



# THE FUTURE OF PREMIUM DRINKS

A GUIDE TO TRUE ENVIRONMENTAL,  
SOCIAL AND FINANCIAL SUSTAINABILITY

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# MITIGATION, ADAPTATION AND RESILIENCE

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Until recently the conversation around responding to climate change has been focused on mitigation. Mitigation really means *prevention*. The trouble is that the developed economies – where the majority of emissions originate – have fallen behind in preventing emissions. They are still rising and are yet to peak.

Professor Kimberley Nicholas has authored many papers on how wineries are impacted and responding to climate. Professor Nicholas makes it clear that we have to both prevent or mitigate climate impacts but also prepare for those we cannot avoid with adaptation: “I just don’t want it to sound like we can choose between them at this point. We need them both, because suffering is not a good option.”

Adaptation techniques are ultimately building resilience, and much work is

now being done to look at ways to adapt to increasing challenges. One of the most exciting and rapidly growing areas of resilience building is in regenerative farming and viticulture.

## REGENERATIVE AGRICULTURE

Professor Nicholas recently supervised a masters thesis on regenerative agriculture to help better define the practice more clearly. She says: “I think of it as farming with rather than against nature. So using ecological principles to help grow food, or wine in this case, in a way that is not trying to fight nature, but rather work with it. A lot of focus on regenerative agriculture is on rebuilding soil and rebuilding and maintaining soil health – including organic matter and carbon in the soil, which also fights climate change.”



It is the suite of benefits that regenerative agriculture offers that is making it one of the hottest topics of 2022. Last year Spain's largest wine producer Familia Torres<sup>[3]</sup> announced that they are starting to farm regeneratively and this is echoed across many other regions now around the world.

By rebuilding soils, adding cover crops and other techniques, resilience against erosion from heavy downpours, run off and soil moisture evaporation is increased. Professor Nicholas adds: "Soil globally contains about twice as much carbon as the atmosphere. The more carbon we can keep in the soil or help the soil take out of the atmosphere is directly fighting climate change." In this way regenerating soils falls both into the mitigation and the adaptation category which has enormous potential for viticulture across the world.

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**WE ARE ADOPTING  
DIFFERENT COUNTER  
MEASURES IN BOTH  
VINEYARD AND CELLAR. ”**

*Antonio Rallo – CEO, Donnafugata*

### **CASE STUDY: DONNAFUGATA**

Sicily so far has been spared from particularly strong impacts as maximum temperatures are lower than in the south of Europe,” explains Antonio Rallo, who runs Donnafugata with his brother Jose. “Despite this, we are adopting different countermeasures in both vineyard and cellar. We are rediscovering old varieties of grape for their resistance and viticultural potential, grafting new more resistant rootstocks, cutting out herbicides and chemical fertilizers, reducing the use of agro-pharmaceuticals to a minimum and using green manuring, organic fertilisation, emergency irrigation and thinning, thus reducing the use of natural resources such as soil, water, air and power.

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# FINANCIAL SUSTAINABILITY



Although often overlooked, fiscal stability is a critical component of sustainability and is under rising pressure from a multiple sources – including transportation, inflation, climate impacts, and more recently Russia’s war in Ukraine.

With regard to climate costs, Jesse Twartz, Senior Risk Analyst at Zurich Australia gives this example of a direct impact: “The profits of one of our winemaker customers were hit when it was forced to repackage their premium wine under a different, cheaper brand as their fruit had been smoke-tainted and the wine’s flavour profile adversely impacted.”

Spirits producers reliant on the market prices for grain will have to contend with rising prices. Russia and Ukraine combined account for 30% of exports – and it currently unknown as to how much, if any, they will be able to supply in the coming year.

This also comes on top rising prices from China and other locations around the world due to climate change impacts. World food prices hit an all-time high in March 2022, and the FT reports<sup>[4]</sup> that the global gap between supply and demand could raise food prices by a further 8-22% above currently elevated levels.

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*Jesse Twartz, Senior Risk Analyst  
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# SOCIAL SUSTAINABILITY



Sustainable communities require societies to create the conditions that allow people to have quality jobs that stimulate the economy while not harming the environment.

## FAIR LABOUR PRACTICES

On the social front, winemaking is labour-intensive, especially in regions of the world where the hilly and rocky terrain does not accommodate machinery well. In the summer of 2020, the natural wine world – where processes are ostensibly more sustainable and equitable – was rocked by a scandal in which an Italian winemaker was implicated in accusations of abusive labour practices. In today's world of viral news spread and cancel culture, the winemaker's business suffered financial and reputational damage.

This incident served to stimulate dialogue on what fair labour practices are. It also underlined how interconnected the industry

is: a labour issue for a brand that stakes its reputation on being more conscious does not remain an isolated local issue.

In response, some importers have started to request that labour statistics be reported. One importer, Super Glou, uses the recognisable format of nutritional facts label<sup>[5]</sup> which highlights the size and nationality of the picking crew, total number of hectares owned and bottles produced, length of harvest and workday, housing and meals provided, as well as farming philosophy (see Fig 1. below).

The sustainability evangelist Michele Manelli, from Salcheto Wine Estates in Tuscany, says that migrants who arrive in Italy must be given a better chance in life by being given work permits, fair salaries and jobs in wineries where traditional labour is in short supply.

British author and academic in environmental change at Leiden

University, Dr Paul Behrens, says that by the year 2030 the workforce in the EU will be reduced by approximately 1.5 million people each year as birthrates decline and the elderly retire [6]. This forecast alone makes Manelli's case even stronger, as well as the need for a rethinking of attitudes and policy towards migrants throughout the European Union. It is also important to note that this is not a phenomena unique to Europe – population models also forecast a potential decline in China's birthrate of 900 million people by 2100.

Many producers and brands are leading the way in taking action to address social inequality both inside their organisations and in their extended communities.

A good example of positive outcomes is with Sicilian wine producer, Donnafugata. At Vintaly in April 2022 they outlined their active programme of gender equality within the company and support of wider projects – including a cultural project with the University of Pisa who are undertaking archeological excavations in Sicily. They also sponsor a young athlete with a disability who is training for the national tennis team.

In the north of Italy, Pasqua wines have developed programmes with young creatives to help finance their education and career development paths.

### ACCOUNTABILITY & ASSESSMENT

Governance standards can also be of great influence in the social area. For example, more and more wineries and industry-adjacent companies are seeking Positive Luxury's Butterfly Mark certification. The assessment looks at best practice beyond the vineyard, from the ingredients to supply chain, and re-evaluates companies every two years to ensure that the standards are continuously followed across ESG+ (environmental, social, governance and innovation).

# Labor Facts

Winery founded in 1999

**Vineyard size** 8 ha (19.8 ac)

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**Workers per harvest**

# People 13 -15

**Holger Koch**

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**Country** Germany

Baden

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**Total Production** 50,000 bottles

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**Viticulture** organic, last certified 2014

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**Length of harvest** 15 -20 days

Pinot Gris (4 days)

Pinot Blanc (4 days)

Pinot Noir (5 days)

Chardonnay (2 days)

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**Length of workday** 6 -10 hours\*

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**Owners** Holger Koch and Gabriele Engesser

**Helpers** Family, friends, 5 people from East Poland close to Ukranian border; they are friends, or rather family.\*\*

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\*To take advantage of the coolness of the morning hours, we usually start at 7:30 a.m. At noon we have a lunch break, usually an hour. If it is very warm [we break for] 2 hours.

Working days in harvest vary in length, depending on the weather and the degree of ripeness of the grapes: 6-10 hours a day, excluding Sunday. We pick all grapes by hand, therefore we often have to hurry up to get the grapes in good condition in our cellar, ripe but not overripe, fresh but not sour - so tasty that you want to bite straight into the grapes.

\*\*Since we founded our winery in 1999, our picking team is German-Polish. During the rest of the year, Heiner, one of the harvest helpers from Poland, is assisting us in cutting back the vines. In May-July, he returns with his wife Alina to help with [pruning] and labeling the special American labels, coming back in harvest for the last 15 years. Holger's parents still help a lot during the whole year, sometimes our two children, one day a week during the whole year and in harvest more.

The seasonal workers' apartment is part of one of our two buildings [on our property, the other being our own home which contains the winery]. Three twin bedrooms, two bathrooms and a common room with a kitchenette and best of all is the possibility to sit outside – view direction France, sunset!

- Winemaker Notes

Fig 1. Importer and distributor Super Glou have been developing ways to standardise reporting of human operations across winemakers

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## CITATIONS

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- [<sup>1</sup>] <https://www.ipcc.ch/working-group/wg3/>
- [<sup>2</sup>] <https://www.oiv.int/public/medias/8726/en-oiv-2021-world-wine-production-first-estimates.pdf>
- [<sup>3</sup>] [https://torres.hosting.augure.com/Augure\\_BT/default.ashx?WCI=EmailViewer&id=99516efb-12fe-4532-9b8e-ff87d7a4d995](https://torres.hosting.augure.com/Augure_BT/default.ashx?WCI=EmailViewer&id=99516efb-12fe-4532-9b8e-ff87d7a4d995)
- [<sup>4</sup>] <https://www.ft.com/content/5212871a-d2d3-41ef-99fe-400ed33859e8>
- [<sup>5</sup>] <https://www.superglou.com/new-glou>
- [<sup>6</sup>] <https://genn.cc/blog/dr-paul-behrens-population-consumption-climate-change/>
- [<sup>7</sup>] <https://www2.deloitte.com/uk/en/pages/consumer-business/articles/sustainable-consumer.html>
- [<sup>8</sup>] <https://www.sestrasystems.com/carbon-footprint-of-a-bottle-of-wine>
- [<sup>9</sup>] <https://www.bloomberg.com/news/articles/2022-04-12/stripe-alphabet-meta-join-to-fund-carbon-removal>
- [<sup>10</sup>] <https://www.oiv.int/public/medias/7949/2021-oiv-collective-expertise-document-sustainable-use-of-wa.pdf>
- [<sup>11</sup>] <https://www.bacardilimited.com/media/news-archive/worlds-favorite-bacardi-rum-recycles-water-in-good-spirited-initiative/%23:~:text=Since%252520the%252520Company%252520began%252520tracking,the%252520production%252520of%252520BACARD%252520C3%252520D%252520rum.>
- [<sup>12</sup>] <https://www.positiveluxury.com/2021/10/27/biodiversity-the-macallan/>
- [<sup>13</sup>] <https://www.climatesignals.org/climate-signals/atmospheric-moisture-increase%23:~:text=A%252520warmer%252520atmosphere%252520holds%252520more,more%252520moisture%252520as%252520it%252520warms>
- [<sup>14</sup>] <https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/cautiously-optimistic-chinese-consumer-behavior-post-covid-19>
- [<sup>15</sup>] <https://www.shine.cn/feature/taste/2112249958/>

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## ACKNOWLEDGEMENTS

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 Belevdere Vodka  
 The Macallan



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