

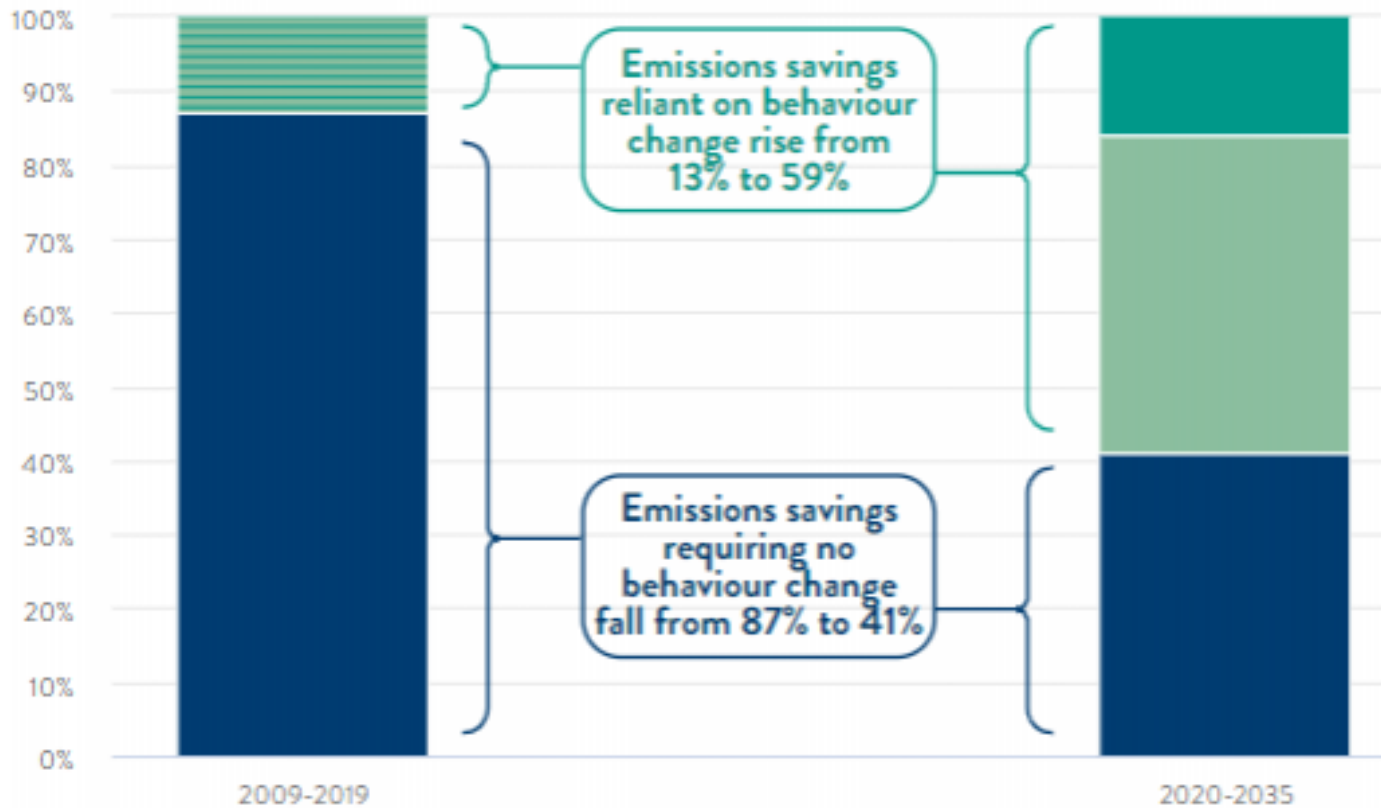





HOSPITALITY
ENERGY SAVING
& SUSTAINABILITY

The Power of People in the Reduction of Energy Consumption: A Case Study

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Why People Power?



-  Largely societal/behaviour changes
-  Combination of technology and society/behaviour changes
-  No behaviour changes (technologies/fuels with no behaviour change)

The bad:

- Perceived as insignificant, unachievable, unsustainable
- Often occasional and partial – must be holistic and with a long-term structure
- It's “not worth the time” for small savings

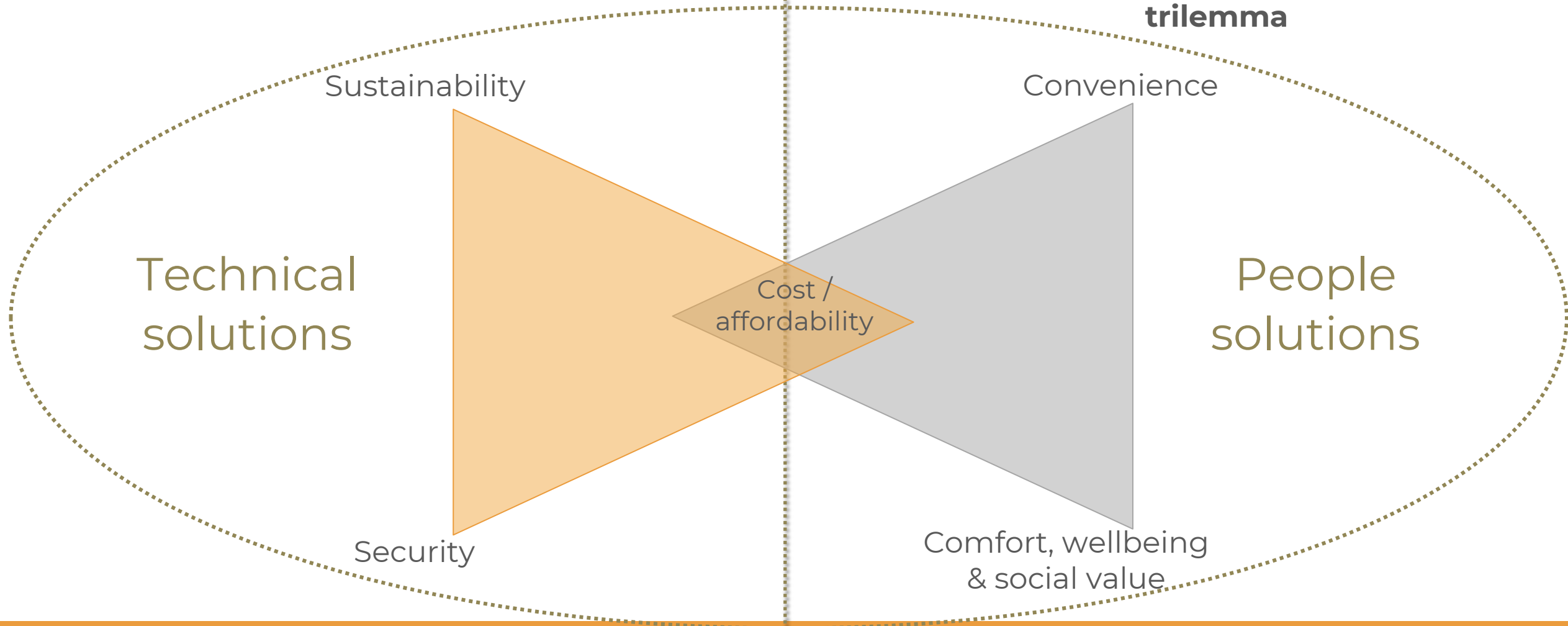
The good:

- Savings of 10%...50%...75% are achievable
- Cheaper than tech-focused projects with very attractive ROIs
- Multitude of cobenefits

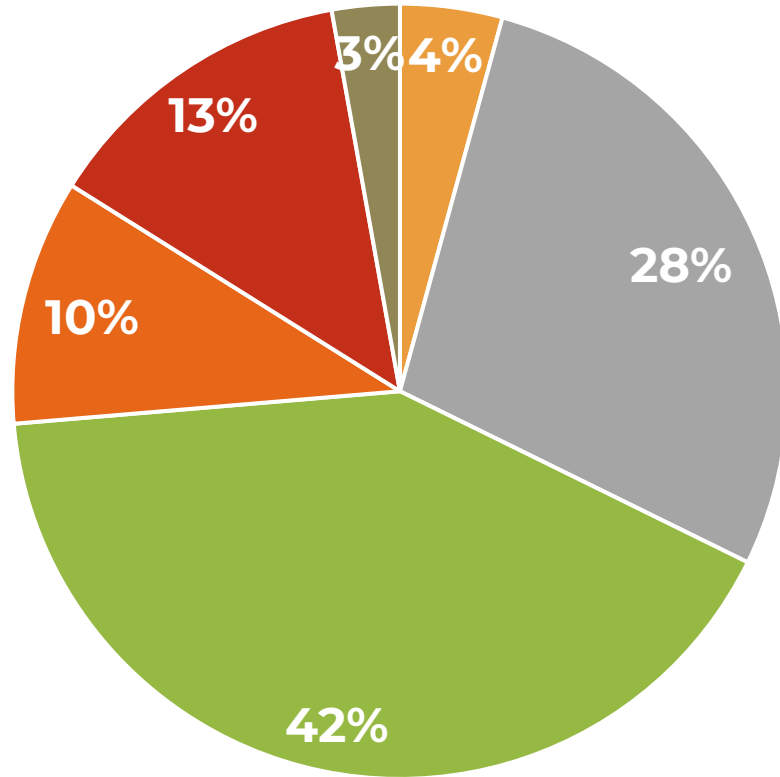
The “Win for All”

The traditional energy trilemma

The building user / customer energy trilemma



Context



- Warewashing
- Cooking
- Air Handling and Hot Water
- Freezers and Fridges
- Lighting
- Other

- Leading operator of pubs and restaurants in the UK approach UoR for world class research in energy reduction in commercial catering
- £70M utilities spend per year, 1,500 sites, 40,000 employees, 250,000 kWh per year per site!
- Estate wide AMR, energy policy and standards rolled out 2011
- Minimum energy standards (LED lighting, DCV etc.)

Specific Challenges with Behaviour

- Challenging environment
 - Hot, humid and cold
 - Not designed for comfort
 - Appliances in constant state of readiness to deliver food asap
 - Guest satisfaction and comfort #1
- Very specific culture (Volatile? Toxic??)
- High attrition and staff turnover
 - Lack of willingness to invest in staff from the top down



Format and Objectives

Research and gain insight
Measurement and verification (M&V) plan

Assessment:
Culture
Personality type
Generation
Skills
Progress so far/gap analysis

Training to different groups:
Climate change, specific energy consumption, analysis method etc...

Competition
League tables
"The Big Idea"
Energy champions
Workshops
Games

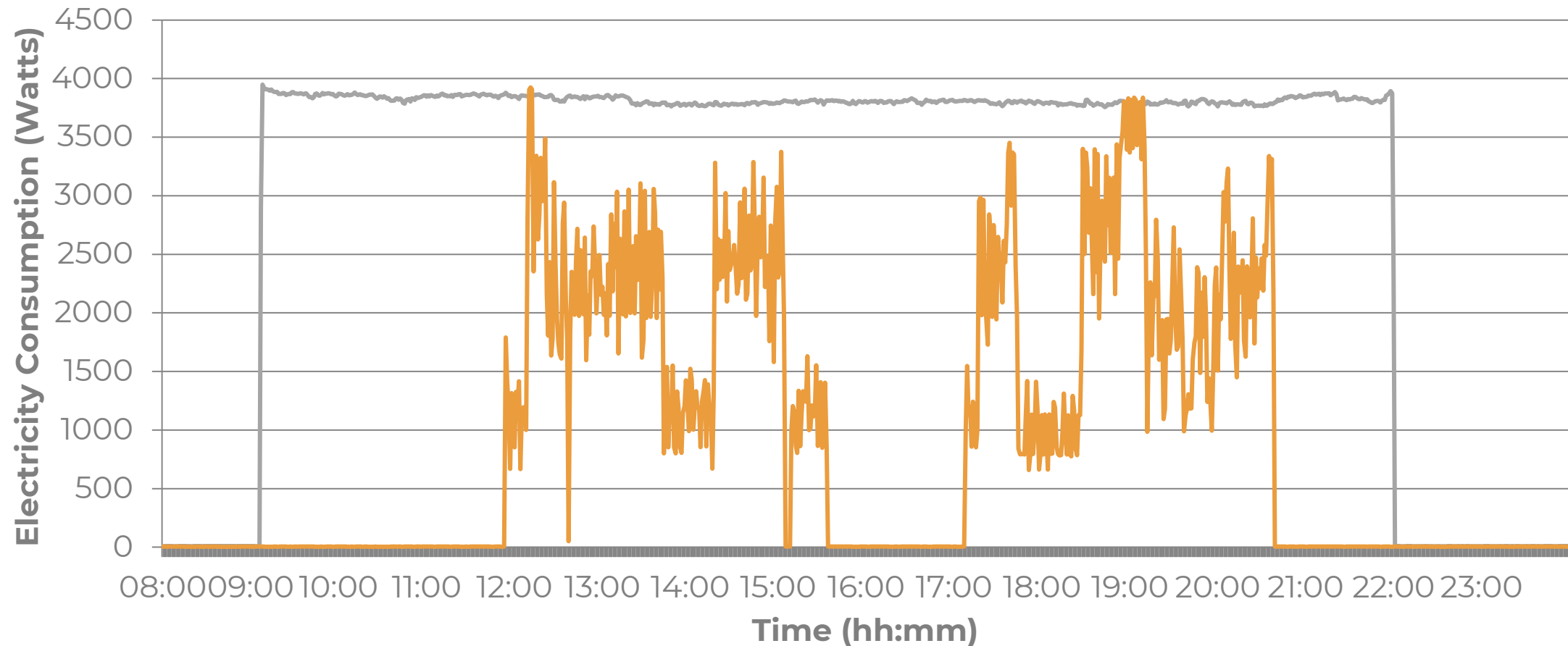
Comms
Interventions
Reward/recognition
Getting and keeping energy on the agenda

Annual Review

Research and gain insight - 71% reduction from improved behaviour in sandwich grills

Kitchen 10 = 49 kWh

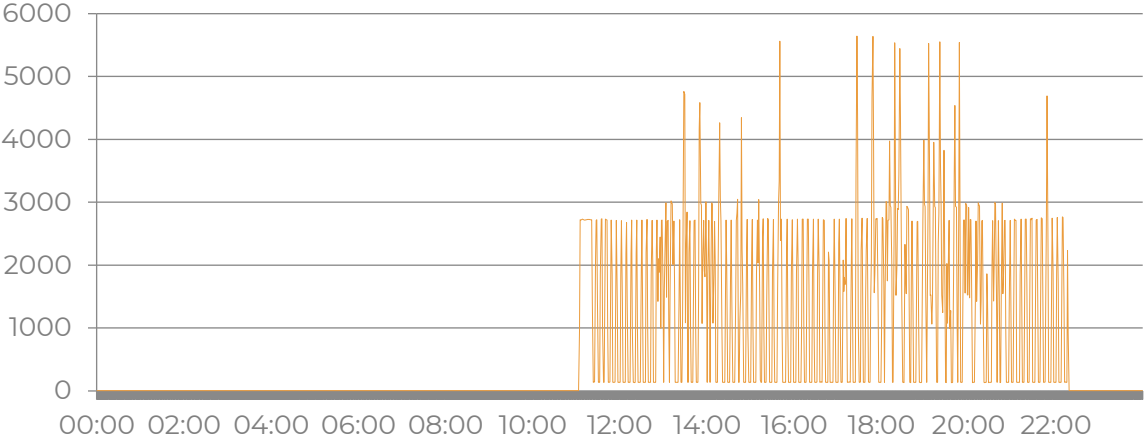
Kitchen 6 = 14 kWh



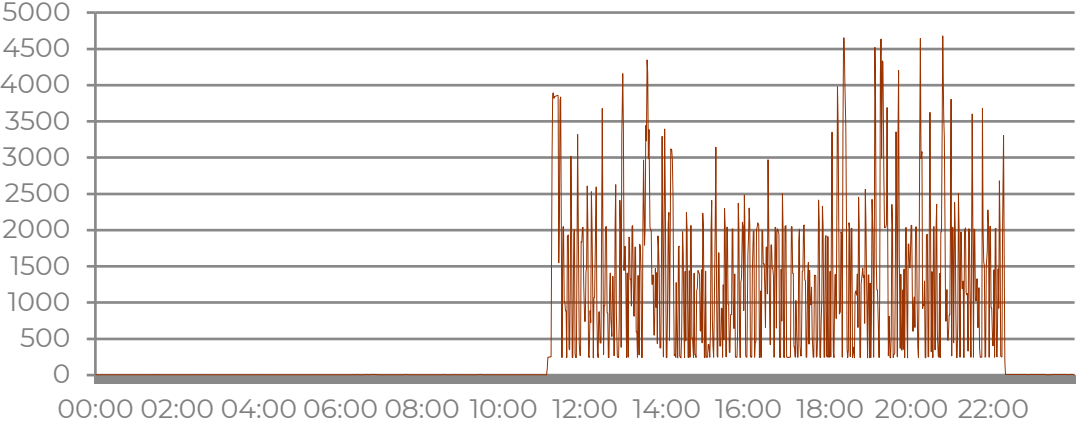
Research and gain insight - 29% reduction from improved specification



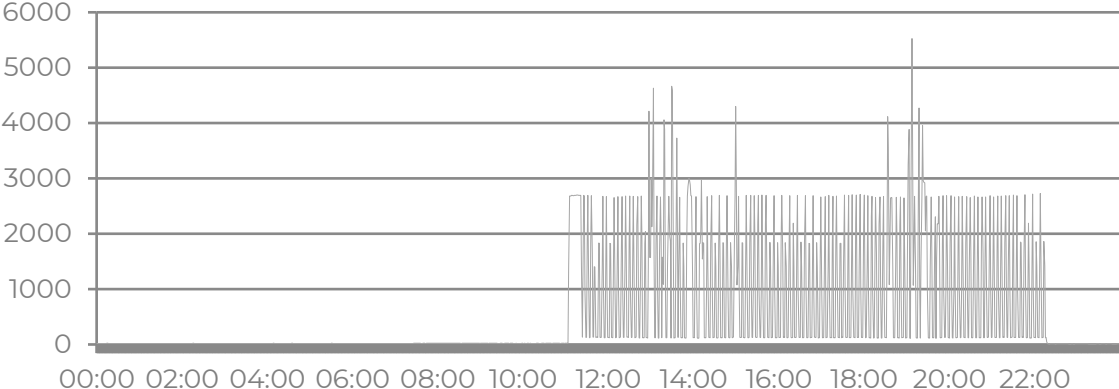
Combi-Oven 1



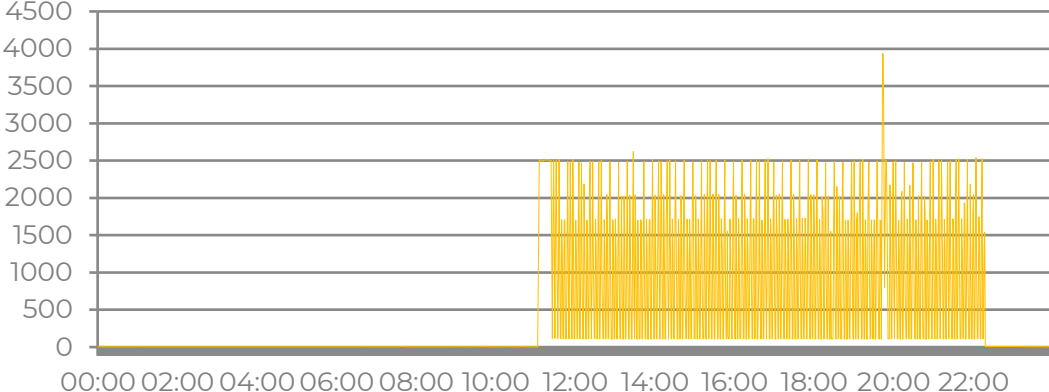
Combi-Oven 2



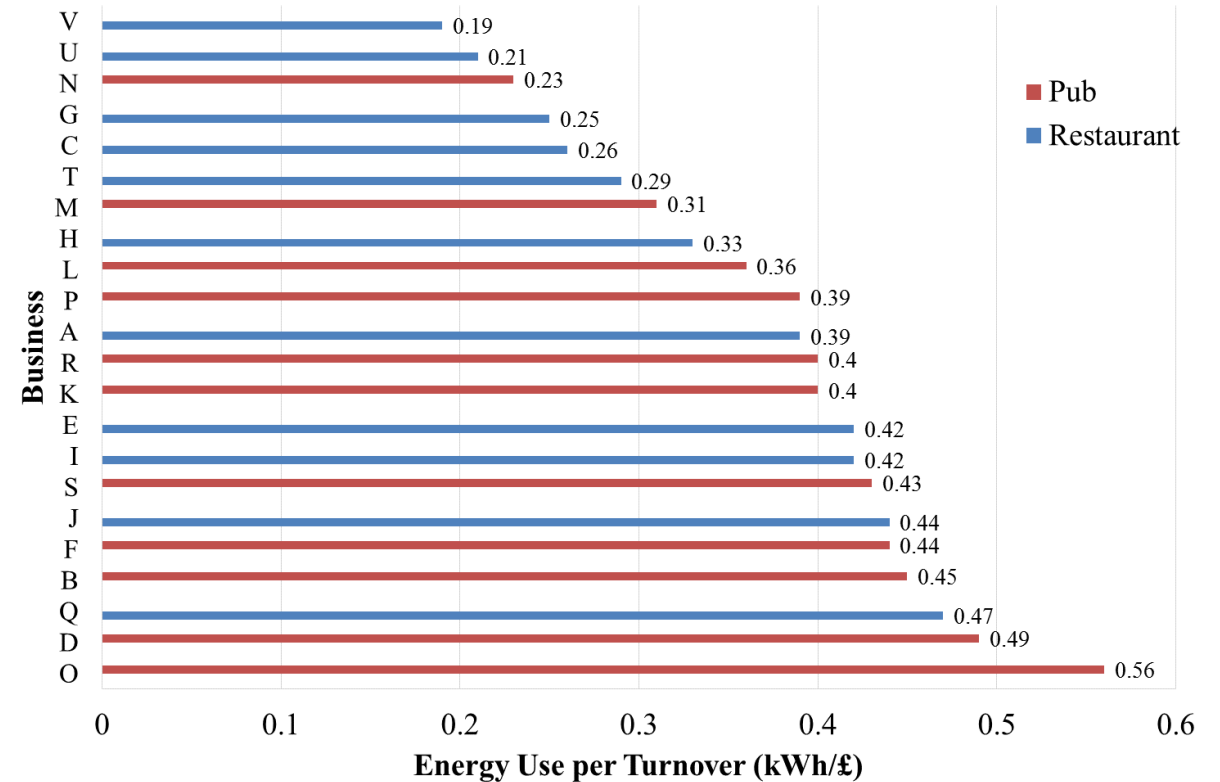
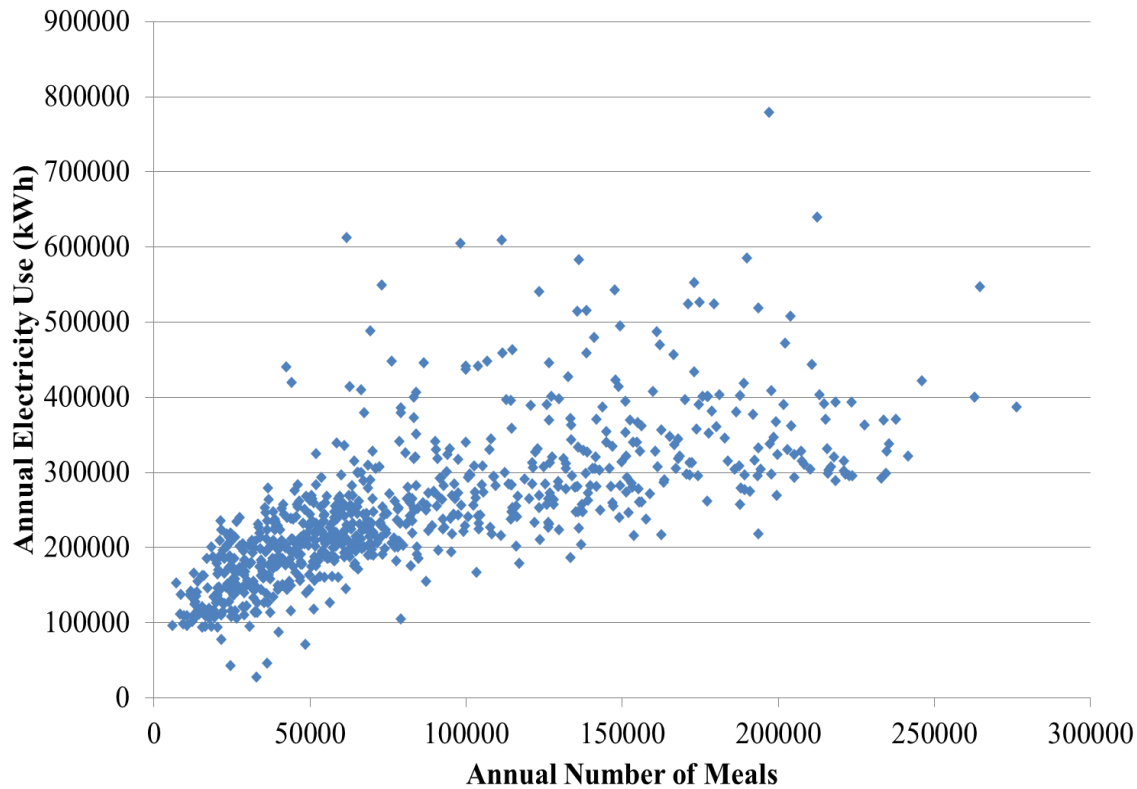
Combi-Oven 3



Combi-Oven 4



Measurement and Verification (M&V) Plan



$$y = \frac{-135103.239}{(21590.348)} + \frac{0.449}{(0.43)} \times (NOMs) + \frac{0.62}{(0.004)} \times (Financial\ Turnover) + \frac{1005.822}{(79.448)} \times (Kitchen\ Size) + \frac{42.317}{(4.932)} \times (Annual\ Operating\ Hours) + \frac{133.091}{(30.588)} \times (Covers)$$

Assessments

Assessment of employees can tailor...

- Values
- Motivations
- Rewards
- Engagement

EnCO gap analysis

- Policies, procedures, culture, understanding

Personality & Generation theories

- Baby Boomers (1946-1964) – “Live to work”, long hours and dedication
- Generation X (1965-1979) – “Work to live”, do the necessary and go home
- Millennials (1981-1994) – Work/life balance, bored easily

Training & Information

Monthly/quarterly workshops

- Big picture energy & climate change
- Usage data (their brand/site)
 - Top Tips
- Method of analysis
 - Reporting
 - Graphs
- Influence at home

Targeting specific roles

- Cleaners
- Maintenance
- Procurement,
- Significant energy users (chefs, bar staff)
- Energy Champions
- Menu Development
- Marketing

Training

- EMA accredited course for chefs
- Tying into high staff turnover and rewards by providing a certificate for the CV
- Becoming a measure of success internally
- Roll out up and down supply chain

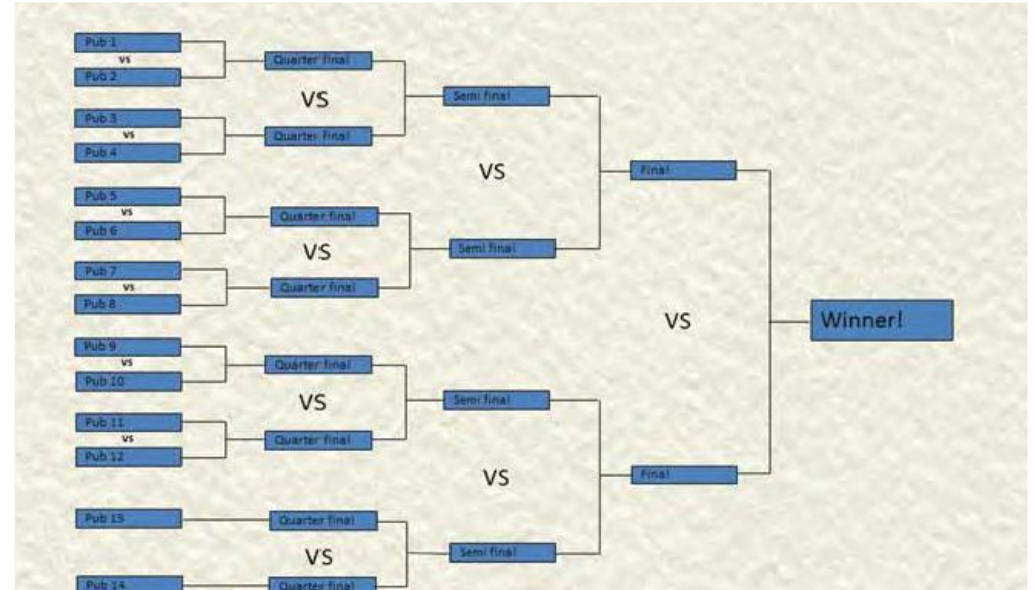
Energy Champions

- 1-2 per district (7-15 sites each)
- Deliver training to the EC...who then deliver it to the site staff
- They can say things to others in their peer group that aren't best coming from HQ!
- Recruited people who were natural leaders and influencers, often nominated at workshops.
- The volunteer is often the “eco warrior” who harangues people and gets their backs up!
- Facebook and WhatsApp groups - memos, photos, ideas, questions and monthly “King of the Castle”



Energy Competition & “The Big Idea”

- Series of competitions were instigated for 3 months
- Fortnightly themes, tips and prompts
- League table - using the validated equation from the M&V plan (and still a lot of tweaking!)
- Total of monetary savings over the duration to “keep it real”
- Points mean prizes, £25k of prizes for....
 - Out of hours usage
 - Energy cost per NOM
 - Per brand
 - Per district
- Ideas competition, judging panel etc.



A person having a bright idea A brighter idea



Communications

This Carvery Deck uses 17 kW of power EVERY HOUR.
Turning it on 1 hour too early each day
Costs around £750 per year

MERRYCHEF MEALSTREAMS:
These can be turned down to 125 C
in quiet times. They will recover
to 225 C in 2 minutes.

28% of Managers are losing
big amounts of profit

Our Best Staff
always pack the back bar fridges
with COLD product from the cellar

72% of Managers
always :-

Set heating to "TIMED" not "constant"

**ALREADY 80% OF CHEFS TURN DOWN
THE CHARGRILL DURING QUIET PERIODS**

- KPIs in contracts
- Co-benefits
- Encouraging “social proof” (our best staff...)
- Seeking to get energy on everyone's agenda for monthly meetings at all levels – even only as a bullet point
- Often small rewards were not explicit with rules – wanted to get people talking - “Why did you get that?”

Other Interventions and Rewards

Interventions

- Annoying alarms in the lifts
- Push buttons when taking the stairs, providing a token for free coffee in the café
- Monthly themes (chargrills, lighting, beer cellars etc.)
 - Signage – must change frequently to avoid becoming background noise (in line with monthly theme)

Rewards

- iPads
- Staff parties and days out
- Chocolates vs raspberries on keyboards from “empowered” security staff
- Parking spaces and permits – great feedback
- Quality street for the whole team where a member shared good news, tips or recognition
- Bottles of wine as instant reward for good behaviour spotted on audits



Results and Review



Pledge cards from initial workshops posted back to participants – no one “told them off”, just their own conscience



Photos of board members with their pledges circulated



Several research awards including several paper of the year awards and CIBSE most valuable contribution



Surveys at the beginning and end of behaviours and knowledge – publish the changes in scores to all staff



20% energy savings – 90M kWh



£1,000,000 saved in first 3 months, £10M+ over the annual campaign



Highest ROI energy project to date

Everyone working together to create
collective change for sustainability,
one small action at a time.

“

*No one can do everything, but
everyone can do something.* ”

Thank you!

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