# Sustainable waste management in circular economy

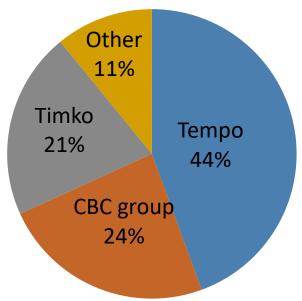
# Tempo beverages & Barkan Vineyards Israel

2021





# Beer











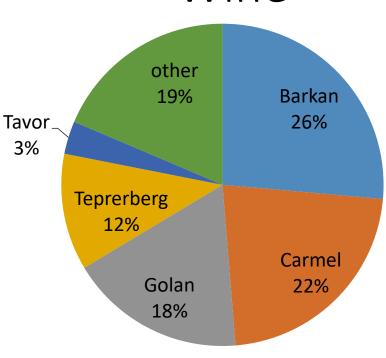
# Leading brands













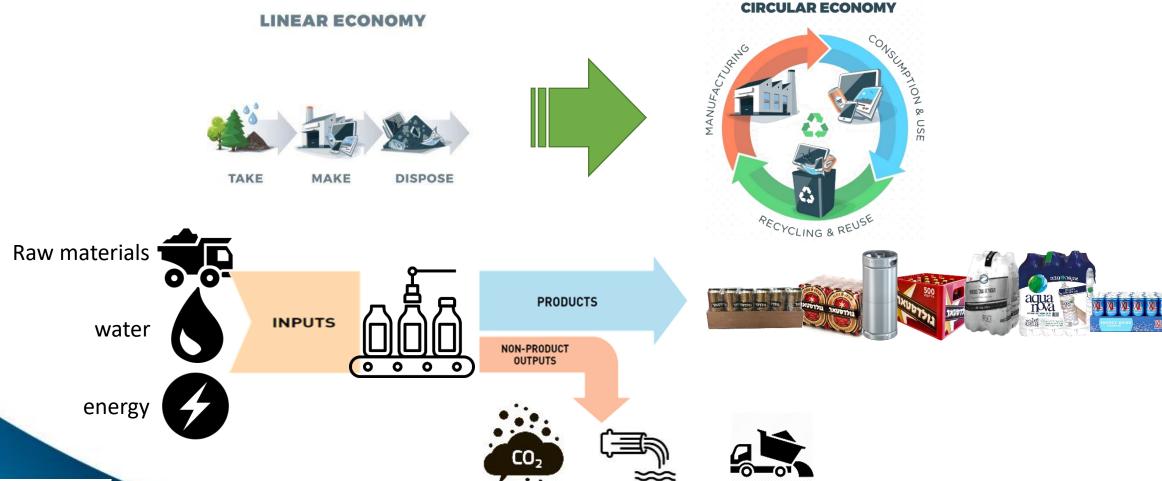








# The transformation from linear to circular economy



**Industrial** 

effluent

waste

Gases

emissions





# Non product outputs as a valuable resource

Industrial effluent

cardboard

steel

CO2

plastic

biogas

Empty bottle from consumer

condensation water

wood

glass

Pomace

Brewer's grain residues

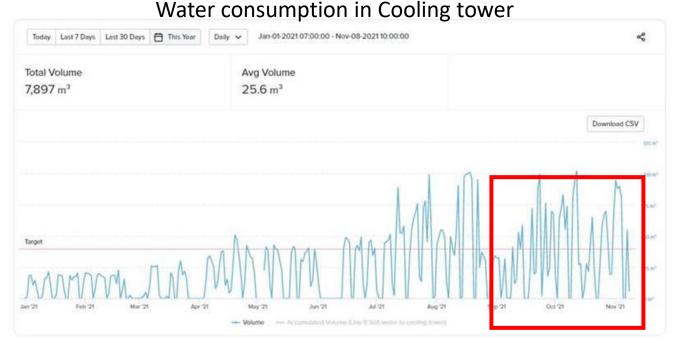
RECYCLE





# REDUCE- the first step for saving money

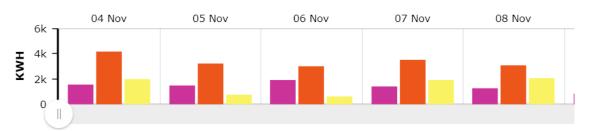
- Advanced data analysis
- Optimization of chemical usage
- Automation of packaging and transportation
- Optimization of the production planning
- Cost efficient advanced technologies







#### Electrical usage monitoring



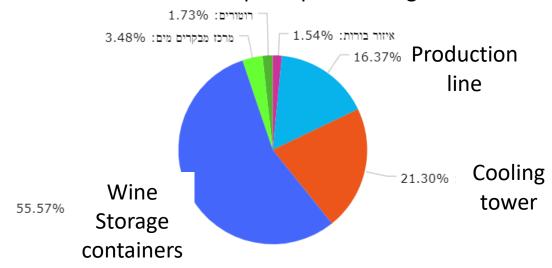
#### Personal alert to Email/sms



Wastewater 21 hours ago

Waste water volume above 1,900 m^3 per day

#### Water consumption per working area



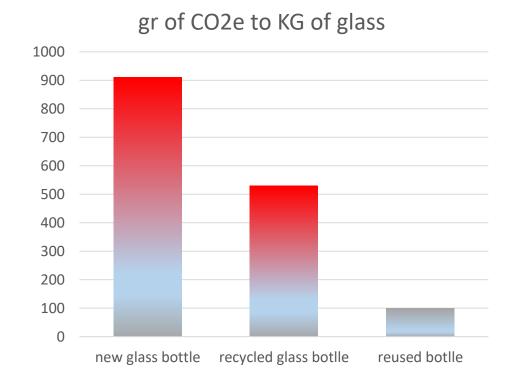




### REUSE- smart use of the exciting outputs

- Used glass bottles from consumers
- Regeneration of energy and water (Pasteurization)
- Reused yeast
- Condensation water
- Emitted CO2 as resource





Source: CFP for Goldstar preform by Carbon Trust



# "Doing better for the Environment" campaign

A Mini site and TV ads explained the benefits for reusing

Better for the environment



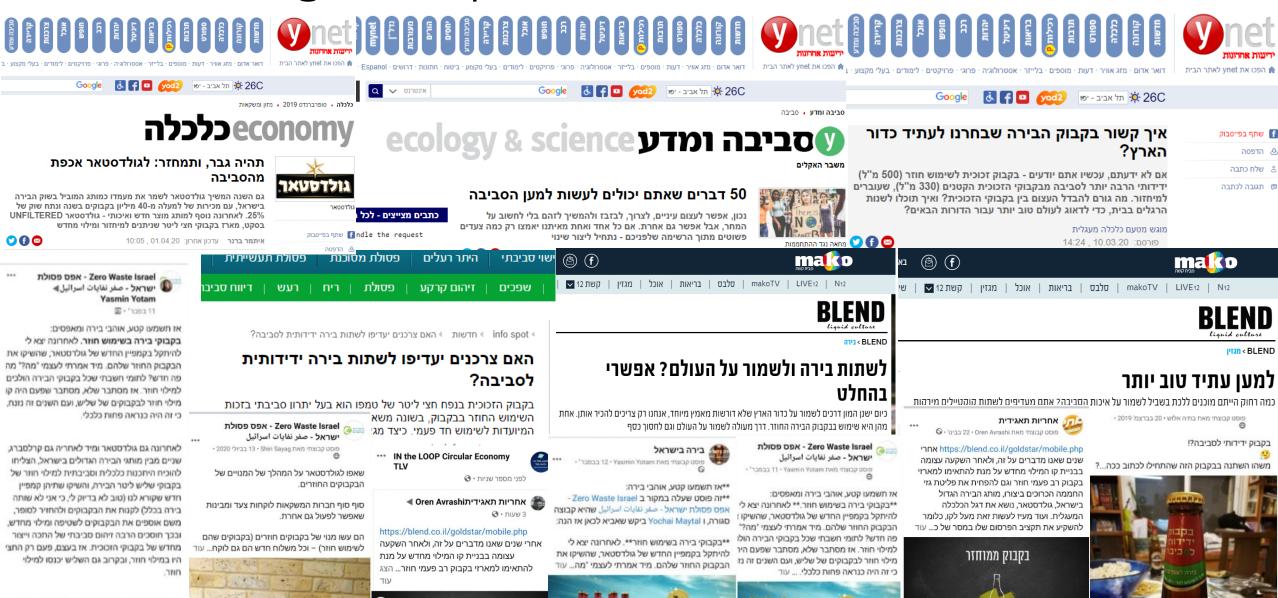
Doing better for the environment ← Returning ← Drinking







# The message was pushed in social media and PR



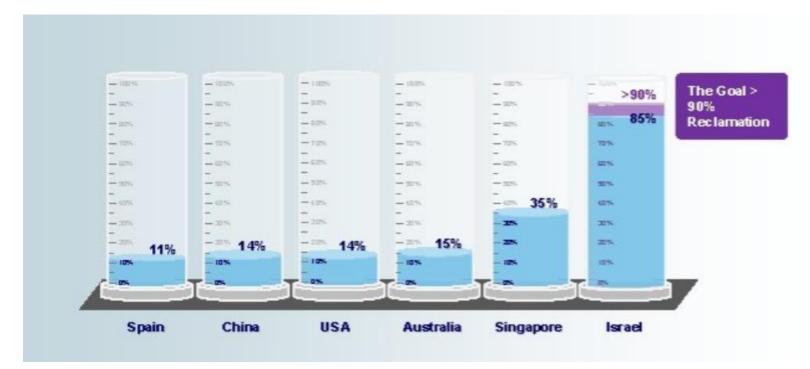
בקבוק ממוחזר

בתור מעצבת תעשייתית שאכפת לה מהסביבה

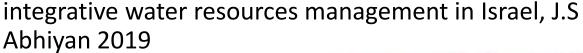
ועשתה שיעורי בית, אני רוצה לאמר שזה צעד שבעיני

### RECYCLE- trash to treasure

- Industrial effluent as a water resource
- Brewer's grain residues and pomace sold to feed animals
- Our waste are raw materials for other industries









## The future is greener

- PV- green and renewable energy
- Biogas as an energy source
- Electrical boilers and Energy storage
- Industrial effluent reuse in-house
- Efficient use of air compressors



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