Cut Costs & Carbon Calculator – Launch Event

Delivering lifecycle economic & environmental benefits across the whole value chain of the catering industry

19 June 2013
Keith Warren

CESA Director
Contract Catering Carbon Tool

Mike Walker

Date: 19 June 2013
Energy efficiency is crucial to meeting our carbon target

Total energy consumption in 2050 needs to be no higher than it was in 2011 as part of meeting the 2050 carbon target

Significant increase in energy efficiency required to meet that goal
Increase the sustainability of energy using products by means of a range of product policies

- EU wide minimum energy performance and energy labelling standards
- Supply chain and international engagement

... aimed at meeting the 2011 Carbon Plan commitment to save 14 MtCO2 pa by 2020 in the UK.

... as a contribution to the 80% reduction by 2050 in GHG emissions under the Climate Change Act
How we work

Eco-design Directive

Mandatory EU labelling

Supply Chain initiatives

International engagement IEA 4Es, SEAD

Influence other policies

Improve compliance and enforcement

Environmental impact

2008 2020

1. Reference
2. Early Best Practice
3. Policy Target
4. Action plan

Department for Environment, Food & Rural Affairs
What is happening in Europe?

- Commission proposals for ecodesign and energy labelling of domestic hobs and ovens
  - Expect regulations to be agreed later this year
  - Saving 23 PJ / year in 2020, 60PJ / year in 2030
  - Equivalent to around 8-9% of current consumption
  - MEPS for ovens hobs and range hoods
  - Labels for ovens and range hoods only

  - Vote on ecodesign measure 11 July
  - MS to discuss labelling measure 11 July

- Commercial equipment to follow?
The problem: an information gap

- Mind the Gap – there is a need for greater communication and transparency through supply chain.
- Low carbon solutions already exist and there is a willingness to do more.
- BUT there is a disconnect between aspirations and actions
- And a lack of data makes it hard to compare energy use of catering equipment.

There is a common ‘catch-22’ that hampers the commercialisation of low-carbon technologies

Courtesy of Health Care Without Harm
Finding out more

• Carbon Trust study was set up to monitor energy in-use in four contract catering kitchens that broadly represented the sector
• Findings suggested a much bigger energy use than previously estimated – 1.3MtCO2e and £292m per year for just contract catering.
• Big energy and ££ savings possible.
What do we want to achieve?

- Providing clarity on the lifecycle value of catering equipment will facilitate the move towards a low carbon catering sector.

- **Reducing running costs.** The tool will help to optimise not just what equipment to buy, and the most efficient choices, but also when to use it (and when not to).

- **Everyone in the value chain will benefit – and emissions will go down.**
The size of the prize

- Could save a third of emissions/ costs, through behaviour change + more efficient equipment, e.g.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Implementation cost £</th>
<th>Cost reduction £/yr</th>
<th>CO$_2$e reduction tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behaviour change for cooking and dishwashing</td>
<td>£13m</td>
<td>£35m</td>
<td>173,000</td>
</tr>
<tr>
<td>Gas combis as replacement for electric</td>
<td>£40m</td>
<td>£14m</td>
<td>60,000</td>
</tr>
<tr>
<td>More efficient ovens</td>
<td>£34m</td>
<td>£8m</td>
<td>37,000</td>
</tr>
<tr>
<td>Improving control of extractors</td>
<td>£15m</td>
<td>£9m</td>
<td>84,000</td>
</tr>
<tr>
<td>Refrigerator replacement with ETL standard</td>
<td>£18m</td>
<td>£13m</td>
<td>56,600</td>
</tr>
<tr>
<td>Installation of sub-metering and transfer of energy costs to caterer</td>
<td>£30m</td>
<td>£35m</td>
<td>156,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>£150m</strong></td>
<td><strong>£114m/yr</strong></td>
<td><strong>566,000tCO2e/yr</strong></td>
</tr>
</tbody>
</table>
Cut Costs & Carbon Calculator – Launch Event

Delivering lifecycle economic & environmental benefits across the whole value chain of the catering industry

19 June 2013
Content

› The opportunity
› The challenge
› The solution
› A worked example
› Summary of business benefits
› Next steps
The opportunity
The opportunity…
The UK catering industry – and replicable globally…

<table>
<thead>
<tr>
<th>TODAY</th>
<th>TOMORROW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy costs:</td>
<td>Energy Costs reductions:</td>
</tr>
<tr>
<td>&gt;£770m/yr</td>
<td>&gt;£250m/yr</td>
</tr>
<tr>
<td>Carbon emissions:</td>
<td>Carbon emission reductions:</td>
</tr>
<tr>
<td>3.9mtCO2/yr</td>
<td>&gt;1mtCO2/yr</td>
</tr>
<tr>
<td>2% of UK business &amp; public sector emissions</td>
<td>Savings per meal:</td>
</tr>
<tr>
<td>Costs per meal:</td>
<td>3-6p per meal</td>
</tr>
<tr>
<td>Depending on business type &amp; size, equivalent to 10-20p per meal</td>
<td></td>
</tr>
</tbody>
</table>

Source: BHA Trends & Statistics 2012 and Carbon Trust analysis
The challenge
The challenge...

Energy prices are set to continue to rise by >20%, to >£1bn/yr by 2020

Source: OFGEM Energy Market Scenarios Project Discovery; Carbon Trust analysis
The challenge...
And it's not only energy prices that are growing...

Source: BHA Trends & Statistics 2012
### Business benefits...

Barriers and drivers for energy efficiency are diverse and interconnected

<table>
<thead>
<tr>
<th>BARRIERS</th>
<th>Behaviour &amp; motivation</th>
<th>Misaligned incentives</th>
<th>Hidden costs &amp; benefits</th>
<th>Financial costs &amp; benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived relative immateriality of energy costs</td>
<td>Misalignment between key departments e.g. Procurement &amp; Operations</td>
<td>Lack of internal resources &amp; tools to identify &amp; implement opportunities</td>
<td>Upfront investment</td>
<td></td>
</tr>
<tr>
<td>Out of date decision making processes e.g. rules of thumb</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DRIVERS</th>
<th>Behaviour &amp; motivation</th>
<th>Misaligned incentives</th>
<th>Hidden costs &amp; benefits</th>
<th>Financial costs &amp; benefits</th>
</tr>
</thead>
</table>
| Training encourages existing champions across organisation who are ready to set an example | Emissions from use of catering equipment are currently unregulated | Enhanced reputation with employees & consumers | Energy cost savings
| |
| |
| CRC savings
| Access to finance for equipment |
The solution
The catering industry has a problem ...

Low cost/carbon catering exists:
- Efficient equipment
- Efficient operating models

Operators are feeling the pain:
- Energy cost rises are hurting
- Operators know in-use costs are the majority lifetime factor
- and they know their employees leave things switched on

Despite this:
- Operators are buying cheap CapEx, expensive to run equipment
- Using it inefficiently

THE BUYER SUPPLIER PARADOX

If there were suitable and cost effective low-carbon alternatives available, we would buy them

There is a common 'catch-22' that hampers the commercialisation of low-carbon technologies

Courtesy of Health Care Without Harm
We are overcoming the disconnect between aspirations and actions:
- We used access to experts across the industry helped by CESA
- And obtained seed funding from DEFRA
- Our Triumvirate: Dominic Burbridge, Philippe Pernstich and myself
What the tool does

Combines 3 axes of information (defined via parameters):

- A profile of the demands on a commercial kitchen
- Selected set of kitchen equipment
- Different operating models (planned and behavioural)

Outputs:

- The energy, cost and carbon impacts of any combination
- To compare with other scenarios

Benefits:

- Provides a definitive tool for optimising new kitchens to needs
- Validation of expected savings versus alternative scenarios
- Shows scenario impacts of running kitchen in different ways
Building such a model requires:

**NUMBERS**

*Embodied: Mass and Type*

*In Use: Energy Data*

*Capacities, lifetimes etc*

**PEOPLE**

*Cross-functional experts*

*Process maps*

*What happens if...*

**MODEL**

*Capturing the above to the right level of detail*

*Simple on the outside, very complex on the inside*
Building such a model requires:
Numbers – Derived from a wide range of sources

- Carbon Trust’s Industrial Energy Efficiency Accelerator: Contract Catering Sector Guide
- Preparatory Study for Eco-design Requirements for EuPs:
  - Lot 1: Refrigerating and Freezing Equipment
  - Lot 22: Commercial and Domestic Ovens
  - Lot 23: Domestic and Commercial Hobs and Grills
  - Lot 24: Professional Washing Machines, Dryers and Dishwashers
- Equipment specification sheets
Building such a model requires:
People – Cross-functional experts

› Maggie Charnley, DEFRA
› Kiko Moraiz, DECC
› Paddy Howlin, GPS
› David Wharton, GPS
› Keith Warren, CESA
› Glenn Roberts, CESA/GRAM UK
› Mick Shaddock, CESA/Victor manufacturing
› Stephen Elliott, CESA/Serviceline.uk
› Mike Mellor, CESA/Space catering
› Iain Munro, CEDA/ScoMac
› Jack Sharkey, CEDA/Vision
› Vic Laws, FCSI
› David Bentley, FCSI/Russell Partnership
› Chris Wright, CaterQuotes
› David Clarke, CDIS-KARM
› Camilla Woods, BHA
So you end up with a tool which shows you...
To get there needs lots of process mapping

Mise-en-place refrigeration equipment, close at hand when cooking

Chilled M-en-P storage
Chilled M-en-P storage

Waste
Combine and serve
Eaten

Waste
Preparation
Par cooking
Refrigeration equipment for bulk storage

Ambient store
Frozen ingredients
Chilled ingredients

Ambient ingredients
Frozen ingredients
Chilled ingredients

Freezer equipment for bulk storage

Warm hold storage
Finish cooking (hot served)

Finish cooking (cold served)

Frozen store
Chilled store

Preparation
Par cooking
Refrigeration equipment for bulk storage

Frozen store
Chilled store

Freezer equipment for bulk storage

Ambient ingredients
Frozen ingredients
Chilled ingredients
Defaults to remove complexity… then increasing detail

### Establishment Parameters

<table>
<thead>
<tr>
<th>Establishment Type</th>
<th>Pub</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seating Capacity</td>
<td></td>
</tr>
<tr>
<td>Max. Additional Seating</td>
<td></td>
</tr>
<tr>
<td>Avg. Table Turnaround</td>
<td>minutes</td>
</tr>
</tbody>
</table>

#### Opening Times

<table>
<thead>
<tr>
<th>Day</th>
<th>Open 1</th>
<th>Close 1</th>
<th>Open 2</th>
<th>Close 2</th>
<th>Open 3</th>
<th>Close 3</th>
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<tbody>
<tr>
<td>Mon</td>
<td>06:00</td>
<td>10:30</td>
<td>12:00</td>
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<td>18:00</td>
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<td>12:00</td>
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<tr>
<td>Wed</td>
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<td>12:00</td>
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<tr>
<td>Thu</td>
<td>06:00</td>
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<td>12:00</td>
<td>14:30</td>
<td>18:00</td>
<td>23:00</td>
</tr>
<tr>
<td>Fri</td>
<td>06:00</td>
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<td>12:00</td>
<td>14:30</td>
<td>18:00</td>
<td>23:00</td>
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<tr>
<td>Sat</td>
<td></td>
<td></td>
<td>12:00</td>
<td>15:30</td>
<td>18:00</td>
<td>23:00</td>
</tr>
<tr>
<td>Sun</td>
<td></td>
<td></td>
<td>12:00</td>
<td>15:30</td>
<td>18:00</td>
<td>23:00</td>
</tr>
</tbody>
</table>

#### Kitchen Operating Hours

<table>
<thead>
<tr>
<th>Day</th>
<th>Open 1</th>
<th>Close 1</th>
<th>Open 2</th>
<th>Close 2</th>
<th>Open 3</th>
<th>Close 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon</td>
<td>05:30</td>
<td>15:00</td>
<td>16:30</td>
<td>23:30</td>
<td></td>
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<td>15:00</td>
<td>16:30</td>
<td>23:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wed</td>
<td>05:30</td>
<td>15:00</td>
<td>16:30</td>
<td>23:30</td>
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<tr>
<td>Thu</td>
<td>05:30</td>
<td>15:00</td>
<td>16:30</td>
<td>23:30</td>
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<td></td>
</tr>
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<td>Fri</td>
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<td>15:30</td>
<td>16:30</td>
<td>23:30</td>
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<td></td>
</tr>
</tbody>
</table>

#### Closed Periods

<table>
<thead>
<tr>
<th>Period</th>
<th>Duration (Weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Period 1</td>
<td></td>
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<tr>
<td>Period 2</td>
<td></td>
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<tr>
<td>Period 3</td>
<td></td>
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<tr>
<td>Period 4</td>
<td></td>
</tr>
<tr>
<td>Period 5</td>
<td></td>
</tr>
<tr>
<td>Period 6</td>
<td></td>
</tr>
</tbody>
</table>
Sliders to easily model reality... or over-ride with detail
# The menu: high level

## Catering Cost/Carbon Calculator

### Menu and Food Preparation

<table>
<thead>
<tr>
<th>Kitchen Type</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Convenience Product Input (%)</td>
<td></td>
</tr>
<tr>
<td>No. of Menus</td>
<td></td>
</tr>
<tr>
<td>Serving Window (minutes)</td>
<td></td>
</tr>
<tr>
<td>Typical cooking behaviour</td>
<td></td>
</tr>
</tbody>
</table>

### Menu 1

<table>
<thead>
<tr>
<th>Menu Type</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability From</td>
<td>To</td>
</tr>
<tr>
<td>Ratio of starters to main courses</td>
<td></td>
</tr>
<tr>
<td>Ratio of dessert to main courses</td>
<td></td>
</tr>
</tbody>
</table>

### Meal Type

<table>
<thead>
<tr>
<th>Mains Category</th>
<th>% of sales by weight</th>
<th>Starters Category</th>
<th>% of sales by weight</th>
<th>Dessert Category</th>
<th>% of sales by weight</th>
</tr>
</thead>
</table>
# The menu: detailed - Main courses, starters and desserts

## Catering Cost/Carbon Calculator

### Main Courses

| Name                          | % of sales (by mass) | % Serve cold | Quantity (g) | Time (mins) | Quantity (g) | Time (mins) | Quantity (g) | Time (mins) | Quantity (g) | Time (mins) | Quantity (g) | Time (mins) | Quantity (g) | Time (mins) | Quantity (g) | Time (mins) | Quantity (g) | Time (mins) | Quantity (g) | Time (mins) |
|-------------------------------|----------------------|--------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|
| Grilled meat/fish, chips, vegetables | 45                    | 175          | 30           | 5           | 175          | 15          | 25           | 5           | 30           | 10          | 200          | 3           | 400          | 10          | 400          | 10          | 400          | 10          |
| Fried Fish, chips, vegetables  | 20                    | 175          | 10           |             | 200          | 15          | 25           | 3           | 200          | 15          | 25           | 3           |             |             |             |             |             |             |
| Roast Meat/Fish, potatoes vegetables | 20                    | 400          | 20           |             |              |             |              |             |              |             |              |             |             |             |             |             |             |             |
| Rice/Pasta dishes            |                       |              |              |             |              |             |              |             |              |             |              |             |             |             |             |             |             |             |
| Pizza                         |                       |              |              |             |              |             |              |             |              |             |              |             |             |             |             |             |             |             |
| Pies/Quiches                  |                       |              |              |             |              |             |              |             |              |             |              |             |             |             |             |             |             |             |
| Stews                         |                       |              |              |             |              |             |              |             |              |             |              |             |             |             |             |             |             |             |
| Stir-fries                    | 5                     | 200          | 60           |             | 100          | 10          | 100          | 10          | 100          | 10          | 100          | 10          |             |             |             |             |             |             |
| Salads                        | 10                    | 250          | 50           | 10          | 5            | 3           |              |             |              |             |              |             |             |             |             |             |             |             |
What the model can do - Highlights

It can identify & quantify the impact of:

- Menu complexity
- Sizing your kitchen for average week, peak weeks or weeks with ‘special weekends’ etc.
- Compare kitchen designs
- ‘Right-sizing’ the capacity of equipment
- CapEx and OpEx of different equipment and fuel types (induction verses gas etc.)
- Different behavioural, operational and equipment optimisation strategies
- Different food delivery & storage strategies
- Different preparation cooking strategies
- Different ‘hot finish’ service windows
- Changing almost anything that you can think with respect to catering operations
Worked example – Restaurant business
Worked example – Restaurant business
Overview – Modelling & Comparison Scenarios

- To help demonstrate the ‘power’ of the calculator, using a worked example, we created a baseline scenario and four different reduction scenarios:
  - Baseline
  - Improved User Behaviour
  - Maximised User Efficiency
  - Menu Optimisation
  - Equipment Optimisation
- The measured lifecycle energy cost and carbon were then compared against each other
- All of the scenarios are not mutually exclusive and aspects of each one can be combined or omitted depending on the specific requirements of any business and their catering sites
Worked example – Restaurant business
Overview – Input parameters

› Business Type: Restaurant
› Seating Capacity: 150 Opening hours: 12-10pm
› **Varied and complex menu** with many dishes relying on multiple components cooked on the hob

**Cooking:**
› 1 electric six-ring hob
› 2 range ovens
› 1 10-grid combi gas oven
› 1 counter-top convection oven
› 2 microwaves
› 1 warmer
› 1 Salamander grill
› 1 two-tank electric fryer

**Refrigeration:**
› 2 Upright fridges
› 3 under-counter fridges
› 5m2 cold room
› 1 double upright freezer
› 2 under-counter freezers
› 1 blast chiller

**Washing:**
› 1 glass washer
› 1 pass-through dishwasher
Worked example – Restaurant business
Overview – Calculator outputs & analysis of results

Cut Costs & Carbon Calculator - Reduction Scenarios - Energy Cost Analysis

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Energy Cost (£/yr)</th>
<th>Energy Cost (£/meal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>19,929</td>
<td></td>
</tr>
<tr>
<td>Improved User Behaviour</td>
<td>18,152</td>
<td></td>
</tr>
<tr>
<td>Maximised User Efficiency</td>
<td>12,491</td>
<td></td>
</tr>
<tr>
<td>Optimised Menu</td>
<td>17,174</td>
<td></td>
</tr>
<tr>
<td>Optimised Equipment</td>
<td>13,259</td>
<td></td>
</tr>
</tbody>
</table>

- Hob
- Grill
- Microwave
- Washing
- Oven - heat
- Bratt Pans
- Warming
- E&V
- Oven - steam
- Fry
- Refrigeration

Saving relative to Baseline Energy Cost (£/meal)
Worked example – Restaurant business
Scenario 1: Baseline

› **Baseline**
  › Developed under the direction of the Project Technical Steering Committee
  › Based on a typical menu, kitchen design and equipment selection for a 150 cover restaurant
  › This scenario calculates the cost and carbon assuming staff keep all equipment on throughout their shifts

› **Energy cost saving relative to baseline:** 0%
Worked example – Restaurant business
Scenario 2: Improved User Behaviour

› Improved User Behaviour
  › Through a combination of staff training and updated procedures, this scenario calculates the reductions assuming any unused equipment is turned off, or onto stand-by mode, during prolonged quiet periods during shifts

› Energy cost saving relative to baseline: approx. 10%
Worked example – Restaurant business
Scenario 3: Maximised User Efficiency

- Maximised User Efficiency
  - Through development of an ‘efficiency’ culture, strong leadership by management and committed staff, this scenario calculates the reductions assuming that appliances (particularly gas) are turned off at every reasonable opportunity

- Energy cost saving relative to baseline: >30%
Worked example – Restaurant business
Scenario 4: Menu Optimisation

- **Menu Optimisation**
  - This scenario builds on the ‘improved user behaviour’ scenario
  - It calculates the reductions assuming that, following a review of customer preferences and cooking practices, the menu has been adjusted to offer a similar or greater selection of options but using a reduced range of cooking methods for core aspects of each choice
  - The result is that the catering requirements of the menu are more closely aligned with the current range of installed catering equipment.

- **Energy cost saving relative to baseline:** approx. 15% (5% increase from Scenario 2)
Worked example – Restaurant business
Scenario 5: Menu Optimisation

› Equipment Optimisation
  › This scenario builds on the ‘menu optimisation’ scenario
  › It calculates the reductions assuming the opportunity to optimise the installed catering equipment has been implemented e.g. switching the hob from electric to gas, removing some over-capacity (e.g. the refrigeration, the microwaves, fryer and one of the range ovens).

› Energy cost saving relative to baseline:  >30%
  (>15% increase from Scenario 4)
Worked example – Restaurant business
Lifecycle costing: Results & analysis

› Lifecycle costing:
› For cooking equipment 85% of lifecycle cost is associated with the energy used in operation
› This emphasises the business case for investing in the procurement of energy efficiency catering equipment
› Our analysis shows that, assuming you can accept a 2yr simple payback, it is cost effective to spend up to 12-25% more for equipment that can deliver a 10-20% saving compared to cheaper, inefficient equipment.
› Taking into account future energy price inflation (a further 20% by 2020) this reduces the simple payback by almost 3 months
Business benefits
Business benefits
At a UK catering industry level...

>8 billion meals across 260,000 sites

**TODAY**
- Energy costs:
  - >£770m/yr
- Carbon emissions:
  - 3.9mtCO2/yr
  - 2% of UK business & public sector emissions
- Costs per meal:
  - Depending on business type & size, equivalent to **10-20p per meal**

**TOMORROW**
- Energy Costs reductions:
  - >£250m/yr
- Carbon emission reductions:
  - >1mtCO2/yr
- Savings per meal:
  - 3-6p per meal

30% savings achievable
## Business benefits

At a business level, using the Cut Costs & Carbon Calculator can demonstrate that...

<table>
<thead>
<tr>
<th>Manufacturers / Distributors</th>
<th>Designers</th>
<th>Operators</th>
</tr>
</thead>
<tbody>
<tr>
<td>...for catering equipment, that is 10-20% more energy efficient than alternatives, assuming a simple payback of &lt;2yrs is acceptable, then it is affordable for your clients to spend up to 12-25% more to be able to capitalise on these lifetime energy cost and carbon savings</td>
<td>...because optimisation of kitchen designs and aligning menu and equipment selection/use can delivery up to 10-20% in energy cost and carbon savings, in many circumstances, for organisations that don’t have the internal resources of skills, paying for expert advice is a cost-effective way to access these savings</td>
<td>...benchmarking and performance monitoring, of you catering operations can uncover 10-30% energy cost and carbon savings through prioritised investment in:  › Behavioural change  › Menu optimisation  › Kitchen design  › Equipment selection  › Any/or of the above</td>
</tr>
</tbody>
</table>
Business benefits...
The Cut Costs & Carbon Calculator removes the barriers that prevent businesses from capitalising on this opportunity...

<table>
<thead>
<tr>
<th>BARRIERS</th>
<th>Behaviour &amp; motivation</th>
<th>Misaligned incentives</th>
<th>Hidden costs &amp; benefits</th>
<th>Financial costs &amp; benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Perceived relative immateriality of energy costs</td>
<td>Misalignment between key departments e.g. Procurement &amp; Operations</td>
<td>Lack of internal resources &amp; tools to identify &amp; implement opportunities</td>
<td>Upfront investment</td>
</tr>
</tbody>
</table>

THE CALCULATOR PROVIDES THE ANSWERS THAT ARE NEEDED TO CHALLENGE THE IDENTIFIED BARRIERS
Next Steps
Next steps – Use the calculator...
We can help you unlock the commercial and environmental benefits

› We have proved the calculator can be used as a:
  › ‘Benchmarking, scenario planning & comparative modelling’ tool for the industry as a whole
  › ‘Selling’ tool to help manufacturers compare their equipment against industry averages and help grow revenues and market share
  › ‘Innovation’ tool to help manufacturers (and industrial designers) identify and focus R&D efforts on reducing manufacturing & ‘cost of ownership’ resource & energy costs and environmental impacts
  › ‘Catering Design Optimisation’ tool to help designers, dealers, specifiers and even operators assess the economic and environmental efficiency of their existing and new catering facilities and operations
  › ‘Menu Development & Behavioural Change’ tool to help operators uncover new ways to enhance economic and environmental sustainability of their operations whilst continuing to exceed the needs and expectations of their customers

› As a next step, we can provide the right training and advice to help your business capitalise on these opportunities
Any questions.....?

Dominic Burbridge
Associate Director – Business Advice
The Carbon Trust
DD: +44 (0)20 7832 4750
Mobile: +44 (0)7738 195 106
Email: dominic.burbridge@carbontrust.com
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