

Adaptive Value Chains Case Study

Treasury Wine Estates wine

The impacts of climate change are felt along the whole chain of businesses that produce, handle, process and market agri-food products. Whilst there is a growing level of concern about impacts on chains, there is still minimal guidance for companies to understand and act on this risk. Featuring insights from value chain analysis, consumer research and carbon and water footprint assessment, this case study demonstrates how supply chain management competitive strategies support chain-based climate adaptation and mitigation.

The Treasury Wine Estates wine value chains

Treasury Wine Estates (TWE) is one of the world's largest wine companies. Its chains carry a multiplicity of brands and products, sold in over 70 countries across the world. The company operates large scale winemaking and bottling facilities in key new world wine regions, as well as smaller facilities for iconic brands.

TWE has a complex value chain due to the company's size, the range of products and brands that it carries, and its goals of achieving efficiencies through optimal use of company assets. To manage this complexity, TWE is involved in all levels of the value chain including: owning and managing vineyards, winemaking, bottling and distribution functions.

Impacts and adaptation along the chain

The wine industry is experiencing the impacts of climate change (Figure 1). For example, harvesting periods are changing, affecting scheduling of logistics and receivals at wineries. Extreme events impact wine production operations at all stages of the chain. As a result, TWE carries a significant amount of risk in terms of asset exposure to climate change impacts.

The company is addressing this risk by mobilising value chain assets to remain flexible and agile when needed. This enables the company to reduce the impacts of change through strategies on another node of the chain. The examples of adaptation options in response to impacts shown below demonstrate this.

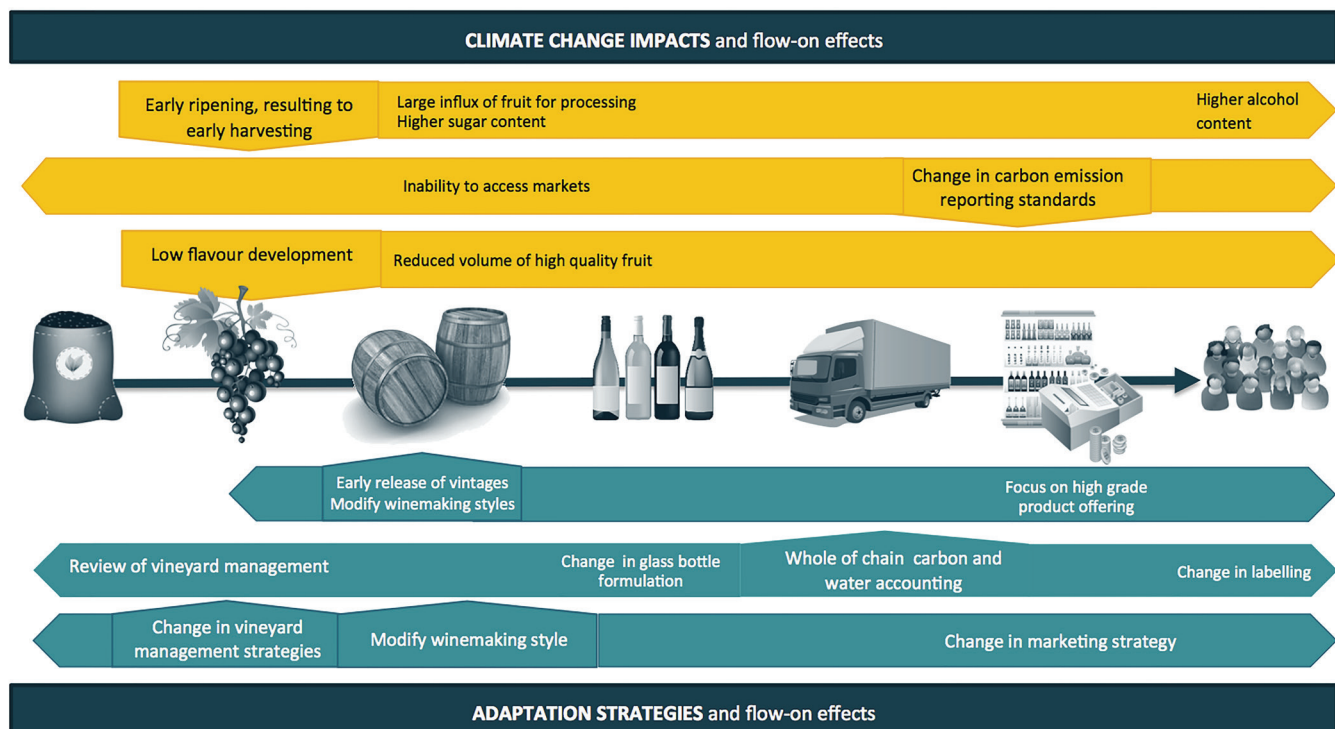


FIGURE 1

Examples of how climate change impacts and adaptation along value chains can have direct, and indirect, effects on multiple stages along the chain

Consumer perspectives of adaptation¹

Consumers have the potential to drive adaptation along the chain, especially if adaptation strategies create additional value that consumers are willing to pay for. Wine is a high involvement product, one that consumers tend to have a deeper emotional attachment to. Competition for consumer dollar is high, with a significant range of brands and products in this category. Quality, pricing and reputation are key considerations for consumers when purchasing.

Consumers are open to supporting adaptation in wine, particularly if it is in response to a product or brand that they are loyal to. This indicates that any adaptation occurring along the chain needs to be considered from a marketing perspective for its potential to increase consumer value.

Carbon and water footprint assessment²

Information from carbon and water footprint assessments can help a chain understand the physical, financial and reputational risks associated with climate change and the adaptation possibilities. A screening level assessment was designed to identify hotspots in the carbon and water availability footprints of selected wine supply chains of TWE.

The carbon footprint of the selected TWE range (cradle to distribution hub and including returns) was assessed as Category D (5 to <10kg CO₂e per L wine, Figure 3), with distribution having the greatest contribution (74%). On the other hand, the consumptive water use for single region wine was assessed as Category C (50 to <500L H₂Oe kg, Figure 3). Values vary year on year, largely due to irrigation demand. On the other hand, multi-region wine has higher consumptive water use, but still within the same category, due to the variation in climate of source regions.

The two value chain hot spots for TWE products are distribution (carbon) and wine grape growing (water). Operationally, these two hotspots present actionable options, i.e. reduction of bottle weight, reduction of evapotranspiration.

However, indirect impacts of climate change (Figure 1) present another hotspot: market access. Inability to meet market access requirements will limit TWE's growth potential. The company has been addressing this through its involvement in Entwine3, carbon and water footprint assessments, and actively addressing the hotspots previously identified.

¹ The summary report is available on:

<https://publications.csiro.au/rpr/download?pid=csiro:EP148832&dsid=DS2>

² For further information about the use of carbon and water footprint assessment for this project, and categories, see the paper 'Climate Change Adaptation Strategy in the Food Industry – Insights from Product and Carbon Footprints' on:

<http://www.mdpi.com/2225-1154/4/2/26>

³ Entwine Australia is as an 'umbrella' sustainability program developed by the Winemakers' Federation of Australia (WFA). The program provides benchmarking tools and resources to enable planning, evaluation, control and communication.

http://www.awri.com.au/industry_support/entwine/

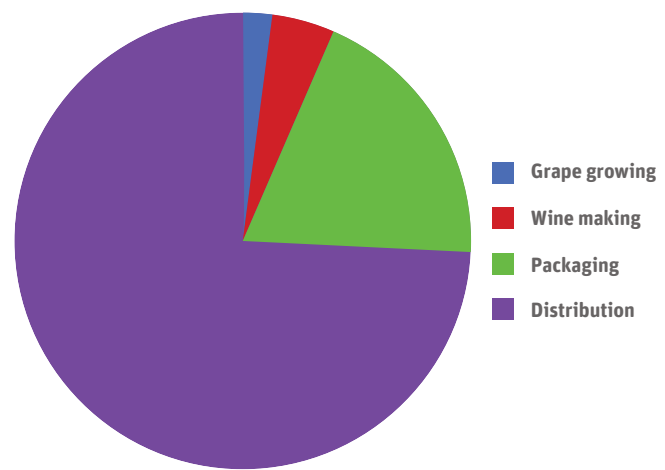


FIGURE 2

Profile of life cycle GHG emissions (CO₂e) for one Treasury Wine Estate product supply chain, 2007-10 data

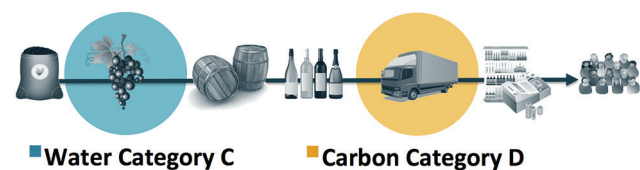


FIGURE 3

Carbon and water footprint hotspots along the TWE value chain

This case study demonstrates how interdependent value chain activities are, reinforcing the importance of considering the whole value chain when understanding the impacts of climate change on a business. It also demonstrates how supply chain management strategies are utilised as an approach to adaptation. Lastly, this example illustrates the nexus between adaptation and mitigation. In business, these lines blur with the potential to be addressed hand-in-hand to harness the competitive merit of a strategy.

FOR FURTHER INFORMATION

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