



Department for
Business, Energy
& Industrial Strategy

Non-Domestic Smart Energy Management Innovation Competition

Evaluation case study: flutter

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Executive summary

This report describes findings and lessons from the evaluation of 'fluttr', an energy management tool piloted by Considerate Group as part of the UK Government's Non-Domestic Smart Energy Management Innovation Competition (NDSEMIC). Fluttr is a mobile application (app) which allows smaller hospitality businesses (hotels, restaurants, pubs and bars) to easily access information about their electricity consumption. It was piloted at 63 sites.

Fluttr provided energy use information that users had not previously been able to access in a format that they found easy to interpret. This improved their understanding of their energy consumption and, in some businesses, fluttr was used to support business operations – e.g. to communicate with staff around energy use or to identify pieces of equipment and processes that consumed large amounts of energy. Evidence from across the pilot suggests that fluttr led, in some cases, to more energy efficient behaviours, and the evaluation has a medium level of confidence that fluttr contributed to energy savings in at least some pilot sites.¹ Sites consulted also reported that they planned to sustain use of the tool over time.

Considerate Group has used the Competition to further optimise fluttr for users and resolve recruitment and data access challenges. The Group has secured further partnerships and public funding to further develop fluttr, including developing existing features such as capturing live² energy use, multiple user functionality, and a 'marketplace' function guiding users through the retrofit process and offering them access to financing solutions.

The findings from this report suggest Considerate Group could take forward the following points as it progresses its commercial offer, which may also be relevant for other innovators:

- Keep the core tool functions and features simple. More complex features might be helpful to some users as add-ons but should not compromise the simplicity of the central offer.
- A 'starter pack' of guidance which clearly outlines all of the features of the app could be helpful. This could build on the current user manual and incorporate videos and testimonials on how users can access all its features.
- Customer support and quick resolution of technical issues are important in maintaining engagement. A single, simple route to provide feedback – ideally through the app – so that users know how to contact Considerate Group's help team is likely to be well-received.
- Environmental objectives were a big push factor behind fluttr user sign-up. By presenting fluttr as an enabler to environmental goals, more 'green' businesses could gain interest.

¹ This is the conclusion reached from applying the evaluation's strength of evidence framework (see Chapter three). This framework triangulated various quantitative and qualitative data sources to give a level of confidence that savings had been achieved in some pilot sites.

² Live data in the context of this Competition describes energy consumption data at half hourly (or more detailed) granularity fed to the tool or platform on an on-going basis. Non-live data may provide the same level of granularity but is not updated on an ongoing basis, for example being uploaded to the tool or platform once a day (and in arrears). In this instance, the report is referring to live data which used half hourly or sub half hourly energy consumption readings.

- While tips have been useful for some users and acted upon in some cases, they are perceived as useful / acted upon only where considered sufficient tailored / relevant.
- Making the tool accessible online (as well as via mobiles) may increase use for desk-based staff such as managers.

1 Introduction

This report describes the findings and lessons from the evaluation of 'fluttr', an energy management tool developed by Considerate Group as part of the UK Government's Non-Domestic Smart Energy Management Innovation Competition (NDSEMIC). NDSEMIC (from here on referred to as 'the Competition') is an £8.8 million programme, funded by the Department for Business, Energy and Industrial Strategy (BEIS). It aims to maximise the potential for energy saving in three priority sectors (hospitality, retail and schools). To do this, it has developed energy management products and services that use smart meter data to help smaller organisations to manage their energy consumption better.

Nine projects were selected as part of the Competition to receive initial development funding. Seven of these passed through to the next 'feasibility and initial testing' stage. All seven project developers, including Considerate Group, also went through to the final stage of the Competition (from February 2019 to January 2020) during which the innovations were piloted with small businesses and schools in a real-world setting.

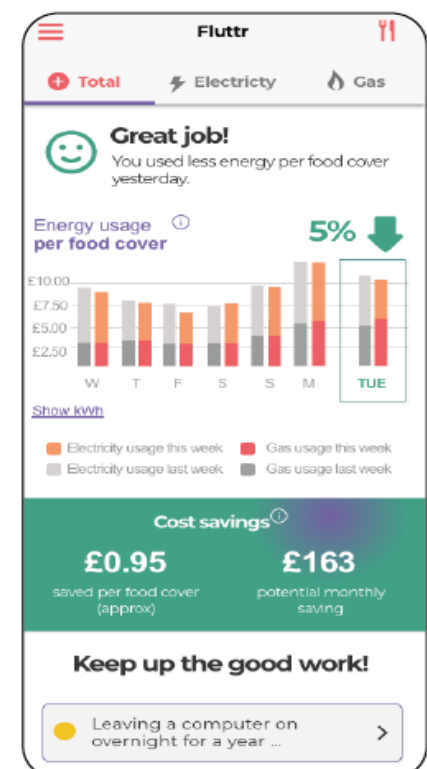
This report is part of a package of reports published as products of the Competition, which also includes six other pilot evaluations, an overall final evaluation report, insights for innovators, user impact case studies and an evaluation technical report. These are all available on www.gov.uk.

Overview of fluttr

Fluttr is a mobile application (app) which allows smaller hospitality businesses (hotels, restaurants, pubs and bars) to easily access information about their energy consumption. It has the functionality to monitor gas usage, although the version of Fluttr tested as part of the Competition only included electricity data. Its aim is to help businesses reduce their energy consumption by increasing awareness and understanding of energy usage in the business and show how individual actions can lead to increased energy efficiency. The app is developed for hospitality venues and is targeted at hospitality managers and/or general staff use. In order to encourage users to reduce energy consumption, the app correlates users' energy use data with business metrics to:

- Provide a user-friendly and accessible platform for users to access their energy data;
- Display consumption trends correlated against room occupancy / food covers, i.e. the amount of energy used proportionate to number of hotel or restaurant bookings;³
- Estimate cost savings from reduced energy consumption;

Figure 1 Screenshot of the fluttr app



³ This is based on the assumption that there is a close similarity or connection between hotel occupancy and energy consumption (either positive or negative), often because one thing causes or contributes to the other.

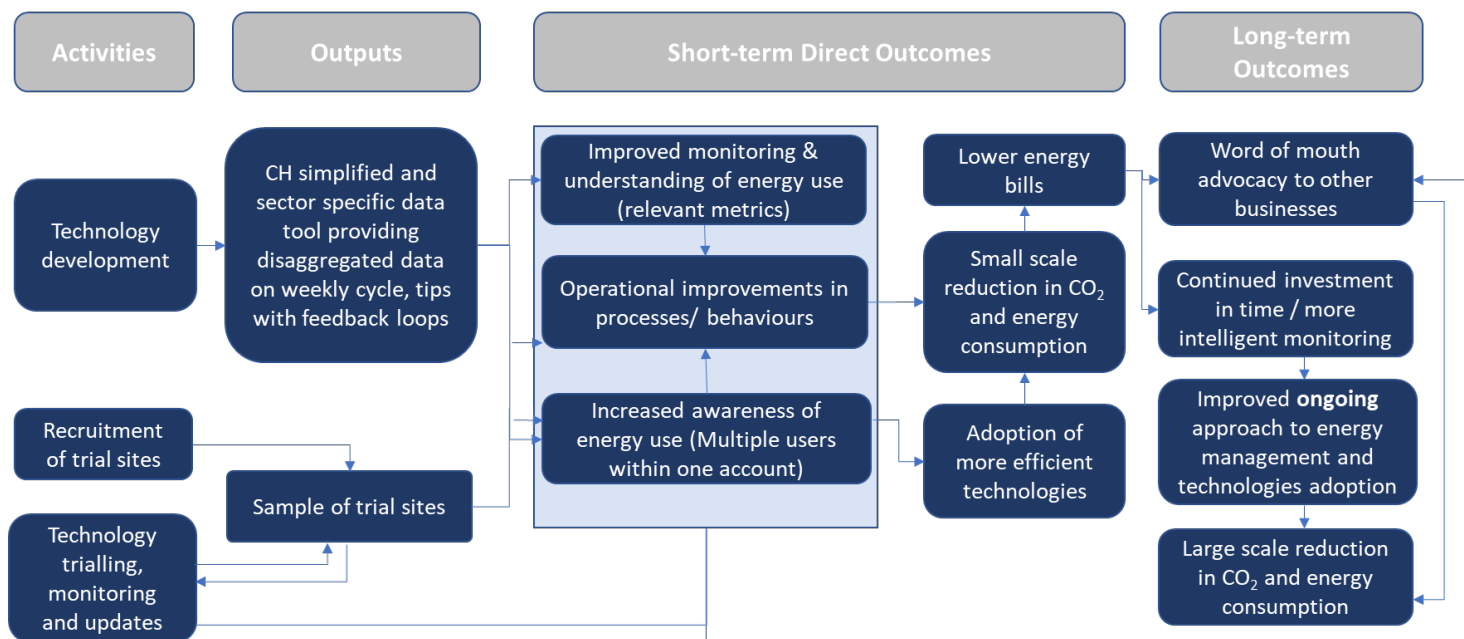
- Notify users of any “abnormal” energy consumption; and
- Suggest energy saving tips.

The anticipated effects of flutter (its theory of change)

The aim of flutter was to provide better control to users over their energy-related costs by “integrating seamlessly” with users’ daily duties and being relevant for hospitality staff. Its design principles comprised: simplicity, relevance to the sector and provision of actionable information.

Figure 2 presents the theory of change underpinning flutter’s design.⁴ It describes: the activities that Considerate Group conducted to develop the tool, the direct outputs of these activities, and anticipated short-term and long-term results (‘outcomes’). By the end of the project’s close in January 2020, the project was expected to have met, or be contributing, to all of its proposed short-term outcomes, as well as showing evidence towards meeting some of the longer-term outcomes such as improvements in the way organisations manage and monitor their energy use, and their adoption of new technologies to help reduce energy consumption.

Figure 2: Logic model showing flutter’s theory of change



Key features of flutter

Flutter has been designed for hospitality managers and general staff and provides tips tailored to the job profile of the user, type of business (hotel/restaurant/pub/bar) and other characteristics (e.g. size of business, room occupancy etc.). For example, a hotel staff member may receive tips such as to check lighting across rooms at the end of the day; whilst a chef

⁴ A theory of change describes how change is assumed to come about through an intervention. It often shows in a diagram the connections between interventions and outcomes – these are often called ‘causal pathways’ or results chains.

might receive tips such as to check a sealant on a fridge (and an overall manager/owner may receive both). It may also be adopted by chain organisations who have multiple sites and users within one business. Use of the app can be restricted to site managers or be made accessible to all staff depending on how the initial user wishes to delegate access.

The key features of fluttr comprise:

- Summaries of daily and weekly electricity use and costs, in kilowatt-hours (kWh) and GBP (£) per site;
- Comparisons of energy consumption and cost savings between the same day in different weeks (e.g. Friday of one week to Friday of the previous week);
- Simple visuals that communicate the amount and direction (positive or negative) of change in performance (through % change figures, arrows and emoticons e.g. smiley faces); and
- Daily “energy saving tips” on how the business can save energy - universal to the sector and bespoke to the job role of the user.

Additional features of the app include:

- Detail of energy consumption by half hour (one day in arrears), to allow users to identify peaks and troughs in energy consumption;
- Energy consumption figures per room (in the case of hotels) or per table served (for restaurants). This feature requires users to manually enter room occupation/table numbers; and
- For hospitality chains, the ability for group-level managers to access detailed site-specific energy data; monitor which sites have implemented energy saving tips; and view energy use and cost comparisons between sites through a ‘leader board’.

How fluttr was piloted

Fluttr was piloted through 2019 in two phases with 63 sites overall:

- An Alpha phase (which ran from February to July 2019) during which 41 businesses (from Considerate Group’s existing client base) tested the tool’s functionalities. To better understand where they could optimise performance, Considerate Group encouraged users to feedback via the tool’s reporting function and through email. Towards the end of this phase, a user manual was created to accompany the tool and Considerate Group’s direct contact with users decreased.
- A Beta phase (August 2019 to January 2020), piloted a more final version of the tool. Beta users were ‘recruited’ into the pilot through a marketing campaign. Considerate Group recruited 22 Beta phase sites who began using the app from September onwards. Alpha sites were then also transitioned to the Beta version of the tool.

As most users of fluttr had accessed the tool during the ‘Alpha’ phase, which involved feedback to and communication with Considerate Group, their experience of the fluttr tool necessarily included human interaction with / support from Considerate Group. However, this was a feature of the piloting process rather than an integrated feature of the tool itself.

This evaluation

The research for this evaluation was conducted by Ipsos MORI in conjunction with their consortium partner the Carbon Trust. Ipsos MORI designed the evaluation approach and designed and delivered all aspects of the methodology, except for the energy consumption analysis which was designed and conducted by the Carbon Trust, and quality assured by Technopolis Group.

The evaluation takes a theory and case-based approach which is described in Annex 1. The findings draw on insights gathered through an online survey of users (five respondents,⁵ all hotels) and on-site visits to five of the businesses responding to the survey. This evaluation also utilises insights and data provided by Considerate Group throughout the Competition. An energy consumption analysis (ECA) of general trends across 51 sites was conducted alongside an in-depth ECA for two sites for which some historical data was available. However, the ability of the ECA to reliably detect impacts was limited due to lack of sufficient historical comparison data,⁶ variable information on when most businesses started using fluttr,⁷ and the confounding effects of changing weather patterns on energy use.

Only businesses which had responded to the survey and consented to being contacted were invited to participate in an on-site visit. Whilst attempts were made to reduce any bias in the sample, given that interview selection was dependent on users agreeing to participate in the research, the possibility that it may have been biased towards those having a positive experience of the tool cannot be excluded. Overall, the evidence considered covers five out of 63 pilot sites. The small size of the sample has limited the strength of evidence upon which conclusions about the effectiveness of fluttr can be drawn (for more information see Annex 1). Nonetheless, in taking a case-based approach, the evaluation has been able to assess whether and how the use of fluttr has contributed to changes in awareness, understanding, energy use and consumption at these specific sites.

This report

The following chapters summarise the findings of the fluttr evaluation in terms of: the extent to which businesses in the pilot engaged with fluttr (Chapter two – How users engaged with fluttr), as well as the extent to which those engaged businesses experienced the intended effects of fluttr (Chapter three – The results of the pilot of fluttr). Chapter three also assesses the confidence with which it can be concluded that fluttr has contributed to these results. The final chapter summarises the findings of the evaluation (Chapter four – Conclusions).

⁵ Five respondents completed both the pre-pilot and post-pilot survey. Additional respondents completed only the pre-pilot survey and did not respond to the post-pilot survey

⁶ At the two sites selected for in-depth analysis, historical data ranged from 32 to 52 days prior to fluttr's introduction.

⁷ Start dates were available for 11 of 51 sites; in the remaining 40 sites they were estimated.

2 How businesses used flutter

This chapter discusses how flutter users engaged with the tool during the pilot. It begins with a summary of the types of sites piloting flutter and the scale of the take-up, before discussing in more detail how flutter was used.

The profile of the sites piloting flutter

All users who participated in qualitative interviews were actively using flutter to some extent, which is at least in part due to these businesses having pre-existing environmental agendas. For these businesses, **a desire to be more environmentally friendly was the key reason for initially signing up to flutter**, seeing it as a means of further pursuing sustainability goals:

“We were always quite a green hotel and it was important to us to continue that journey, and it seemed like a good opportunity to be involved with something that might make a difference. – Hospitality, Small hotel, Owner

Indeed, it is highly likely that the majority of flutter users in the pilot would have had an existing interest in environmental sustainability. Considerate Group is a company that aims to equip hospitality sites with “*innovative tools to manage their environmental impact*”⁸ and, as many flutter users piloting the tool came from Considerate Group’s existing relationships (through direct recruitment), it may be expected that a high proportion of pilot sites would have had an interest / be investing in sustainability.

The **majority of those given access to flutter to date belong to a chain or franchise organisation**: the 12 chain organisations that signed up to pilot flutter accounted for up to 40 of the individual sites across the portfolio of users. In each case, the sites had one designated user. Participants in the evaluation fieldwork were all designated users within the organisation. Due to non-response and availability issues, it was not possible to speak to the central manager of a chain business to explore the extent to which the app had been disseminated across the chain or managed centrally only.

Level and scale of the take-up of flutter

During the pilot, levels of engagement with flutter were not as high as Considerate Group had anticipated. According to Considerate Group’s analytics, all 63 pilot sites had used the app at least once after downloading it although it is not possible to determine their frequency of usage or whether a log in resulted in actual tool engagement. User feedback suggested that engagement was limited for some of these sites (for example, one site contacted to take part in the evaluation reported that they had “never properly looked at” flutter after download).

One factor which may have deterred engagement was the **delay experienced by several users in accessing live energy data**. The app was designed to use live data from SMETS smart meters;⁹ however, none of the sites that participated in the trial had these types of smart meters already installed. To deal with this, Considerate Group contacted the sites in order to

⁸ <https://considerategroup.com/>

⁹ For more information on smart meters, see: <https://www.gov.uk/guidance/smart-meters-how-they-work>

explore the data options available at each of them. Considerate Group then set up partnerships with two energy management and analytics companies to better enable live data access. Through the first partnership, some sites were given access to wireless energy management software through an API¹⁰ to enable upload to the tool from pulse meters. Considerate Group then set up a data collection partnership with a second company who created a File Transfer Protocol (FTP) with fluttr users who had advanced metering. These technical challenges led to a delay in users receiving their energy monitoring data via the app, and reportedly took more time than Considerate had envisaged. Without live energy monitoring data, energy saving tips for some users were not fully tailored.

Amongst those who did engage with the tool, **the main types of users appear to have been single business owners, management and/or senior operational staff**.¹¹ Fluttr has the capacity to be used by multiple users within an organisation, particularly within chain organisations. However, **none of the users consulted for this evaluation had delegated use of / access to the app to others within the business**. The reasons they gave for this were: that they had only recently started engaging with the tool themselves and wanted to test it further, limited numbers of staff on site, and technical issues. Users consulted at one hotel said they had previously attempted to disseminate a human-resources app amongst staff, and it had not been taken up, so they were sceptical that staff would engage with another app. However, they had also not been aware of the multi-user functionality within the app and reported that they might consider using this with their finance team in the future.

"[...] we haven't really received training on the app so I guess actually if you would have a 'what does the app offer' guideline, sort of, manual¹² it would be very interesting for us to have because we may be missing on some of the aspects that the app offers in the past couple of months that would be able to then drive us forward for the initiatives and things." – Hospitality, Luxury hotel, Head of human resources (HR) and corporate social responsibility (CSR) manager

How fluttr was used

Users who had engaged with the tool reported that they engaged with the energy data displayed on the tool on a **weekly or fortnightly (or more frequent) basis**. Managers and owners reported that they had used the information provided on the app in team meetings to illustrate the cost of a given task or update staff on the site's consumption, stating that fluttr's option to display in GBP (£) or kWh was useful to translate to team members:

"Talking in pounds is a lot better than kWh. Not everyone can relate to [kWh]." – Hospitality, Small hotel, Owner

In general, users found the app to be useful to their business, particularly the following features:

- **Cost data:** users suggested this helped with site budgeting, especially data on the direct costs incurred through activities and appliances.

¹⁰ An application program interface (API) is a set of tools and protocols for building software applications. It specifies how software components should interact (essentially enabling data from a meter to be converted into the app).

¹¹ Based upon Ipsos MORI's survey and interviews / site visits.

¹² Considerate Group has developed a user manual which was disseminated to users detailing app onboarding and functionality options.

“Rather than us having to actually compare and go to previous reports that were printed at the time and then do a, sort of, much more manual job.” – Hospitality, Luxury hotel, Head of HR and CSR manager

- **Correlation with room occupancy:** Users from hotels stated that this was particularly beneficial, as it helped them to understand their energy use within the context of their sales. However, most users did not use the ‘room occupancy’ feature as frequently as was expected (from fluttr’s design). Sites consulted suggested that because this feature requires manual input of occupancy, they would only enter it when they had additional time to use the app (as otherwise they were too busy to input data).

“We’ve used £233 this week, [...] and last week £243, and [...] last week was a bit quieter, but [I’ve] never fully recorded room use [against energy consumption].” – Hospitality, Hotel, Owner

- **Half hourly energy data dashboard:** Users liked the half hourly energy monitoring function. Even users who felt they had a good understanding and management of energy data before using fluttr stated that this function would help them monitor the energy impact of changes they intended to make to their business over the next year, such as the installation of a new terrace and outdoor coolers.
- **Tips:** Overall, survey respondents felt that the tips provided by fluttr were useful, appropriate, and relevant. However, amongst those consulted as part of site visits, some did not see them as particularly innovative; although they did state that they had occasionally followed the advice or were reminded to check something from the tips.

“It’s always worth it for the odd one.” – Hospitality, Small hotel, Owner

User experience of the tool

The app was developed to be user friendly and functional, with a simple and friendly design, such as incorporating graphics of animals to make the interface and user experience more engaging. In general users consulted found the tool accessible and simple, and liked the aesthetic design. **Indeed, the accessibility, simplicity and user-friendliness of the tool appears to have been one of the main drivers behind its success.** One interviewed user stressed the simplicity of the tool's dashboard as a benefit:

"[it's] simple because you get to its home screen and immediately it shows you your benchmark consumption, asks you for your room nights, gives you your tip" – Hospitality, small hotel, owner

Users believed the simple design made it easier to view their management information in one place. Findings from the survey and qualitative interviews further supported this view, with the tool being described as *"intuitive"*, *"very useful"* and *"tailored to the target audience"*.

There were a few technical difficulties experienced by Alpha (first wave) users when first entering data into fluttr. However, these were addressed when Considerate Group created a user manual. Users were positive about the support given by Considerate, and this is likely to have been a key factor in maintaining engagement:

"they [Considerate] were brilliant, really responsive. Came back, yes, same day, all the time, on any issues."

One user gave a recommendation for the app to include gas and water in the future (like Considerate Group's Con-Serve¹³ offering) so that *"then you've got the full energy picture"*. But the user did assert they understand that this may require a cost implication for users of the tool.

While fluttr was viewed as easy to access for the user, some users suggested that having it presented on a desktop or downloadable on a tablet would make it easier to pass on information to other staff in the business.

¹³ <https://considerategroup.com/con-serve/>

3 The results of the pilot of flutter

This chapter discusses the extent to which the expected results (outcomes) of flutter were achieved (as anticipated in its theory of change (see Chapter one)).

Flutter was designed to increase users' understanding of their business' energy use. The tool was expected to achieve this by providing users with current and historical energy consumption insights. As it increased understanding, there was an expectation flutter would, in turn, lead to improved operations on-site, increased knowledge of how to save energy amongst staff on-site, and effects on energy use awareness and behaviour beyond the participating businesses, through word of mouth advocacy.

As described below, users interviewed indicated that flutter **provided energy use information that they had not previously been able to access, in an easy-to-read format that helped improve their understanding of their energy consumption**. In particular, flutter helped users pinpoint pieces of equipment and business operations that consumed large amounts of energy, and some users reported integrating the tool into their monitoring and management processes. **This understanding led to improved practices** including changing staff routines, communications with staff around energy saving behaviours, and setting targets/budgets for energy savings. There is **some evidence to suggest that flutter has led to more efficient behaviours in at least some sites**. While these behaviours may be inferred to lead to energy savings if sustained, only one business had been able to observe any energy savings (which were small in scale) within the time period of the pilot.

Immediate outcomes

Flutter's effects on attitudes towards energy use, energy use monitoring and understanding

As described in Chapter one, flutter was designed to facilitate the monitoring of energy use and increase users' understanding, with the assumption that this would generate changes in operations (processes / behaviours) – and possibly encourage the adoption of more efficient technologies – that would reduce energy consumption. 'Monitoring' here refers to the use of flutter to check energy data, the use of other energy monitoring tools (e.g. supplier website), the checking of an energy bill or supplier account and the taking of a meter reading manually.

The flutter users who engaged actively with the tool reported that it increased energy data monitoring and helped them understand which pieces of equipment and activities within their business were using the most electricity. As flutter take-up was most successful amongst businesses which were already 'sustainability-conscious' (see Chapter two), the effects of flutter on overall energy efficiency awareness were minimal. However, on a very practical level, the tool helped users to pinpoint what pieces of equipment and activities were using electricity and how this consumption could be reduced.

It also helped them communicate the need for energy-efficient behaviours to wider staff in the business. In all instances, sites consulted only had one user of the app. Five users were owners or managers and one was an HR manager tasked with Corporate Social Responsibility (CSR) for the business. Whilst none of these users delegated access to the app to other staff, flutter was used in team meetings or in general discussion with cleaning staff,

finance teams or kitchen staff to explain how a given appliance may affect costs and/or energy consumption. Users stated that this was not used consistently (i.e. at every team meeting) but rather in a more ad-hoc way.

The effects of fluttr on the monitoring of energy use amongst decision makers

Prior to using fluttr, users responding to the survey (all decision makers in their businesses) reported that they monitored energy data on a quarterly basis, but after interacting with the tool they monitored it weekly or fortnightly.¹⁴ Users consulted as part of qualitative interviews reported slightly higher usage, which ranged from daily to weekly.

A ‘deeper’ understanding of energy use

One small hotel site, which had previously worked with organisations to understand their energy use, said that the app had encouraged them to monitor consumption at a deeper level within their organisation (whereas, before, they were only able to look at energy consumption over time).

“...if anything more obsessed with it now, using the app, because you put it in and you just want to see a green smile not a red, grumpy face [...] it triggers you to look to see what’s happening, you know, why have you used that little bit of energy, and it becomes the daily puzzle, almost.” – Hospitality, Small hotel, Owner

Users reported that engagement with **the tool encouraged and enabled them to test the energy use** of appliances and tasks and the times of day at which more / less energy was used.

“[We] started switching off bits of kit at various times, just to then work it out.” – Hospitality, Owner, Small hotel and bar

Users stressed that the app made it **far easier to monitor their consumption**, commended the ease of access and visual representation of data, and said this improved the frequency at which they checked this data – even if they had done this through their energy supplier previously. One user stated that **fluttr provided them with information not accessible through their energy provider**:

“Straight away you get a very clear picture of your energy usage. You don’t even get that from your energy supplier”. - Hospitality, Small hotel, Owner

Using fluttr as a means of increasing energy use awareness across the business

Using fluttr helped at least one user **communicate the importance of energy efficiency to their staff**. This user asserted that it was often “*very difficult*” to engage staff members in green policy objectives; but by using the app to demonstrate the monetary effects of using different appliances to staff, they had increased awareness.

“[The cleaning staff] put all the lights on in every room, and they may not be going back to that room for an hour [...] When you show them fluttr and you show them that energy consumption has gone down because you’ll let them behave their normal way one day, and then the next day you say, [...] between eleven and

¹⁴ User reporting in the survey is based on a sample of five respondents across five separate sites.

twelve, you've saved £1.27 in energy [by turning room lights off]. They go, oh wow, £1.27.” – Hospitality, Small hotel, Owner

Amongst all users consulted, there was a range of views regarding the importance of energy management since using the tool. Three users stated that their organisation had further prioritised energy management, with one user selecting the statement ‘it is a much higher priority now’ since using fluttr. However, the three others stated that ‘it is about the same level of priority’ or ‘not a priority’ for their organisation. The sites were also split by those who agreed with the statement ‘my organisation has tried to reduce the amount of energy used at our site(s) since we started to engage with fluttr’ and those who neither agreed nor disagreed.

The effects of fluttr on the adoption of efficient practices and technologies

The evaluation did not uncover evidence of pilot organisations adopting more efficient technology amongst the sites that took part in the research. None of the sites consulted in qualitative interviews or surveys had installed or replaced existing equipment with the aim of reducing energy consumption. However, one site had introduced a change to its operational measures (cleaning team practice) after using the tool.

There is also evidence to suggest that some of the sites that took part in research were **considering efficiency improvements or targets in the future:**

- One site reported they had aimed to reduce their electricity use by a specific target of 2-3%, and - on reviewing their energy use through fluttr - they had decided that the best way to do this would be to “*install LED lightbulbs and [passive infrared sensor] PIS sensors,*” which they will install gradually over time and had discussed this change directly with Considerate Group. The user also stated that they would continue to use fluttr to monitor the effects of this change.
- One survey respondent reported that, after using fluttr, they had established a budget for making energy-efficiency improvements. All other respondents either did not have a budget for energy-efficiency improvements or their budget had remained unchanged since using the app.

Medium-term outcomes: the effects of fluttr on energy consumption

Amongst those who actively used the tool during its pilot, fluttr helped users to identify aspects of their business which were using the most electricity, helping them to make decisions – and increase staff awareness – around energy use. As described in this next section, the evaluation has **a medium level of confidence that fluttr contributed to energy savings at some sites** (see Table 1 for the rating framework). This is based upon the following sources of evidence:

- **Self-reported behaviour change:** at three out of five of the sites visited, consulted users reported changes in energy use behaviour and/or energy efficient measures that would be expected to lead to a reduction in energy use *and* they assigned these changes to use of the tool. At each site visited, only one user was interviewed, so multiple convergent views were not gathered.

- **Self-reported energy savings:** at one of the sites visited, the user consulted reported seeing savings in their energy bills.
- Five fluttr users (out of 63 intervention sites) completed an **online survey** and 2 of these reported changes to their business because of using the app, which, it could be inferred, might lead to energy savings.
- For all sites that participated in qualitative interviews, it was also possible to **test the assumptions underpinning the overall fluttr theory of change** and these were found to have occurred as anticipated (thus suggesting all of the necessary conditions for energy savings are available).
- At a couple of the sites, **the potential for other factors to be driving any changes** (e.g. change in building/business operating hours or reduced building use) observed was investigated, but no evidence of this was identified.
- An ECA conducted for the 46 sites for which energy data was available¹⁵ found that, when comparing average daily consumption from the period pre-pilot to energy data during the pilot, **small reductions in average consumption were observed (~1%)**. However, as a start date for the intervention (when users started using the tool) was not available for the majority of sites, and data periods pre-intervention were very short (up to 51 days only)¹⁶ it is not possible to firmly establish a relationship between this observed trend and use of fluttr.
- An in-depth ECA was conducted for two sites.¹⁷ This found that one site had observed reductions in their energy consumption data over the trial period which (when triangulated with qualitative evidence) can confidently be attributed to use of fluttr, however some of the 15% reduction may be due to seasonal changes in energy use.

For each Competition tool, the evaluation assessed the extent to which the tool had contributed to energy savings at pilot sites, and the strength of the evidence supporting this. Eight 'types' of evidence were defined and scored for strength (see Table 2 in Annex 2). A higher score was given to evidence which was observed (e.g. energy consumption data) and triangulated (displaying a convergence in qualitative evidence and energy consumption data) or identified at a larger number of sites.

An overall score was deemed to give an **average confidence rating in the evidence available: fluttr scored 1.75, i.e. there is a 'medium level' of confidence that the tool has contributed to energy savings in at least some sites**'. The scores and associated confidence ratings are outlined in Table 1 below. Annex 2 provides more detail on how the score was derived.

¹⁵ This compared electricity use over seven and a half months (from mid-June to January). Variations likely to be caused by changes in temperature (and resultant changes in electricity use) were controlled for where feasible.

¹⁶ On average, two months of pre-pilot energy data was available, and six months of pilot-period data was available for energy consumption analysis.

¹⁷ A third energy consumption analysis deep dive was conducted but has been excluded from this report. This is because the analysis was limited to only nine days of pre-pilot data, limiting any meaningful inference of quantitative impacts.

Table 1: Energy savings confidence ratings (fluttr rated 1.75 ‘medium level’)

0- 1	Low level of confidence that the tool has contributed to energy savings at any site*
1 – 1.99	Medium level of confidence that the tool has contributed to energy savings in at least some sites
2 – 2.99	High level of confidence that the tool has contributed to energy savings in at least some sites
3 to 4.5	Very high level of confidence that the tool has contributed to energy savings in at least some sites

* A low confidence level does not preclude the tool from working in the future, if some adjustments / lessons learned are taken on board.

Taking a case-based approach below, the remainder of this section explores in further detail the factors which drove energy savings at two sites. These organisations were selected as case studies as they had (i) robust energy data relative to other organisations, and (ii) had reported making changes to their energy management as a result of engaging with fluttr in either the survey or the qualitative interviews. No users who took part in qualitative interviews had noticed any significant reductions in their electricity consumption as of yet, despite some changes in behaviour being recorded. One had noticed that one week they “*had more people*” stay at the hotel but had used the same amount of energy. As some users were improving their operations (as discussed above) and implementing tips from the tool, it is possible that reductions could be felt in the future.

Energy Consumption Analysis deep dive Business #1 | Savings observed

Sector: Hospitality | **Type:** hotel | **App:** fluttr | **Start date:** 1st Sept 2019

Measure implementation and potential: According to the owner, they inputted room occupancy data into the app which helped them understand occupancy implications on energy use in GBP (£). This feature helped them better understand their energy consumption savings and prompted them to monitor cost of other appliances (e.g. oven). However, the owner stressed they were already a “green business” and have worked with other companies in the past to consult on sustainability measures for their business.

Energy savings reported by the owner: The owner stated that the tips helped them prompt staff to check appliance energy use and implement saving tips where applicable:

“[...] it’s nice to sit in the team briefing at the beginning of the day and say, right, today guys, we want you to check all of the seals on all the fridges.”

Energy data analysis: Since using fluttr, Business #1 recorded a 15% reduction in energy consumption (as displayed in Annex 3). However, the pre-pilot data was limited to July and August, two of the busiest months for hospitality sites. Therefore, whilst qualitative and quantitative evidence sources for this site converge to suggest that some savings have occurred as a result of engaging with fluttr, it is likely that some of the 15% reduction observed is due to seasonal patterns in energy use.

Energy Consumption Analysis deep dive Business #2 | Qualitative evidence of savings but unable to verify through energy consumption analysis

Sector: Hospitality | **Type:** hotel | **App:** fluttr | **Start date:** 1st Aug 2019

Measure implementation and potential: The owner stated that they used fluttr to actively monitor appliance energy usage within the business including identifying appliances which use the most energy (e.g. *“I think it’s the kitchen fridges.”*) and testing new appliances. The owner suggested fluttr enabled them to explain to staff, in money terms, how their behaviours and tasks impact energy usage and costs.

Energy savings reported by the owner: Fluttr’s tips feature prompted them to be a bit more *“on the ball”* to check appliances and/or relevant metrics in their business (e.g. temperature of fridges/rooms) and the owner believes fluttr has helped to achieve small reductions in energy usage, though they also say that for a small business that is *“already energy efficient”* the changes are marginal.

Energy data analysis: It has not been possible to robustly assess a change in energy consumption for Business #2 across the pilot period as there was no information regarding site level interventions and insufficient historical data for comparison. Energy consumption was generally lower after August (when the business started using fluttr), however this is likely to reflect weather and seasonal demand, as well as any impact from the pilot.

Longer-term outcomes

This section considers fluttr’s progress towards the longer-term impacts outlined in its theory of change. It is not expected that such outcomes would be realised in full by the end of the Competition.

In the long-term, it was expected that fluttr would:

- Achieve wider dissemination through word-of-mouth advocacy to other businesses.
- Enable ongoing investment by users of fluttr into more intelligent monitoring, ongoing improvements to energy management and technology adoption.
- A large-scale reduction in energy consumption and CO₂.

Word of mouth advocacy with other businesses

It was hoped that as businesses started using the app more frequently, they would communicate its benefits to the wider hospitality sector. As a result, the sector would become more engaged in energy management and increase ‘advocacy’ towards energy efficiency. As sites only began to participate in the pilot of fluttr from August 2019, it is not expected that there would be widespread marketing of the tool at this stage, and there is no evidence that this happened spontaneously between businesses from any of the research strands considered.

Nevertheless, Considerate Group understands that this aim has been limited to date and are explicitly working to integrate advocacy across businesses in the sector into a future

“marketplace” design of the app (through Boosting access for SMEs to energy efficiency (BASEE)¹⁸ Phase 2 funding). The core team at Considerate Group believe the Competition enabled them to broker more relationships with people across both the energy and hospitalities sectors which has helped them develop their app further. They will endeavour to utilise these new relationships (e.g. partnerships with two large international hospitality and food chains) to help recruit more sites to engage with fluttr, but also encourage energy savings and adoption of more efficient technologies across their new marketplace feature.

Continued commitment to more intelligent monitoring

As mentioned above, those consulted as part of the research have demonstrated a commitment to increased monitoring of energy use over the pilot period. Sites are continuing to test activities and appliances over time and, as such, the evaluation findings suggest confidence that, at the sites visited, there will continue to be an investment in time and more intelligent monitoring of energy data. This is further supported by the finding that prior to using the app, sites were reviewing energy management information on a quarterly or monthly basis, and had increased this over 3-4 months of using the app to a weekly or every-other-day basis.

Improved ongoing approach to energy management and technologies adoption

The evidence collated suggests that the sites consulted as part of this research have shown an increased interest in energy management and this in turn may influence later adoption. One site said they are interested to compare annual data (e.g. August 2019 to August 2020) and as such will continue to use the tool going forward to assess progress.

¹⁸ For more information, visit: <https://www.gov.uk/government/publications/boosting-access-for-smes-to-energy-efficiency-basee-competition-winning-projects/basee-projects-selected-for-phase-2>

4 Conclusions

This report aimed to explore the extent to which Considerate Group's energy management tool, fluttr, was able to support businesses in reducing their energy consumption.

Users from interviewed sites indicated that fluttr had helped them understand their business' energy use in more detail and reported that they are integrating the tool into their monitoring and management processes. There is evidence to suggest that in some sites this has already led to the testing of more efficient processes, and there is a likelihood that such steps would in general tend to lead to reductions in consumption, but insufficient evidence was available to test this in the case studies (either way). Overall, the evaluation has a medium level of confidence that the tool has contributed to energy savings in at least some sites.

The simplicity and accessibility of the tool has been a key driver in both gaining and sustaining user interest in the tool. By providing information on energy use as an (estimated) cost, users found the information was easier to digest and they used this presentation to show staff how and where they should change their energy use. The half hourly data provision was also considered central to sustained use and engagement, and tips helped to keep energy consumption 'front of mind'.

There is evidence to suggest that fluttr is working towards its longer-term impacts, including lower energy consumption, and sites consulted are positive about their future engagement with the tool and have said that they will continue to use it over time. In addition, Considerate Group are continuing to tailor the tool and resolve recruitment and data challenges. Having now secured a partnership with a Data Communications Company (DCC) 'Other User' company,¹⁹ and further funding from BEIS,²⁰ Considerate Group aim to:

- Optimise the tool to include data access through advanced metering and DCC.
- Continue to develop and optimise multi-user functionality for chain managers including a leader board of energy use across the portfolio of sites
- Integrate a hospitality "marketplace" with the longer-term aim of sectoral energy reductions. The marketplace will link organisations looking to invest in small scale energy efficiency projects with the funding to complete these projects and an approved range of suppliers able to implement them.²¹
- Continue to monitor the gas market and launch the gas monitor functionality in due course.

The evaluation also highlighted some areas for Considerate Group to look at in the further development of fluttr. These may also be relevant for other innovators:

- Engaged users praised the simplicity of the app, and the ease of interpreting the energy consumption data (although support is still necessary to keep some users engaged). Promoting this simplicity is likely to engage and sustain use of the app. More complex

¹⁹ Considerate have established a partnership with a DCC accredited company for data access i.e. DCC Other User.

²⁰ As part of the Boosting Access for SMEs to Energy Efficiency (BASEE) Competition, Phase 2.

²¹ For more information on BASEE and Considerate Group's involvement, visit <https://www.gov.uk/government/publications/boosting-access-for-smes-to-energy-efficiency-basee-competition-winning-projects>

features – such as integrating use of other utilities – will be helpful to some users as add-ons but should not compromise the simplicity of the central offer.

- Users did not make full use of the app's functionality, or were unaware of some key features, such as the ability for multiple users within an organisation to access fluttr. This suggests that a 'starter pack' of guidance which clearly outlines all of the features of the app could be helpful. This could build on the current user manual and incorporate videos and testimonials on how users can access all its features.
- Quick resolution of technical issues is important in maintaining engagement. Ensure that there is a single simple route to provide feedback – ideally through the app – so that users know how to contact Considerate Group's help team. Pilot users drew on their existing personal connections with the Considerate Group team, which will not be replicable at a larger scale and/or over a sustained period of time. For example, an FAQ page could be incorporated into the Feedback/Report display to answer key questions.
- Users who engaged with fluttr all had existing commitments to sustainability, seeing fluttr as a means to further pursue these agendas. This was also a key factor in them signing up to the pilot initially. For wider roll-out, presenting fluttr as an enabler for achieving environmental goals could be effective in attracting 'green' businesses.
- While tips have been useful for some users and acted upon in some cases, a limiting factor for implementation of tips is their perceived relevance to the business (for example, one hotel had received tips relating to energy management in restaurants, which they don't have in their hotel). The ability of tips to provide users with new information is also likely to be key in encouraging change, as some 'energy savvy' users reported already being aware of the measures suggested. Refreshing tips and further tailoring them to the site and operations of the business is likely to make them more successful in driving behavioural change.
- As fluttr is only available on user's mobiles, some reported that it is not easy to pass on information to other staff in the business. Further development of the data platform and creating a means of making the data more accessible to staff beyond the main user may be effective in encouraging buy-in to energy saving initiatives.

Annex 1 Evaluation methodology

The research for this evaluation was conducted by Ipsos MORI in conjunction with their consortium partner the Carbon Trust. Ipsos MORI designed the evaluation approach and designed and delivered all aspects of the methodology, except for the energy consumption analysis which was designed and conducted by the Carbon Trust. The evaluation was led by a dedicated evaluator who followed the implementation of the tool through its design phase (Phase 1), feasibility and initial testing (Phase 2) and roll-out and further testing (Phase 3).²² The final evaluation report, and reports for the other six case studies, are available on www.gov.uk.

Evaluation approach

The theory-based evaluation approach uses the fluttr theory of change as its framework. The theory of change was first developed in Autumn 2018, by Ipsos MORI in consultation with Considerate Group and BEIS, through the analysis of Considerate Group's business proposal, points discussed at fluttr inception meetings and familiarisation interviews with the fluttr project lead and key consortium. The extent to which anticipated change (i.e. results) took place as observed – and evidence to demonstrate that fluttr had contributed to this change – was assessed and is described in this report.

Sources of evidence and fieldwork activities

The evaluation has been developed on a triangulation of evidence available. This includes primary research including: a programme of qualitative interviews with hospitality sites and evidence gathered through site visits, and an online survey with sites. Secondary evidence includes a review of project documentation submitted to BEIS, end-of-competition reports, correspondence between the Competition Partner and the evaluation team, a summary of quantitative evidence available (energy consumption analysis).

- **Online survey with hospitality sites:** The survey²³ included between 20-30 questions²⁴ covering tool usage habits, attitudes to energy, energy management behaviours, actions taken following engagement with the tool and other questions to understand the context of the business and the user (such as the business size, user role etc.). Five fluttr users, out of the 63 pilot participants, completed the survey post-intervention in January and February 2020. All respondents were business owners, managers and operations/facilities managers from across independent sites and headquarters of a chain site. All five respondents were hotels. The survey was drafted by Ipsos MORI and administered by Considerate Group.
- **Case study visits:** Following consent obtained through the online survey with users, Ipsos MORI contacted sites expressing an interest to participate in the case study visits. Five visits were carried out by Ipsos MORI in participating sites in January and February 2020. The visits involved in-depth face-to-face interviews with the hospitality staff member using the app. In most cases this was conducted with the owner and/or

²² The evaluation lead met regularly with the tool's design team, liaising with them on the evaluation plan, designed the evaluation's methodology, managed the team of data collectors and the development of this report.

²³ An example survey questionnaire used across NDSEMIC projects is included in the evaluation Technical Report, available on www.gov.uk.

²⁴ The exact questionnaire length for each respondent varied depending on the project and type of participant/organisation.

manager of the site and conducted by senior researchers from Ipsos MORI. Discussion topics included the individual's responsibilities with respect to energy management; approaches to monitoring energy use; how they had used fluttr; to what extent they had shared the tool; and its impacts. Users were also observed interacting with the tool. In all instances, only one individual per site had engaged with the tool and as such only one in-depth interview per site was possible.

- **Energy consumption analysis (ECA):** Data on energy consumed during the time of the intervention period – collected as part of the intervention (i.e. for use within fluttr) – was analysed by the Carbon Trust. ECA was conducted on 51 sites out of 63 where sufficient energy data was available. The aim of this research was to use historical energy data collected pre-intervention (either manually from the sites energy bills or – where available – through smart meter data) and compare this data during the intervention period. This would allow for a 'before and after-the-intervention' analysis to indicate tool effects.

Energy consumption "deep dive" analysis was conducted on two sites as part of the study. These sites were selected for this analysis as they had more complete energy data available than other sites, along with some evidence that changes had been made within the organisations to reduce energy usage. This analysis looked into historical data available (though limited) and forecast energy consumption savings since the use of fluttr to business as usual practices. The deep dive analysis also checks for correlation between observed energy savings and seasonal weather changes to explore weather-dependency. These results have been triangulated with information collected in qualitative in-depth interviews and surveys, however sites consulted had been actively using the tool for a short period (two to four months) when interviewed in January 2020, and as such evidence of strong behavioural change has been difficult to attribute to the intervention to date.

- **Project documentation and correspondence:** The Competition Partner collated documentation of progress established over the course of the intervention period for submission to BEIS. Additionally, the evaluation team had regular bi-weekly updates with the Competition Partner to establish progress with the project and collate necessary information (e.g. recruitment challenges, partnership relationships etc.). Further documentation was made available to the Ipsos MORI evaluation team through Considerate Group's end-of-competition report and in most cases provided useful supplementary information directly to the evaluation team.

Limitations of the methodology

Fluttr is targeted at small-to-medium sized hospitality businesses (hotels, restaurants, pubs and bars). This is a relatively diverse target market, containing businesses of different sizes and management approaches. Within the sample of those interviewed for case study research, there were three microbusinesses with less than nine employees,²⁵ one small business (with fewer than 50 employees), and one medium-sized businesses with over 100 employees. In terms of management, four were independent business, whereas one was being managed under a franchise agreement with a much larger group. It was not possible to speak to multiple sites within one chain organisation.

Similar business characteristics were not disclosed during the post-survey. The sample provides the views of those interacting with the app from a range of types of organisations.

²⁵ Employees here refers to 'full-time-equivalent' (FTE) employees.

However, data was collected from a small sub-set of users (<10%) and those consulted for the evaluation may not be representative of the wider pool of users.

Considerate Group sent an initial survey in Autumn 2019 to all users of the tool to obtain consent to participate in further interviews and surveys, pilot sites which agreed to be contacted for the evaluation were invited to participate in the evaluation interviews and surveys in January and February 2020. However, from this pool of 63 sites, only 6 responded and agreed to participate despite multiple reminders being sent by the evaluation team and the offer of financial incentives for participation.

Overall, the limitations of the methodology were primarily as follows:

- For the ECA, historic data was unavailable for pilot sites with advanced metering which reduced the number of sites which could be used for this analysis. Similarly, for sites for whom no smart meters were identified energy data was accessed via monitoring equipment, meaning that data was only collected from the point of installation. Therefore, lack of historical data meant that the analysis could not robustly identify pilot impacts, particularly where these were relatively small (compared to the variation in energy consumption profiles across participating sites).
- Equally, the duration of consumption data available, which often spanned the summer months, limited the ability of the ECA to detect quantitative impacts of flutter given the highly seasonal nature of the hospitality industry (i.e. it was difficult to distinguish the impact of tool use from seasonal patterns of energy use).
- No comparator groups (e.g. through chain sites where some sites may be using flutter and others not) consented to participate in this study. The Carbon Trust were therefore limited to conducting a trend analysis of data collected during the intervention period.
- Despite multiple reminders being sent by both Ipsos MORI and Considerate Group, and the offer of a financial incentive for completion, the survey received a very low response rate which limited the ability to evaluate the tool behavioural impacts more broadly than just those who participated in the qualitative research.

Annex 2 Assessment of fluttr's contribution to energy savings

Assessing the energy saving potential of smart energy management tools was central to the evaluation, however in the context of the Competition it was not possible to collect a single definitive estimate of impacts and there were a range of challenges in using and interpreting energy consumption data for pilot sites. In recognition of the circumstances involved (limited access to historical data, small sample sizes, no control groups), a mixed-methods approach to evaluating energy savings was taken.

This approach drew on a range of evidence (outlined in Annex 1) to create a summary indicator of the evaluation's confidence that the tools had contributed to energy savings for pilot sites (by comparing the findings of energy consumption analysis, self-reported savings, and evidence of behaviour change from qualitative interviews). An analytical framework that considered both the strength of evidence and its robustness was used to produce the indicator (see Table 2 overleaf). The methodology for this is described in more detail in the Final Evaluation Technical Report published alongside this evaluation.

On the basis of these assumptions and the evidence available, an analytical 'strength of evidence' framework was developed which, when applied, generated a confidence rating in the evidence of energy savings for each pilot. This confidence rating was illustrated in Table 1 in Chapter three and is recopied at the end of Table 2.

Table 2: fluttr contribution to energy savings - evidence strength assessment

Evidence 'type'	Description of evidence type	Numerical rating of evidence type
Energy Consumption evidence		
Observed energy consumption reductions – (across all pilot sites, when comparing data over time and against pre-intervention data).	An ECA was conducted for 46 sites for which energy data was available. This found that, when comparing average daily consumption from the period pre-pilot to energy data during the pilot, small reductions in average consumption were observed (~1%). However, a start date for the intervention (when users started using the tool) was not available for the majority of sites, and data periods pre-intervention were very short (up to 51 days only).	1 ²⁶
Observed energy consumption reductions that align with user-reported evidence of changes in energy use behaviour. Suggests potential that tool use has contributed to energy savings.	An in-depth ECA was conducted for two sites. This found that one of these had observed reductions in energy consumption over the trial period (which converged with qualitative evidence of behaviour change). However, given that the historical data fell within the summer (a typically busy period for hospitality businesses) it is likely that some of the 15% savings observed were driven by seasonal patterns of energy use.	2 ²⁷
User-reported evidence		
Self-reported energy savings (e.g. user can point to cost reductions in bills) that the user assigns to use of the tool.	At three out of five of the sites visited, users consulted reported changes in energy use behaviour and/or energy efficient measures that would be expected to lead to a reduction in energy use and they assigned these changes to use of the tool. At each site visited, only one user was interviewed, so multiple convergent views were not gathered.	2 ²⁸

²⁶ This group of evidence could be rated as either “not evident” (0), evident but only with red quality rating (1), evident with an amber quality rating (3) or evident with a green quality rating (4.5).

²⁷ This group of evidence could be rated as either “not evident” (0), evident but only with red quality rating (2), evident with an amber quality rating (4) or evident with a green quality rating (6).

²⁸ This group of evidence could be rated as either “not evident” (0), evident at 1-2 sites (2), evident at more than 1-2 sites (4) or evident at most sites consulted (6).

Multiple users at one site converge in reporting behaviour change, inferred to lead to energy savings, that users assign to use of the tool.	No more than one user was interviewed at each site.	0 ²⁹
One user reports behaviour change, inferred to lead to energy savings, that users assign to use of the tool.	At one of the sites visited, the user consulted reported seeing savings in their energy bills.	4 ³⁰
Behaviour change reported via survey assigned to use of tool.	Five fluttr users (out of 63 intervention sites) completed an online survey and 2 of these reported changes to their business because of using the app, which could be inferred might lead to energy savings.	2 ³¹
Theory-based evidence		
Evidence of the assumptions considered necessary for change to occur (as per the theory of change) occur as anticipated. This suggests all of the necessary conditions for energy savings are available.	For all sites consulted, it was also possible to test the assumptions underpinning the overall fluttr theory of change and these were found to have occurred as anticipated (thus suggesting all of the necessary conditions for energy savings are available).	2 ³²
No evidence of alternative theories of change for observed, reported, or hypothesised energy savings.	At a couple of the sites, the potential for other factors to be driving any changes (e.g. change in building/business operating hours or reduced building use) observed was investigated, but no evidence of this was identified.	1 ³³

²⁹ This group of evidence could be rated as either “not evident” (0), evident at 1-2 sites (2), evident at more than 1-2 sites (4) or evident at most sites consulted (6).

³⁰ This group of evidence could be rated as either “not evident” (0), evident at 1-2 sites (2), evident at more than 1-2 sites (4) or evident at most sites consulted (6).

³¹ This group of evidence could be rated as either “not evident” (0), evident at 1-2 sites (1), evident at more than 1-2 sites (2) or evident at most sites consulted (3).

³² This group of evidence could be rated as either “not evident” (0), evident at 1-2 sites (1), evident at more than 1-2 sites (2) or evident at most sites consulted (3).

³³ This group of evidence could be rated as either “not evident” (0), evident at 1-2 sites (1), evident at more than 1-2 sites (2) or evident at most sites consulted (3).

Overall score (max. of 37.5)³⁴	14
Averaged score (max of 4.7)³⁵	1.75
RAG rating	Medium

Table 1 (repeated): Energy savings confidence ratings (fluttr rated 1.75)

0- 1	Low level of confidence that the tool has contributed to energy savings at any site*
1 – 1.99	Medium level of confidence that the tool has contributed to energy savings in at least some sites
2 – 2.99	High level of confidence that the tool has contributed to energy savings in at least some sites
3 to 4.5	Very high level of confidence that the tool has contributed to energy savings in at least some sites

** A low confidence level does not preclude the tool from working in the future, if some adjustments / lessons learned are taken on board.*

³⁴The maximum overall score differs for some Competition projects as some of the evidence types are not available for some project evaluations.

³⁵ This is calculated by dividing the maximum possible overall score by the number of evidence types considered (8 in this case) and rounding to the nearest 0.5 decimal.

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