



Department  
of Energy &  
Climate Change

# Evaluation of the DECC/John Lewis energy labelling trial

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# Findings from a behavioural trial conducted with John Lewis

Prepared by DECC and the Behavioural Insights  
Team

**John Lewis**

THE  
BEHAVIOURAL  
INSIGHTS TEAM.

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# Executive summary

The Department of Energy and Climate Change (DECC) conducted a behavioural trial in partnership with John Lewis and the Behavioural Insights team (BIT). It moves forward the evidence base around the effectiveness of behavioural nudges, specifically in relation to information barriers and energy demand reductions associated with purchasing of appliances through the provision of lifetime running costs.

Ownership of appliances has increased substantially in recent decades and over time European Union-wide (EU) standards and energy labels are making the appliances consumers buy for their homes more energy efficient. DECC's Energy Efficiency Strategy<sup>1</sup> recognised that lack of access to trusted and appropriate information is one of the four key barriers to energy efficiency. Energy labelling was identified as an area where behavioural nudges could have an impact on purchasing of energy efficient products.

Learning from a trial in Norway that tested lifetime electricity running costs on appliance labels of fridge freezers and tumble dryers, DECC recognised that an opportunity existed to improve the salience of the information on energy labels to encourage better informed consumer decisions. The existing EU energy labels only report energy use in kWh per year, which is an abstract concept for some consumers. Recognising the shared goals around reducing energy use, DECC collaborated with John Lewis and the Behavioural Insights Team (BIT) to design a randomised controlled trial that provided robust evidence on whether providing information on the electricity lifetime running costs at the point of sale changed purchasing behaviour, by increasing the attractiveness of appliances with lower energy consumption.

## Methodology

Lifetime running costs were introduced on the appliance labels of washing machines, washer dryers and tumble dryers in some John Lewis stores in September 2013. The trial completed in June 2014. Each John Lewis store was randomly allocated to one of two groups:

- Intervention: total monetary lifetime running cost of each appliance included on the appliance label in addition to the EU energy label with kWh per year.
- Control: EU energy label with Kwh per year information but no information on lifetime running costs on the appliance label.

DECC was responsible for project managing the trial and calculating the lifetime running costs for each product. The energy-using products policy teams in DECC (previously in Defra) provided expert advice on the assumptions underpinning the running cost calculations and EU labelling policy. John Lewis were responsible for the operational side – ensuring rollout of the correct labels in stores, communicating with Partners and providing weekly sales data. The Energy Savings Trust (EST) developed a package of training for Partners. BIT was

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<sup>1</sup> DECC 2012 Energy Efficiency strategy

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/65602/6927-energy-efficiency-strategy--the-energy-efficiency.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/65602/6927-energy-efficiency-strategy--the-energy-efficiency.pdf)

commissioned to conduct the trial design and evaluation of sales data. The trial design and evaluation approach was fully quality assured by the Office for National Statistics.

In the early stages of the trial there were some minor implementation issues, so in December 2013 lifetime running cost labels were reissued to stores. To maintain consistency, sales data was only analysed from mid December 2013 onwards, ensuring a full 6 months of data. Focus groups with Partners were conducted at three points during the trial to gather useful insights on perceptions around customers' purchasing decisions and the process and delivery of the trial.

## Findings

The trial provided robust evidence for the use of lifetime running cost labels on white good appliances, specifically washer dryers. The washer dryers sold in intervention stores over the course of the trial consumed an average of 6.64 kWh/year (equivalent to 0.7 per cent) less energy than the appliances sold in control stores. This difference was statistically significant ( $p < 0.06$ ). When looking at this effect by town centre and non-town centre stores, the effect was greater in non-town centre stores. In non-town centre stores purchased washer dryer products consumed an average of 15.26 kWh (1.5 per cent) less energy in intervention stores than in control stores ( $p < 0.01$ ).

No significant effect was observed for the other products i.e. washing machines or tumble dryers. It is hypothesised that an effect was observed for washer dryers because their lifetime running costs were the highest out of all the product types in the trial. Therefore, the total lifetime running costs would have been bigger and possibly more salient to purchasers. There is no obvious explanation for the difference in the washer dryer result across town centre and non-town centre stores.

The impact demonstrated for washer dryers is additional to effects the existing EU label may have and improvements in energy efficiency over time brought about by energy using products regulation.

## Conclusions and lessons learned

The findings from this trial which have been useful to DECC and John Lewis, support the idea that small, low cost changes to address information barriers and provide salient information to consumers can, in certain contexts, help to reduce energy demand. The early findings from this work have also fed into the EU Commission evaluation of the Energy Labelling Directive.

Despite the usefulness of the findings there were limitations to this trial, two key issues being; the inability to isolate the impact of the lifetime running costs on the label from any effect resulting from training staff; and the lack of explanatory power about the reasons behind the findings due to the lack of any research directly with consumers to understand their purchasing decisions.

Qualitative insights from John Lewis Partners suggested that by refining the approach or presenting information in a different way, the salience of the information could be further increased. Other options to consider are presenting information in a more tailored way and better signposting of information on energy efficiency. This is particularly important when consumers are thinking about purchasing a more efficient machine that is bigger than their old one as it may not use less energy if it isn't used effectively.

DECC encourage retailers and consumer groups to consider the lessons learned from this trial, look at the range and clarity of information currently presented to consumers through appliance labels and consider making running costs more salient to consumers both online and in store.

# 1. Introduction

The Department of Energy and Climate Change and John Lewis launched an energy labelling trial in September 2013, testing the impact of presenting customers with information on lifetime running costs on appliance labels. The trial completed in June 2014 and this report presents the findings. This section sets out the background and policy context to the trial.

## 1.1 Energy use in the home

Domestic energy use has decreased by 7 per cent since 2000. Given the increase in the number of UK households this represents a 9 per cent reduction in energy consumption per household. However, between 1970 and 2013, the total amount of household electricity consumption from domestic appliances has grown by around 1.7 per cent per year<sup>2</sup>. This rise is understandable given that the number of electrical appliances, products and gadgets we typically own has trebled since the 1970's<sup>3</sup>. It is estimated that the average household owns 41 electrical products, with some homes owning up to 85.<sup>4</sup>

When considering 'wet' appliances (washing machines, laundry dryers, dishwashers) in particular, the number of appliances owned by households has risen from 12 million to over 48 million<sup>5</sup>. This puts into context the fact that electricity consumption from wet appliances has increased by 154 per cent from 1970 to 2013, with an increase of 27 per cent since 1990, and nine tenths of the increase observed between 2000 and 2013<sup>6</sup>.

## 1.2 EU regulatory context

European Union-wide (EU) standards and energy labels are making the appliances consumers buy for their homes more energy efficient, as minimum performance standards progressively remove the least efficient products from the market. Under the EU Energy Labelling Framework Directive energy labels indicate relative performance in terms of efficiency, steering consumers towards the most efficient models. Products are ranked at the point of sale using an A to G

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<sup>2</sup> DECC (2014) Energy Consumption – chapter 1 [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/337452/ecuk\\_chapter\\_1\\_overall\\_factsheet.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/337452/ecuk_chapter_1_overall_factsheet.pdf)

<sup>3</sup> EST (2011) Elephant in the living room <http://www.energysavingtrust.org.uk/Publications2/Corporate/Research-and-insights/The-elephant-in-the-living-room>

<sup>4</sup> Global Action Plan (2013) Watts in the Home <http://www.globalactionplan.org.uk/watts-in-the-home-report-launched>

<sup>5</sup> DECC (2014) chapter 3 domestic energy tables <https://www.gov.uk/government/statistics/energy-consumption-in-the-uk>

<sup>6</sup> DECC (2014) energy consumption - chapter 3 [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/338662/ecuk\\_chapter\\_3\\_domestic\\_factsheet.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/338662/ecuk_chapter_3_domestic_factsheet.pdf)



scale, A being the most energy efficient, G the least efficient. In an attempt to keep up with advances in energy efficiency, A+, A++ and A+++ grades were later introduced for various products. As well as overall energy consumption the labels use pictograms to depict other relevant energy related information such as screen size in TVs and water consumption for washing machines.<sup>7</sup>

The Government has estimated that by 2020, the annual net savings to the UK economy resulting from these standards and labels will be in excess of £850 million per year, with reductions in greenhouse gas emissions of more than 7 million tonnes per year.<sup>8</sup>

## 1.3 UK policy context

The energy efficiency of new washing machines and dryers placed on the market is increasing over time. For example in December 2011, the minimum standard for a new washing machine to be put into the supply chain was an 'A' rated machine, and from December 2013 only 'A+' or better new machines could be placed on the market. Nevertheless, in 2013 there were still nearly half a million washing machines purchased that were rated A or lower. Also, evidence suggests UK consumers have among the lowest awareness of energy efficient products in the EU, coming behind countries such as Germany, France, Italy and Spain, and are least likely to rate energy efficiency as having an impact on their purchasing decisions. In the UK only 24% always consider it, while for consumers in Germany, France and The Netherlands this proportion is between 31-43%.<sup>4</sup>

DECC has been testing behavioural insights to find out what works in reducing energy consumption as part of the Energy Efficiency Strategy<sup>9</sup>. The strategy recognises the opportunity that exists to optimise the energy use of both domestic and business customers, reducing bills and/or warming homes, while at the same time, delivering a more sustainable society. Lack of access to trusted and appropriate information is one of the four key barriers to energy efficiency identified in the strategy. In the absence of clear, trusted information, many individuals do not prioritise energy efficiency investments.

## 1.4 Application of behavioural insights

Given the impact of energy efficiency on reducing carbon emissions and the impact on consumers' energy bills through the purchasing of more efficient appliances, more is needed to further encourage consumers to purchase energy efficient products. Energy labelling was identified as an area where behavioural nudges could have an impact on purchasing of energy efficient products. In relation to the information barrier there are two specific issues that may be

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<sup>7</sup> EU commission [http://ec.europa.eu/energy/efficiency/labelling/labelling\\_en.htm](http://ec.europa.eu/energy/efficiency/labelling/labelling_en.htm)

<sup>8</sup> DECC (2014) - Energy efficient products - helping us cut energy use  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/328083/Energy\\_efficient\\_products\\_-\\_helping\\_us\\_to\\_cut\\_energy\\_use\\_-\\_publication\\_version\\_final.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/328083/Energy_efficient_products_-_helping_us_to_cut_energy_use_-_publication_version_final.pdf)

<sup>9</sup> DECC (2012) Energy Efficiency strategy  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/65602/6927-energy-efficiency-strategy--the-energy-efficiency.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/65602/6927-energy-efficiency-strategy--the-energy-efficiency.pdf)

preventing UK consumers engaging with energy efficient products and with existing EU labels in particular:

- With A+++ products on the market it is likely to be harder for consumers to ascertain whether, for example, the B-rated, or A, A+ or A++ rated appliance is the one they should purchase for the best savings.
- The existing energy labels only report energy use in kWh per year, rather than in estimated monetary terms for the lifetime of the product. The measure of kWh per year is an abstract concept for some consumers.

A study in Norway in 2012 tested lifetime electricity running costs on appliance labels of fridge freezers and tumble dryers in some stores. Information on the lifetime energy cost of appliances was provided through a label and training of sales staff. For fridge-freezers, they found no significant effects. For tumble dryers, the combined label and training treatment and training alone reduced average energy use of tumble dryers sold by 4.9 per cent and 3.4 per cent respectively. The effect was strongest initially, over 12 per cent on average for the first 3 months for the combined treatment, but declined over time.<sup>10</sup>

Given the barriers to energy efficiency and the learning from the Norway trial, DECC recognised that an opportunity existed to improve the salience of the information on energy labels in order to provide better information about the running costs of appliances, and enable better informed consumer decisions.

## 1.5 Background to the research

In this context, DECC worked with the Behavioural Insights Team and John Lewis to design a behavioural randomised controlled trial that tested the effectiveness of reporting the lifetime running costs of appliances on energy labels.

John Lewis Partners have 44 stores across the UK and were looking to introduce running costs into their stores. They are committed to providing customers with clear and detailed product information and want to do what they can to help customers have more sustainable lives. In addition to informing customers of the efficiency of products, through the EU energy label, they also provide advice to customers on how to be more energy efficient, for example washing at 30 degrees. Recognising the shared goals around reducing energy use, DECC collaborated with John Lewis to explore ideas, design a trial that allowed the collection of robust evidence and provide useful learning for all parties.

The main objective of this trial was to test whether providing information on electricity lifetime running costs at the point of sale changes purchasing behaviour, resulting in consumers buying more efficient appliances. Because appliance energy performance is displayed in kWh per year instead of monetary costs, the total lifetime cost of appliance ownership is less visible to consumers. As a result, it is more difficult for consumers to compare products using energy performance, and make informed choices that may help them save money and energy over time. Providing monetary information to consumers may help them focus more on the obvious, or salient, characteristics of a product (its running cost) rather than its opaque characteristics

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<sup>10</sup> Kallbekken et al. "Bridging the Energy Efficiency Gap: A Field Experiment on Lifetime Energy Costs and Household Appliances" Journal of Consumer Policy, 2013

(kWh per year). Given the outcome of the Norway trial, the hypothesis was that labels which included lifetime running costs (in addition to kWh per year) would lead to an overall decrease in energy use through the purchase of more energy efficient appliances.

The European Commission is required to evaluate the effectiveness of the Energy Labelling Directive and present a report to the European Parliament and Council by the end of 2014<sup>11</sup>. When this project commenced, an external evaluation study had been launched; this has now been completed, and its final report is (at the time of writing) being considered by the European Commission. Early findings from this trial fed into this report. Therefore, in addition to providing evidence on the impact of energy labelling for DECC, to demonstrate 'what works' for other retailers and to inform the future activity of John Lewis, another driver for this work was to provide evidence to inform EU level discussions about the EU label.

The design and delivery of the trial involved a range of parties with the following roles:

- DECC was responsible for project managing the trial and calculating the lifetime running costs for each product. The energy-using products policy team in DECC (previously in Defra<sup>12</sup>) provided expert advice on the assumptions underpinning the running cost calculation and EU labelling policy.
- John Lewis were responsible for the operational side – ensuring rollout of the correct labels in stores, communicating with Partners and providing weekly sales data to DECC/BIT.
- The Behavioural Insights Team (BIT) was commissioned to conduct the trial design, implementation checks and evaluation of sales data.
- The Energy Saving Trust (EST) designed the training for John Lewis Partners (employees).

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<sup>11</sup> Available via <http://www.energylabevaluation.eu/eu/documents/>

<sup>12</sup> The responsibility for energy-using products policy previously sat in Defra and was moved to DECC during the course of the trial, in March 2014.

## 2. Methodology

This section describes the detailed methodology of how the trial was designed, delivered, quality assured and analysed. Further detail on the trial design and evaluation methodology, along with copies of the trial materials is in the separate technical annexes.

### 2.1 Trial design

The trial was a cluster parallel randomised controlled trial (RCT), meaning each John Lewis store was randomly allocated to one of two groups:

- Intervention: total monetary lifetime running cost of each appliance included on the appliance label in addition to the EU energy label with kWh per year.
- Control: EU energy label with Kwh per year information but no information on lifetime running costs on the appliance label.

Balance checks were done to ensure that the allocation of stores to control or intervention group was similar in relation to key variables e.g. proportion of town centre and out of town stores and Indices of Deprivation. A full list of which stores and which group they were allocated to can be found in Annex A. Figure 1 shows how they were distributed across the UK.

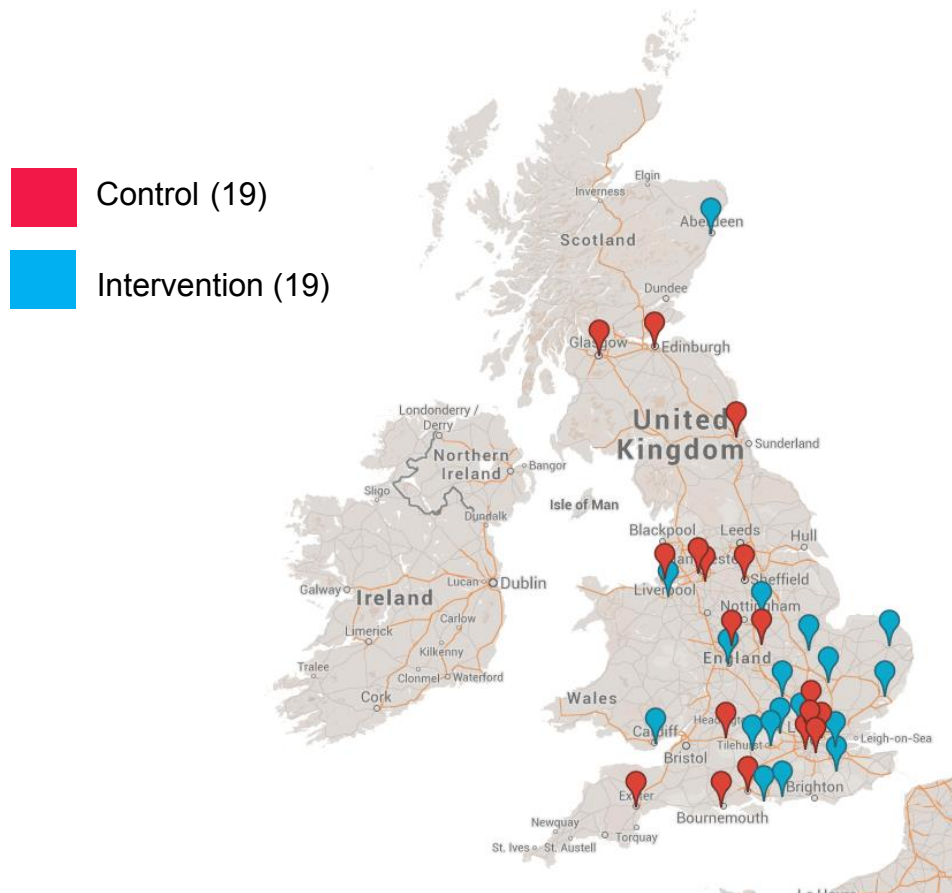
### 2.2 Label design and implementation

Lifetime running costs were displayed on the main product label on the lower left-hand side of the label. A single line of black and white text read:

*‘Lifetime electricity running cost £x’ (where x is the individual lifetime electricity running cost of a product).*

The opportunity to amend the appliance labels coincided with John Lewis moving to a new ticket system. Constraints with the design and printing of the new labels meant there were restrictions around the size, location and colour of the text and its position on the appliance label. A copy of the label is included in Annex C.

Figure 1 - Spread of control and intervention stores across the UK



Four appliance types were included in the trial – **washing machines, washer dryers, tumble dryers (vented) and tumble dryers (condensed)**. The range of appliances sold across stores varied but lifetime running costs were included on the labels of every product in the intervention stores. John Lewis did not display running cost information online for the duration of the trial. This was to maintain the control element to the trial as far as possible so that customers were not exposed to information that could influence their purchasing decisions.

## 2.3 Calculation of lifetime running costs

DECC economists calculated the lifetime running costs for every product included in the trial, including when new products were introduced throughout the trial.

The lifetime electricity running cost calculation was as follows:

$$\text{Lifetime electricity running cost} = \text{KWh/year consumption} * \text{lifetime} * \text{electricity price}$$

The assumptions underpinning the calculations were agreed by John Lewis, EST, DECC, Defra and BIT:

- Annual energy consumption (and the implicit number of cycles per year) varies by product. Source: Individual manufacturers
- Lifetime of 9 years
- The electricity price was based on the overall UK price for 2012<sup>13</sup>.

The range of lifetime running costs varied by considerable amounts in some product groups. This followed from the variation of energy consumption which was quite different between appliance groups. The widest range of lifetime running costs was observed for washer dryers and tumble dryer condensers with £560 and £530, compared to tumble dryers (vented) where the difference was £50.

## 2.4 Supporting materials

In order to maximise the chances of customers in the intervention stores seeing the new information, posters in intervention stores were intended to alert customers to the availability of the running cost information and provide a detailed explanation of how the running costs had been calculated. Following feedback from Partners in October 2013, they were also issued (via the retail support desk) with a card showing the annual running costs of each appliance.

A job aid card was developed by John Lewis to provide Partners with the background to the initiative and an understanding of what the lifetime electricity running costs mean and how they were calculated. It was issued to Partners at the start of the trial through the retail support desk and reissued at various points throughout the trial.

A copy of the poster, annual running costs card and job aid card is included in Annex C.

## 2.5 Partner training

EST developed a package of training to ensure that Partners had the knowledge, skills and confidence to respond to consumer questions and ensure that the trial was adequately supported across all participating stores. In July 2013 two 90 minute training courses were delivered to a representative John Lewis Partner from the large electrical departments of nearly every shop via video conference. Partners from control stores were given a basic overview of the trial (objectives 1 and 2 below) whilst Partners from intervention stores were provided with much more detail on the trial and how the running costs had been calculated. Objectives of the training were to ensure that Partners:

1. Understood the context and details of the trial
2. Appreciated the wider issues of energy efficiency and why it is important to consumers and John Lewis
3. Could communicate lifetime electricity running cost messages to consumers
4. Had a firm grip on the detail behind the energy labelling trial
5. Had the skills to be able to engage reactively with consumers about energy saving

A copy of the training slide pack is included in Annex C. Partners were trained to draw customers' attention to the new information on lifetime running costs on the appliance labels, and answer any questions they had, using the poster and job aid card to support them.

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<sup>13</sup> Based on the price of a marginal unit of electricity as reported in DECC Quarterly Energy Prices, September 2013

## 2.6 Trial timeline

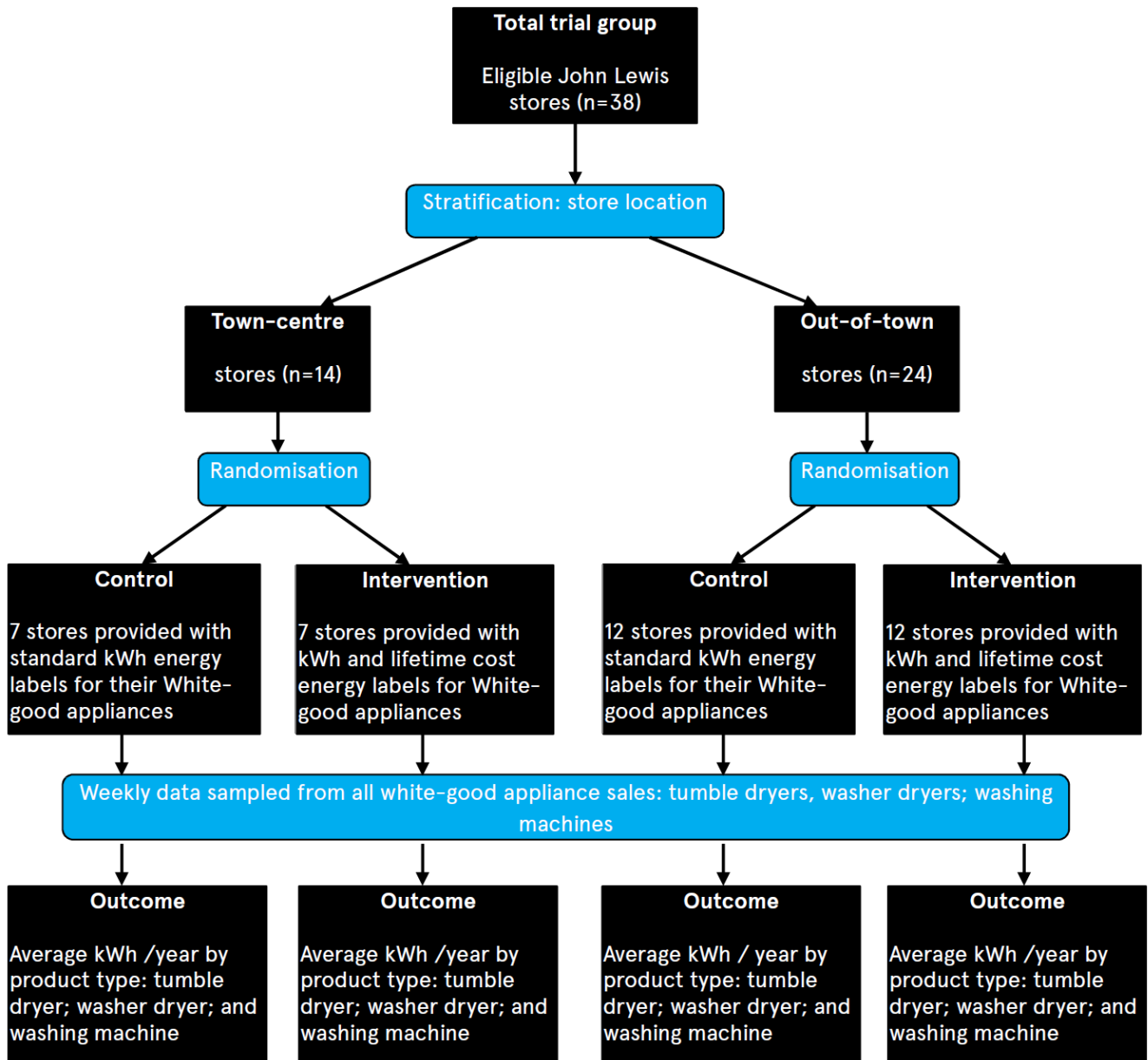
Table 1 displays the trial timeline and key activities. The trial began in September 2013 when the new labels were introduced in stores. However, following some initial implementation issues and reissuing of labels in stores, sales data was only analysed for the final report from mid December 2013 onwards. The early months of the trial from September to December 2013 were useful as a quality monitoring exercise, to resolve any early implementation issues and allow enough time for the new labels and training to be properly implemented.

**Table 1 - trial timeline and key activities**

	2013						2014					
	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
<b>John Lewis Partner communication</b>	Partner training					Labels and job aid card reissued. Annual running costs card provided		Annual running costs card and job aid card reissued				
<b>Trial fieldwork</b>			Trial starts – labels introduced in stores									Trial fieldwork complete
<b>Quantitative data collection</b>			Weekly sales data collected but not included as part of main analysis			Weekly sales data collected and included in final analysis						
<b>Qualitative data collection</b>				Partner focus group - wave 1			Partner focus groups – wave 2					Partner focus groups wave 3
<b>Reporting and external review</b>		ONS review of trial design				Interim report	ONS review of trial evaluation			ONS review of interim report		ONS review of final statistics output



**Figure 1 – visual representation of the trial design**



## 2.7 Data collection

### Quantitative data collection

Weekly sales data was collected from stores from September onwards but only data from 5<sup>th</sup> December 2013 until 21st June 2014 was included in the final analysis.

Of the 44 John Lewis stores, sales data was collected and analysed from 38. The remaining stores were excluded for the following reasons:

- Birmingham – store not open until 2015
- Ashford – store opened once trial had started
- Heathrow - doesn't sell large laundry products.
- York – store opened once trial had started

- Cribbs Causeway, Bristol – store has been trialling energy efficiency advice which makes it systematically different to the other stores.
- Outlet Swindon - not a regular John Lewis store and therefore may be systematically different from the rest of the sample.

### **Qualitative data collection**

To fully understand the quantitative data the ideal approach would have been to conduct research with customers to understand the reasons behind their purchasing decisions, however it was not possible within this trial. As an alternative DECC designed a series of focus groups to explore Partners' perceptions about the impact of the new information on customers' purchasing decisions and to identify any issues regarding the implementation of the trial. These sessions helped to gain insights into the process and delivery of the trial.

Focus groups were held with John Lewis Partners from intervention stores in October 2013, January 2014 and June 2014. They were designed and facilitated by a social researcher in DECC.

Whilst the focus groups provided some useful insights they were small scale and there were a number of limitations to the research which mean the findings should be treated with caution:

- The views presented are unlikely to represent the experience of all sales Partners across John Lewis. Whilst all intervention stores were invited to provide a representative, the sample was essentially self-selected. There was no stratification by any variables e.g. demographics, region, length of time in post, prior views on energy efficiency, levels of positive versus negative customer experiences etc. – all of which could have biased their viewpoint.
- Some Partners from intervention stores that were excluded from the quantitative analysis attended the focus groups and their views have been included in the analysis.
- In Wave 3 only, separate sessions were set up for Partners in intervention and control stores; however only two control stores were able to attend a session and some mixing occurred as two Partners from intervention stores attended the control group session.
- There was no research conducted with customers so we don't have an understanding of whether customers' perceptions of the issues would differ.

## **2.8 Analysis, quality assurance and reporting**

### **Quantitative data analysis**

The primary outcome measure for this trial was the average amount of energy (in **kWh/year**) consumed by the appliances sold within each sub-category of product (tumble dryer vented, tumble dryer condensed, washer dryer, and washing machine). This measure was selected instead of individual products because the specific stock sold by John Lewis varied by store and changed during the trial as new products were introduced and old ones discontinued. Energy consumption (in kWh/year) was selected as the output measure unit because it was the only piece of information that varied from product to product when estimating the total running cost.

The secondary measure was the revenue value (in £) of any changes in purchasing behaviour. This outcome measure was of particular interest to John Lewis.

BIT quality assured the energy consumption data for each product to ensure the ticket information was correct. Specifically BIT contacted suppliers about individual products, visited multiple stores to confirm correct labelling, and received hard copy print-outs of all the labels used during the trial.

BIT determined the method that would be used to evaluate the data in advance of the trial data being received. For the trial evaluation a regression model was used to determine whether the intervention was successful, as well as provide an estimate for the size of any detected effect. Regression modelling is a standard technique used for the analysis of randomised controlled trials and allows for the control of a wide range of variables that might otherwise affect the outcome of the trial. The regression included baseline sales data for each store, which was a key variable likely to explain a considerable portion of between-store variance in the absence of the intervention.

The trial model and evaluation strategy was quality assured by DECC statisticians and the Office for National Statistics. Annex B outlines full details of the trial evaluation methodology

## 3. Trial findings - Impact analysis

This section outlines the findings from the quantitative analysis of the sales data conducted by the Behavioural Insights Team. It explores the contextual understanding of the data and the impact of the lifetime running costs on sales for each product type. The approach to the analysis was fully quality assured by the Office for National Statistics (ONS). Further detail is included in Annex B.

### 3.1 Summary

As explained in the methodology section the results were derived by BIT using the analysis method agreed with DECC and ONS. The analysis makes use of the full data set for the trial – comprising of 51,591 sales across 38 stores between 15<sup>th</sup> December 2013 and 21st June 2014.

#### Headline findings

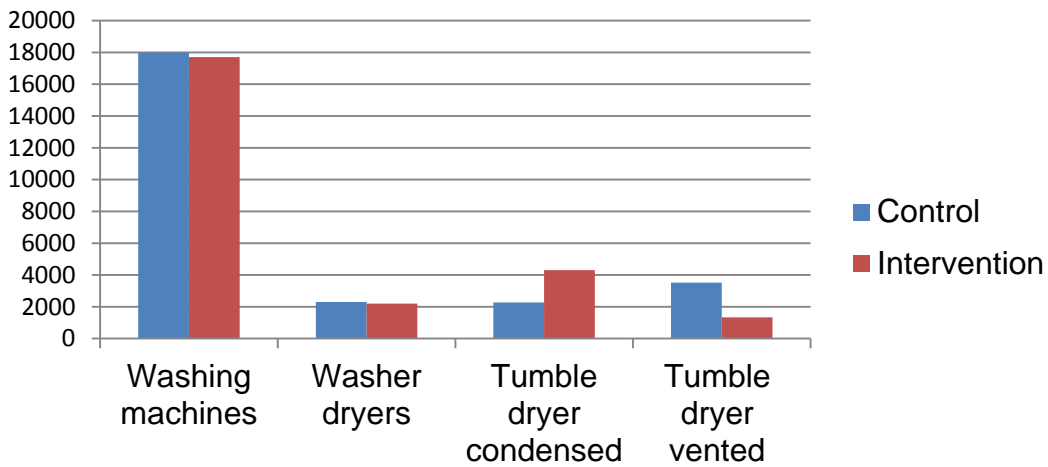
- Energy labelling reduced the average annual energy consumption of washer dryers by 6.64 kWh (0.7 per cent). The impact was greater in non-town centre stores (15.26 kWh, 1.5 per cent) i.e. for washer dryers the lifetime running costs drove people to purchase appliances that used less energy
- No significant effect was found for the other product types
- Secondary analysis on revenue showed no significant effect, i.e. no difference in average purchase price between appliances in intervention and control stores

### 3.2 Contextual understanding of the data

At the trial completion John Lewis retailed a total of 60 washing machines, 42 tumble dryers (34 condensing and 8 vented) and 13 washer dryers.

## Volume of sales

Figure 2 - Number of sales per appliance type in control and intervention stores



It can be seen from figure 2 that sales across all product types were roughly equivalent with the exception of tumble dryers where there were more sales of condensed tumble dryers in intervention stores and more sales of vented tumble dryers in control stores.

There were many more sales in the town centre stores versus non- town centre stores. This difference in sales volume was expected given that town centre stores are likely to have more customers. Store location was controlled for during the analysis, so the final results are not biased towards one type of store. Store location was also used as a stratification variable so even though total number of sales was different between store types, there was an equal representation of stores from both groups. As expected analysis of sales per week showed a peak in sales in the sales period in January but a relatively stable pattern of sales over the rest of the trial period.

Figure 3 – Spread of kWh/year ratings by product type

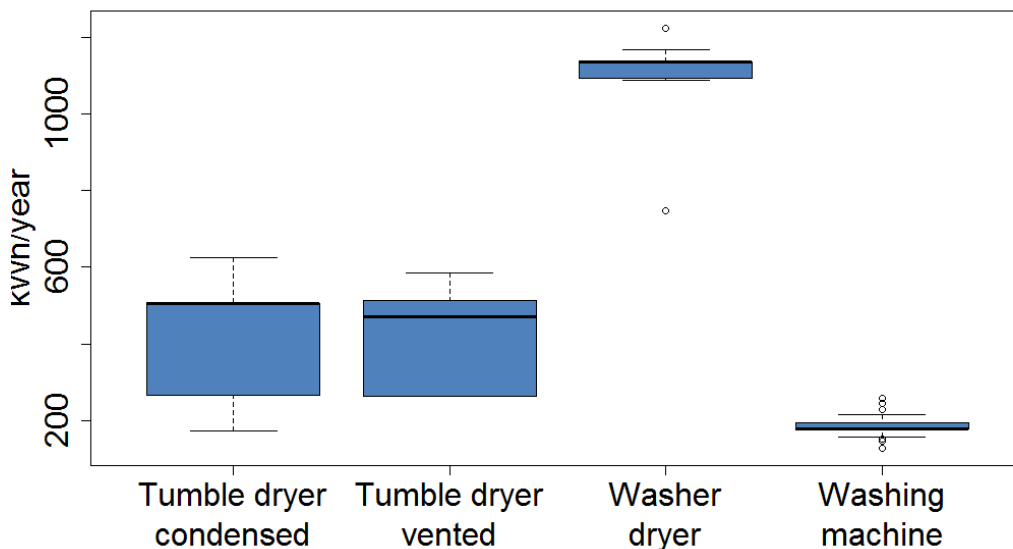
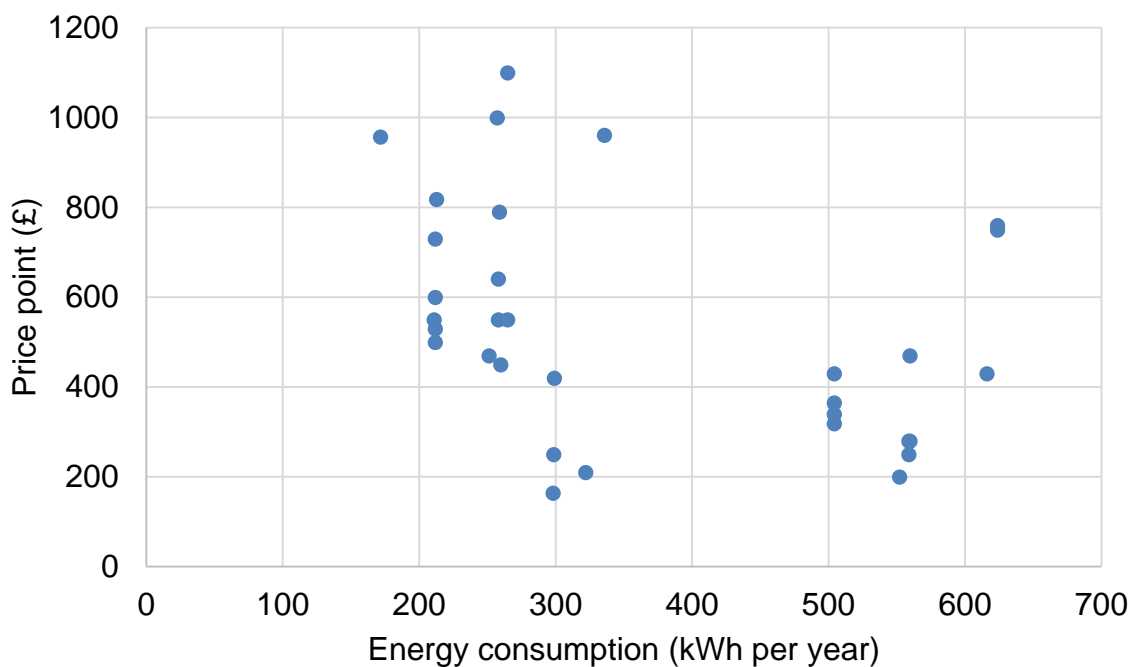


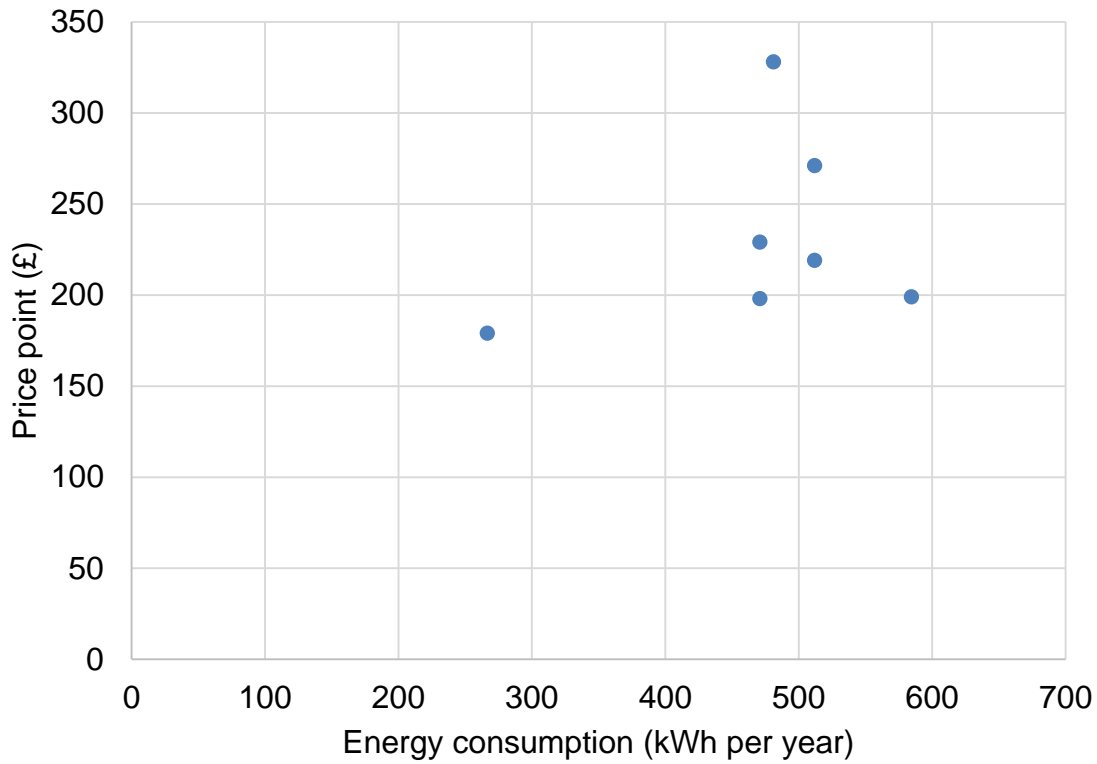
Figure 3 shows that the energy consumption of washer dryers is quite a bit higher than any of the other product types, with the exception of one machine which has much lower energy consumption. Because this machine was an outlier the values were double checked and confirmed. Washing machines have the lowest energy consumption and also the smallest range – i.e. there is not so much difference in energy consumption of the different washing machines sold in John Lewis stores. This means that the range of lifetime running costs presented to consumers is equally narrow in range. Tumble dryers show quite a broad spread of energy consumption with some using lots of energy and some using less.

### Comparison of price by energy consumption for each product type

Figure 4 – Scatter plot of price by energy consumption for tumble dryers (condensing)



**Figure 5 – Scatter plot of price by energy consumption for tumble dryers (vented)**



**Figure 6 – Scatter plot of price by energy consumption for washing machines**

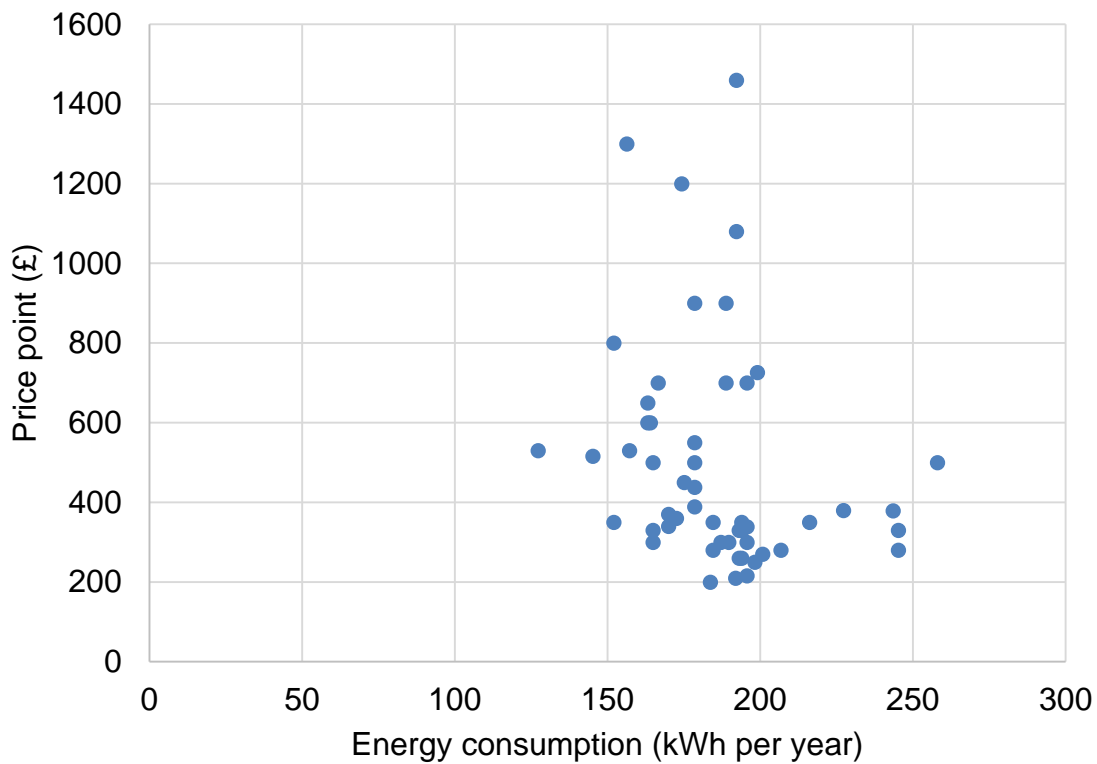
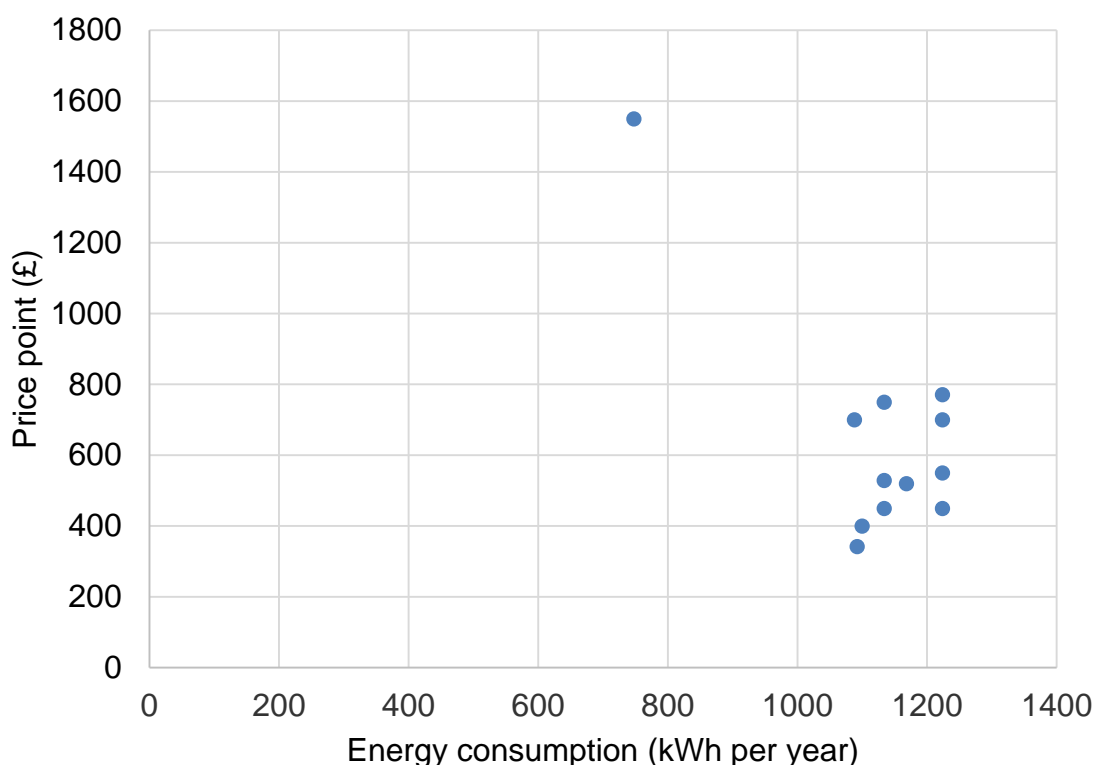


Figure 7 – Scatter plot of price by energy consumption for washer dryers



The above figures show the spread between product price (£) versus kWh/year characteristics. The scatter plots highlight the range in both price and energy consumption scales. This range may have decreased the impact of the intervention (lifetime running cost labels) since some appliances were not only low in energy consumption but also affordable. For example, in vented tumble dryers the cheapest appliance also used the least energy, therefore if consumers were purchasing based heavily on price, they would not have needed a lifetime running cost label for them to see the benefit of purchasing the lower energy using appliance.

There was found to be a single major outlier for both vented tumble dryers and washer dryers. Interestingly, the vented tumble dryer outlier is both the cheapest and has the lowest energy consumption, while the outlier for washer dryers is more in line with expectations – an expensive but low energy using machine. It should be noted that there are other product characteristics that may explain some of these differences that the trial didn't consider e.g. appliance drum size.

### 3.3 Impact of the lifetime running costs

#### Overall labelling effect

The main hypothesis under investigation was that the inclusion of lifetime running costs would lead to the purchasing of more energy efficient products (i.e. average energy use of the products sold in intervention stores would be lower than control stores).<sup>14</sup>

<sup>14</sup> It is important to note that a more energy efficient machine may have lower overall energy consumption. However, given lifetime running costs were calculated based on energy consumption and not the energy efficiency information on the label, the outcome measure of average energy use was deemed suitable.



Figure 8 - average labelling effect by product type (kwh/year)

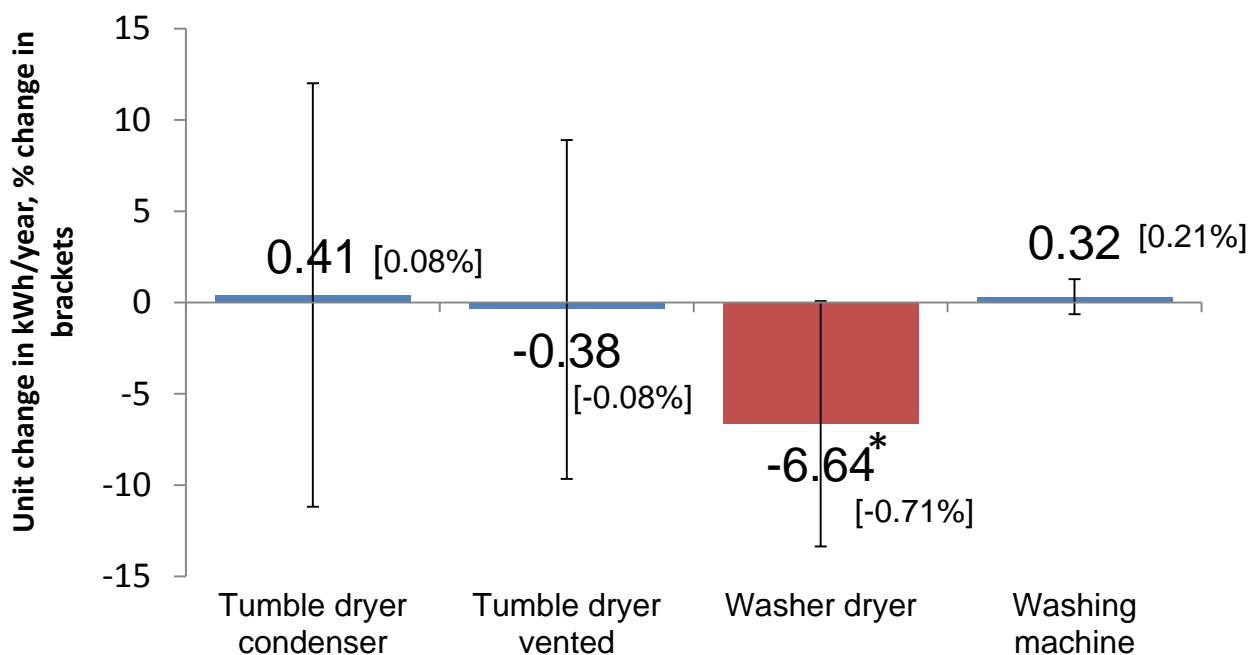


Figure 8 shows the difference in average energy consumption of purchased goods between the control and intervention stores across each product type. The error bars around each bar illustrate the 95% confidence interval of the estimated differences (i.e. the range in which we would expect 95% of all hypothetical estimates of these differences to belong, were we to repeat this trial).

It shows that for washing machines and tumble dryers (condensed) there was a small difference in the opposite direction to that expected, i.e. the amount of energy consumed by the products purchased in intervention stores for these products was greater than in control stores, however the differences were not shown to be statistically significant.

For tumble dryers (vented) the direction of the result that was hypothesised was seen, i.e. the products purchased in intervention stores consumed less energy than those in control stores. However, the difference was not statistically significant. In addition, there was a large amount of uncertainty around the estimates as indicated by the large error bars in both directions<sup>15</sup>. Given there weren't very many products on offer for tumble dryers and there was an outlier which was the cheapest and used least energy, this may have led to the null result i.e. with or without running cost labels, consumers in both intervention and control stores would be incentivised to purchase this product.

The washer dryers also show a result in the direction that was hypothesised but this time the result was significant. The appliances sold in intervention stores consumed an average of 6.64

<sup>15</sup> The large error bars are due to the variance in the outcome measure for each store i.e. the variation between the purchased energy efficiency of the products.

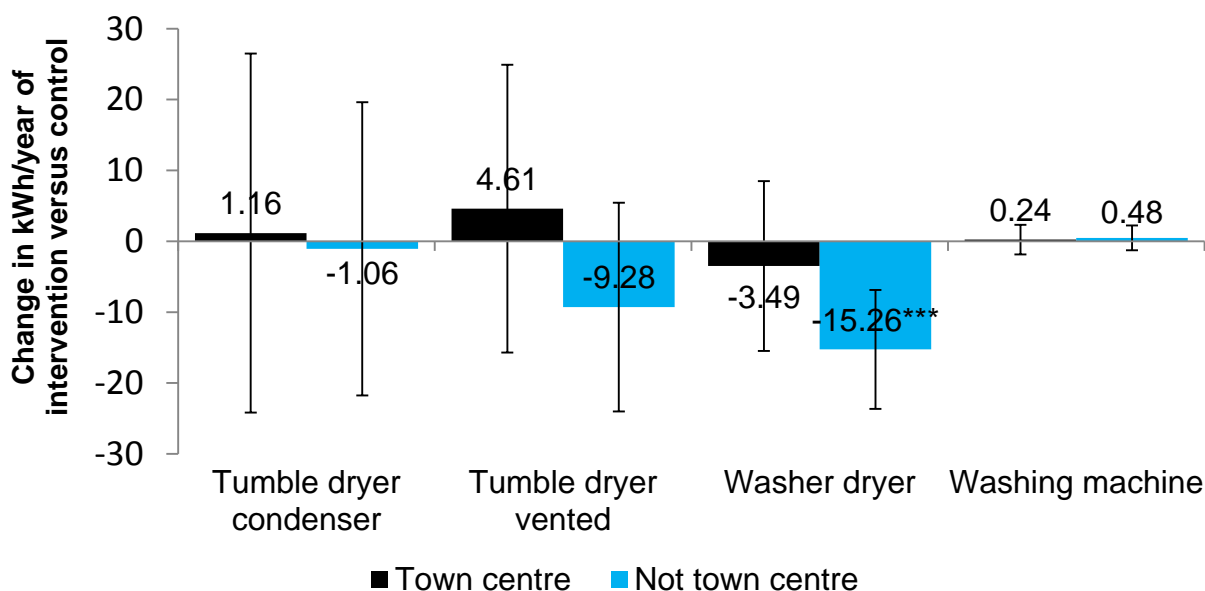
\*statistically significant at the 10% level ( $p \leq 0.1$ ); \*\*5% level ( $p \leq 0.05$ ); \*\*\*1% level ( $p \leq 0.01$ )

kWh/year less energy than the appliances sold in control stores. This difference was statistically significant ( $p < 0.06$ ).

Figure 8 also shows (in brackets) these differences as a proportion of the approximate average baseline energy consumption of products in each product type – as observed in the control stores. It shows that for washer dryers the decrease in energy use equates to a 0.7 per cent reduction in energy use of products purchased in intervention stores compared to control stores. This means that for washer dryers only, the lifetime running costs led consumers to purchase models that used less energy. It is hypothesised that an effect was observed for washer dryers because their lifetime running costs were the highest out of all the product types. Therefore, the total lifetime running costs would have been bigger and possibly more salient to purchasers.

### Labelling effects – town centre/non-town centre

Figure 9 – average labelling effect by product type – town centre and non-town centre



When taking into account any differences between town centre and non-town centre stores it can be seen from figure 9 that for non-town centre stores the inclusion of lifetime running costs resulted in average energy consumption of purchased washer dryer products that was significantly lower (-15.26 kWh, significant at the 1% level) in intervention stores than in control stores. The difference (-3.49 kWh) for washer dryers in town centre stores was not significant.

Crucially, **no other significant effect was observed for the other products** i.e. washing machines or tumble dryers. There is no obvious explanation for the difference in the washer dryer result across town centre and non-town centre stores.

### 3.4 Analysis of sale prices

One of the secondary questions under investigation was to look at revenue difference between an energy label with running costs versus an energy label with kWh per year alone, i.e. was the average sale price per product type significantly different between the intervention and control stores. Full details of this analysis are included in Annex B but there was shown to be no

significant difference between the intervention and control stores, i.e. there wasn't additional revenue generated for John Lewis as a result of the trial.

### 3.5 Time trend analysis

A time trend analysis was conducted to examine if there was any specific time trend in the results. The 27 weeks were split into 5 equal sized week groups of 5 weeks except for the first group that contained 7 weeks to account for Christmas and New Year.

The Norway study saw a stronger effect initially that declined over time. Our analysis shows that there were no consistent time trends, i.e. the effect was independent of time and was sustained over the trial period. The time trend analysis further supports the main conclusions from the primary analysis, i.e. the significant result for washer dryers was consistent over time.

### 3.6 Cost–benefit analysis

A social cost benefit analysis was carried out in order to estimate the net benefit to society of introducing lifetime running costs on the washer dryers sold for a year within: (1) John Lewis stores in the UK; and (2) all stores in the UK. The cost-benefit analysis was undertaken by extrapolating the results of the John Lewis trial. Specifically, the statistically significant result of energy use reductions in washer dryers was extrapolated to cover all sales of those appliances in John Lewis stores and then expanded to all UK washer dryer sales over one year. Social benefits would accrue over the lifetime of the machines, which have been captured. The costs associated with designing the labels and training staff to understand and explain them to customers were also considered.

The estimated Net Present Value of social benefits (social NPV) associated with the sale of more energy efficient washer dryers, based on the results of the John Lewis trial, extrapolated to all John Lewis stores over one year, is around £47,000. The breakdown of this NPV estimate is as follows: society is estimated to benefit by around £48,000 in avoided emissions, reduced energy supply costs and subsequent air quality benefits<sup>16</sup> while stores would face costs of around £1,000 to design the labels and train employees<sup>17</sup>.

If the policy was extended to provide similar labels for all washer dryers sold in a year in the UK, the social NPV over their lifetime is estimated at £1.7m. This consists of £1.8m in benefits through avoided emissions, reduced energy supply costs and improved air quality; and £0.1m in costs to business.

Whilst there is considerable uncertainty around these figures as they extrapolate the costs and benefits for only one category of appliances observed in this trial, with this retailer, the analysis indicates that running costs labels could deliver benefits that outweigh the costs of introducing lifetime running cost labels on white goods. Any benefit associated with increased consumer utility as a result of better informed decision making has not been quantified in the analysis.

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<sup>16</sup> Benefits are appraised using Interdepartmental Analysts' Group (IAG) Guidance, <https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal>

<sup>17</sup> All cost and benefit figures are in present value terms

## 4. Trial findings - focus groups with John Lewis Partners

This section describes the qualitative insights obtained from focus groups with Partners conducted at three points in the trial. They provide a rich understanding of how the intervention was delivered, and what the experiences of Partners and (indirectly) customers were. It is important to note the limitations of these findings.

### 4.1 Limitations

Whilst the views of the Partners involved were extremely useful and helped to improve the implementation of the trial readers are reminded that there were limitations to the research. The findings should be treated with caution for the following reasons:

- The views presented are unlikely to represent the experience of all sales Partners across John Lewis. Whilst all intervention stores were invited to provide a representative, the sample was essentially self-selected. There was no stratification by any variables e.g. demographics, region, length of time in post, prior views on energy efficiency, levels of positive versus negative customer experiences etc. – all of which could have biased their viewpoint.
- Some Partners from intervention stores that were excluded from the quantitative analysis attended the focus groups and their views have been included in the analysis.
- In Wave 3, separate sessions were set up for Partners in intervention and control stores; however only two control stores were able to attend a session and some mixing occurred as two Partners from intervention stores attended the control group session.
- The report only provides the perceptions of Partners and their experiences with customers. There was no research conducted with customers so we don't have an understanding of whether customers' perceptions of the issues would differ.

### 4.2 Key themes

#### 4.2.1 Awareness and impact of the labels

**There was a perceived increase in awareness around energy efficiency**

There was a perception from Partners that customers had become a lot more aware of energy generally.

*“Customers do seem to be a lot more aware of the energy... it’s getting more and more common now when the customer comes in they’re not just looking at the machine, they’re not just looking at the price... they’re also taking the other information in and one of the main things is..those pluses on the A make a difference for them.”(Wave 3)*

Some Partners found that customers sometimes pay that little bit more for a more efficient product.

*“ People are very conscious about the A+++ or any of the A rated products and they are prepared to pay for that particular product if its suits their needs” (Wave 3)*

In Wave 2 there was a perception that where customers had shown greater interest in energy usage this was likely to be related to recent news headlines about energy price hikes rather than the provision of lifetime running costs.

### **Perceived impact of lifetime running costs on sales was minimal**

Around 6 weeks after the lifetime running costs were introduced, the perceived impact on sales was minimal. As the trial progressed many Partners still felt that they hadn’t seen a particular impact on sales of more energy efficient products. There was a perception amongst some Partners that the discussion it generated may in some cases have led some customers to think more carefully about energy efficiency. In some cases, particularly with tumble dryers this may have led to the purchasing of a more energy efficient appliance. However this was on the odd occasion rather than a regular occurrence.

*“ I wouldn’t say it’s necessarily had a massive impact but it’s definitely a talking point” (Wave 3)*

### **Visibility of the lifetime running costs could have been improved**

Throughout the trial the perception from Partners was that awareness of the lifetime running costs on the labels and the posters was low until pointed out. The information was not visible, and generally customers did not ask about it unless Partners mentioned it.

*“A lot of our customers don’t really look at the black label and ask what it is we have to explain it to them” (Wave 1)*

*“The lifetime running costs are in a black strip at the bottom and it just doesn’t stand out, it doesn’t come into conversation that frequently” (Wave 3)*

### **Customers tended to find the EU label clearer and more attention grabbing**

Throughout the trial there was a feeling that the EU label which gives more specific information on energy was more useful than the one line of text in the black box on the appliance label.

*“The energy label that gives more specific information is more useful than just a line on a black background which doesn’t go into much detail because we have to take it and explain it to them...”(Wave 1)*

[in relation to frequency of spontaneous questions being raised on the EU label] *“all the time..it would be probably be every other customer” (Wave 3)*

Partners felt that customers understood the EU label and found it clear, easy to spot and read. They observed that whilst the number of customers spontaneously mentioning the lifetime running costs was rare, there did seem to be more attention paid to the energy efficiency data on the EU label.

*“Straight away the customers’ eye is drawn to whether it A rated or A++ rated appliance”(Wave 3)*

### **Levels of engagement varied by customer type**

A number of Partners perceived that older people were less interested in information on lifetime running costs. Partners noted customers saying, for example, *“I won’t live for 9 years longer anyway so I won’t know whether it works out to be true or not” (Wave 1).*

Information on lifetime running costs was not also not particularly relevant for higher income customers or those that were time poor e.g. busy households. Partners noted that those who appeared to be most interested were young couples with young children, men, middle aged people, those with more time on their hands or those on water meters.

### **Factors such as brand, reliability, and running time were key factors motivating purchasing decisions**

Generally Partners felt strongly that they had not seen customers trade off upfront cost versus running costs. Features such as brand and perceived durability and running times were more in the forefront of their minds than the energy consumption of the appliance.

A number of Partners agreed that they had a lot more conversations with customers about running times than running costs. Customers tended to struggle with the concept of time efficient versus energy efficient and often assume that a more energy efficient appliance will wash/dry quicker.

*“it’s not the running cost they are worried about ...it’s how efficient it is for them and the quick time, they don’t want it to take 2 hours they want it to take an hour..with the A+++ they know they are going to take longer to do the cycle, especially on the washing machines...that’s why we sell a lot of the ones with speed perfect buttons on them”*

*(Wave 2)*

*“On the overall cost of the machine for its lifetime, it doesn’t really reflect sometimes in peoples’ lives, they are more worried about the present and how long it takes the machine to do their wash” (Wave 3)*

Throughout the trial there was widespread agreement amongst Partners that customers tended to shop around before making their in store purchases. For example they conducted research online or came armed with 'Which' reports etc.

*“When people come in waving their handfuls of paper...Which report and this report and that report obviously they already think that they know everything there is to know and when confronted with a new figure it just sort of throws them into chaos” (Wave 1)*

#### 4.2.2 Issues causing confusion/implementation difficulties

##### **The assumptions and averages caused confusion for customers**

In some cases discussions between Partners and customers around the lifetime running costs raised more questions for customers than it answered. Some customers were intrigued by the new information on lifetime running costs, however for many it caused confusion. They questioned the assumptions underpinning the calculations.

*“the danger with the averaging is that customers don't like to think of themselves as average, they like to think of themselves as being slightly better than that...if somebody thinks they are not average then they are not interested..” (Wave 2)*

Throughout the trial there was a strong sense that the assumption that products would last an average of nine years was a barrier. Customers that had a strong idea about how long they expected products to last found it difficult to engage with the average lifespan used in the calculation of the lifetime running costs. Without reassurance of this they tended to dismiss the 9 year assumption and struggled to engage with the lifetime running costs.

When customers have had products that haven't lasted very long e.g. 3 years it was difficult for them to understand how a product might last 9 years on average.

*“When you say lifetime they say oh what's the lifetime? Then you say an average of 9 years, well it gets you into a bigger conversation, which for me is the confusion” (Wave 3)*

*“The key question is how long is the life of the machine? An average doesn't mean anything to a customer” (Wave 2)*

##### **Annual running costs may be more easy for consumers to understand**

Given the difficulties understanding the assumptions a number of Partners suggested that presenting annual running costs would be easier for consumers to engage with. Following this suggestion after Wave 1 Partners were issued with an annual running costs card through the retail support desk. At Waves 2 and 3 it was noted that some Partners had not seen the annual running cost card. Others were aware of it but had not made much use of it, finding that it was difficult to use in the absence of other guidance.

There was, however, a recognition that annual running costs, or something more short term would be easier for consumers to relate to and understand.

*“Annual would be better, I think customers could digest it better” (Wave 3)*

## **Over the course of the trial some Partners became less engaged**

There was a perception that some Partners had 'switched off' to lifetime running costs over the course of the trial. In some cases the Partners had started not to notice the information.

*"You get the odd customer wanting to talk about it or notice it but in all honesty generally Partners will discuss the energy label very comfortably very frequently but the lifetime running cost...even as Partners we are guilty of not seeing it" (Wave 3)*

It did not seem that the quality of the training or retention of knowledge had affected the drop in engagement over time. It was more the infrequent conversations that resulted in a drop in engagement.

*"you can go weeks without being asked at all, that's when you're not engaged as much" (Wave 3)*

### **4.2.3 Partners' suggestions for improvement**

#### **Simplicity and more colour were the key suggestions for getting customers to notice the information on the labels**

*"It needs to be a little bit louder and more prominent" (Wave 3)*

*"I think black is a quite bland if it was maybe on a coloured background, maybe red, something which is very identifiable they would read it, potentially, and if it could say average running costs and mention the 9 years, X times a week it would give some yardstick" (Wave 1)*

#### **Presentation of more bespoke information was considered to potentially be more effective**

Some Partners suggested using annual running costs which may be easier for consumers to relate to. They also suggested presenting cost per cycle so that customers can work out how many cycles they use a week. One suggestion was to incorporate this into a calculator or tool that could be put on the John Lewis website or used by Partners in stores.

The following ideas were also suggested across the course of the trial for improving the initiative in the future:

- Add "for comparative purposes only" to the label
- Add a device on machines showing how much electricity an appliance is costing or an app symbol to link customers to a website to explain the energy costs a bit more.
- More advertising may help to raise consumers awareness of lifetime running costs
- Include an article in Which magazine on lifetime running costs to raise awareness



## 5. Conclusions and lessons learned

The experience of conducting this trial and the findings that have been generated, provide a rich set of lessons for DECC and others considering using running costs information or designing and conducting randomised controlled trials aimed at reducing energy consumption. This section considers the implications of the findings of the trial for policy and describes the specific learning related to implementation, methodology and behavioural findings.

### 5.1 Conclusions

This trial, which was conducted in a real world setting has moved forward the evidence base and provides robust evidence for the use of lifetime running cost labels on white good appliances, specifically washer dryers. Despite there being no effect for washing machines and tumble dryers the results showed conclusively that for washer dryers the inclusion of lifetime running costs results in consumers reducing their energy demand through purchasing appliances with lower energy consumption. It is hypothesised the effect was observed for washer dryers because their lifetime running costs were the highest out of all the product types<sup>18</sup>, therefore the total lifetime running costs would have been bigger and possibly more salient to purchasers. This impact is additional to effects the existing EU label may have and improvements in energy efficiency over time brought about by energy using products regulation.

The EU is heading towards a revised labelling directive. The early findings from this work were fed into the EU commission evaluation of the Energy Labelling Directive.

DECC's Energy Efficiency Strategy published in 2012 recognised that lack of access to trusted and appropriate information is one of the four key barriers to energy efficiency. With more and more electronic products in the home, it is more important than ever to ensure that people have access to relevant and timely information and this includes clear, simple, trusted advice on the cost implications of their appliances and gadgets. It is certainly clear that the information barriers still exist. Recent research by the Energy Savings Trust (EST) showed that only 16 per cent of people correctly identified within £20 the amount of money it costs the average home to run a fridge freezer during a year (£58) while 10% knew how much it would cost to run a kettle (£23) within £10. They also found that more than half of respondents (54%) living in houses that

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<sup>18</sup> EU legislation on the performance of combined washer-dryers dates back to 1996, and has not been updated. Therefore the standards have not been made more stringent over time in the same way that standards for washing machines and tumble dryers have.

own tumble dryers used them at least once a week in the summer<sup>19</sup>. The findings from this trial support the idea that small low cost changes to address information barriers and provide salient information to consumers can, in certain contexts, help to reduce energy demand.

Although the effect size was not as large in this trial as has been seen elsewhere, e.g. in the Norway study, qualitative insights from John Lewis Partners suggested that by refining the approach or presenting information in a different way, the salience of the information could be further increased. If the information can be made more relevant for individual consumers then it may have more impact. From a policy perspective, the cost benefit analysis showed minimal societal benefits from this intervention based on the results seen. However, the costs of implementing this are low.

It is acknowledged that there are complexities to adding running costs to all appliances, with one particular issue being energy price fluctuations making it difficult to keep information up to date. However, DECC would encourage retailers and consumer groups to consider the lessons learned from this trial, look at the range and clarity of information currently presented to consumers through appliance labels and consider making the running costs more salient to consumers both online and in store. When dealing with large numbers of transactions, small differences resulting from low cost nudges can add up over time. DECC will continue to explore what works to reduce energy demand using behavioural trials as a vehicle to collect evidence where possible.

John Lewis are keen to continue with energy running cost labelling, broadening and refining the approach, believing there is value in providing customers with running cost information which enables them to make an informed decision. Following the Test-Learn-Adapt<sup>20</sup> approach, they are considering using learnings from the trial to provide annual rather than lifetime costs and plan to extend this to other product categories and their website, recognising that consumers often research products online before making a purchase in store.

## 5.2 Limitations

Despite the usefulness of the findings there were limitations to this trial:

1. Whilst it provided evidence of what works for John Lewis customers it is acknowledged that John Lewis customers are unlikely to be representative (according to demographics, attitudes, values etc.) of customers from other retail stores. As such there is a limit to how generalisable the findings are.
2. Unlike in the Norway study where they were able to differentiate the impact of training staff from the impact of the lifetime running costs, in this trial there is no way to isolate the impact of lifetime running costs. It is possible that that conversations Partners had with customers as a result of the training had more of an impact on customers purchasing decisions than the lifetime running costs information on the label. Further trialling of the

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<sup>19</sup> Ipsos Mori (2014) Survey for EST UK pulse <http://www.ipsos-mori.com/Assets/Docs/Polls/ipsos-mori-energy-saving-trust-topline-august-2014.pdf>

<sup>20</sup> Test-Learn-Adapt [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/62529/TLA-1906126.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/62529/TLA-1906126.pdf)

use of lifetime running costs online would help to isolate the impact of the lifetime running costs presented on appliance labels.

3. It was not possible, in this trial, to conduct any research with customers so there is a limit to the interpretation that can be made of the quantitative findings. Although we have formed hypotheses, it is not possible to make definitive conclusions about why the effect was only seen for washer dryers or to further understand exactly how much of a role the lifetime running costs played in consumers purchasing decisions.

## 5.3 Lessons learned

The following lessons learned around how to improve the intervention or the delivery of the intervention can be applied to those planning testing or trialling of lifetime running costs, or retailers, or other organisation who are looking to use lifetime running costs on appliances.

**Piloting** - in this trial it was not possible to conduct a pilot. However, spot checks and focus groups with partners revealed some unforeseen implementation issues. Piloting of any new intervention is strongly encouraged to provide an opportunity for reflection and refinement of the intervention and its delivery.

**Design and presentation** - In this trial there were constraints around the design and presentation of the information on lifetime running costs but feedback from partners suggested that visibility of the information was low. In order to ensure maximum impact it is recommended that when displaying or trialling lifetime running costs the information is:

- Tested/piloted with consumers to ensure it is designed in a way that meets their needs
- Designed in a way that ensures it is prominent to consumers – carefully considering placement of the information on the label, proximity to the EU energy label, colour, size and level of detail.

**Provision of tailored information** – a key theme in the focus groups with Partners was a perception that the ‘average’ assumptions underpinning the calculation of the lifetime running costs were difficult for a number of consumers to engage with. Future trials or initiatives could consider presenting information in a way that is more meaningful to consumers. For example, presenting annual running costs, or for washing machines presenting costs per cycle and calculating a figure based on the households estimated usage.

**Importance of training** - the trial highlights the importance of training store staff to increase levels of awareness and knowledge. Qualitative findings from the focus groups indicated that Partners were able to have conversations with consumers about energy and in some cases persuaded people to buy more energy efficient products. However, even given the information Partners received, some still found it difficult to explain lifetime running costs, particularly some of the assumptions underpinning the calculations. In order to bring lifetime running costs into the conversation store staff need to be well-informed to allow them to effectively help consumers choose the most appropriate and efficient product for their needs.

**Signposting the difference between energy efficiency and energy use** – insights from the focus groups further supported the hypothesis that since the inclusion of A+++ on the market

customers find it less easy to ascertain which appliances they should be buying to obtain the most savings, (for example is an A rated product still as a good purchase in terms of energy efficiency?). Partners described customer confusion when comparing products with lower running costs and an efficient energy rating against products with higher running costs but the same energy rating. The EU energy ratings only provide a relative measure, and whilst they serve as a good guide to energy efficiency this highlights that consumers could benefit from more information.

Energy efficiency advice/signposting to lifetime running costs may be even more important when consumers are thinking about purchasing a more efficient machine that's bigger than their old one as it may not use any less energy at all, if it isn't used effectively. For example, a larger, more efficient washing machine used to wash frequent small loads is likely to use as much energy as a smaller machine used in the same way – even though it is more efficient for its size than the older model was. The same would be true if extending this initiative to fridge freezers. For example, a large rated American style fridge-freezer and a standard sized fridge-freezer can receive the same A+ rating despite the larger appliance consuming 50% more energy than the smaller one (300kWh (£42) versus 450kWh (£63)). In this example consumers may be unwittingly locking themselves into higher energy costs<sup>21</sup>. The focus groups revealed a vast range in usage patterns across different consumers so educating consumers on this issue is important. It may be possible to build some messaging into any future trial or use of lifetime running costs.

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<sup>21</sup> Global action Plan (2013) Watts in the Home <http://www.globalactionplan.org.uk/watts-in-the-home-report-launched>

## 6. Appendices

The separate technical annex provides further detail on the trial design, evaluation methodology and analysis. The technical annex can be found here:

<https://www.gov.uk/government/publications/evaluation-of-the-decc-and-john-lewis-energy-labelling-trial>

The contents are as follows:

### **Annex A – Methodology**

- Trial design
- Randomisation and sampling strategy
- Assumptions
- Hypotheses
- Partner focus groups

### **Annex B – Analysis**

- Evaluation design
- Analysis

### **Annex C – Supporting materials**

- Appliance label design
- Partner training
- Poster
- Annual running costs card

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