



# Vidrala furnace energy consumption

Glass Trend - ICG TC9 Seminar  
13-15 October 2015, Bilbao, Spain

## **6 Plants in 4 countries**

- ✓ Headquarters in Basque Country-Spain
- ✓ 3 in Spain
- ✓ 1 in Portugal
- ✓ 1 in Italy
- ✓ 1 in Belgium

## **13 Furnaces**

- ✓ End-port (60-150 m<sup>2</sup>)
- ✓ Regenerative
- ✓ Natural gas
- ✓ Electric melting (<5%)

**Colour:** flint, olive green, dead leaf, amber, emerald green

## **43 manufacturing lines**

**Pull:** 1.200.000 tons/año

**More than 1.800 employees**

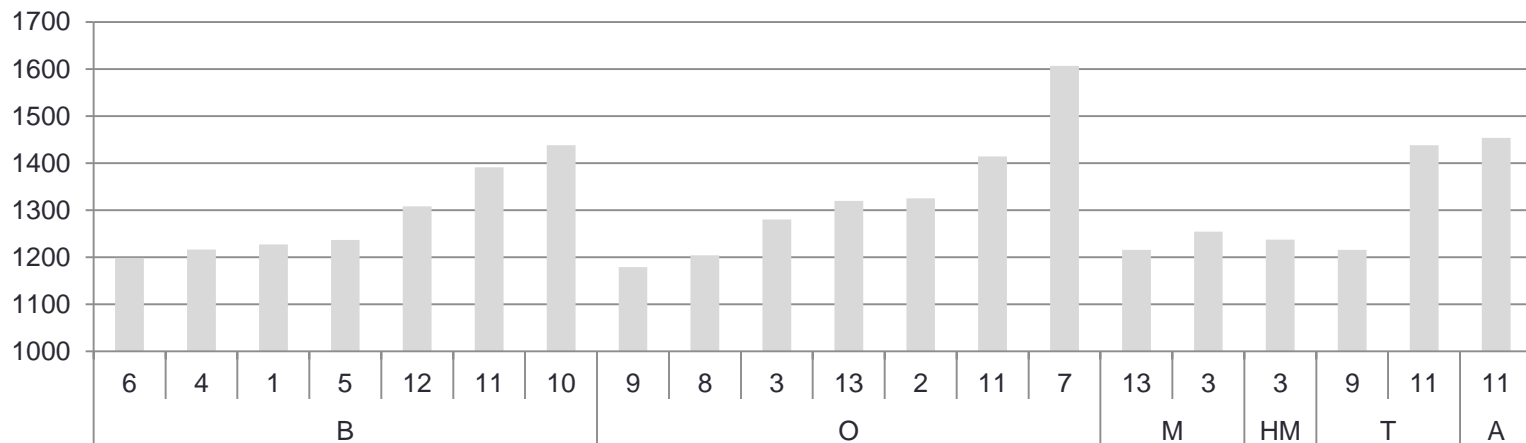


## 2<sup>nd</sup> step: Decrease temperatures

### ① Internal benchmarking

- ✓ Application of best practices (maintenance and conduction)
- ✓ Definition of targets:
  - Colour, pull, cullet, furnace, plant...
- ✓ Internal benchmarking by colours:

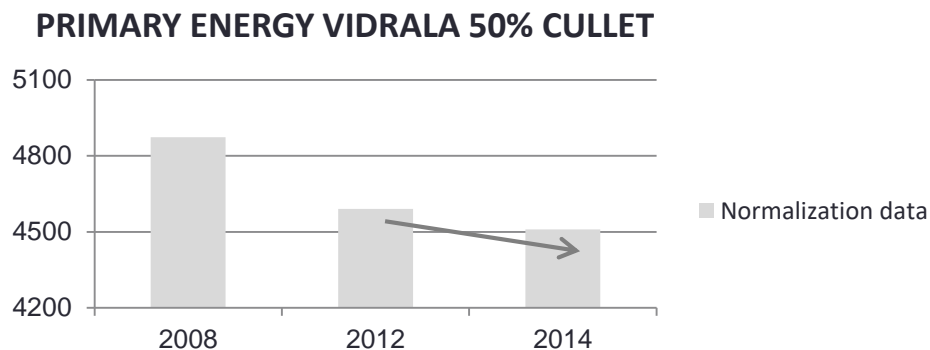
Primary Energy Norm 50%



## 2<sup>nd</sup> step: Decrease temperatures

### ② External benchmarking

- ✓ Application of best practices



**RESULTS: ≈ 2 % reduction in energy consumption in 2 years**

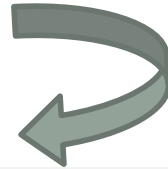
- ✓ Necessity of R&D projects to achieve improvement



## 3<sup>rd</sup> step: R&D projects

- ✓ main projects going on at this moment:
  - Expert System software
  - Furnace and regenerator modelling
  - Moisture continuous measurement (Liebherr)
  - Redox sensor

**After these steps...**



## **Internal projects 2016:**

Diferent raw materials : cost balance  
Energy balance

## **External projects:**

- New designs
- O2: Not economical
- Air/O2 superstructure (not checked)
- Change of burners type (not checked)
- Booster more efficient
- Is pressure important? How we can improve?
- Is charge important? How we can improve?



**Thanks for your attention!!**