



SWR Members' Meeting  
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Virtual Event

Presentation by  
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# SWR Member Driven Project

## Wine Bottle Weight

### Findings and recommendations



# Aim of the project

- To define an evidence-backed collective position for SWR on wine bottle weight:
  - NB - This study focused on 750ml bottles for still wine.
- As the basis for a '**SWR Bottle Weight Pact**'.
- To do this by exploring:
  - What is a '**lightweight**' bottle?;
  - The challenges which might exist to the wider use of lightweight bottles in practice;
  - How these challenges can be addressed.
- This research has **NOT** looked at the wider issues e.g. alternative formats, reuse etc.
  - However, important to be aware of wider context.

*"What is a lightweight bottle, and how do we address the '**yes, but what about...**' objections which might be raised?"*



# The research process

- **Based on:**
  - Interviews with members and non-members throughout the wine supply chain;
  - Review of a significant amount of academic, practitioner and industrial research papers;
  - Discussion of key issues with relevant specialists to sense check interim conclusions.
  
- **Outputs**
  - Detailed evidence base on key issues relevant to bottle weight reduction;
  - Key findings about how lighter weight bottles can be used consistent with existing infrastructure of the wine supply chain;
  - Clear recommendations for action, over time, for collective action by SWR retail members. Including:
    - Supporting actions needed to make the strategy work;
    - A clear position on other issues relevant to wine bottle's carbon impact which is needed to provide; credibility to action on the narrow issue of bottle weight.



# Why address bottle weight?

- **For the global wine industry:**
  - The single biggest element in wine's carbon footprint.
  - Manufacture:
    - Transport
  - Other important operational issues:
    - Health, Safety and Environment (HSE)
    - Wear and tear on equipment
- **For SWR:**
  - A means of demonstrating value of collective action:
    - Getting a score on the board
  - Way of getting into wider debates around wine packaging.
- **For members:**
  - In addition to the above:
    - Reduction in upcoming charges such as post-consumer waste levy
    - Addressing Scope 3 emissions





# So if it's so obvious, why the problem?

- **Challenges to reduction in bottle weight:**
  1. Consumer perception: heavy bottles = better quality wine.
  1. Brand owners like heavier bottles:
    - This affects the attitude of merchandising teams in retail
  1. Lightweight bottles are more fragile therefore higher breakage rates.
  1. Greater fragility means use of additional other packaging like cardboard, so carbon savings in use of less glass are lost.
  1. Bottle makers make less money on light weight bottles therefore there are fewer light weight moulds available.



# What do we mean by ‘lightweight’?

- **‘Lightweight’** in comparison with what? What is **‘normal’**?
  - Range of bottles currently in members’ supply chains range from 335g to 2650g.
  - Average is around 550g:
    - One retailer member’s average, 543g
    - Alko’s research defines a *‘traditional glass bottle’* as being 540g
    - The author’s average (based on recycling bin in Jan), 559g
- So what is **‘lightweight’**?
  - Currently seen as being 420g.
  - However, expert commentator believes that *“350g bottles could probably be used in a large proportion of the wine industry now without major problems.”*
- Key is **‘right weighting’**:
  - What weight bottle can be used reliably without the need for significant alteration in the current supply chain infrastructure?



# Key areas of exploration

- **Market side**
  - Consumer perception.
  - Perceptions of (some) brand owners and merchandising teams.
- **Supply side**
  - Operational issues in addressing perceived fragility of lighter bottles.
  - Economics of bottle manufacture.



# Market side issues

BUILDING A COMMON VISION FOR SUSTAINABLE WINE





# Bottle weight

- Some consumers **DO** associate heavier bottles with better quality/more expensive wine.
  - *“The results of the questionnaire revealed a consumer trend toward associating the weight of the bottle, the price of the wine, and its quality.”* (Food Quality and Preference 2011).
- Some evidence suggests this is more associated with novice wine drinkers (Wine Economics and Policy, 2012).
- How far is it possible to tell the difference
  - *“Participants struggled to detect a 5-10% difference in glass container weight...”* (WRAP, 2007).



# Labels

- **Front labels**

- *"Bottle labels are particularly relevant to the decision-making process, especially for infrequent wine drinkers, who have been shown to rely heavily on labelling information."*

- **Back labels**

- *"half of the respondents [in a study]... mentioned that they used them when making purchasing decisions,"*





# Other factors

- 'Ethnocentrism'
  - People more inclined to buy wine from the country/ region they come from
- Price
  - Most studies show this to be the key factor in customer choice
- The wine itself
  - Food matching
  - People want the experience of drinking it!
- History
  - Recommended by friends
  - Tried before
- Impact of on-sales, an on-line
  - Customers do not see/feel the bottle before purchase

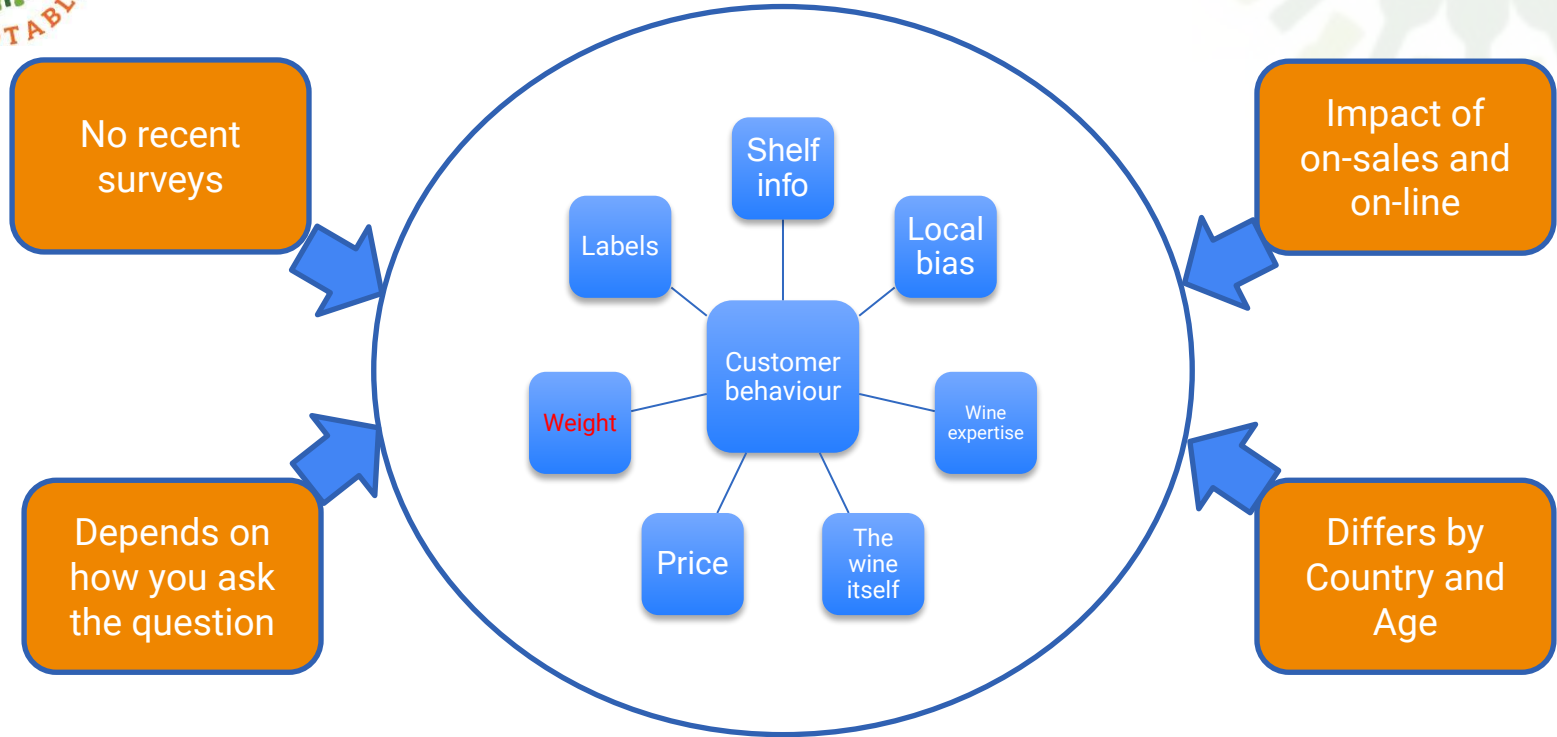


# Data challenges

- There has Not been any work carried out for 5-6 years:
  - Since then, focus on sustainability much greater
- Issues vary depending on:
  - Location
  - Age
  - Experience in wine
- Depends on how you ask the question:
  - Aldi study, cf
  - *"...consumers make choices based mainly on the unconscious processing of cues and direct questioning provides erroneous results."*



# Understanding drivers of consumer behaviour





# Other market-side challenges

- **Brands**

- *'Iconic'* bottles from origins like Châteauneuf-du-Pape, Amarone and Napa.
  - Increasing evidence of change, for example:
    - Bottles *"used to weigh 798 grams...and we reduced them to 564 grams."* (Spottswoode Winery)
    - *"There's that assumption there's going to be consumer pushback, [but] even at the highest level of wine price, there's been zero pushback."* (Crimson Wines)

- **Retailers**

- *"We'd love to use lighter bottles, but many retailers insist we use a bottle that is 1kg for our premium wines."*
- *"I started using light weight bottles for my whites, but was told that my wine was too good to be in bottles that weight."*



# Supply side issues

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# Light weight bottles in practice

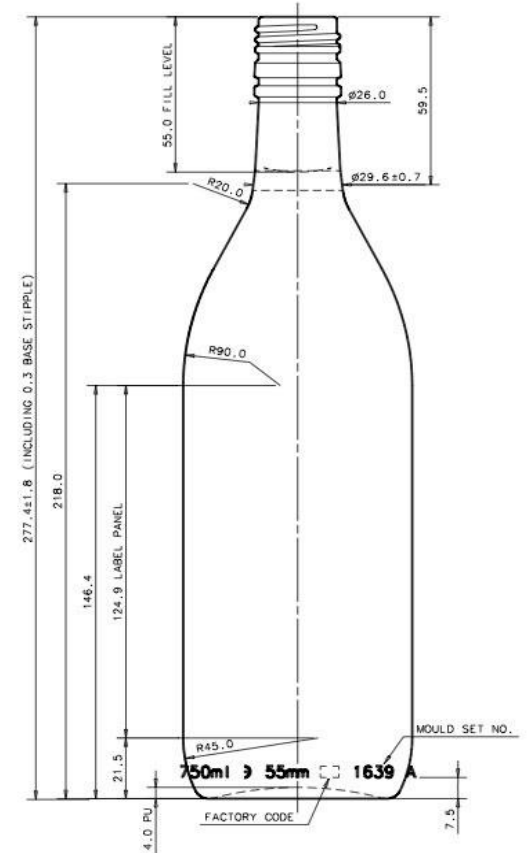
- *“Bottles as light as 350g can be used on most filling lines with only relatively slight tweaks needed in those lines’ operation.” (UK)*
- *“I’ve been using 390g bottles on my mobile filling line for several years with no real problems.” (France)*
- *“We’ve moved from 750g to 600g, and now to 417g, and we’ve not seen any significant increase in breakage rates. We’re now looking at a 380g bottle.” (New Zealand)*





# Lightweight bottle engineering

- Not just about the same moulds with less glass.
- More careful engineering needed.
- Key points:
  - Even distribution of glass
  - Contact points
  - Smoother shapes
  - Reducing the punt
- 'Iconic' shapes only potentially compromised at c310g.





# Effective management of bottling lines

*"Many bottling line operators have got used to the idea that normal weight bottles are pretty much bullet proof. They need to take a bit more care with lighter weight ones."*

- Need to avoid 'micro-fractures'.
- Key, therefore, is managing lines more carefully:
  - Avoid contact with materials harder than glass, eg metals
  - Use plastic/ nylon tools and guides
  - Avoid frequent start/ stops
  - Gradual acceleration of the line
- Work planning:
  - Longer runs
  - Use bottles with the same height and footprint.



# Key areas to address in manufacture



**Quality testing**



**Packing of empty bottles**



# Key areas to tackle in bottling



**Depalletization**



**Materials on the filling line**



# Key areas to tackle in bottling



**Line management**



**Care with full bottles**



# Key areas to tackle in bottling



**Labelling**



**Packing for onward transport**



# Implications for additional packaging

- In many, but not all instances, more additional packaging will be required:
  - Need to design what is appropriate, for freighting means and distance.
- Any increase in carbon from cardboard hugely offset by savings in carbon from glass (Data from *Journal of Cleaner Production*, 2017).
  - Contribution to carbon footprint:
    - Glass 45.6%
    - Cardboard 3.1%
  - Assuming 'normal' bottle 550g reduced to 420g – 24% weight saving, glass contribution to carbon footprint would reduce to 34.8%:
    - Even if cardboard increased by equivalent proportion, would only be 3.8% contribution to carbon



# Recycling and reuse

- **Recycling**

- Recycling rates vary massively by location.
- Impacts on cullet availability.
- Implications for lightweight glass of imperfections from cullet:
  - Further work needed on weight/ recycled content matrix

- **Reuse**

- Nice idea but impractical at scale at present in most locations.
- Lack of evidence that, in practice, there are carbon savings.
- Further work needed.





# Other factors

- *“Bottle manufacturers will make less money, therefore resist change.”*
  - Bottles sold on a unit price.
  - Weight is a factor in this, so unit prices lower.
  - However, manufacturing input costs lower, and lines can run faster.
- Fewer lightweight moulds available
  - True in some locations.
  - Function of need for bottle engineering, and demand.
- Shortage of current supply
  - Freight challenges post-Covid.
  - Cullet issues in US.
  - Big users often buy up available supply.



# Key findings

- Consumer perceptions on bottle weight are not a sufficient issue to block lighter bottles:
  - Significant alternative ways to communicate to consumers, for example, labels:
    - “Consumers are considering multiple options leaving huge opportunities for labels to make an impact.”
- Lighter bottles can be used in most wine supply chains with relative ease.
- Hard, therefore, to justify why any wines should be in bottles heavier than 420g.
- Any change, however, may face push-back from some brands and others.



# Canadian monopolies' policy position

- Makes huge sense for us to align, as far as possible with the position taken by SAQ and LCBO:
  - Larger critical mass of market share to help push change.
  - Greater clarity and less confusion for producers.
- Both require max 420g:
  - Price qualification: SAQ, below C\$25 for high volume specialty and all price general listing wines, LCBO, below C\$18.95.
    - Exceptions for 'Hock neck (460g), and vintage wines already bottled.
  - This now covers close to 80% of the wines sold by them.
  - Heavier weight 'iconic' bottles initially permitted, but with a penalty fee to pay.
    - At least 30% of these makers have now moved to lighter bottles.



# Canadian monopolies' experience in implementation

- **Customers**

- *"We've not had any pushback at all from our customers"*
- *"If anything, it's been the other way around – people asking why some bottles are so heavy."*

- **Producers**

- *"Some of the suppliers might have pushed back to begin with, but actually came into line pretty easily "*
- *Persuasive arguments:*
  - *Lighter bottles mean you can get more on a pallet, so shipping costs are reduced.*
  - *You are managing your own carbon footprint.*

- **Other issues**

- *Use of communication, for example using local Sommeliers to argue for lighter bottles*
- *Make sure that all involved (from the supplier to the customer) understand the objective*



# Recommendations for SWR

- Retailers '**Packaging Pact**':
  - Remove, as soon as possible, the heaviest bottles.
    - Nothing over 700g by end 2023
    - Nothing over 550g by mid-2024.
  - Move all 'own brands' to 420g
    - By end 2024
  - Work collaboratively with those brands from which most SWR retailers purchase.
    - Aim to move these to 420g by mid-2025.
  - Nothing over 420g by end 2025
- Work also with all SWR makers to address bottle weight
- Explore further move to even lighter bottles – 350g



# A collaborative approach, not top-down

- Bottle availability:
  - Can all origins access lighter bottles?
    - If not, where do they come from?
  - Small producers say they get squeezed out
- Consumer education:
  - Consumers do not seem to be aware of the importance of bottle weight
- Consumer surveys:
  - We need more up-to-date evidence
- Leverage the SWR network:
  - E.g. wine journalists.



## Supporting activities

- Work with producers to identify reliable supplies of lighter bottles.
- Develop common tools for communication to SWR member's consumers education.
- Commission new work on consumer attitudes.
- Leverage the SWR network:
  - E.g. Wine journalists.
- Guide to filling line management and logistics.



# Credibility requires reference to wider context

- Bulk shipping:
  - Significant beneficial impact in terms of carbon footprint.
  - However, potential employment challenges in some origins, eg Argentina and South Africa.
- Bottle sourcing:
  - Where from, and made with what energy source?:
    - *"Using an imported bottle made using coal power may be more environmentally damaging than using a heavier bottle, locally produced."*
    - US trade data (2021) estimates 70% of wine bottles filled in the USA were imported from China.
- Reuse/ recycling/ alternative formats:
  - Bottle weight reduction the only real game in town in the short/medium term.





# Summary conclusions and recommendations

- This is something worth doing.
- Can we do it right away?