

Environmental Hotspots in Chilean Wine Industry

Pouring Over Key Facts

339
Wineries*



212,000
Hectares of Vineyards



2,300,00
Tonnes of grapes harvested



1,289,896,983
Litres of wine produced
(+35.9% compared to 2017)

*Data: 2018



A Well-Rooted and Ripening Industry

Chile boasts a long tradition of wine-making. While the popularity of quality Chilean wines has flourished throughout Europe and other continents over the past three decades, the planting of its very first grapevines date back to the 1500s.

Today, Chile is the sixth-largest wine producer in the world. Projections also show that the industry will continue to grow in the coming decades. The agricultural land allocated to wine production covers approximately 212,000 hectares (2,120 km²). About two-thirds of this land produces black grapes.

Chile's most renowned wine regions are O'Higgins, the Maule Valley, the Casablanca Valley, Coquimbo, Aconcagua and the Central Valley. Favorable natural and environmental conditions are one of the main drivers of Chilean viticultural success. With this, Chile is protected from extreme atmospheric events and pests that attack grapevines.

Cabernet Sauvignon is the most widely-planted grape variety in Chile, other wine varieties include the well-known Carmenere, Merlot, Cabernet Blanc and Cabernet Franc.

These wine varieties are also well-known for their value and quality at lower price points in the market.

The Wine Industry's Growing Importance

Chile produces around 4.4% of the world's wine. The country's annual production grew from 0.2 million hectoliters in 1990 to 12.9 million hectoliters in 2018, climbing up the ranking of major world producers and exporters.

The country's wine industry has undergone a significant transformation over the past 30 years. In the 1990s, the country expanded its export destinations to the EU market and in the 2000s to Asia, making Chilean wine one of the most famous and respected wines in the world.

Today, Chile exports almost 70% of its wine production to 150 countries, having 1.5 billion consumers per year. In 2018, Chile exported almost 903 million litres (1.2 billion bottles) to the rest of the world, with a revenue equivalent to US \$2 billion.

Wine tourism in Chile has achieved international recognition. Wineries, the wine regions and Chilean vititourism are regularly promoted in international media publications and channels. An estimated number of 611,000 tourists visit Chile's wineries on an annual basis, mostly in Maipo, Colchagua and Casablanca Valley.

Top importers of Chilean wine in 2018

China	15,00 %
United States	12,00 %
Japan	9,30 %
United Kingdom	9,10 %
Brazil	6,60 %
Lebanon	5,70 %
Netherlands	4,70 %
Canada	4,20 %
Germany	3,00 %

Environmental Touchpoints in the Chilean Wine Industry

Chilean wine production has progressed remarkably in terms of environmental sustainability, yet the industry is still working towards a number of important areas of improvement:

Soil Erosion & Degradation

Land degradation including desertification and accelerated soil erosion are a source of concerns for Chile and its economy. Soil degradation and erosion can come from several sources, but it is mainly from extensive agriculture.

The VI region (also known as O'Higgins Region), south of Santiago is an agricultural area with 32,500 ha

(325km²) of planted vineyards. Much of this land area has been subjected to severe soil degradation as a result of the soil erosion processes. The O'Higgins Region is not the only region in Chile facing similar challenges.

Soil erosion is common in vineyards alongside the Andes Mountain range. Erosion rates in this area vary between 0,001 and 0.5 mm per annum, resulting in a low to moderate level of soil erosion.

Although the country has already begun integrating soil conservation practices into all agricultural activities, in order to tackle this challenge, soil erosion is affecting about 60% of the country's land area with severe impact in at least 22% of the territory.

In vineyards, the most common driving factors for soil erosion are the extensive use of chemicals, heavy machinery and farming practices. Ultimately, these practices all lead to exhaustion of minerals from the soil, rendering it infertile.

Water Shortages & Issues Facing Irrigation Water

Over the past decade, Chile has been subject to a phenomenon known as "mega-droughts". Annual precipitation has decreased in most regions of the country. These changes in precipitation frequency have led to the creation of an agricultural emergency

zone being declared that covers six of the country's 16 regions. Chile's drought has cut water availability by 37%, while water reservoirs are 23% short of required volumes.

Chile's Metropolitan region, where 40% of Chile's population lives (7 million citizens), faces unprecedented water shortages that is expected to worsen due to climate change. In addition, the O'Higgins, Maule Valley, Atacama and Coquimbo region, are working to a critical deficit. For example, the Maule Valley region which is home to the largest vineyard acreage in Chile (34,500 ha of black grapes and 10,500ha of white), has already started exhausting its water resources.

To tackle this challenge, the country is replacing its traditional methods of irrigation with more sophisticated means (sprinkler and drip irrigation). In fact, agricultural sectors, including the wine sector, are all modernizing their irrigation systems aiming to have greater efficiency and water savings between 20-30%.





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Air Emissions from Transportation & Bottling

Transportation of goods across land, sea and air presents economic opportunities but also significant environmental challenges, due to air pollutants and greenhouse gases.

On average, each bottle of wine generates 1.5kg of CO₂ during its commercial lifetime. Considering Chilean wine exports, in 2018 exports of 1.2 billion bottles generated emissions of approximately 1800 tonnes of CO₂ into the atmosphere.

Most CO₂ is produced and released into the atmosphere by transport and by packaging choices. Transport generates between 55% and 65% of all CO₂ generated in the production, packaging and distribution of wine. The crucial factor for air emission is not the distance travelled by the product, but the mode of transport used. For example, sea transport is the least carbon intensive mode of transport, while transporting wine in bulk and bottling it close to its destination could potentially save 35%-50% in transport CO₂.

The Chilean wine industry is aiming to minimize its carbon footprint by choosing to transport the majority of the wine produced by sea. It has been calculated that transport CO₂ emissions on a light-weight glass bottle transported by a cargo ship from Valparaiso, Chile to Rotterdam are approximately 780g. If transported in bulk, however, transport of the wine from Chile would generate around 445g of CO₂. In this context, it is also important to consider that Chilean winemakers are considering the integration and use of more sustainable packages. This will position the Chilean wine industry as a leader in sustainability.

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amfori supports its members to identify and mitigate risks in the Chilean Wine industry. Our activities in Chile include:

- ✓ **145 vineyards and wineries** on the amfori BSCI Platform
- ✓ **35 Audited Wineries** between 2013 and 2019
- ✓ **35 participants in training** programmes
- ✓ **16 participants in the Roundtable** "Transparency and Integrity for the Wine Sector".

Click here to see amfori's sustainability activities in the wine industry.

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