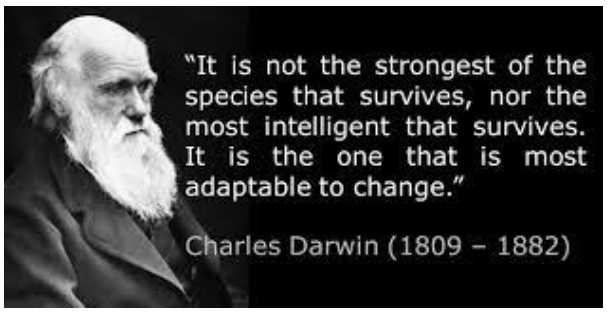
Practical and Creative Winery Solutions in a changing environment

With Toby Barlow



Where to start in a maelstrom ?

Thoughts for today

- Measure it for yourself
- Energy and inputs efficiency
- Opportunities
  - Get more efficient gear
  - Change the way you do it
- Adaptive framework

Measure it for yourself!

- Wineries are not all the same
- Engage your people in it
- Develop some achievable measures that mean something for you
- Invest in collection and data to build understanding
- Focus on getting better yourself not comparing too much (unless it makes you feel good for a minute; then indulge ☺)

Understand Energy Intensity and load timing

- Overall energy used- when and where?
- Can you change reduce the intensity through process changes ?
- Can you shift the timing of the loads to reduce peaks and increase efficiency?
- THEN how could you change energy sources ?

Example: Get more efficient gear

- Refrigeration – staged ammonia plant with investment in load scheduling
- LED lighting
- Brine Line insulation
- Control Technology
- And the other usual candidates

Energy Intensity (kWh/kL)

Table 5-1 Comparison of Pre and Post-Project Results

	Pre-Project Estimate [1]	Post-Project Results [1]
Percentage reduction in carbon intensity	37.5%	45.5%
Percentage reduction in energy intensity	28.9%	37.9%
Estimated carbon savings over the 15 years following the completion of the project	2.77 kt CO_2-e	5.49 kt CO_2-e
Estimated energy savings over the 15 years following the completion of the project	10.3 TJ	22.3 TJ

Flotation – Process change

The Stats

Data Origin: Vintage 2012 , 60 floated batches including Riesling, Sauvignon Blanc, Semillon, Chardonnay and Rose

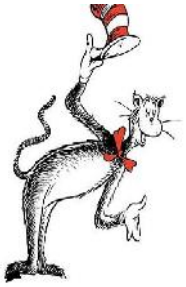
Measure	Average	MIn	Max
Time Pre float (hrs)	6.5	3.5	20.5
Time Float to Rack (hrs)	8.7	4.5	18.5
Juice Lees	8.82%	3.3%	21.4%
Racked Juice Turbidity (ntu)	52.5	22	189

Energy and Inputs Efficiency

- **Refrigeration and Heating**
  - Reduced total requirement
  - Reduced Peak load at vintage
- **Juice SO_2 requirements reduced**
- **Cleaning – less tartrate**

Summary : Reframe the stormy waters

Adaptive Creative Framework



"Think left and think right
and think low and think high.
Oh, the thinks you can think up
if only you try!"

- Dr. Seuss