

Environmental Hotspots in the South African Wine Industry

Fast Facts

542
wineries



824,000,000
Litres of wine produced



93,021
Vineyards (hectares)



1,220,920
Tonnes of grapes harvested



50%
of wine was exported

*(Data from 2018)



A Well-Rooted and Ripening Industry

South African wine traditions date back to 1659, when the country's very first vintages were produced in Cape Town.

Today, South Africa is the ninth-largest wine producing market globally. The country's agricultural area in terms of grape cultivation is around 93,021 hectares (930km²), with an even balance of red (44.8%) and white varieties (55.2%) grown across these vineyards.

In terms of climate, South Africa's temperate Mediterranean temperatures (-2°C to 36°C), as well as a high level of rainfall between May and August are natural explanations for the country's high ranking in terms of production and quality.

Some of the country's finest wine varieties are Chardonnay and Cabernet Franc. Today, South Africa exports almost 50% of its wine, with Europe being its most important export market.

The Wine Industry's Growing Importance

South Africa produces around 3.4% of the world's wine and has seen an enormous growth in the last decade, with exports of wine more than doubling between 2005 and 2015.

Although the quantity of wine produced in the last 4 years has remained relatively stable, the quality of wine deriving from this country has significantly improved, reinforcing the local economy and providing hundreds of thousands of jobs.

The South African wine industry employs an estimated 300,000 people, directly and indirectly. Indirect employees are mainly involved in activities such as packaging processes, retailing as well as wine tourism.

The wine industry has also generated a major stream of revenues for the country. In 2018, South Africa exported 420 million litres of wine which were equivalent to €663m of revenue. South Africa's wine industry also contributes to the country's Gross Domestic Product (GDP), covering 9% of total GDP for the whole country – this includes the wine products, but also wine tourism and secondary activities related to the sector.

Enotourism is also on the rise. In the last four years, wine tourism has increased by an average of 10%. South Africa's tourism industry is increasingly geared towards wine: 60% of visitors arrive exclusively for enotourism to enjoy the country's distinguished wineries. These tourists then purchase around 18% of total wine production in South Africa, valued at €36m in revenue.

Building an Environmentally Responsible Industry

In the last decade, South Africa has addressed major environmental challenges related with the country's wine industry. The most pressing hotspots are:

Scarce Water Supply *Awash with Challenges*

2018 was the third consecutive year of below-normal precipitation in South Africa. Most vineyards are located in the Western Cape and this region has already exhausted many municipal and agricultural water reservoirs. Dam water levels fell to an average of 21.4%, while the bottom 15% is unusable due to water pollution.

Approximately 2m³ of water is required to crush one tonne of grapes. With 1,220,920 tonnes of grapes harvested in 2018, the wine industry consumes about 2.44 million litres of water annually.

Water scarcity may set wine growers back of a decade or more, as grape vines take years to mature.

The unavailability of natural water resources has also impacted the

local community, as workers on South Africans farms through a lack of access to proper sanitation or drinking water. The national department of water & sanitation is considering whether water restrictions are necessary for residents and businesses. A decrease in vineyard yields would result in a decrease in jobs, which would in turn, increase unemployment.

Wastewater Generation *A Murky Issue*

The South African wine industry has a high rate of wastewater generation. On average, 1.1m³ of wastewater is generated per tonne of grapes crushed. Although wastewater is produced in several stages of the winemaking process, small wineries generate almost 80% of their wastewater during the harvest period, whereas medium to large wineries may generate up to 50% during the vintage period (from harvest till the final product).

This can negatively affect both the society and the environment. On the one hand, poor wastewater management might cause infections and other human diseases. On the other hand, the disposal of wastewater can cause the salinisation¹

Top importers of South African wine in 2018

| | |
|-------------|---------|
| UK | 12.62 % |
| Germany | 11.16 % |
| France | 3.15 % |
| Netherlands | 2.42 % |
| Denmark | 2.42 % |
| Russia | 2.18 % |
| USA | 1.57 % |
| Belgium | 1.33 % |
| China | 1.21 % |

of water resources, soil sodicity (accumulation of sodium in soil) and soil contamination with chemicals.

Energy Consumption *Fueling Responsible Growth*

The wine industry is energy intensive. Since South Africa is heavily reliant on coal, high carbon dioxide emissions are a result of day-to-day industrial processes. It approximately takes 2,618 GJ (Gigajoules - 1 Billion Joules) of energy (727,000 kWh "Kilowatt Hours" of electricity) to process one tonne of grapes into a finished product, such as bottled wine.



¹ Salinisation is the accumulation of salts in water at levels toxic to humans



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amfori

Avenue de Cortenbergh 172
1000 Brussels - Belgium

Phone: +32 2 762 05 51

E-mail: info@amfori.org

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In 2018, more than 1.22 million tonnes of grapes were processed, more than ever before. This intensive activity led to carbon dioxide being emitted into the atmosphere. Last year, the gases can be estimated at 1.22 million tons of CO₂ being emitted across the country.

Carbon dioxide is also generated and released during the bottle-making process. For every standard bottle of wine produced, between 0.41 kg and 1.6 kg of carbon dioxide is released. In addition, as almost half of the South African wine is exported to other continents, CO₂ emissions are generated in the process of transportation.

Chemical Management Chain Reactions

The use of chemicals is typically a hazardous process in wine related activities. However, South African farms and wineries are actively tackling this risk by adhering to voluntary integrated production protocols.

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amfori support its members to identify and mitigate risks in the South African Wine industry. Members and producers who have signed up to the amfori Sustainable Wine Programme include:

- ✓ **195 vineyards and wineries** on the amfori BSCI Platform (South Africa)
- ✓ **47 Audited Wineries** between 2017 and 2019
- ✓ **195 participants in training**

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