



INTERNATIONAL
WINERIES FOR
CLIMATE ACTION

2022 ANNUAL REPORT

Taking collective action to decarbonize
the global wine industry

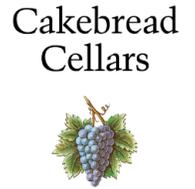




INTERNATIONAL WINERIES FOR CLIMATE ACTION

International Wineries for Climate Action (IWCA), a registered 501(c)6 organization, is a collaborative working group of environmentally committed wineries focused on a science-based approach to reducing carbon emissions across the wine industry.

NOVEMBER 2022





Cakebread Cellars (California, USA)

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Foreword

by the IWCA Board of Directors

All of us, as individuals, have directly experienced the effects of climate change over the past year. *Record-breaking heat waves. Record-breaking floods. Record-breaking wildfires.* We are familiar with the headlines from across the world and saw them come to life in our own communities.

All of us, as wineries, have had to grapple with the impacts of climate change on our vines and our businesses. As a result, the growing season in 2022 looked markedly different for many wineries. We installed new water management systems, adjusted viticultural practices and harvest timelines, tested new rootstocks and grape varieties, and coped with wildfires, late-season heat waves, and persistent drought conditions that continue to present serious threats to the longevity and resilience of many of our vineyards.

In the face of these sobering challenges, 2022 has nonetheless also been a year of purpose and hope.

When International Wineries for Climate Action (IWCA) was founded by Familia Torres of Spain and Jackson Family Wines of California in 2019, 10 wineries were involved in our budding movement. One year ago, we had grown to 22 wineries. **Today, IWCA is 37 wineries strong.** These wineries—large and small, across nine countries and five continents—are individually transforming their businesses to **measure and reduce their carbon footprint.** Collectively, we are raising awareness of climate change in the wine sector and inspiring others to take action.

Over the past year, IWCA has grown stronger as an organization to fuel this movement. We have fostered a **space for exchange and learning**, drawing upon our member wineries' and external expertise. We have developed new **greenhouse gas emissions (GHG) accounting tools** and established **rigorous protocols** for measurement and verification. We have brought **new attention** to the impacts of climate change on wine within and outside the industry through events and media. Finally, we were thrilled to welcome Charlotte Hey, IWCA's first **Executive Director.** Her leadership will shepherd IWCA into our next phase of growth and impact.

We are deeply thankful to the members and partners who have already joined us in our mission. A crisis as urgent and devastating as climate change cannot be met alone. We call every winery to action—to strengthen the sustainability and resiliency of their businesses, to take part in decarbonizing our wine sector, and to push other sectors to do the same to safeguard the future of our industry and our younger generations.

Miguel A. Torres
President
Fourth Generation
and President,
Familia Torres

Katie Jackson
Vice President
Second Generation &
Senior Vice President
of Corporate Social
Responsibility,
Jackson Family Wines

Rob Symington
Treasurer
Fifth Generation and
Director, Symington
Family Estates

Beth Novak Milliken
Secretary
Second Generation
and President & CEO,
Spottswoode Estate
Vineyard & Winery

**Josep Maria
Ribas Portella**
Board Member
Climate Change &
Sustainability Director,
Familia Torres

Julien Gervreau
Board Member

Michael Wentworth
Board Member
General Manager,
Sustainability &
Strategic Projects,
Yealands Estate Wines

About IWCA

Our Mission and Vision

IWCA is a collaborative working group of environmentally committed wineries taking a science-based approach to reducing carbon emissions across the wine industry.

We are a membership-based organization driven by dozens of wineries across the globe. We believe that climate change poses an urgent and existential threat to the wine sector. That's why we're working toward a climate-positive wine sector, doing our part to build the resilience of our businesses and safeguard the future of our industry and our planet.

All our member wineries are committed to the same overarching goal: achieving net zero emissions by 2050 at the very latest and meeting intermediate emissions reductions targets by 2030.

OUR CORE PILLARS

- **Raising awareness** in the winegrowing community of the urgent need to reduce greenhouse gas (GHG) emissions to mitigate the effects of climate change
- **Sharing strategies and best practices** to reduce emissions in the wine sector and mobilizing wineries worldwide to reduce emissions
- **Developing rigorous methodologies** to measure GHG emissions in a standard way and bringing transparency to carbon accounting for the wine industry



IWCA is a partner in the [Race To Zero campaign](#), the largest-ever alliance committed to achieving net zero carbon emissions by 2050 at the latest. IWCA, which joined the campaign in 2021, was the first Race to Zero partner representing the wine and agriculture sector.

1,049 cities • 67 regions • 5,235 businesses
441 investors • 1,039 higher education institutions

→ Including IWCA's 23 Silver- and Gold-level wineries

IWCA's member wineries are also Race to Zero members. We commit to publicly reporting on our progress towards these goals annually (which we do through this report, publicly shared on the [IWCA website](#)).



Constellation Brands Fine Wines (California, USA)

Since they started measuring their emissions, IWCA member wineries have already

collectively reduced their carbon footprint

by 59,636 tons of CO₂e

equivalent to...



carbon sequestered from

28,561

hectares of forests

in one year¹



greenhouse gas emissions from

12,850

gasoline-powered passenger vehicles

driven for one year²



greenhouse gas emissions from

61,722

roundtrip flights between Barcelona and Los Angeles³

Familia Torres (Spain)

Total tons of CO₂e calculated as a sum of 10 member wineries' absolute GHG emissions reductions between their latest year of data and their baseline year data.

^{1,2} Conversions calculated using the U.S. Environmental Protection Agency (EPA)'s Greenhouse Gas Equivalencies Calculator. See [here](#) for detailed methodologies and emission factors.

³ Emissions from economy roundtrip travel between BCN and LAX calculated using the International Civil Aviation Organization (ICAO)'s Carbon Emissions Calculator (see [here](#) for their detailed methodology for attributing emissions to air travel).

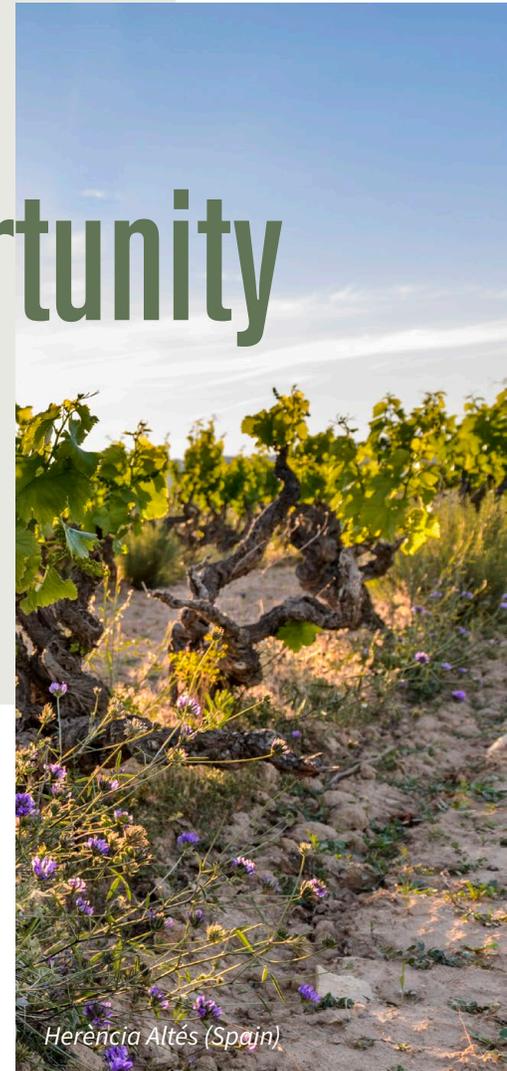
A Global Crisis, A Collective Opportunity

The wine sector is one of the sectors that is suffering most directly and urgently from climate change. Our mission to decarbonize the wine sector is driven not only by a belief in what is right—but also by the reality of what is necessary.

“ In recent years, we have noticed a rise in temperatures, which has required us to move up our harvest season. It depends on the vintage, but I would say we now start our harvest about three weeks earlier than we did 10 years ago.

In Terra Alta, we are used to drought. It rains an average of 350 millimeters [about 14 inches] per year, but it is increasingly common for this rainfall to be concentrated in a few hours instead of being spread out throughout the winter and spring. In addition, in recent years, there have been many storms during the harvest season, accompanied by hail in our area. This rarely happened in the past.

If you are the victim of a hail storm, you can say goodbye to your harvest... But that's not the only impact. With higher temperatures and less rainfall during the vine cycle—which results in earlier harvest times—we have had to deal with a different phenolic maturity and more unbalanced PH. In some recent years, we have seen a drop in production due to rare or extreme rains and very high temperatures.



Herència Altés (Spain)

*"We now start our harvest about **three weeks earlier** than we did 10 years ago."*

In summary, climate change manifests in many ways. The effects don't always converge in the same year or crop harvest, but are becoming increasingly clear and constant. ■

Sheila Uldemolins, Marketing & Sales Manager, Herència Altés

IWCA Member, Spain

“ The thing that concerns us most about climate change is not ourselves, but the effects we see on others.

Central Otago, where we farm, is relatively unaffected as of now. That’s not to say we are not seeing abnormal conditions, but we have not experienced the temperature and disaster extremes that are affecting so many wine regions. For complex climatic reasons, it is expected that our area won’t endure most of these extremes. **Yet, our good fortune is no reason not to act with all the means available to us.**

We are proud to have just finished our first-ever full ISO-certified carbon audit. We have no delusions about the full measure of the work ahead. **But with that comes at least a dozen simple ways to significantly cut that GHG emissions figure.** When you start measuring, you automatically realise that you CAN do this. We, as a society, got in this mess not through inevitable need, but through casual waste. As a starting point, we can eliminate that and make an enormous impact.

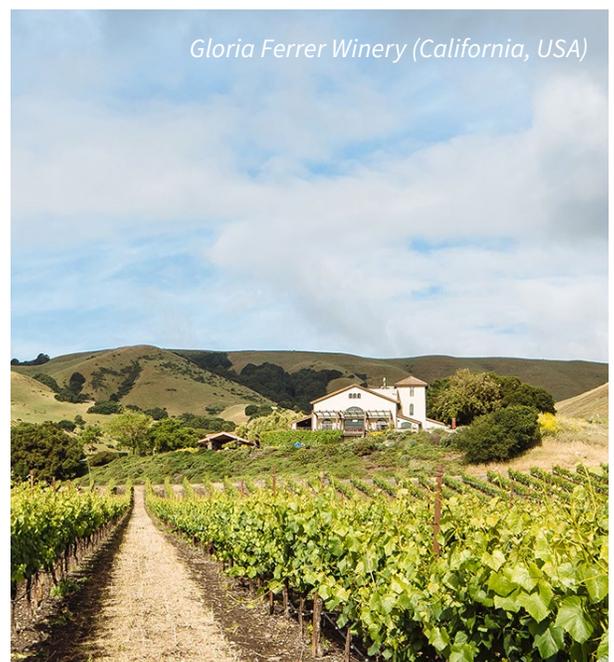
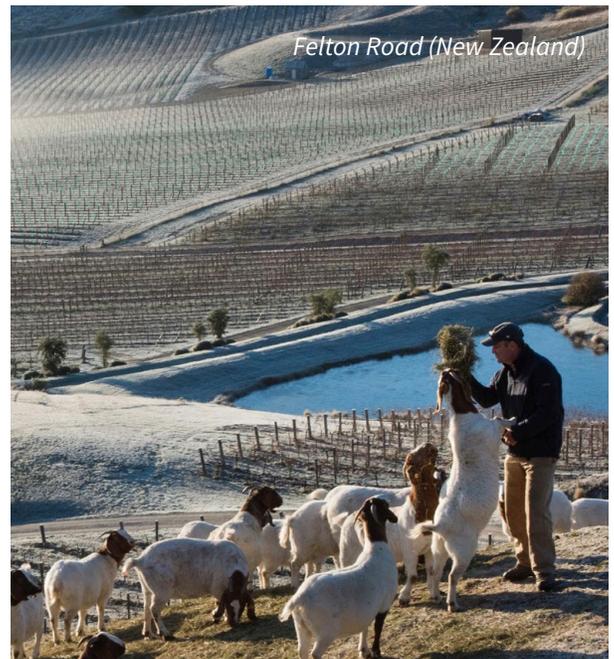
*"Good fortune is **no reason not to act with all the means available to us.**"*

An Individual and Collective Responsibility

Tangible changes in business and vineyard operations by wineries, paired with consumer awareness and support from industry stakeholders can deliver the **sector-wide transformation** required to achieve a zero-emissions wine community.

We will get to net zero emissions. We will do that without resorting to buying offsets. **It will be our principal focus for the next decade and we will make better wine as a result**—not because we alone can fix the climate crisis, but because we have learned to care more about everything we do. ■

Nigel Greening, Proprietor, Felton Road
IWCA Member, New Zealand



CONSUMER-FACING AWARENESS

Consumers, wine critics, and industry media are conscious analysts and connoisseurs when it comes to wine quality. Wineries, as some of the most consumer-facing businesses in the world, have a tremendous opportunity to **focus attention on environmental impact as a characteristic that should be profiled alongside wine quality and business ethics**. That's why raising awareness is one of IWCA's core pillars of work (see more on page 12 of "Organizational Highlights").

Diners who visit Nectari Restaurant in Barcelona can flip to a brand-new section of the wine list: International Wineries for Climate Action. Jordi Esteve, chef of this Michelin starred restaurant, has reserved a special place on his wine list for IWCA member wineries. **Nectari Restaurant was inspired to redesign the wine list after hearing IWCA wineries discuss the importance of climate-friendly wine during the Barcelona Wine Week roundtable.** As Nectari has demonstrated, consumer-facing actors within the wine community have a powerful role to play in helping diners choose a wine with a certified positive environmental record.

 Carrer Valencia 28, Barcelona, Spain



Backed by our robust certification and verification processes (see page 10), the IWCA logo represents **the gold standard for climate action in the wine industry**. A number of IWCA wineries, such as Herència Altés and Familia Torres (pictured below), **feature the IWCA member logo on their wine labels to raise awareness amongst consumers about their climate change mitigation efforts**.

HERÈNCIA ALTÉS
Craft • Protect • Inspire

BENUFET

La Gamacha Blanca del **Benufet** prové d'una selecció de parcel·les de vinyes velles (30 a 90 anys) plantades en sòls calcàris i argil·losos entre 450 i 490 metres d'altura. Benufet és un altiplà que conserva el topònim d'origen àrab que significa "fill d'Ufet".

La Gamacha Blanca de **Benufet** proviene de una selección de parcelas de viñas viejas (de 30 a 90 años) plantadas en suelos calcáreos y arcillosos entre 450 y 490 metros de altitud. Benufet es una meseta que conserva el topónimo de origen árabe que significa "hijo de Ufet".

The Gamacha Blanca of **Benufet** comes from a selection of plots of old vines (30 to 90 years old) planted in calcareous and clay soils between 450 and 490 meters absl. Benufet is a plateau that preserves the place-name of Arabic origin that means "son of Ufet".

MADE FROM ORGANIC GRAPES / AGRICULTURA ECOLÒGICA
Bottled by / Embouteillé par Herència Altés - R.E. 500045-CAT, Gandesa, Spain
PRODUCT OF SPAIN / PRODUIT D'ESPAGNE WHITE WINE / VIN BLANC TERRA ALTA. Denominació d'Origen

INTERNATIONAL WINERIES FOR CLIMATE ACTION SILVER MEMBER

Learn more about Benufet

VEGAN **ES-ECO-019-CT AGRICULTURA UE** **CCPAE**

750ml

CONTIENE SULFITOS / CONTAINS SULPHITES / CONTIENT DES SULFITES / ENTHÄLT SULFITE
CONTIENE SOLFITI / INNEHÅLLER SULFITER / SISÄLTÄÄ SULFITTEJA / INDEHOLDER SULFITTER

8 437012 917187

Gran Coronas

El luminoso corazón del Penedès reúne las condiciones idóneas para las pequeñas parcelas de cabernet sauvignon, dando origen a uno de los vinos más preciados de la familia.

In the luminous heart of the Penedès, small parcels of Cabernet Sauvignon grow under ideal conditions, giving rise to one of the family's most acclaimed wines.

El lluminós cor del Penedès reuneix les condicions idònies per a les petites parcel·les de cabernet sauvignon, donant origen a un dels vins més apreciats de la família.

www.torres.es

INTERNATIONAL WINERIES FOR CLIMATE ACTION GOLD

Discover more about our Torres & Earth Program

ES-ECO-019-CT AGRICULTURA UE EU-JORDBRUG

CONTIENE SULFITOS / CONTAINS SULFITES / CONTIENT DES SULFITES
ENTHÄLT SULFITE / SISÄLTÄÄ SULFITTEJA / INDEHOLDER SULFITTER
INNEHÅLLER SULFITER / CONTIENE SOLFITI / ΤΡΕΠΕΧΕΙ ΘΕΙΟΔΗ

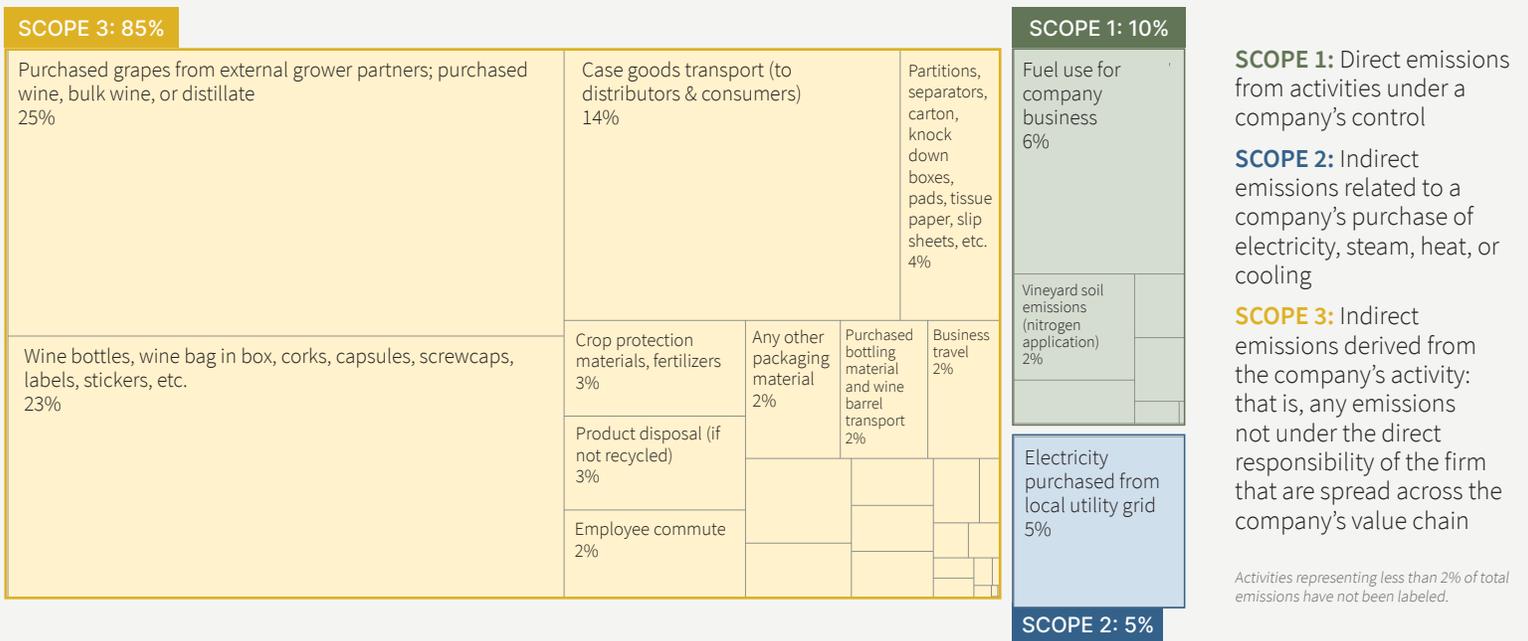
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TACKLING GHG EMISSIONS “HOTSPOTS” IN WINE

Although the wine industry is, comparatively, a small sector with a small global carbon footprint, we strongly believe that we all have a responsibility to reduce our GHG emissions and be environmental stewards of our land, water, and air. As part of this, **GHG emissions measurement is a critical foundation for climate action.** With detailed inventories, wineries can identify their highest-emissions activities and implement targeted strategies, then track their progress in achieving emissions reductions over time (see page 9).

Where do GHG emissions come from in the wine value chain?

Shown below is a proportional breakdown of GHG emissions by category in the wine value chain. Averages are calculated from 23 IWCA member wineries’ baseline GHG inventory data, which have been third-party audited and adhere to ISO-14064 standards.



The data show that the most significant climate impacts in the wine life cycle come from Scope 3 activities.

Although Scope 3 emissions are most directly the responsibility of a winery’s vendors and partners—in other words, a winery’s Scope 3 emissions are another company’s Scope 1 and 2 emissions, **wineries can encourage and achieve Scope 3 emissions reductions** through avenues including partnerships and distribution pathways, manufacturing requirements, and supply chain sourcing choices.

Familia Torres (Spain) reduced their Scope 3 packaging emissions by 12% in 2021 by reducing the weight of their glass bottles.

Jackson Family Wines (California/Oregon, USA) reduced their Scope 3 emissions by 21.8% since 2015 through lightweighting their glass bottles to 16.5 oz for their largest volume wines, redesigning their cardboard packaging to use less material, improving their waste sorting practices to consistently achieve a company diversion rate over 95%, incentivizing their employees to drive EVs/PHEVs, and working with their supply chain partners to use trains instead of trucks for product transportation where possible.

Organizational Highlights

Symington Family Estates (Portugal)

Cultivating a Movement

Since IWCA was founded in 2019, **our community of wineries has grown nearly four-fold**. Today, 37 wineries are involved in IWCA: 3 as Gold-level members, 20 as Silver-level members, and 14 as Applicant members. 12 of these wineries joined IWCA in the past year alone. We welcomed our first winery from Canada—Okanagan Crush Pad—which expanded our global reach to nine countries. We also saw **13 wineries upgrade from Applicant-level status to Silver-level membership**.

Although personal outreach from member wineries remains one of our most effective recruitment approaches, many of our newest wineries reached out to IWCA directly—a positive indication of our awareness-raising efforts. We were thrilled that our membership growth and momentum to build climate action in the wine sector was recognized this year when IWCA was awarded the “**Best Green Initiative Award**” from *the drinks business* Green Awards 2021.

MEMBERSHIP IN IWCA

IWCA employs a three-tiered membership system that allows a diversity of wineries to join our movement. Our membership requirements and milestones keep us accountable to achieving ambitious and tangible impact.



Any winery interested in becoming an IWCA member, but has not yet fulfilled the GHG inventory requirement, can join IWCA as an **APPLICANT**.



SILVER-LEVEL MEMBERS must fulfill requirements #1 and #2 below, at minimum.



GOLD-LEVEL MEMBERS must fulfill requirements #1, #2, #3, and #4 below.

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 Nations’ 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 located.

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 (proportional to a winery’s Net Zero target for 2050).

Exchanging Knowledge & Building Community

Whether having tracked GHG emissions for many years or conducting a GHG inventory for the first time, IWCA's wineries offer a wealth of expertise on the journey toward "net zero." Part of our mission is to foster **knowledge exchange to share the insights of this unique community**. We convene all Member and Applicant wineries for virtual meetings three times per year, during which we carve out time for wineries to share best practices and raise technical questions for discussion. Excitingly, we finally had the chance to hold an in-person gathering during ProWein in Düsseldorf in May 2022 for IWCA wineries that attended the trade fair. We will continue to gather members when possible on the sidelines of existing events in addition to fostering networking and knowledge sharing via online community platforms.

We also launched our **members-only expert panel series** this year. We organized a deep-dive session on IWCA's greenhouse gas emissions calculators with [Sustridge Sustainability Consulting](#) to help members better understand the methodologies and technical underpinnings of the tool. We also held two panels (in multiple languages) on emissions reductions strategies, particularly in the packaging space, featuring guest experts from [Ardagh Group](#), [Conscious Container](#), [GreenFlex](#), and [Encirc360](#).



Developing Tools & Methodologies

Detailed GHG inventories are a critical step for wineries to identify their GHG emissions "hotspots" and implement targeted strategies to ensure consistent emissions reductions. Yet, the process of GHG accounting can often feel daunting and insurmountable for wineries, particularly given the lack of common standards and tools in the wine sector.

As part of our mission to encourage widespread GHG emissions measurement, IWCA has developed **three regionally adapted GHG calculators**. The first, designed for wineries in the United States, was released in 2021; in 2022, we released two additional calculators: one each for wineries in Australia and New Zealand. These calculators are accessible to any winery for free on the [IWCA website](#). Developed in collaboration with [Sustridge Sustainability Consulting](#), **IWCA's calculators cover Scopes 1, 2, and 3 are aligned with the World Resources Institute's GHG Protocol and ISO-14064 standards.**

These calculators are the most robust GHG emissions measurement tools ever developed specifically for the wine industry and have been downloaded by over 475 users since their release.



Download our
GHG emissions
calculators

Raising the Bar

IWCA CERTIFICATE

IWCA aims to establish comprehensive, standardized best practices to calculate carbon footprints in the wine industry—beginning with our own organizations. IWCA membership requirements stipulate that wineries must have their GHG inventories third-party audited by an ISO-14064-3-accredited firm. To further ensure **robust standards and consistency**, this year IWCA created a [process guide and standardized form](#) for auditors to verify that wineries meet IWCA membership requirements and achieve consistent emissions reductions over time. **As part of this verification scheme, wineries are issued an IWCA member certificate, which is also validated by the audit firm.**

The IWCA certification scheme was developed in collaboration with [LROA](#) (formerly known as Lloyd's Register), one of the leading global audit firms with expertise in sustainability standards.

SCIENCE-BASED STANDARDS

IWCA's standards are aligned with recognized, respected global standards, including of the Science-Based Targets Initiative (SBTi). In a number of instances, **IWCA's approach exceeds these standards in its ambition and rigor:**

- IWCA requires GHG emissions inventories to be third-party verified according to the ISO-14064 process. *SBTi does not require a third-party audit.*
- IWCA members are required to monitor annual progress based on audited GHG inventories. If progress is not achieved over three years, membership actions may be taken. *SBTi requests annual public disclosure of its members' progress but does not (yet) monitor its members' progress and implement measures if members do not achieve progress.*
- IWCA demands that at least 20% of winemaking operations be powered by onsite renewable energy (certified by independent audit) to achieve Gold-level membership. *SBTi does not require any onsite renewable energy production.*

Comparative analysis performed by Anthesis Lavola as part of a consultancy with IWCA.

Crimson Wine Group (California, USA)



Contributing to Climate Science

Over the past several years, Jackson Family Wines, a co-founding member of IWCA, collaborated with [The Soil Inventory Project \(TSIP\)](#) to collect soil samples at a handful of their estate vineyard properties in California and quantify the impact that regenerative farming has on vineyard systems. This successful collaboration inspired both organizations to find ways to expand this research across the wine industry through additional grant funding.

In September 2022, TSIP, Jackson Family Wines, and a consortium of partners – IWCA, Nature For Justice, The Glynwood Center for Regional Food & Farming, Corteva, Inc., and Vayda – secured **\$20 million from the United States Department of Agriculture (USDA) as a part of the [Partnership for Climate-Smart Commodities](#) to implement, measure, and drive adoption of climate-smart farming practices across 120,000 US acres.**

In 2023, IWCA member wineries in the United States will be eligible to apply for TSIP funding to **measure soil carbon within their vineyards, share data and expertise, and receive payment for implementing specific climate-smart practices in their operations.** While final budgets are still being determined with the USDA, it is anticipated that up to \$2 million will be made available to United States-based IWCA members to participate over a five-year term.



Jackson Family Wines (California, USA)

Welcoming New Leadership

In November 2022, IWCA is thrilled to welcome **our first Executive Director, Charlotte Hey.** Over nearly three decades dedicated to the wine industry, Charlotte has worked in sales and marketing and in publishing, including as Director of *the drinks business*, a leading drinks trade magazine. As Executive Director of IWCA, Charlotte will lead our rapidly growing organization into the next phase of momentum, focusing on visibility, membership growth, and strategic planning.

"Climate action has always been a core professional and personal value of mine. I relish the prospect of this exciting new role and look forward to really making a difference in reducing emissions and promoting sustainability within the wine sector. I am delighted to work with the world's most innovative, environmentally-conscious wineries to drive this initiative forward together."

- Charlotte Hey, IWCA Executive Director



Building Awareness

As real and urgent as the climate crisis is to the wine sector, it is an issue that is only beginning to receive mainstream attention. **IWCA and our member wineries are shifting this status quo by speaking about climate change and the future of wine at industry events and in industry media publications**—leveraging respected voices in wine to bring attention to the issue and demonstrating the progress that is possible within the industry.

MEDIA HIGHLIGHTS

🔗 “Wine Industry is Facing Monumental Challenges” by Anthony Gismondi, *Windsor Star*, 17 January 2022.

🔗 “How Producers Are Making Climate-Friendly Winemaking a Reality” by Betsy Andrews, *SevenFiftyDaily*, 14 February 2022.

🔗 “Why Big Business is Taking Action on Climate” by Richard Siddle, *Grapevine*, April 2022.

🔗 “WineInk: Sustainability standards in the wine industry” by Kelly J. Hayes, *The Aspen Times*, 16 April 2022.

🔗 “Felton Road - Climate Action in the Fast Lane” by Sophie Preece, *New Zealand Winegrower*, 10 June 2022.

🔗 “The Shrinking Footprint of Glass Wine Bottles” by Betsy Andrews, *SevenFiftyDaily*, 18 July 2022.

🔗 “Yealands and a Global Effort to De carbonise Wine” by Sophie Preece, *New Zealand Winegrower*, 11 August 2022.

🔗 “Your Glass of Wine May Depend on This California Winery” by Amanda Little, *Bloomberg*, 26 August 2022.

🔗 “Businesses that are Changing the Way We Eat and Drink” by Ronn Torossian, *Retail Technology Insider*, 12 September 2022.

🔗 “How Napa and Sonoma County Winemakers are Responding to Climate Change” by Wendy Lee, *Travel Awaits*, 17 September 2022.

🔗 “IWCA: compromiso certificado con la descarbonización del sector vitivinícola,” *La Semana Vitivinícola*, 22 September 2022.

EVENTS

Wine Paris & Vinexpo Paris

February 2022, Paris

IWCA Board Member Josep Maria Ribas Portella was a featured speaker at a roundtable on “Making wine in a changing climate.”

Barcelona Wine Week

April 2022, Barcelona

Four Spanish IWCA member wineries jointly staffed an IWCA booth at the Barcelona Wine Week fair. We also organized a popular roundtable discussion on IWCA and the decarbonization of the wine industry.

Prowein

May 2022, Düsseldorf

Thirteen IWCA wineries were present at Prowein, one of the wine industry’s hallmark events, representing IWCA and spotlighting their climate action efforts at their respective booths.

Sustainable Wine Roundtable Global Conference

June 2022, Virtual

IWCA is a Founding Member of the Sustainable Wine Roundtable, and various IWCA members were featured for their efforts throughout the conference.

Napa THRIVES

June 2022, Napa (California)

IWCA was a sponsor of an event on “Climate Action & Regenerative Farming” at Napa THRIVES, an inaugural six-event series in California on sustainable winegrowing. IWCA members and board members were also featured speakers throughout the series.

Australian Wine Industry Technical Conference & Trade Exhibition (AWITC)

June 2022, Adelaide

IWCA Founding Board Member Julien Gervreau spoke about IWCA during a session on carbon and water at this premier event for the Australian wine industry. The conference also featured IWCA winery Yalumba on several panels on science, technology, and wine quality and innovation.

Join Our Movement

Why Join IWCA

**Drive climate action in the wine sector.
Gain recognition as part of a global campaign.**

Our approach is science-based and rigorous. Our members are respected as “walking the talk” on climate change, and we work to amplify their efforts in the media and at industry events. Furthermore, all IWCA Silver- and Gold-level members are automatically recognized as members of the Race to Zero Campaign.

"I really admire those wine producers who have joined IWCA and committed themselves systematically to act to reduce their carbon emissions rather than just talking about it, or than tackling just one aspect of this tough but vital response to the global pickle we are in."

-Jancis Robinson, MW

**Gain access to tools and expertise.
Exchange knowledge with some of the world's most innovative and sustainable wineries.**

IWCA creates a space for collaboration and facilitates the sharing of best practices for mitigating climate impacts in vineyard and winery operations. Member wineries learn how to measure GHG emissions and have a roadmap for reducing them. IWCA is on the leading edge of setting standards for climate action and progress in the wine sector; we frequently troubleshoot technical questions with our member wineries. Our member wineries are involved in developing new tools and inform the strategic direction of our efforts.

"Spottswode deeply values our association with IWCA. It has allowed us to create a roadmap for the next ten years to lower our GHG emissions, bringing this mission into our business decision-making process. We greatly benefit from IWCA's guidance and the sharing amongst wineries as we navigate this path. This is a unique community of winegrowers around the world who share our values. Finally, as an agriculturally based family business, we are uniquely aware of the significant impacts of climate change. Being part of the solution is deeply meaningful to us."

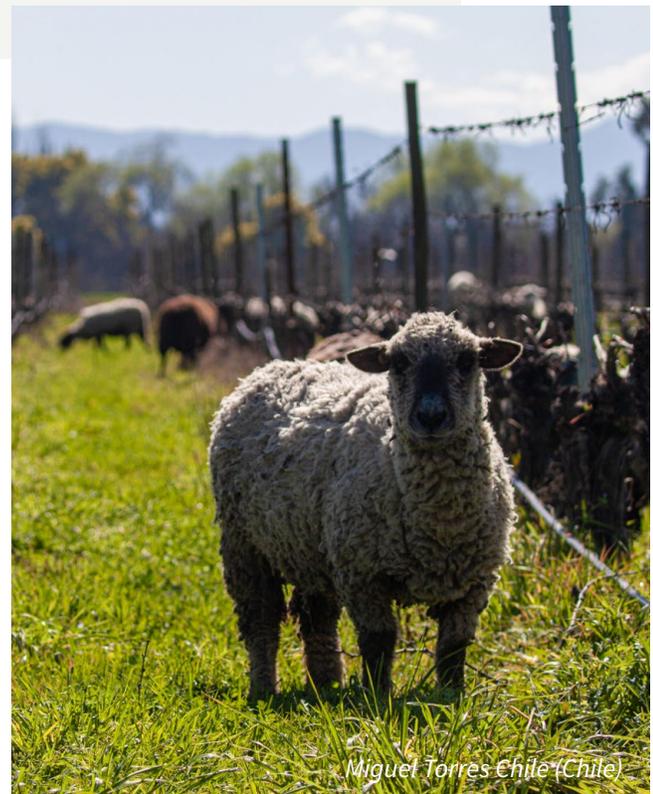
-Beth Novak Milliken, President & CEO, Spottswode Estate Vineyard and Winery

Member Winery Spotlights

We are proud to count the world's most sustainable, innovative, high-quality wineries amongst our ranks. IWCA's 23 Gold- and Silver-level wineries demonstrate climate action within their businesses and are inspiring progress across the sector.

Membership in IWCA is rigorously vetted to ensure that members are held accountable to their commitments and **demonstrate tangible progress toward reaching net zero emissions by 2050**. As part of IWCA's membership requirements and as part of our continued commitment to the Race to Zero Campaign, IWCA's Gold- and Silver-Member wineries must publicly report a summary of their GHG footprint annually via our Annual Report.

The summary data presented here provide just a snapshot of our wineries' collective climate action initiatives. Behind these graphs and numbers are months of data collection and verification to complete an audited GHG inventory; and behind that inventory are long-term efforts to change vineyard and business practices, shift organizational cultures, and advocate for improved environmental practices up and down the value chain.



Miguel Torres Chile (Chile)

About Members' GHG Inventory Data

WHAT'S INCLUDED IN A GHG INVENTORY?

All IWCA members must follow a standardized methodology for measuring their GHG emissions. At right is a summary representation of the categories included in a Scopes 1-3 GHG inventory for a winery. For additional detail on IWCA's methodologies and calculators, see Annex A.

NOTES ON THE INVENTORY DATA

Per Race to Zero requirements, members may choose whether to report absolute emissions or intensity emissions, though all members hold to the Race to Zero commitment to achieving absolute net zero carbon emissions by 2050 at the latest. The emissions data presented here are drawn from members' GHG emissions inventories, which must follow the IWCA GHG Inventory Scopes Guidance Document (See Annex A). Among other IWCA requirements, the inventory must follow the ISO-14064 standard and be verified by an external auditing firm of the winery's choosing that has been ISO-14064 accredited. We share here the most recent year of audited data that members provided to IWCA, along with their baseline year data. For many, their first year of data is their first year as an IWCA member; for other wineries that had previously conducted inventories, they have an earlier baseline year.

Per IWCA's policy, emissions reduction targets must be met based on a winery's own efforts to decarbonize, rather than through any purchased offsets. We do, however, encourage sequestration strategies carried out directly by members (such as reforestation on owned or long-term leased land). We invite member wineries to submit biogenic emissions data, but due to the lack of definitive research and scientific consensus on vineyard sequestration (e.g., short cycle emissions from vineyard photosynthesis or from wine fermentation), we do not presently count sequestration efforts toward meeting IWCA requirements. In contrast, Scopes 1-3 emissions account for the permanence of fossil-fuel derived carbon emissions in the atmosphere. The topic of biogenic emissions remains of significant interest to IWCA, and we look forward to exploring the issue further.

As part of IWCA's aim to be the industry leading organization on climate action, we have taken steps to ensure rigor and consistency in our wineries' GHG inventory and audit processes and greater transparency in emissions reporting, while simultaneously working to protect the security our wineries' data. Implementing these new procedures has involved transitioning some of our existing members to a new inventory and audit process. For these wineries, we have worked to ensure alignment with the new procedures by 2023.

SCOPE 1



Fuel use for company business (e.g., vineyard pumps, company-owned vehicles, ag equipment)

Land use changes (e.g., deforestation to plant new vineyards)



CO₂ used in winemaking or other processes

Vineyard soil emissions (NOx emissions from nitrogen application)



Onsite waste (e.g., methane from wastewater treatment)

Refrigerants for cooling barrel rooms and indoor spaces



SCOPE 2



Electricity purchased from local utility grid



Onsite generated renewable electricity

SCOPE 3



Purchased products (e.g., purchased grapes, barrels, fertilizers, municipal water)



Packaging materials (e.g., glass, cork, cartons, labels)



Outsourced transportation (e.g., third-party grapes, finished case goods, wine barrels, bottles)

Outsourced production (e.g., third-party grape harvesting and production/bottling)



Business travel related to company business and daily commutes (e.g., passenger car, train, air travel)

Offsite waste/loss (solid waste to landfill, recycling, composting, etc.)



Postconsumption (product disposal at end of life)

A to Z Wineworks

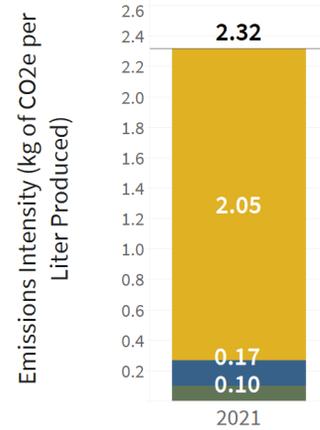
IWCA SILVER LEVEL

📍 Oregon, USA
 Joined August 2021



SUSTAINABILITY HIGHLIGHTS

- Improvements in our winery water infrastructure for both brands under the A to Z entity (A to Z Wineworks & luxury brand REX HILL) resulted in savings of over 1.5 million gallons of water compared to 2021. We did a comprehensive evaluation of our water system to remedy all leaks, created a map for faster finds and fixes for future leaks, and cellar SOPs were updated for more water-efficient cleaning practices.
- Investments in our campus in 2022 set the stage for further progress in reducing our GHG emissions in 2023, including installing at least 10 EV charging stations for staff and visitors, and preliminary bids for solar installation on campus roofs.
- We have been recognized for the 5th consecutive award year by B Lab as a “Best For the World” B Corp in the Environment category. A to Z has also maintained LIVE winery certification since 2008 and our Estate vineyards have been certified Biodynamic since 2009.



■ SCOPE 1 ■ SCOPE 2 ■ SCOPE 3

Geographic scope: North America. Market-based electricity emissions reporting. Reporting time frame: Calendar year. The 2021 inventory does not include some Scope 3 emissions from purchased products, outsourced transportation, and outsourced production.

Alma Carraovejas

IWCA GOLD LEVEL

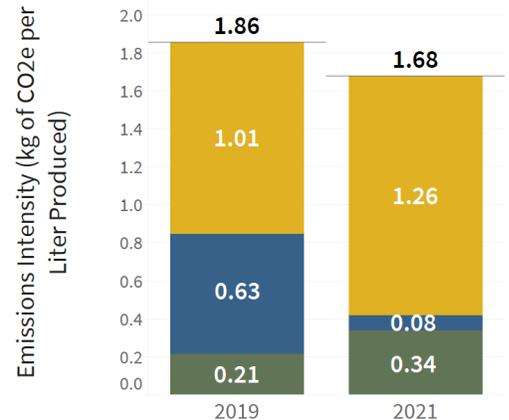
📍 Spain
 Joined May 2020



ALMA CARRAOVEJAS

SUSTAINABILITY HIGHLIGHTS

- By installing solar panels and biomass boilers, 24% of the energy we consume now comes from renewable energy sources.
- We have requested that our electricity supplier provide us with 100% energy from renewable sources (with Guarantees of Origin), which will reduce our Scope 2 electricity emissions to zero.
- We have implemented a CO₂ absorption project: through tree planting, we have managed to offset 4.5 tons of CO₂e in 2021, a figure that will increase from year to year as we plant new trees and care for those already planted.
- We participated in the design of a circular economy R&D&I project, which uses pruning waste to produce cellulose that can be used to manufacture wine bottle boxes and labels. This can minimize the waste generated in the vineyard during pruning season (and reduce the need for burning), reducing associated CO₂ emissions to zero.



■ SCOPE 1 ■ SCOPE 2 ■ SCOPE 3

10% reduction in emissions intensity since 2019

24% powered by onsite renewable energy

Geographic scope: Peñafiel (Valladolid Province), Nieva (Segovia Province), Fuentenebro (Burgos Province), and Leiro (Ourense Province). Market-based electricity emissions reporting. Reporting time frame: Calendar year.

Cakebread Cellars

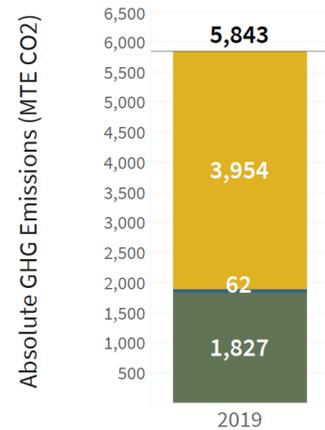
IWCA SILVER LEVEL

📍 California, USA
 Joined September 2021

SUSTAINABILITY HIGHLIGHTS

- We have installed two new EV Chargers within our guest parking lot, bringing our count to four. We also purchased an electric tractor as part of our goal to replace all fossil fuel-burning equipment in the vineyard.
- We have identified and replaced production equipment to improve efficiency and reduce power use. This includes replacing the refrigeration system in our Oakville winery to use a cleaner refrigerant with a lower GHG footprint; replacing all lights the main fermentation room with LEDs; installing timers on our aerators and wastewater system; and installing variable frequency drives on all cellar pumps, wells, and water system distribution pumps.
- We have reconstituted our organic farming program.

Cakebread Cellars



■ SCOPE 1 ■ SCOPE 2 ■ SCOPE 3

Geographic scope: North America. Market-based electricity emissions reporting. Reporting time frame: Calendar year. The 2019 inventory does not include some Scope 3 emissions from purchased products, outsourced transportation, and outsourced production.



A to Z Wineworks (Oregon, USA)



Alma Carraavejas (Spain)



Cakebread Cellars (California, USA)

Château Troplong Mondot

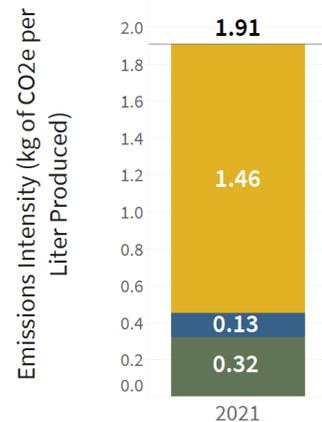
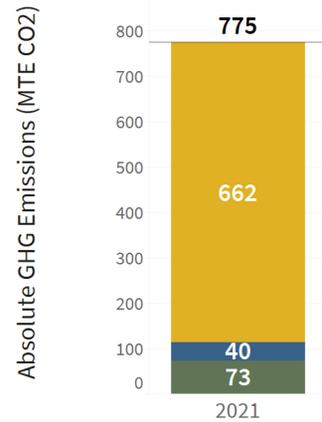
IWCA SILVER LEVEL

📍 France
 Joined September 2021

**CHATEAU
 TROPLONG MONDOT**
1^{er} GRAND CRU CLASSE

SUSTAINABILITY HIGHLIGHTS

- In 2021, we produced 131 tons of pellets out of the vine shoots collected in the vineyard during pruning season. These pellets fuel our boiler, which provides the energy for our radiators and fan coil units as well as heats our water (process and sanitary). This initiative encompasses 40% of our buildings' energy consumption needs.
- In partnership with the League for the Protection of Birds, we have carried out an inventory of our biodiversity in order to better understand our ecosystem and encourage its development. In 2022, we set up additional hedges at various spots on the estate—allowing us to increase the number of bird shelters by 36%—and we planted a micro-forest of 1,000 tree plants.
- We have started to study the capacity of our site to sequester carbon, a project to be developed in 2023.



Geographic scope: France. Location-based electricity emissions reporting. Reporting time frame: Calendar year.



Château Troplong Mondot (France)



Constellation Brands Fine Wines (U.S.)

Constellation Brands Fine Wines (U.S.)

IWCA SILVER LEVEL

📍 California, USA

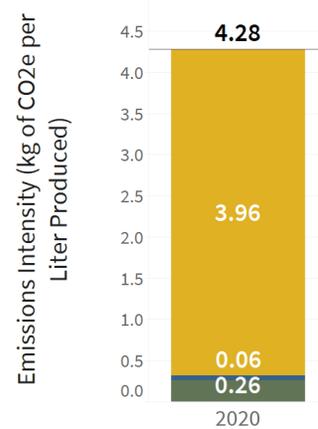
Joined September 2021

SUSTAINABILITY HIGHLIGHTS

- As part of our commitment to protect the environment and the communities where we operate and live, we are working to decrease our dependence on non-renewable energy sources to reduce our (GHG) emissions. Within Constellation’s U.S. Fine Wine Division, we are investing in renewable energy and have developed a short-range plan over the next three years to increase the capacity of self-generated solar energy across our operating footprint.
- We have commenced a three-year journey to convert farming practices on our To Kalon Vineyard (that is already certified sustainable) to meet the requirements of the California Certified Organic Farm Program (CCOF)—further improving soil quality and use of input materials, with our first organic harvest planned for 2023.



Constellation
Brands



■ SCOPE 1 ■ SCOPE 2 ■ SCOPE 3

Geographic scope: U.S. Fine Wines (California, Oregon). Location-based electricity emissions reporting. Reporting time frame: FY 2020 (03/19-02/20).

Crimson Wine Group

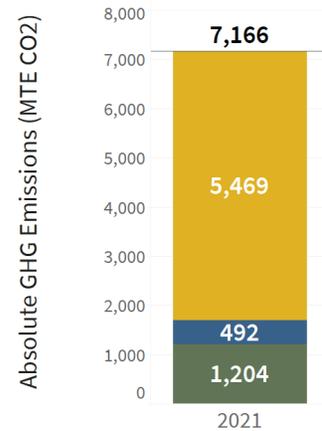
IWCA SILVER LEVEL

📍 California, USA
 Joined August 2021

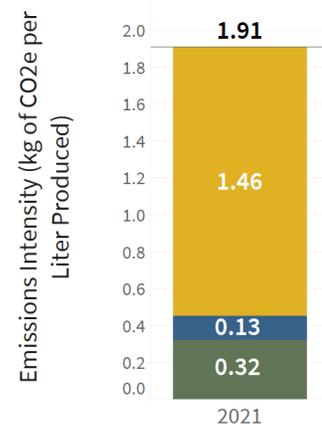


SUSTAINABILITY HIGHLIGHTS

- In 2022, Crimson Wine Group completed an overall GHG emissions ISO-audited inventory to better understand our current carbon emissions. We created the internal structures needed to institutionalize and advance our GHG emission reduction targets, including formalizing an employee-led carbon council committee which is comprised of 10% of our entire workforce.
- Our carbon council has adopted a charter to guide operations and created three sub-committees to tackle specific carbon reduction actions: Measurements (facilitating and fine-tuning our data collection), Solutions (suggesting and implementing actions to reach annual GHG emission reduction targets), and Communications (spreading information internally and externally).
- Based on our audited baseline GHG emissions of 7,200 mte CO₂, we are now working to reduce our emissions by about 500 tons per year between now and 2030 in order to reach our 50% reduction target.



■ SCOPE 1 ■ SCOPE 2 ■ SCOPE 3



■ SCOPE 1 ■ SCOPE 2 ■ SCOPE 3

Geographic scope: North America. Market-based electricity emissions reporting. Reporting time frame: Calendar year. The 2021 inventory does not include some Scope 3 emissions from purchased products, outsourced transportation, and outsourced production



Crimson Wine Group (California, USA)



Cullen Wines (West Australia)

Cullen Wines

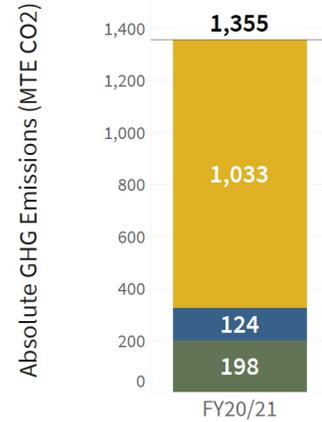
IWCA SILVER LEVEL

West Australia
 Joined September 2020



SUSTAINABILITY HIGHLIGHTS

- In 2022 we adopted a sustainability strategy aimed at the reduction of our Scope 1 and Scope 2 emissions. We currently have capital works approved to target a 30% direct emission reduction. More to come on this!
- 2022 also saw the approval of our Emission Reduction Fund carbon farming project, the first of its kind in Southwest Western Australia. Approved by the Australia Government, this will see Cullen's work to increase Soil Organic Carbon (SOC) sequestration on pastoral land to accrue tradable carbon credits. These will be used as insets to offset our own direct emissions. This is on top of our current vineyard carbon sequestration that has offset over 10 years worth of direct emissions in our vineyard soils.



SCOPE 1 SCOPE 2 SCOPE 3

Geographic scope: Western Australia (Wilyabrup and Cowaramup). Location-based electricity emissions reporting. Reporting time frame: FY20/21 (07/20-06/21). The FY20/21 inventory does not include some Scope 3 emissions.

Emina Ribera

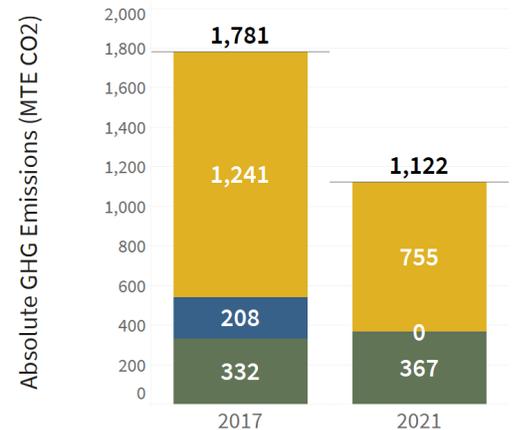
IWCA SILVER LEVEL

Spain
 Joined November 2020



SUSTAINABILITY HIGHLIGHTS

- We control our energy consumption through a consumption management platform. We have reduced our consumption of propane gas by 22% compared to our baseline GHG inventory year.
- Our electricity company provides us with 100% energy from renewable sources with certificates of guarantee of origin, which means our Scope 2 emissions have dropped to zero.
- We use lighter glass bottles, which means a reduction of 33 tons of CO2 avoided per year.
- We have installed solar panels and biomass boilers, and part of our energy comes from self-generation. We hope to achieve 30% self-consumption in the coming years.
- We implement integrated production in our vineyards, wherein we aim to minimize use of chemical phytosanitary products, instead prioritizing cultural, biological, and natural methods.



SCOPE 1 SCOPE 2 SCOPE 3

40% reduction in absolute emissions since 2017

Geographic scope: Valbuena de Duero. Market-based electricity emissions reporting. Reporting time frame: Calendar year. The 2021 inventory does not include some Scope 1 and 3 emissions.

Familia Torres

IWCA GOLD LEVEL

Spain

Joined February 2019 (Founding Member)



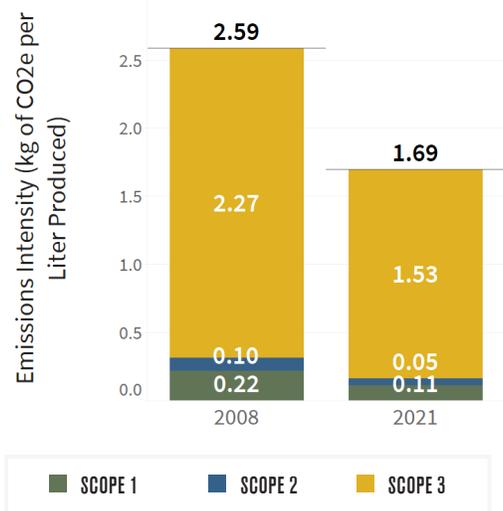
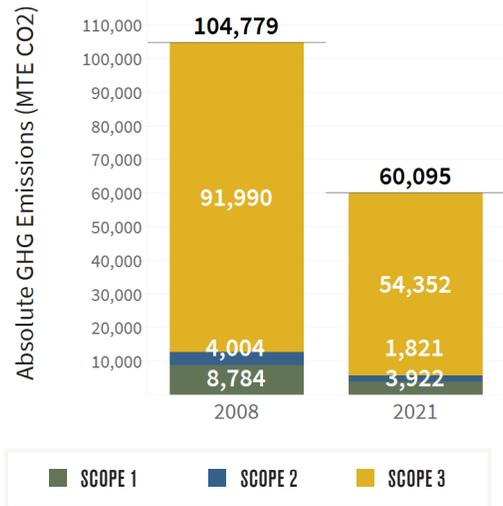
SUSTAINABILITY HIGHLIGHTS

- The solar panels and biomass boiler that have been in operation for several years now cover 39% of the energy needs of Familia Torres' main winery, Pacs del Penedès. With four new photovoltaic projects planned for 2022 and early 2023, the winery will soon become 50% self-sufficient in terms of its energy supply.
- At the beginning of 2021, Familia Torres embraced regenerative viticulture—the only agriculture model that helps store atmospheric carbon in the soil while increasing organic matter and biodiversity and reducing erosion—as an additional step in the fight against climate change. 80ha of Familia Torres' vineyards, including the iconic Mas de la Rosa and Mas La Plana estates, are now regenerative vineyards. The goal is to implement regenerative practices in all of Familia Torres' organic vineyards in Catalonia in the coming 3-5 years. Familia Torres also cofounded the Regenerative Viticulture Association.
- In 2022, Familia Torres continued to capture CO₂ from fermentation to (re)use it in the Penedès winery as inert gas, thus preventing the oxidation of wine. The goal is to cover one-third of CO₂ needs through this pioneering circular economy project.

36% reduction in emissions intensity since 2008

39% powered by onsite renewable energy

Geographic scope: Vilafranca del Penedes, Pacs del Penedes, Sant Marti, Juneda, Constat, Portas y viñedos asociados. Location-based electricity emissions reporting. Reporting time frame: Calendar year.



Familia Torres (Spain)



Felton Road (New Zealand)

Felton Road

IWCA SILVER LEVEL

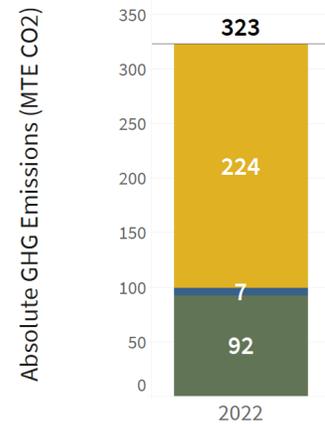
📍 New Zealand
 Joined April 2022

SUSTAINABILITY HIGHLIGHTS

- We have resolved to not use air travel for 90% of our international sales trips (which for a small winery exporting to 40 countries is something of a challenge!). Europe will be handled by rail or electric car.
- We have planted local areas of scrubland with native plants that will grow to be substantial carbon sequesters.
- Our vineyards are all certified organic and biodynamic. We started this almost 20 years ago.
- Solar panels provide most of our energy needs. We are rapidly replacing our vehicles with electric models with charging from our solar in the carpark.



FELTON ROAD



■ SCOPE 1 ■ SCOPE 2 ■ SCOPE 3

Geographic scope: New Zealand). Location-based electricity emissions reporting. Reporting time frame: 06/21-05/22

Gloria Ferrer (California, USA)



Herència Altés (Spain)



Gloria Ferrer Winery

IWCA SILVER LEVEL

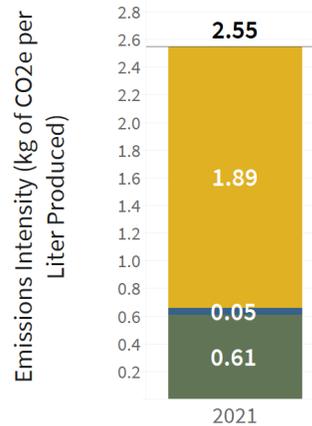
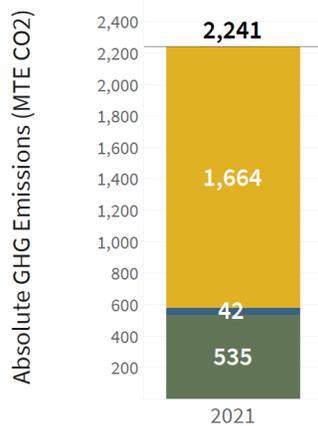
California, USA
 Joined June 2021



SUSTAINABILITY HIGHLIGHTS

- Gloria Ferrer has begun our conversion to a regenerative organic farming operation. This effort emphasizes soil health, biodiversity, and reduction of carbon emissions.
- We have expanded our on site composting operation to increase soil organic matter, help improve overall soil health, and sequester carbon.
- We have implemented vine chipping as an alternative to burning vines when we remove vineyards to reduce our emissions and improve soil physical, chemical, and biological properties.

Geographic scope: North America. Market-based electricity emissions reporting. Reporting time frame: Calendar year. The 2021 inventory does not include some Scope 3 emissions from purchased products, packaging materials, outsourced transportation, and outsourced production.



■ SCOPE 1 ■ SCOPE 2 ■ SCOPE 3

■ SCOPE 1 ■ SCOPE 2 ■ SCOPE 3

Herència Altés

IWCA SILVER LEVEL

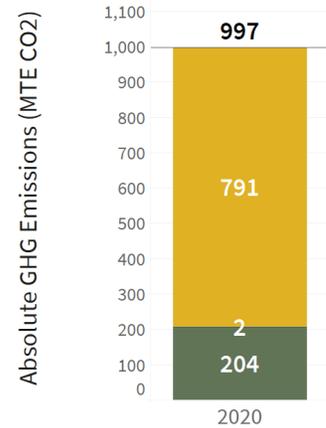
Spain

Joined September 2021



SUSTAINABILITY HIGHLIGHTS

- We have been working to shift our bottles to lighter-weight bottles, beginning two years ago when we replaced 630-gram bottles with 575-gram bottles on all but a minority of our wines. We are now looking for even lighter bottles and intend to move part or all of our range to 490-gram bottles for the 2022 vintage.
- This year, through a collaboration with a regional wine research institute, we are collecting data from cover crop experiments in our vineyards, which will help us improve our agricultural practices in this very dry area.
- We are moving to minimum intervention wines and reducing added products. We no longer filter, have significantly reduced the use of sulfur, and worked to avoid the use of pumps in the elaboration process.
- We generate over 50% of our energy from photovoltaic solar panels.



SCOPE 1 SCOPE 2 SCOPE 3

Geographic scope: Spain. Location-based electricity emissions reporting. Reporting time frame: Calendar year. 2020 data is not audited and is an interim baseline, to be replaced by the upcoming 2021 data as the baseline for future inventories.

Jackson Family Wines

IWCA GOLD LEVEL

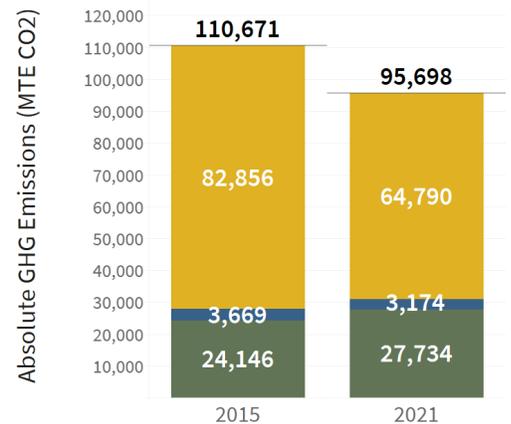
California, USA

Joined February 2019 (Founding Member)



SUSTAINABILITY HIGHLIGHTS

- We sourced 95% of our grid electricity from locally produced renewable energy, which combined with the 30% of our electricity produced from on-site solar, almost eliminates Scope 2 market emissions.
- To reduce emissions from vehicles we have ordered electric trucks, tractors, and UTVs, installed more EV chargers at our tasting rooms, incentivized employees to drive EVs, and began pilot testing renewable diesel fuel produced from waste oil byproducts.
- We have transitioned 20% of our vineyards to regenerative farming (cover crop, compost, and minimal till) and are working with leading academic / NGO partners to measure how regenerative farming can reduce emissions and sequester carbon.
- We are working towards our goal of reducing our long term packaging weight by an average of 15% per glass bottle, saving over 4,400 metric tons of glass across our operations.



SCOPE 1 SCOPE 2 SCOPE 3

14% reduction in absolute emissions since 2015

29% powered by onsite renewable energy

Geographic scope: North America. Market-based electricity emissions reporting. Reporting time frame: Calendar year. The 2021 inventory does not include some Scope 3 emissions from purchased products, packaging materials, outsourced transportation, and outsourced production

Jackson Family Wines (California, USA)



Medlock Ames (California, USA)



Medlock Ames



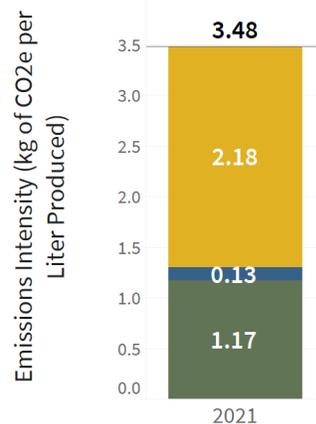
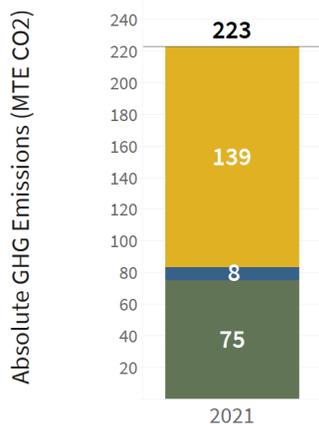
IWCA SILVER LEVEL

California, USA
Joined September 2021

SUSTAINABILITY HIGHLIGHTS

- In 2021, we created our Six Pillars of Sustainability vision for the next five years to ensure long-term improvements to our Bell Mountain vineyard and increased support for our people.
- Since 2006, we've been certified organic in our farming and in 2021, we began converting to and becoming certified as Regenerative Organic which reduces the tillage in our vineyards, increasing our carbon sequestration. We added hundreds of tons of compost to our vineyard to create healthier soils and increase atmospheric carbon absorption.
- We keep more than 80% of Bell Mountain's 340 acres in a natural state, protecting wildlife and encouraging biodiversity.
- In our farming we use a significant flowering cover crop program to ensure the health of the soil for our 50 acres of vines.

Geographic scope: North America. Market-based electricity emissions reporting. Reporting time frame: Calendar year. The 2021 inventory does not include some Scope 3 emissions from purchased products, outsourced transportation, and outsourced production.



SCOPE 1 SCOPE 2 SCOPE 3

SCOPE 1 SCOPE 2 SCOPE 3

Miguel Torres Chile

IWCA SILVER LEVEL

Chile

Joined January 2022

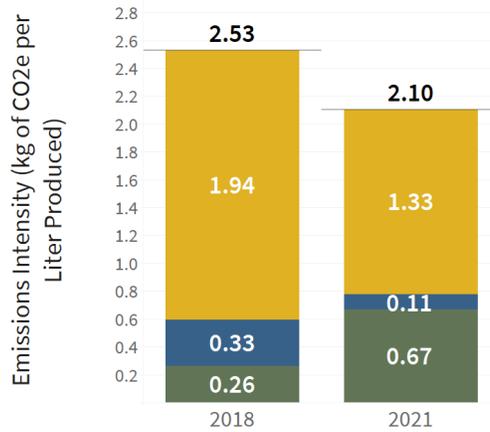
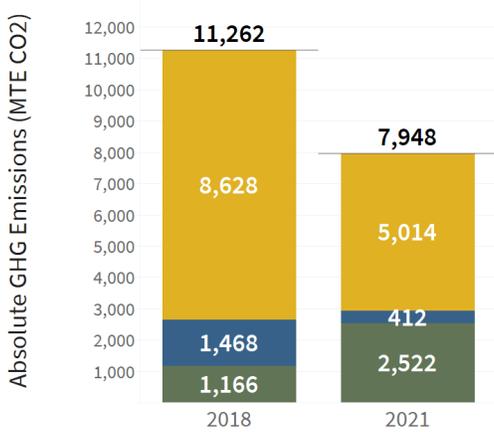


SUSTAINABILITY HIGHLIGHTS

- As part of our work over the past few years to be more environmentally sustainable, Miguel Torres Chile uses electricity from 100% renewable energy sources.
- We are strongly committed to organic farming and all of our vineyards have been certified organic since 2012.
- Through the Fair Trade initiative, we work together with small farmers. We do extensive work to recover ancient varieties and with this grow the international recognition of Chilean winegrowers.
- We are working on halving our carbon footprint by 2030 as compared to our GHG emissions figures from 2030. One of our current priorities is on creating models to manage the recycling of waste.

29% reduction in absolute emissions since 2018

Geographic scope: Chile (Biobío, Maule, and Ñuble Regions). Location-based electricity emissions reporting. Reporting time frame: Calendar year. The 2021 inventory does not include some Scope 3 emissions from outsourced transportation and postconsumption.



SCOPE 1 SCOPE 2 SCOPE 3

SCOPE 1 SCOPE 2 SCOPE 3



Miguel Torres Chile (Chile)

Ridge Vineyards

IWCA SILVER LEVEL

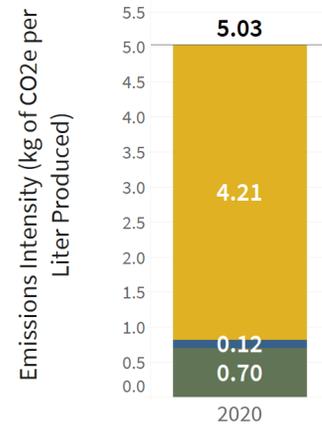
California, USA

Joined August 2021



SUSTAINABILITY HIGHLIGHTS

- Since our Lytton Springs winery was constructed in 2002, we have installed 400 photovoltaic panels on the winery's south-facing roof, producing up to 65 kilowatts of electricity. The system supplies 75% of the winery's electricity needs over the course of a year.
- In 2008, we began the process of transitioning all our estate vineyards to organic farming. Today, we have transitioned and certified more than 98% of our estate vineyards. As of harvest 2021, the total of our organically farmed vines has reached 379 acres. We are now the largest grower of certified organic grapes in both Sonoma County and in the Santa Cruz Mountains AVA. We are also Certified Sustainable by Fish Friendly Farming.
- In 2023, Ridge will begin to package a portion of our Three Valleys wine in kegs — an alternative to glass with a significantly lower carbon footprint. For more than 30 years, Ridge has utilized lightweight glass for our wines. The claret bottle that we have used has a weight of only 550 grams. In 2023, we plan to trial an even lighter weight alternative with a weight of only 464 grams.



SCOPE 1 SCOPE 2 SCOPE 3

Geographic scope: North America. Market-based electricity emissions reporting. Reporting time frame: Calendar year. The 2020 inventory does not include some vineyard soil emissions (Scope 1)



Ridge Vineyards (California, USA)

Silver Oak and Twomey Cellars

IWCA SILVER LEVEL

📍 California, USA
 Joined May 2020

SILVER OAK

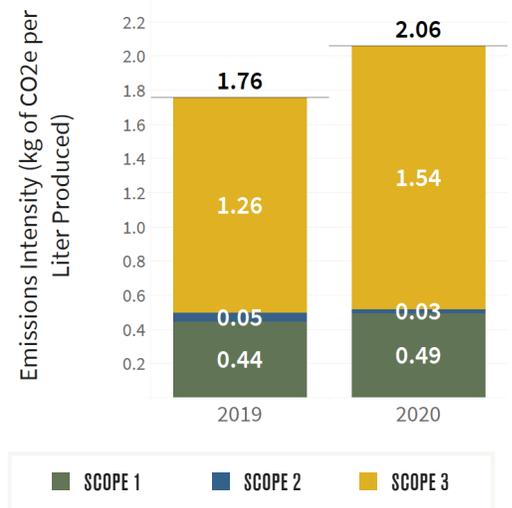
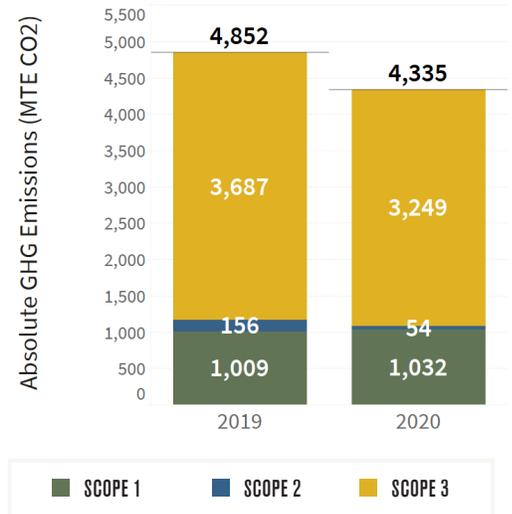
TWOMEY

SUSTAINABILITY HIGHLIGHTS

- We have transitioned nearly all properties to 100% green power. This includes a mix of self-generated solar and local green power purchased from the grid.
- Our packaging has been updated to reduce GHG emissions caused by extra travel time on the road. Instead of bottles being sent to two facilities for labels, all bottles are now labeled in-house.
- As a part of our new Napa Green Vineyard certification, we performed a soil carbon analysis at our largest estate vineyard and plan to incorporate more practices in the next few years to sequester more carbon.

16% reduction in absolute emissions since 2019

Geographic scope: North America. Market-based electricity emissions reporting. Reporting time frame: Calendar year. The 2020 inventory does not include some Scope 3 emissions from purchased products, outsourced transportation, and outsourced production.



Silver Oak and Twomey Cellars (California, USA)

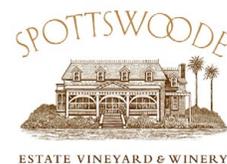


Spottswoode Estate Vineyard & Winery (California, USA)

Spottswode Estate Vineyard & Winery

IWCA SILVER LEVEL

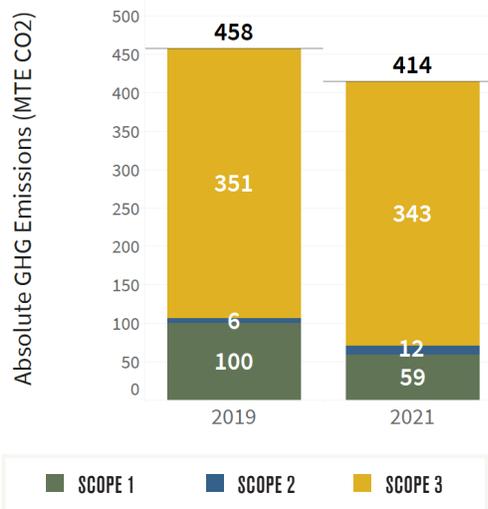
📍 California, USA
 Joined December 2019



SUSTAINABILITY HIGHLIGHTS

- We made a major shift to lighter bottles in 2022, moving from a 798g bottle to a 500g bottle for our Estate Cabernet Sauvignon. This is a 37% reduction in glass weight.
- We did a full upgrade of our winery solar array to increase generation efficiencies. We do not yet have data to share, but we were at 67% onsite generation prior to the upgrade and hope to achieve 100% onsite generation.
- We have applied for Regenerative Organic Certification (ROC) through the Regenerative Organic Alliance and are in the process of being certified.
- We have added sheep to our farming system, with 14 Churro sheep joining the Spottswode family in late 2021. We used them to graze during the early months of 2022 and are excited to continue integrating them into our vineyard practices.

10% reduction in absolute emissions since 2019



Geographic scope: North America. Location-based electricity emissions reporting. Reporting time frame: Calendar year. The 2021 inventory does not include some Scope 3 emissions from purchased products, outsourced transportation, and outsourced production.

Sula Vineyards

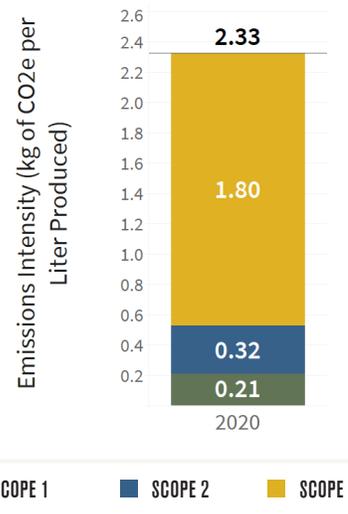
IWCA SILVER LEVEL

📍 India
 Joined July 2021



SUSTAINABILITY HIGHLIGHTS

- At York winery, which we acquired in July 2021, we have installed 180kw of solar panels and the share of renewable energy powering that facility has gone from 0% to 76% within 9 months of acquisition.
- Company-wide, we installed over 500kw of solar panels in the past year which aligns with our long-term goal to have 70% of our energy supplied from on-site solar installations. We are presently at 60%.
- 97% of our glass supply was locally sourced in the previous year as compared to only 70% three years ago, significantly reducing our supply chain emissions. We also reduced the weight of our sparkling wine bottles by almost 20%.
- We reduced our water usage per case of wine by 30% by improving our systems and by treating and reusing process water.



Geographic scope: India (States of Maharashtra and Karnataka). Location-based electricity emissions reporting. Reporting time frame: 04/19-03/20. The 2020 inventory does not include some Scope 3 emissions from purchased products.



Symington Family Estates

IWCA SILVER LEVEL

Portugal

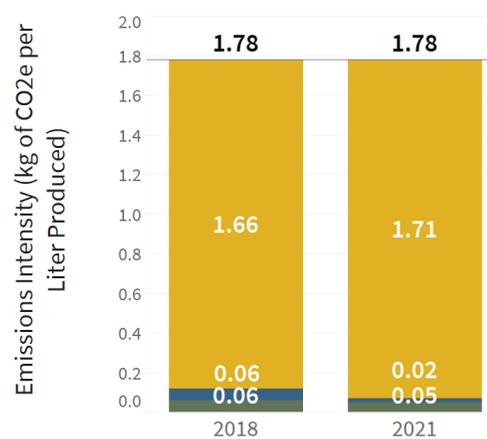
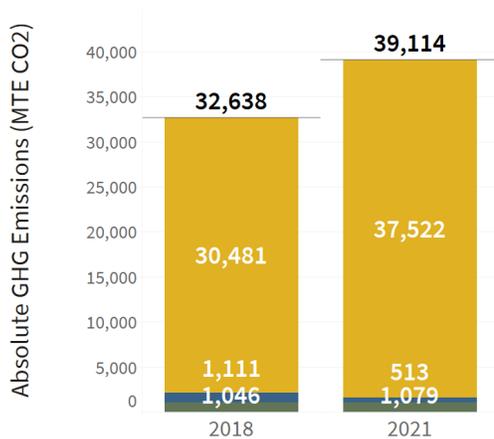
Joined December 2019



SUSTAINABILITY HIGHLIGHTS

- In 2020, we started sourcing all our electricity from 100% certified renewable sources through Portugal’s national grid. We are investing in our own on-site renewable electricity and installed an additional 501 solar panels at our bottling plants in 2022. Approximately 10% of our energy consumption is already served by owned solar panels; and in the coming months, we expect 21.9% of our electricity will be generated by our own solar panels.
- We are working to move our vehicle fleet away from diesel and petrol by transitioning to electric or hybrid. In 2021, electric or hybrid vehicles represented 13% of our fleet—reducing our CO₂ emissions by 6 tons.
- We use lighter glass bottles to reduce both the materials and CO₂ involved in production and transportation. Our packaging materials represent approximately 38% of our total GHG emissions, with 33% related to bottles. We have reduced the weight of 10 different types of wine bottles that we use—cutting our CO₂ emissions by 210 tons.

Geographic scope: Portugal (Douro Valley and Alentejo Region). Location-based electricity emissions reporting. Reporting time frame: Calendar year.



■ SCOPE 1 ■ SCOPE 2 ■ SCOPE 3

■ SCOPE 1 ■ SCOPE 2 ■ SCOPE 3

Viña Undurraga

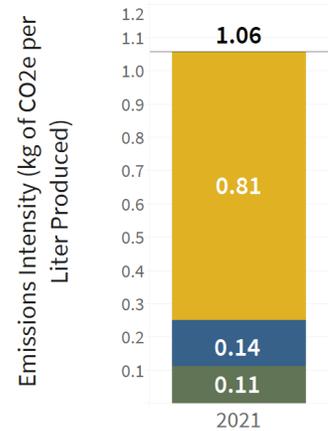
IWCA SILVER LEVEL

Chile

Joined December 2021

SUSTAINABILITY HIGHLIGHTS

- In 2021, we built a new photovoltaic installation in Santa Ana, our main plant in Talagante, which produces 955 KW/year and will cover 28.9% of our electrical needs. This year, in 2022, another new photovoltaic plant has been installed on our Leyda grounds, which will further help us reduce our electricity consumption from the grid.
- Capsules have been removed from our entire line of entry-level sparkling wines. This means avoiding 4.277 kg of capsules which equate to a CO2 footprint of 29.921kg.
- Over the last 12 months, we have switched to lighter glass bottles in our wine collection Sibaris Gran Reserva. For Bordeaux-type, we have shifted to a 65-gram lighter bottle and for the Burgundy-type we've reduced its weight by 210 grams.



Geographic scope: Chile (Maule, O'Higgins, Santiago Metropolitan, and Valparaiso Regions). Location-based electricity emissions reporting. Reporting time frame: Calendar year. The 2020 inventory does not include some Scope 1 emissions and Scope 3 emissions.

VSPT Wine Group

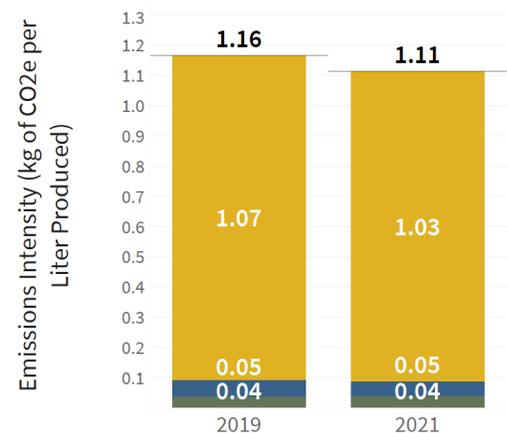
IWCA SILVER LEVEL

Chile

Joined December 2019

SUSTAINABILITY HIGHLIGHTS

- In the last year, we supplied our operation with 100% renewable electricity. We self-generated 24% of the total energy used to operate our three production plants in Chile from three sizeable renewable energy projects: a Biogas plant (in Molina) and solar panels (in all facilities).
- Our Circular Economy and Ecodesign policy, launched in 2020, outlines ambitious goals for 2030, such as achieving a 10% reduction in bottle weight across our entire portfolio. Already, 64% of our bottles are the lightest found in the Chilean market at 360 grams. Today we are holding Collaborative Roundtables with our main glass and cardboard suppliers to achieve our target and identify other innovative solutions.
- Over the last two years, we have reduced the use of herbicides by 30% and expect to continue.



5% reduction in emissions intensity since 2019

Geographic scope: Chile. Location-based electricity emissions reporting. Reporting time frame: Calendar year. The 2020 inventory does not include some Scope 1 emissions and Scope 3 emissions.



Viña Undurraga (Chile)



VSPT Wine Group (Chile)



Yealands Estate Wines (New Zealand)

Yealands Estate Wines

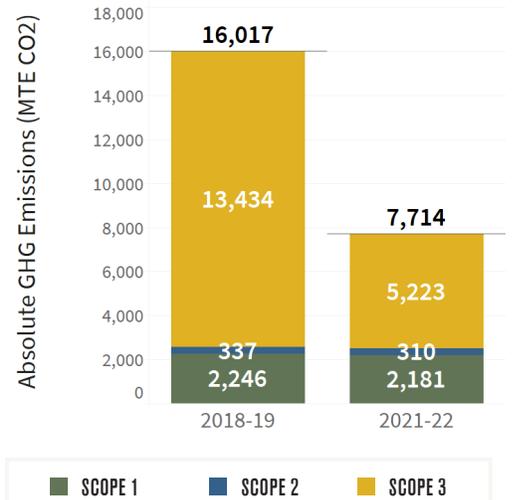
IWCA SILVER LEVEL

New Zealand
 Joined January 2020



SUSTAINABILITY HIGHLIGHTS

- Over the past year, we have developed our long-term (30-year) Biodiversity Plan, which covers over 250 hectares of land and incorporates fragile coastal and wetland environments. Implementation of the plan commenced in 2021 as we returned waterways to their original course and conducted extensive tree planting. We have also commenced an eco-sourcing project for plant propagation, with the intention of becoming an eco-sourcing hub in the Ecological district.
- We have recently applied for a resource consent to install a 4MW solar array onsite. When operational, approximately two thirds of our electricity requirements will come from onsite generation.
- Planting of cover crops within the vineyard has reduced our diesel use by 20%. The electrification of irrigation pumps will lead to further reductions.
- We are increasingly bottling in destination markets, reducing our freight-related emissions by as much as 30% on shipments.



52% reduction in absolute emissions since 2018-19

Geographic scope: New Zealand, with exports to Australia, Asia, Europe, North America, Pacific Islands, UK. Location-based electricity emissions reporting. Reporting time frame: 07/21-06/22. The 2021-22 inventory does not include some Scope 3 emissions from purchased products, outsourced transportation, outsourced production, and postconsumption. 2018-2019 is an interim baseline year; future inventories will utilize 2019-2020 as the baseline.

Our Applicant Wineries

IWCA's 14 Applicant wineries span six countries. These wineries are on track to become IWCA Silver- or Gold-level members within the next year once they complete a baseline third-party verified GHG inventory across Scopes 1-3.



Okanagan Crush Pad

📍 Canada
Joined May 2022



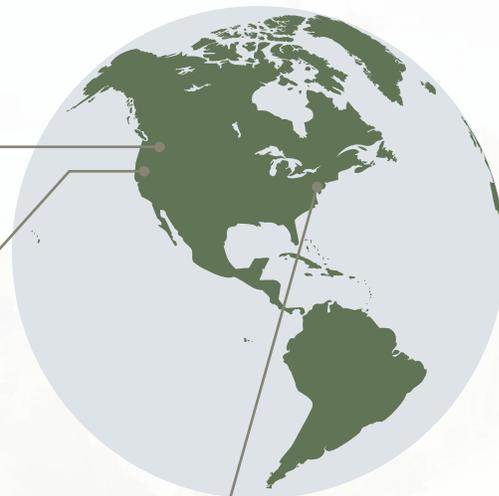
St. Supéry Estate Vineyards & Winery

📍 California, USA
Joined April 2022



Hunt Country Vineyards

📍 New York, USA
Joined June 2021





Champagne Lanson

📍 France
Joined January 2022



Domaine Lafage

📍 France
Joined July 2022



Piper-Heidsieck, Charles Heidsieck and Rare Champagne

📍 France
Joined April 2022



Famille Perrin

📍 France
Joined December 2021



Herdade dos Grous

📍 Portugal
Joined June 2022



Sogrape

📍 Portugal
Joined June 2022



Compañía Vinícola del Norte de España (CVNE)

📍 Spain
Joined October 2022



Viñas Familia Gil

📍 Spain
Joined July 2022



Altolandon

📍 Spain
Joined April 2022





Voyager Estate

Australia
Joined December 2021



Hill-Smith Family Estates

South Australia
Joined August 2021



Annex A

Inventory Scopes Guidance Document

IWCA's GHG Inventory Scopes Guidance Document outlines the protocols all IWCA members must follow when measuring their GHG emissions.

GHG Inventory Calculators

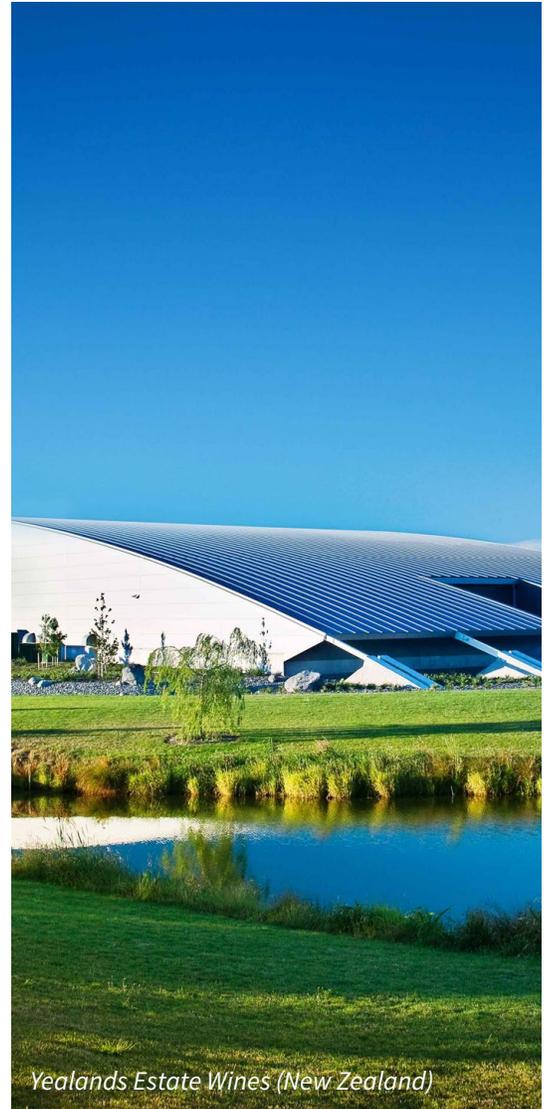
IWCA has developed three GHG emissions calculators for wineries based in Australia, New Zealand, and the US, using region-specific emissions factors. They are aligned with World Resources Institute (WRI) GHG Protocols and ISO-14064 standards and cover Scopes 1, 2, and 3.

Linear Reductions Table

The 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.

Audit Summary Form

The Audit Summary Form, to be filled out by ISO-14064-3 accredited auditors, is used to summarize an IWCA member or applicant member's verified GHG inventory.



Yealands Estate Wines (New Zealand)



Alma Carraovejas (Spain)



Château Troplong Mondot (France)



Our movement to tackle the climate crisis is only as strong as the community that powers it.

Join us.



www.iwcawine.org

