ALTOLANDON	 CHAMPAGNE Lanson 1760	 FUNDADA EN 1870 C.V.N.E.	 DOMAINE LAFAGE	 FAMILLE PERRIN	 HERDADE DOS GROUS
 HILL-SMITH FAMILY ESTATES	 HUNT COUNTRY VINEYARDS	 OKANAGAN CRUSH PAD WINERY	 PIPER-HEIDSIECK CHAMPAGNE	 SOGRAPE	 ST SUPÉRY ESTATE VINEYARDS & WINERY NAPA VALLEY
 VIÑAS FAMILIA GIL FAMILY ESTATES	 VOYAGER ESTATE MARGARET RIVER				

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Photo: Yalumba Family Winemakers



# About IWCA

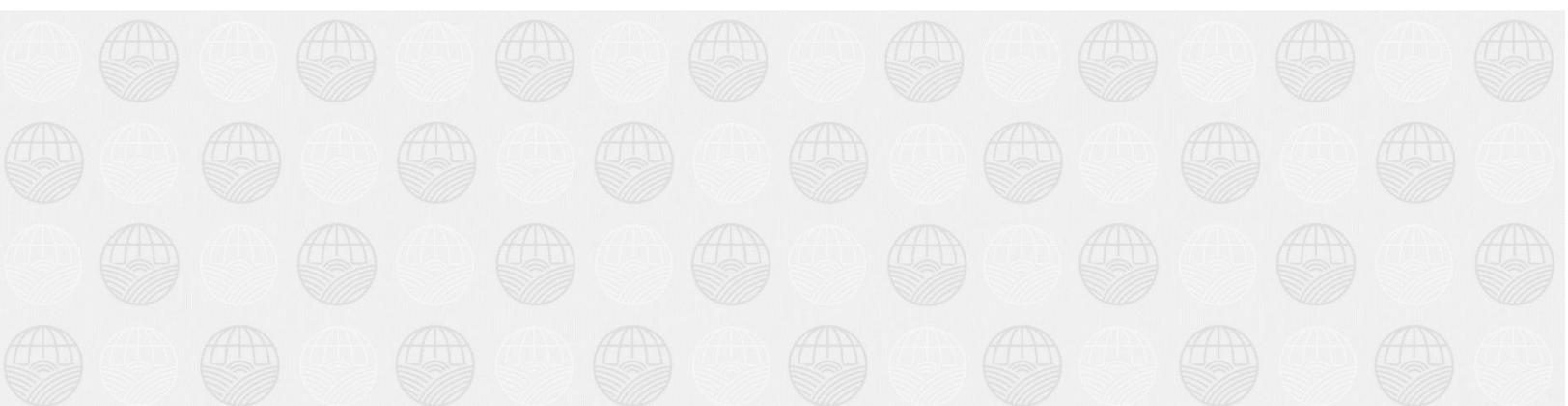
International Wineries for Climate Action (IWCA) is a collaborative working group of environmentally committed wineries taking a science-based approach to reducing carbon emissions across the wine industry.

We were founded in 2019 by Familia Torres (Penedes, Spain) and Jackson Family Wines (California, USA) to galvanize the global wine community to create climate change mitigation strategies and decarbonize the industry.

Our core pillars focus on:

1. Raising awareness in the viticulture community of the urgent need to reduce GHG emissions in order to mitigate the effects of climate change;
2. Sharing strategies and best practices to reduce emissions in the wine sector and mobilizing wineries worldwide to adopt emissions reductions strategies; and,
3. Developing rigorous methodologies to measure GHG emissions footprints.

Our member wineries commit to the same goal when joining IWCA: to become net zero by 2050 across Scopes 1, 2, and 3, ensuring constant reductions to meet intermediate targets by 2030 (in alignment with the United Nations' Race to Zero campaign) without relying on the purchase of external offsets.





# IWCA Organizational Structure

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**Members.** IWCA is a membership-driven organization (view the most up-to-date list of members and applicant members [here](#)). We employ a multi-tiered membership system (Applicants, Silver-level Members, and Gold-level Members) that allows a diversity of wineries to join our movement—including those who might be early in their sustainability journey but are committed to climate action and tangibly demonstrate their commitment and progress.

All wineries first join IWCA as an Applicant – a step formalized by signing our Standing Rules and Non-Disclosure Agreement. Applicants must still meet a set of minimum standards (detailed beginning on Page 4) but have one year to fulfill all of the IWCA baseline requirements to become a full Silver- or Gold-level member.

If a winery *already* fulfills Silver- or Gold-level membership requirements (see detailed information on pages 5-8), the winery can submit documentation to be approved as a Silver- or Gold-level member. The IWCA Board of Directors meets periodically to review membership candidatures; and in the meantime, while awaiting review and approval, the candidate winery will be considered an Applicant.

**Board of Directors.** IWCA, a registered 501(c)6 organization in the United States, is overseen by a seven-person Board of Directors elected to two-year terms.

**Secretariat.** The IWCA Secretariat is housed at [Meridian Institute](#). The Secretariat team helps coordinate efficient operations, grow membership, facilitate knowledge exchange, and manage other backbone organizational needs. Meridian is the day-to-day point of contact for member and applicant wineries.



Photo: Miguel Torres Chile



## At a Glance: Membership Requirements



### APPLICANT MEMBERS

Any winery interested in becoming an IWCA member but that has not yet fulfilled the greenhouse gas inventory requirement can join IWCA as an Applicant. To become an Applicant, however, the winery must have completed a credible baseline GHG inventory encompassing at least Scopes 1 and 2, or have a plan to complete a credible baseline GHG inventory that encompasses Scopes 1-3. Applicants have one year to meet IWCA membership requirements and become a full Silver- or Gold-level member.



### SILVER-LEVEL MEMBERS

Must fulfill requirements 1 and 2 at a minimum

**REQ. 1** Commit to becoming Net Zero by 2050 across Scopes 1-3, ensuring consistent reductions of emissions per liter of wine produced to meet intermediate targets by 2030 in alignment with the United Nation's Race To Zero Campaign.

**REQ. 2** Complete a minimum baseline third-party verified GHG inventory for a standardized set of emissions categories across Scopes 1-3 (using the World Resources Institute's GHG Protocol and ISO-14064 process), including 90% of the organization's volume within the region where its main winery is.



### GOLD-LEVEL MEMBERS

Must fulfill requirements 1 and 2 above, as well as requirements 3 and 4:

**REQ. 3** Have winemaking operations be at least 20% powered by onsite renewable energy, as certified by independent audit.

**REQ. 4** Demonstrate a consistent reduction of emissions per liter of wine produced from a baseline emissions inventory year, as proof of proactive ongoing commitment. This percentage is dependent on the baseline year and is proportional towards the winery's Net Zero target for 2050.



# In Detail: Applicant Baseline Requirements

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## There are two ways that a winery can qualify to join IWCA as an Applicant:

**OPTION 1:** The winery must have completed a credible baseline GHG Inventory that encompasses at least Scopes 1 and 2.

- This initial baseline inventory does not need to be verified by an accredited third-party auditor, but it must pass initial review by the IWCA Board of Directors to determine the winery's positive intent towards climate change mitigation.
- Assuming the baseline GHG Inventory is not verified, the winery must provide a written letter of commitment to have their inventory audited within one year by an ISO-14064 accredited external verifier.
- Assuming the baseline GHG Inventory does not include Scope 3, the winery must sign a letter of commitment to include Scope 3 in its GHG inventory (and audit the inventory) within one year.

## OR

**OPTION 2:** The winery must have a plan in place to complete a credible baseline GHG Inventory that encompasses Scopes 1-3 that adheres to the IWCA GHG Inventory Scopes Guidance Document.

- The plan must pass initial review by the IWCA Board of Directors to determine the winery's positive intent towards climate change mitigation.
- The winery must provide a written letter of commitment to have their inventory audited within 1 year by an ISO-14064 accredited external verifier.

Upon becoming an Applicant member of IWCA (recorded as the date the Standing Rules and Non-Disclosure Agreement are countersigned), Applicants have **one year** to meet Silver- or Gold-level requirements or must forfeit their status.

Every Applicant joining IWCA will have to pay a one-time application fee of 1,000€ to cover the expenses related to the audit of its documentation and the administrative work of onboarding and tracking application materials.



# In Detail: Member GHG Emissions Inventory Requirements

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All IWCA members commit to becoming net zero by 2050 across Scopes 1, 2, and 3 and achieving constant reductions to meet intermediate targets by 2030. One of the core requirements of IWCA Silver-level membership is completing annual, third-party verified GHG inventories across Scopes 1, 2, and 3; in addition to this, to reach Gold-level status, members must also demonstrate constant emissions reductions.

## Annual GHG Inventory

**To become and remain a member of IWCA (at either the Silver or Gold levels), each winery must conduct an annual GHG emissions audit across Scopes 1, 2, and 3.** The GHG inventory must meet the following standards:

1. The inventory must cover emissions from the vineyard to the final disposal of the wine product – accounting for, at minimum, 95% of Scope 1 and 2 emissions and 80% of Scope 3 emissions. The inventory must follow the IWCA GHG Inventory Scopes Guidance Document (Annex A).
2. The inventory must cover at least 90% of the organization’s volume within the region where its main winery is located.
3. The audit must use an internationally recognized GHG emissions protocol using CO<sub>2</sub> equivalents (World Resources Institute Greenhouse Gas protocol as the recommended methodology following the ISO-14064 process), verified annually by an internationally accredited third-party auditor.
4. The audit must be verified annually by an external auditing firm that has been ISO-14064 accredited (for the winery’s specific geography or worldwide).



Small wineries (less than 500,000 9L cases annually) are allowed to conduct the audit and verification process every other year.



## Demonstrating Constant Emissions Reductions

**To remain a member of IWCA (and move from Silver- to Gold-level membership), wineries must demonstrate a constant reduction of CO<sub>2</sub> emissions compared to their baseline inventory year.**

- The emissions reductions required to achieve and maintain IWCA Gold-level membership are **proportional to a winery's baseline year emissions**. Those emissions reduction targets (set as a percentage of a winery's baseline) are detailed in Annex B (page 17).
- Emissions reductions must be achieved through a winery's **own efforts**: in other words, no external compensations or offsets, including Renewable Energy Credits or CO<sub>2</sub> stored in planted vines, stoppers, barrels, etc. The use of external offsets is restricted.
- Third-party verified reforestation or other carbon sequestration projects are acceptable on owned or permanently protected land that meets globally recognized permanence and additionality requirements for nature-based carbon removal.
- The inventory can model Short Term Carbon Cycle emissions (vineyard photosynthesis, soil carbon sequestration and emissions from wine fermentation) but these cannot be included in Scopes 1-3.



Recognizing that 2020 was an unusual year for many wineries' operations due to the COVID-19 pandemic, we developed special guidance on how new Applicants and existing members should approach the GHG emissions inventory and auditing process for 2020. Read the guidance [here](#).

## Recommended Tools and Vendors

**IWCA GHG Emissions Calculator.** We have developed region-specific GHG emissions calculators using regional emissions factors. In line with IWCA's minimum standards, they are aligned with World Resources Institute GHG Protocols and ISO-14064 standards and cover Scopes 1, 2, and 3. The U.S.-specific GHG calculator can be accessed [here](#).

**GHG Inventory Consultant.** IWCA has partnered closely with [Sustridge Sustainability Consulting](#) (including on the development of our U.S. GHG calculator), and they are a recommended IWCA vendor.



**ISO-14064 Accredited Auditor.** We will accept any accredited audit firm as long as it demonstrates possession of ISO-14064-3 accreditation. Below is a list of ISO-14064-3 accredited firms:

- LRQA (globally accredited & IWCA recommended)
- BSI (globally accredited)
- Bureau Veritas (globally accredited)
- Lucideon (globally accredited)
- SGS (globally accredited)
- TUV (globally accredited)
- Toitū carbonreduce (globally accredited)
- KPMG (globally accredited)
- DNV (globally accredited)
- AENOR (USA & Spain)
- E&Y (USA)
- APPLUS (Spain)
- EQA (Spain)
- LGAI (Spain)
- Certiquality (Italy)
- CSQA (Italy)
- ICMQ (Italy)
- IGQ (Italy)
- IMQ (Italy)
- RINA (Italy)





# In Detail: IWCA's Renewable Energy Requirement

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**One of the core requirements of Gold-level membership (not required for Silver-level membership) is to have winemaking operations be at least 20% powered by onsite renewable energy.**

- This must be certified by an independent audit.
- Purchases or sales of Renewable Energy Credits (RECs) do not satisfy the criteria for onsite renewables or the GHG audit.
- Wineries whose region's electricity grid includes 70% or greater renewables will have this requirement reduced to 10% of onsite renewable energies.

## Benefits of Membership

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### Visibility as Part of a Global Campaign

Given IWCA's strict, science-based requirements and credibility in the climate and wine spaces, our members are seen as strongly and sincerely committed in the fight against climate change. We are proud to amplify our members' efforts through IWCA's external engagement with media, on social media, at events, and in other products such as our annual report.

IWCA members demonstrate that their commitment to sustainability doesn't just stop at words—it translates to on-the-ground-action. In recognition of their leadership in sustainability, Silver- and Gold-level members can use the "IWCA Member" logo on back label and any other marketing collateral (following our style guidelines). Applicant members can use the "IWCA Applicant" logo in secondary marketing collateral (i.e., not including packaging or labels).

All IWCA Silver- and Gold-level members are automatically recognized as participants in the UN Race to Zero Campaign, and as such can use the "Race to Zero Member" in secondary marketing collateral (i.e., not including packaging or labels).



## Knowledge Sharing

IWCA creates a space for collaboration and facilitates the sharing of best practices for mitigating climate impacts in vineyard and winery operations. Our members greatly benefit from this spirit of exchange and collaboration—whether about tried-and-tested soil health practices, preferred vendors to conduct audits, innovative research findings, or much more. We encourage members to directly interact (and coordinate working groups to facilitate this), but we also foster these exchanges via a member directory, regular virtual member meetings, and IWCA-produced or -supported reports.

## Access to Tools

We recognize that the process of conducting GHG emissions inventories can be complex, confusing, and expensive. That's why IWCA has developed our own [GHG emissions calculators](#), built using outside technical expertise and regionally adapted. While we believe in sharing these calculators publicly to encourage more widespread, high-quality, and consistent measurement, IWCA applicants and members have the opportunity to be involved in their development and testing and receive first access, along with the support to deploy the tool.

Over time, with input and leadership from our members, we hope to identify and build other tools and knowledge repositories, given the collective wealth of experience within our membership.

# Expectations of Membership

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## Costs

In order to support IWCA's activities, members (Silver and Gold levels) must contribute annual dues:

Application fee (1 time)	Annual fixed fee*	Annual variable fee*
1,000€	4,000€	0.01€ / 9L case (capped at 6,000 €)

*\*Annual fees are prorated based upon the date of joining IWCA.*



Applicants must only pay the application fee, until they join as Silver- or Gold-level members, at which point they must contribute annual dues.

## Engaged Participation

Our baseline expectation for applicants and members is participation in our **member meetings**, which take place approximately three times per year. To date, these have been held virtually (and accommodate dispersed time zones); in the future, our goal is to host at least one in-person member meeting per year that coincides with a global industry trade event (e.g., ProWein, VinExpo, Unified).

As a member-driven effort, we rely on our members' expertise and leadership to achieve our mission of driving climate action in the wine sector. We strongly encourage our members and applicants to contribute to IWCA through member-led **working groups**. The objectives and scopes of these working groups are identified by members, but generally revolve around knowledge-sharing (internally and externally), improving GHG emissions measurement, supporting emissions reductions, and more.

There are a number of other opportunities we periodically invite members to participate in:

- Signing on to IWCA advocacy or position statements (see an example [here](#)).
- Sharing news, photos, and images for the IWCA website, social media channels, and annual report (allowing us to amplify our members' efforts and raise awareness of actions underway to decarbonize the wine sector).
- Joining IWCA as speakers or co-sponsors at events or lending a voice as part of media engagement.
- Amplifying IWCA's efforts on winery social media channels or websites.

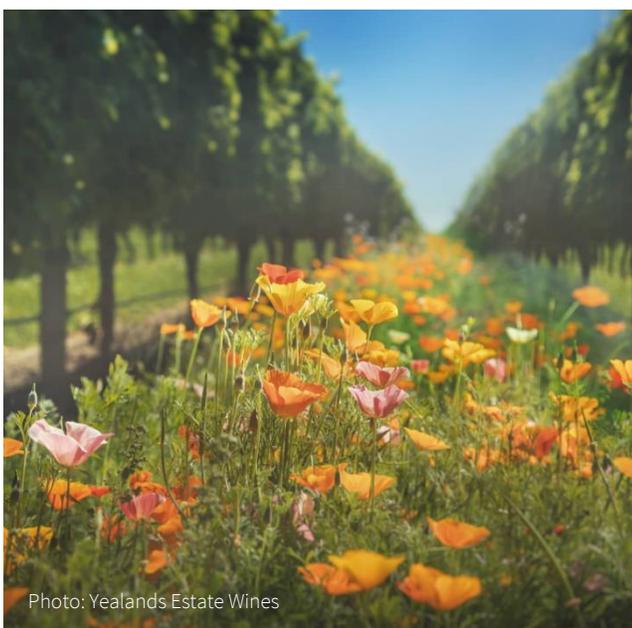


Photo: Yealands Estate Wines



Photo: Gloria Ferrer



# How to Apply for Membership

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The first step to joining IWCA is simple: get in touch with us via email or, most easily, through our website [contact form](#). We will send you the IWCA Standing Rules and Non-Disclosure Agreement for review. If your winery expresses interest in pursuing membership, the following will take place:

- An IWCA Founding Board member will set up a scoping call with the winery to learn more about the winery's progress toward compiling a Scopes 1-3 greenhouse gas emissions inventory and to outline next steps for becoming an IWCA Applicant.
- The IWCA Founding Board Member will confirm with Meridian Institute (the IWCA Secretariat) whether the winery's initial baseline inventory (or plan for completing a credible Scopes 1-3 inventory) demonstrates positive intent toward climate change mitigation.
- Upon this confirmation, Meridian will request that the candidate winery submit the following via email:
  - Winery-signed copies of the IWCA Standing Rules Document and Non-Disclosure Agreement. IWCA does not require original, hard copies of signatures. The documents may be signed digitally or hand-signed and scanned.
  - Written statement of commitment that the winery will have a Scopes 1-3 inventory audited within 1 year by an ISO-14064 accredited external verifier (*only required if the winery has not already completed this audit process*).
- Upon receipt of these documents, the winery's candidacy will be put before the IWCA Board of Directors. If the Board approves the candidacy, an IWCA Founding Board Member will countersign the Standing Rules Document and Non-Disclosure Agreement.
- Meridian will send the fully executed documents back to the winery. At this point, the winery will be designated an IWCA Applicant and will begin the onboarding process.

## Race to Zero

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IWCA is part of the [Race to Zero campaign](#), a United Nations-backed, global campaign to rally leadership and support from businesses, cities, regions, and investors for a healthy, resilient, zero-carbon recovery that prevents future threats, creates decent jobs, and unlocks inclusive, sustainable growth.



All IWCA Silver- and Gold-level members are automatically recognized as participants in the United Nations' Race to Zero Campaign. IWCA's membership requirements and objectives are aligned with Race to Zero goals: members must commit to achieving net zero emissions by 2050 at the latest and meet intermediate emissions reductions targets by 2030. As members in the Race to Zero, IWCA members must report annually on their emissions reductions process. Members report this data to IWCA, and we in turn publish summarized data through our [annual report](#) (which doubles as our Race to Zero reporting platform). IWCA Members can opt out of the Race to Zero if they do not wish to conform to its public GHG reporting requirements.

## FAQs

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### **Our winery is committed to taking climate action, but we haven't done much yet. Where should we start?**

It's never too late to get started! Climate change poses an urgent and existential threat to the wine sector, and each of us has a responsibility to do what we can to drive change within our own wineries and across the sector.

A first step is to understand your current GHG emissions footprint. With a detailed GHG inventory (that covers activities across Scopes 1, 2, and 3—see infographic below), you can identify your highest-emissions activities and implement targeted strategies. By conducting yearly inventories thereafter (as required for IWCA membership), you can track your progress and continue refining strategies based on your emissions hotspots.

There are many sustainability consultants and auditing firms that can assist with preparing for and conducting an audit. We have shared a few recommended tools and vendors on page 6. To understand what activities are covered in a GHG audit, see IWCA's GHG Inventory Guidance in Annex A (page 16) or our [U.S. GHG calculator, shared on our website](#).

Of course, measurement alone isn't enough. One of the greatest benefits of IWCA is the exchange of experience and knowledge amongst wineries who have tested and implemented actions to reduce emission across their operations.

### **Our winery has completed an inventory of Scope 1 and 2. Is this enough for IWCA membership?**

Yes: to become an Applicant member, one minimum requirement is to complete a credible baseline GHG inventory that encompasses at least Scopes 1 and 2 (please see the section "In Detail: Applicant Baseline Requirements" on page 4 for further specifications).

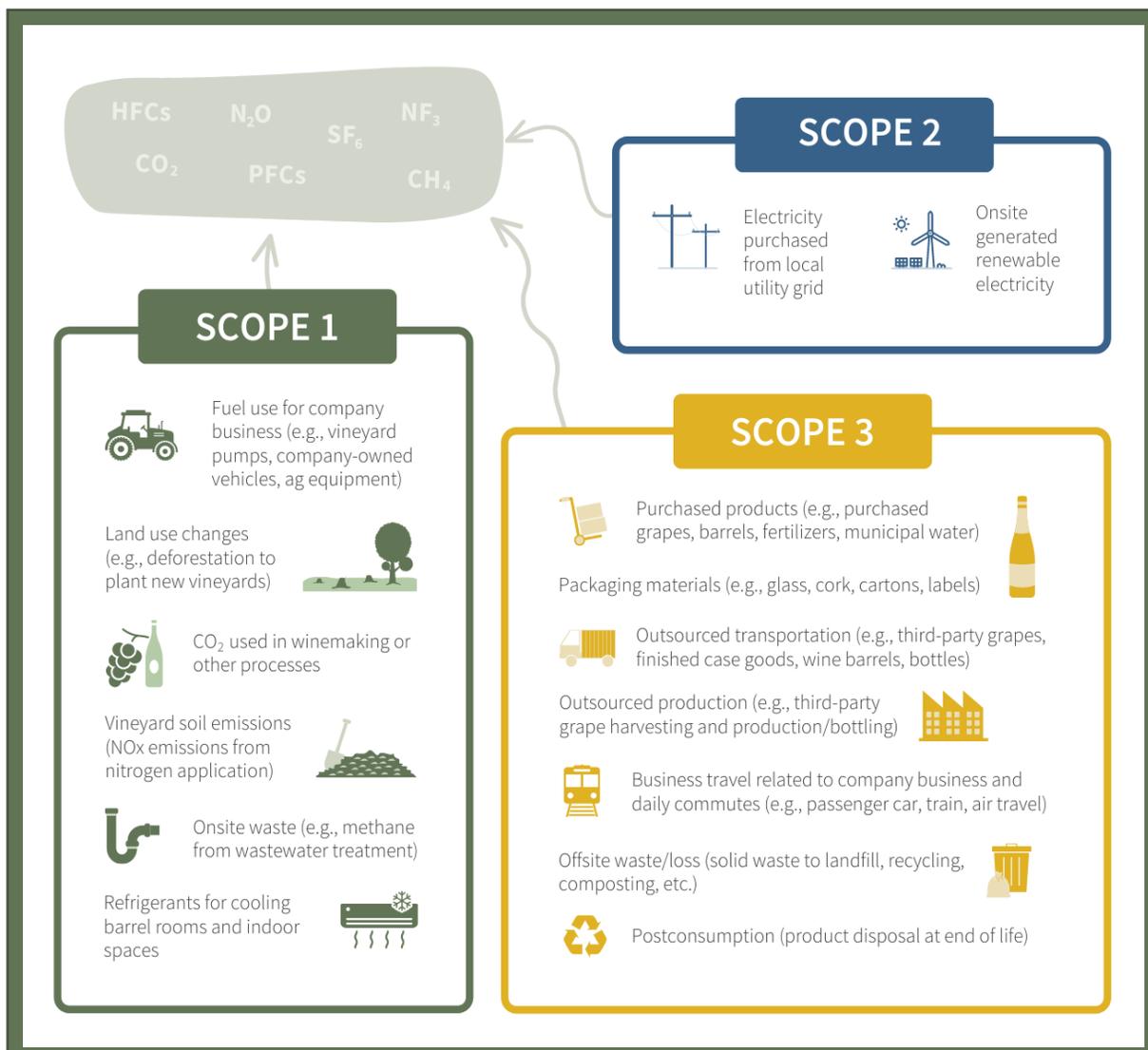


To become a Silver-level member, wineries' inventories *must* cover Scopes 1, 2, and 3. Upon becoming an Applicant member, wineries have one year to conduct a full ISO-14064-accredited, third-party verified inventory to meet Silver-level membership requirements.

## Why does IWCA require an inventory of Scope 3 emissions?

The emissions of a company are categorized into three scopes:

- **SCOPE 1** covers direct emissions from activities under a company's control.
- **SCOPE 2** emissions are indirect emissions related to a company's purchase of electricity, steam, heat, or cooling.
- **SCOPE 3** emissions are related to all the indirect emissions derived from the company's activity: that is, any emissions not under the direct responsibility of the firm.





Although Scope 3 activities are not under a company's direct control, they are a significant part of the wine life cycle and a significant part of wine's climate impact, as we have seen from our members' GHG emissions data. IWCA's position is that we cannot fully decarbonize the wine sector if we ignore Scope 3 emissions. Wineries can encourage and demand Scope 3 emissions reductions through avenues including partnerships and distribution pathways, manufacturing requirements, and supply chain sourcing choices to help decarbonize *all* corners of the sector—not just wineries themselves but also the other businesses and activities upon which they depend.

### **Why is only ISO-14064 certification accepted as emissions inventory certification?**

The purpose of IWCA is to promote the use of carbon footprint calculations as a tool to reduce GHG emissions. Because we aim to ensure equal treatment to all candidates, we use a unified system for carbon footprint verification. ISO is globally recognized, used, and trusted. Wineries might be familiar with ISO-14.001 (Environment), ISO-50.001 (Energy Efficiency), ISO-9.001 (Quality), etc. and therefore it makes sense to use this same standard for the carbon footprint verification, and that is ISO-14064.

This ISO-14064 audit needs to include Scope 3 emissions and be verified by an ISO-accredited third party. Note that not all auditors comply with this requirement. Only ISO-14064 accredited ones will be accepted.

### **Why is reforestation accepted but other kinds of sequestration are not?**

Third-party verified reforestation or other carbon sequestration projects are acceptable on owned or permanently protected land that meets globally recognized permanence and additionality requirements for nature-based carbon removal (note, however, that IWCA reserves the right to limit internal offsets up to a certain percentage of a winery's carbon footprint, as it relates to obtaining Gold-level membership).

Reforestation in owned or permanently protected land means that the winery has total control of the reforestation project from the beginning until the end, ensuring that the trees are well planted and also well maintained. Reforestation on owned land means the winery is committed to compensating for emissions with on-site investments, rather than purchasing offsets where sequestration is handled by a third party.

We believe that emissions reductions must be based on own efforts (i.e., no external compensations or offsets, including Renewable Energy Credits, nor CO<sub>2</sub> stored in planted vines, stoppers, barrels). The use of external offsets is restricted, since IWCA's approach is consistent with wineries reducing their own emissions as a key priority and by themselves, without relying on offsetting solutions.

Vineyard sequestration can be measured and tracked but does not currently count as an approved sequestration method. The reasons for this are the carbon is constantly circulating through the



biosphere in a short-term cycle known as the biogenic carbon cycle. This cycle is considered short term because carbon emitted or sequestered is estimated to change form again within the next 100 years. Scopes 1, 2, and 3 emissions measured as part of the GHG inventory account for the permeance of carbon emissions in the atmosphere.

### **Will IWCA be used as a certificate? Is it a marketing label?**

IWCA has not been created to be used as a certification. Instead, Familia Torres and Jackson Family Wines founded IWCA to bring together wineries across the world with a common commitment to taking climate action. IWCA's primary areas of focus are raising awareness of the impacts of climate change on wine and the urgency of taking action; sharing strategies and best practices to reduce emissions; mobilizing wineries worldwide to adopt emissions reductions strategies; and developing rigorous methodologies for measuring GHG emissions footprints.

In recognition of members' deep commitments to reducing their climate footprint—backed up by tangible action and progress, as measured in their audited GHG emissions inventories—we allow IWCA Silver- and Gold-level members to use IWCA's logo in their marketing including on wine bottle labels.

Although we are not a certification, IWCA will provide a verified certificate to wineries confirming membership.



Photo: Alma Carraovejas



# Annex A: GHG Inventory Guidance



## Greenhouse Gas (GHG) Inventory Scopes Guidance Document

<b>GHG Inventory Protocol</b>	World Resources Institute GHG Protocol (primary methodology)
<b>3rd Party Auditor</b>	Required to be audited to the ISO 14064-3 standard by an internationally accredited third party
<b>Total Scope</b>	Primary production facility(ies), vineyards & all business operations. Scopes 1, 2, and 3 from (from the vineyard to the final disposal of the waste once the product is consumed)
<b>Baseline Year</b>	Determined by individual winery / approved by IWCA Founding Members
<b>Production Unit</b>	Chosen by the winery. The final result needs to be calculated in terms of CO <sub>2</sub> equivalent/production unit

### Initial Considerations about the GHG Inventory:

- The inventory must include the main winery (in bottle production) of the organization.
- The inventory must include any other winery in the region so that the audit represents at least 90% of the organization's volume in the specified region. The wineries' facilities need also to be included (owned logistics warehouse, water treatment plant, offices, hospitality centers, etc.)
- Emission reductions must be based on own efforts (i.e. no external compensations, nor CO<sub>2</sub> stored in the vineyard, stoppers, barrels). The use of external offsets is restricted, since IWCA's approach is consistent with wineries reducing their own emissions as a key priority and by themselves, without relying on offsetting
- Third-party verified reforestation or other carbon sequestration projects are acceptable on owned or permanently protected land that meets globally recognized permanence and additionality requirements for nature-based carbon removal.
- Market-based emissions factors for Scope 2 electricity emissions are acceptable.
- The inventory can model Short Term Carbon Cycle emissions (vineyard photosynthesis, soil carbon sequestration and emissions from wine fermentation) but these cannot be included in Scopes 1-3.
- Purchases or sales of Renewable Energy Credits (RECs) do not satisfy the criteria for onsite renewables or the GHG audit.
- Renewable energy purchased from the public electricity grid does not satisfy criteria (unless local grid is 100% renewable).

All the following inputs must be considered.\*

Not necessarily grouped under the same packages but following the below scopes' grouping:

SCOPE 1	
<b>Direct emission sources</b>	Any/all fuel use for company business (stationary vineyard pumps, company owned vehicles & ag equipment, etc.)
	Change in land use (i.e., deforestation to plant new vineyards)
	Fugitive emissions from refrigerant gas leaks
	CO <sub>2</sub> used in winemaking or any other process
	Vineyard soil emissions (NOx emissions from nitrogen application)
	On-site waste (methane from wastewater treatment)
	Any other accountable category that represents more than 1% of annual emissions

SCOPE 2	
<b>Location-based electricity</b>	Electricity purchased from local utility grid
	Onsite renewable electricity generated

SCOPE 3	
<b>Emissions from non direct (aka supply chain) sources from the vineyard to the final disposal of the waste once the product is consumed</b>	Purchased products (purchased grapes, bulk wine, barrels, fertilizers, municipal water, etc.)
	Packaging materials (glass, cork, cartons, labels, etc.)
	Outsourced transportation (third-party grapes, wine and finished case goods, wine barrels, bottles, etc.)
	Outsourced production (third-party grape harvesting, production/bottling, etc.)
	Business travel (e.g., passenger car, train, air travel -- relative to company business and daily commutes)
	Offsite waste / loss (solid waste to landfill, recycling, composting, etc.)
	Postconsumption (product disposal at end of life)
	Any other accountable category that represents more than 1% of annual emissions

Acceptable GHG Emissions Compensation (to be applied to the result from the above inventory)	
<b>Reforestation</b>	Reforestation in owned land to sequester atmospheric CO <sub>2</sub>

Optional Best Practice: Short Term Carbon Cycle (tracked annually but not included in Scopes 1-2-3)	
<b>Short term carbon cycle (i.e., biogenic emissions)</b>	Vineyard biomass photosynthesis
	Wine fermentation emissions
	Row cropping sequestration

Relevant Links for GHG Emissions Inventory Accounting & Verification	
<b>WRI GHG Protocol</b>	<a href="https://ghgprotocol.org/">https://ghgprotocol.org/</a>
<b>ISO 14064 Process</b>	<a href="https://www.iso.org/standard/66453.html">https://www.iso.org/standard/66453.html</a>
<b>SBTi Criteria &amp; Recs.</b>	<a href="https://sciencebasedtargets.org/resources/files/SBTi-criteria.pdf">https://sciencebasedtargets.org/resources/files/SBTi-criteria.pdf</a>
<b>GHG Inventory Consultant</b>	<a href="https://www.sustridge.com/">https://www.sustridge.com/</a> [Recommended IWCA vendor]
<b>ISO 14064 Accredited Auditor</b>	<a href="https://www.lc.org/en-us/iso-14064/certification/">https://www.lc.org/en-us/iso-14064/certification/</a> [Recommended IWCA vendor]

\* **Exceptions:** If a winery can demonstrate that any given emissions category is less than 1% of its total annual emissions, and ongoing data collection is determined to be overly time consuming or unreliable, it is acceptable to only perform the GHG calculation in the baseline year and reuse the calculated emissions number for future years without recalculating it, unless the production varies by more than 10% compared to the base year, wherein that case the emissions number has to be recalculated proportionally.



# Annex B: GHG Emissions Linear Reductions Table

This table provides guidance for IWCA members and applicants regarding their annual linear emissions reductions targets to achieve Gold-level member status and remain on track to become net zero by 2050.

In brief, the requirement is to demonstrate a minimal % of reduction of CO<sub>2</sub> emissions from a baseline emissions inventory year, as proof of proactive ongoing commitment. This percentage is dependent on the baseline year and proportional toward the net zero target for 2050, calculated as:

$$\text{XX\%} = \frac{\text{XX\%} = 2050 \text{ Net Zero Reduction Target (\%)}}{\text{Net Zero Target Year} - \text{Audit Baseline Year}}$$

## GHG Emissions Reductions Required to Achieve and Maintain IWCA Gold-Level Membership (in %)

ISO-14064 Audit Baseline Year	Annual target	GHG Reduction Target										Milestone					Milestone					Net Zero 2050	
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2032	2034	2036	2038	2040	2042	2044	2046		2048
Baseline 2008	2.38%	26.2	28.6	31.0	33.3	35.7	38.1	40.5	42.9	45.2	47.6	50.0	52.4	57.1	61.9	66.7	71.4	76.2	81.0	85.7	90.5	95.2	100
Baseline 2009	2.44%	24.4	26.8	29.3	31.7	34.1	36.6	39.0	41.5	43.9	46.3	48.8	51.2	56.1	61.0	65.9	70.7	75.6	80.5	85.4	90.2	95.1	100
Baseline 2010	2.50%	22.5	25.0	27.5	30.0	32.5	35.0	37.5	40.0	42.5	45.0	47.5	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0	90.0	95.0	100
Baseline 2011	2.56%	20.5	23.1	25.6	28.2	30.8	33.3	35.9	38.5	41.0	43.6	46.2	48.7	53.8	59.0	64.1	69.2	74.4	79.5	84.6	89.7	94.9	100
Baseline 2012	2.63%	18.4	21.1	23.7	26.3	28.9	31.6	34.2	36.8	39.5	42.1	44.7	47.4	52.6	57.9	63.2	68.4	73.7	78.9	84.2	89.5	94.7	100
Baseline 2013	2.70%	16.2	18.9	21.6	24.3	27.0	29.7	32.4	35.1	37.8	40.5	43.2	45.9	51.4	56.8	62.2	67.6	73.0	78.4	83.8	89.2	94.6	100
Baseline 2014	2.78%	13.9	16.7	19.4	22.2	25.0	27.8	30.6	33.3	36.1	38.9	41.7	44.4	50.0	55.6	61.1	66.7	72.2	77.8	83.3	88.9	94.4	100
Baseline 2015	2.86%	11.4	14.3	17.1	20.0	22.9	25.7	28.6	31.4	34.3	37.1	40.0	42.9	48.6	54.3	60.0	65.7	71.4	77.1	82.9	88.6	94.3	100
Baseline 2016	2.94%	8.8	11.8	14.7	17.6	20.6	23.5	26.5	29.4	32.4	35.3	38.2	41.2	47.1	52.9	58.8	64.7	70.6	76.5	82.4	88.2	94.1	100
Baseline 2017	3.03%	6.1	9.1	12.1	15.2	18.2	21.2	24.2	27.3	30.3	33.3	36.4	39.4	45.5	51.5	57.6	63.6	69.7	75.8	81.8	87.9	93.9	100
Baseline 2018	3.13%	3.1	6.3	9.4	12.5	15.6	18.8	21.9	25.0	28.1	31.3	34.4	37.5	43.8	50.0	56.3	62.5	68.8	75.0	81.3	87.5	93.8	100
Baseline 2019	3.23%		3.2	6.5	9.7	12.9	16.1	19.4	22.6	25.8	29.0	32.3	35.5	41.9	48.4	54.8	61.3	67.7	74.2	80.6	87.1	93.5	100
Baseline 2020	3.33%			3.3	6.7	10.0	13.3	16.7	20.0	23.3	26.7	30.0	33.3	40.0	46.7	53.3	60.0	66.7	73.3	80.0	86.7	93.3	100
Baseline 2021	3.45%				3.4	6.9	10.3	13.8	17.2	20.7	24.1	27.6	31.0	37.9	44.8	51.7	58.6	65.5	72.4	79.3	86.2	93.1	100
Baseline 2022	3.57%					3.6	7.1	10.7	14.3	17.9	21.4	25.0	28.6	35.7	42.9	50.0	57.1	64.3	71.4	78.6	85.7	92.9	100
Baseline 2023	3.70%						3.7	7.4	11.1	14.8	18.5	22.2	25.9	33.3	40.7	48.1	55.6	63.0	70.4	77.8	85.2	92.6	100
Baseline 2024	3.85%							3.8	7.7	11.5	15.4	19.2	23.1	30.8	38.5	46.2	53.8	61.5	69.2	76.9	84.6	92.3	100
Baseline 2025	4.00%								4.0	8.0	12.0	16.0	20.0	28.0	36.0	44.0	52.0	60.0	68.0	76.0	84.0	92.0	100

International Wineries for Climate Action (IWCA) is a collaborative working group of environmentally committed wineries taking a science-based approach to reducing carbon emissions across the wine industry.

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