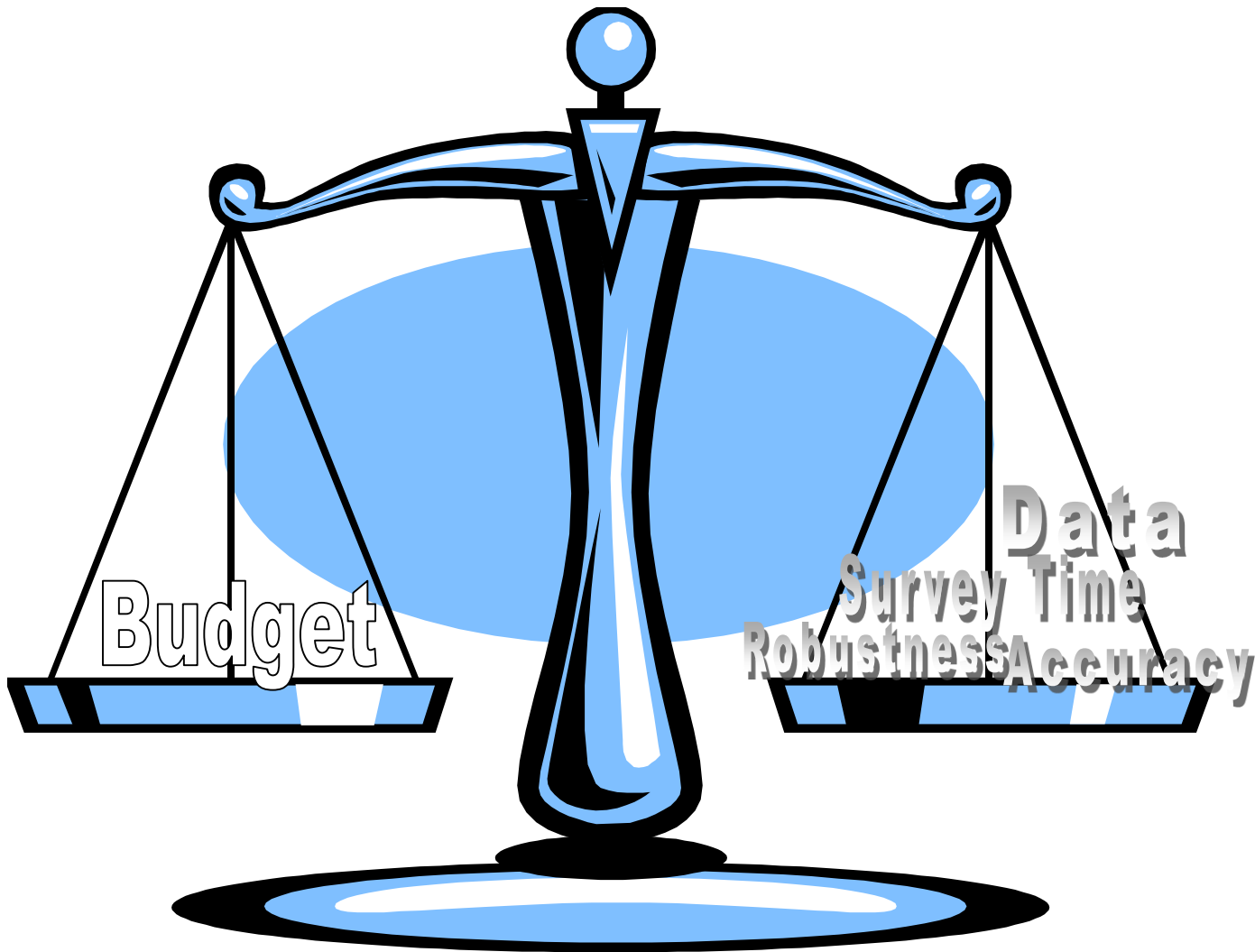


Monitoring 100 Houses

- What to monitor
- Challenges
- Results



Monitoring 100 Houses



Monitoring 100 Houses



Challenges

- Selection
- Installation
- RF signals
- Homeowner access
- Software updates



What wasn't a problem:

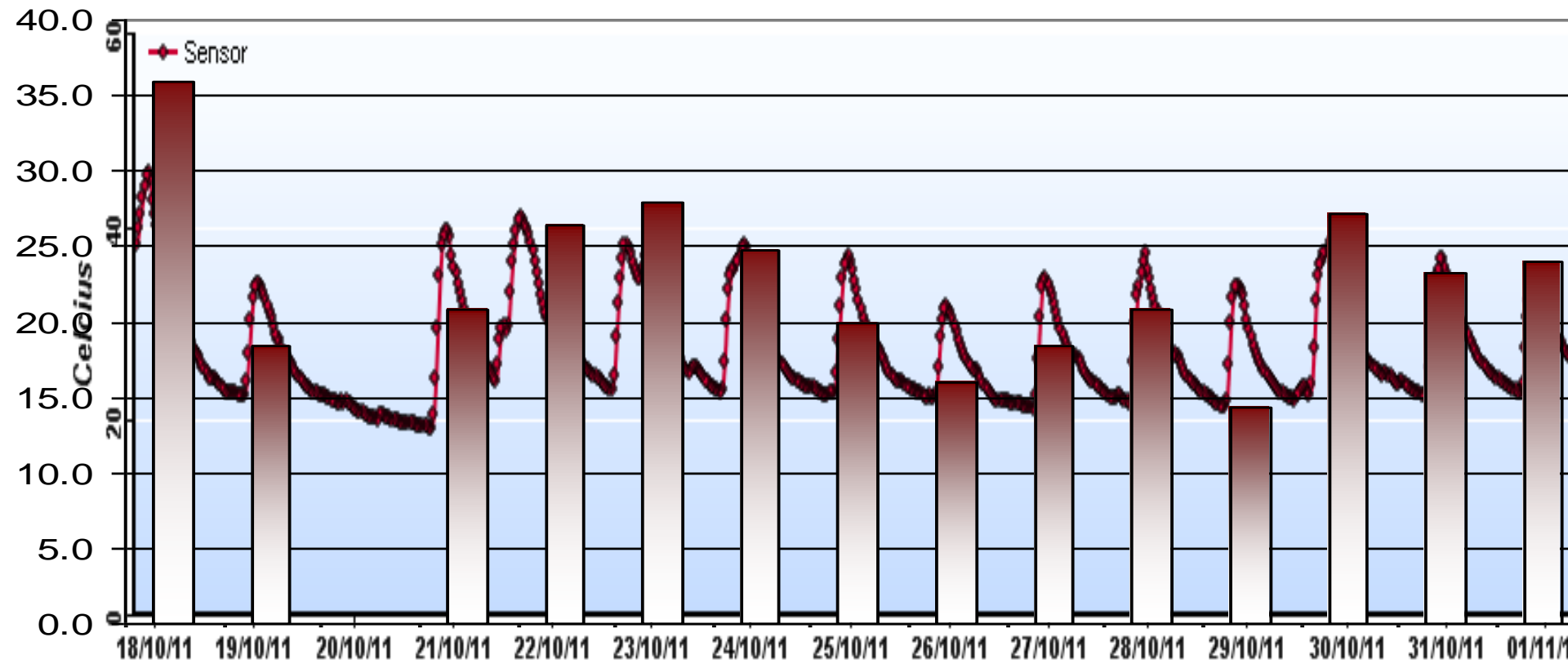
- Main supplier
- Homeowners

Data

- 698 Sensors
- 15- 30 min intervals
- 2 databases – Production and Evaluation
- ~30+ indicators
- Checking accuracy on installations important

Fireplace

TES11 - Temperature Sensor



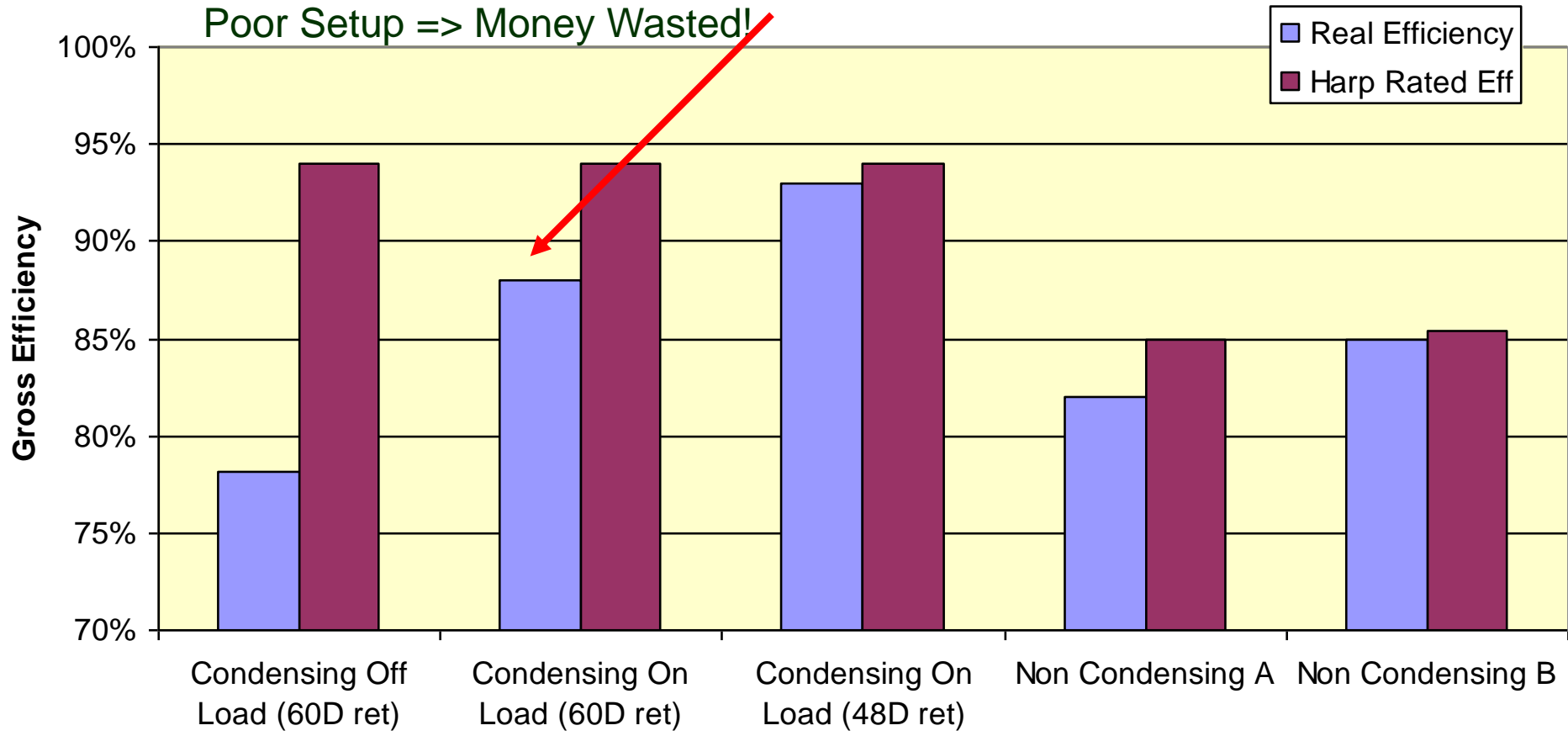
Boiler Energy Use

- Burner electrical power:
- Qualified with a survey
 - In depth measurement of 100 oil tanks
 - Lots of sums
 - Individual calibration backed up with burner model
- Verified & error identified with 6 installations

Some initial data

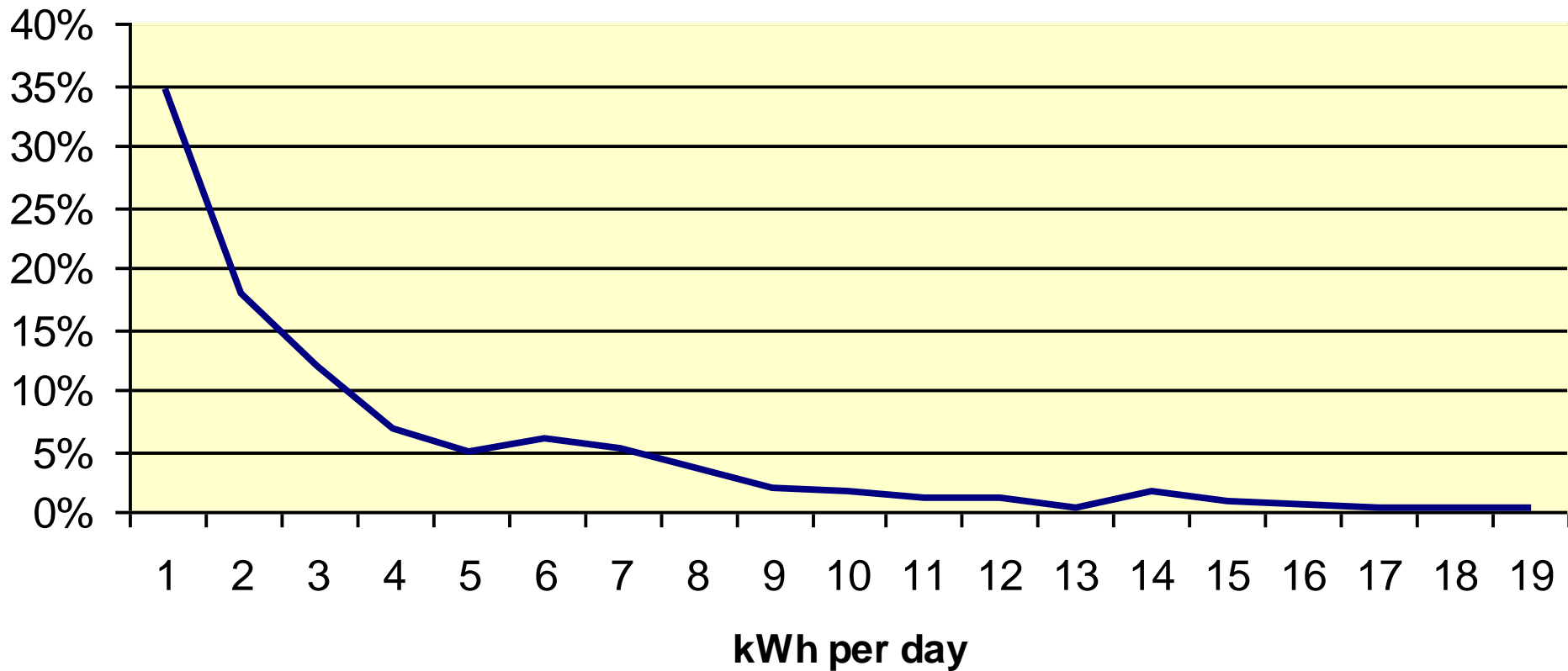
Boiler Efficiency

Poor Setup => Money Wasted!



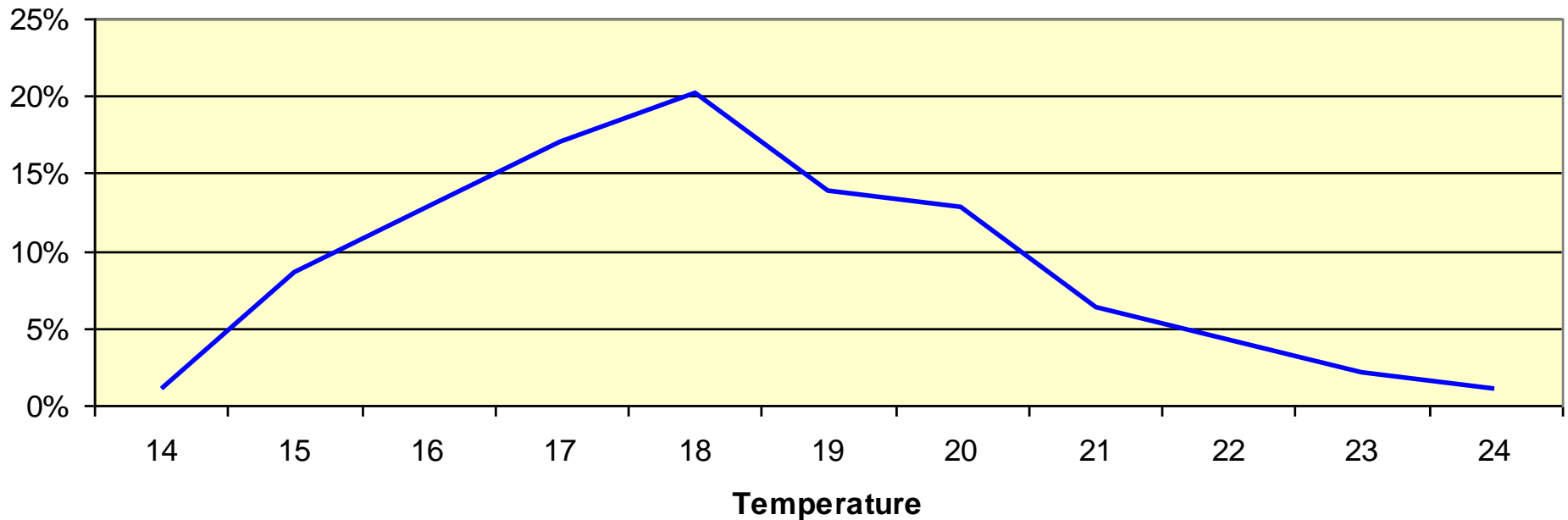
Some interesting findings on DHW

Histogram of Daily hot water use



Some interesting findings

Histogram of Main Bedroom Temperatures



Energy Management

Once initial data recorded: homeowner energy report (KPI Vs average high and low)

- Baseload & nightload
- Appliance use
- Internal temperature
- Main & secondary energy use
- DHW split
- And others as we learn

Analysis

- TEA/ ECN undertaking significant analysis
 - SERVE analysis of performance
 - SEAI electricity analysis – model of average Irish house
 - Effect of energy management
- Significant extra analysis could be done – educational institutes

Analysis

- Significant work done.....