NATIONAL HOUSING FEDERATION

# Count us in: Lessons learnt


October 2014


60°

# Acknowledgements


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### Pilot organisations

**James Burton**, Aspire Group
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**Desmond Woodcock**, Shepherds Bush Housing Group
**Alexandra Atkinson**, Trafford Housing Trust
**Sean Dooley**, Trafford Housing Trust
**Helen Amoako**, Yorkshire Housing
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# Contents

# Foreword

With rising energy prices and the impact of Welfare Reform, an increasing number of social housing tenants are at risk of fuel poverty. Social landlords are increasingly investing time and money in making physical improvements to properties to improve their energy efficiency. This report explores a crucial aspect of tackling fuel poverty – helping tenants to take control of their energy usage and make lifestyle changes to save money.

It is encouraging to see how this work has allowed customers to gain a greater understanding of their energy use and control over their bills. This has helped to make a difference to their own lives and to the environment.

All five housing associations involved have learned a great deal by being part of this National Housing Federation project. Pilot projects require commitment and Count Us In was no exception. Behind the short statements and simple graphs lies a huge amount of data collection, event organisation, work with customers and persistence.

Our hope is that our learning and results will help other organisations to work with their customers with conviction and confidence, knowing that although the changes may only occur slowly, the effort is justified.

**Mervyn Jones**
Chief Executive
Yorkshire Housing

# About Count us in

**Count Us In focuses on the human element of energy use. The project has explored how we can best motivate households to avoid wasting energy and make the most of energy efficiency improvements to their homes.**

For housing associations this will help maximise the value of investment in improving homes and reducing carbon emissions. For households it can help reduce running costs, improve comfort and deliver positive health outcomes. Lower running costs will also make homes more affordable, reducing the risk that households will have to choose between heating, eating or paying the rent.

Between March 2012 and October 2014 five housing associations ran pilots, trialling a range of techniques to work with residents on their energy use. Each pilot worked with between 50 and 70 households across a range of housing types in urban and rural settings, including retrofitted properties, new build and supported housing. In total 309 households were actively engaged.

**About this report**

This report presents the main findings from the pilots and recommendations for maximising the impact of engagement activity and delivering at scale. It follows our January 2013 publication 'Approaches to engaging households with their energy use' which profiled behaviour change and engagement research and practice.

A summary of each pilot is included at the end of the report. Separate, detailed monitoring reports are also available for each pilot on our website: www.housing.org.uk/countusin.

## Trafford Housing Trust

1960s tower blocks undergoing retrofit, including a new communal heating system.

**Main techniques**

- Home advice visits
- Illustrated top-tips guide
- Community events
- Tenant energy champions

"Residents became more comfortable in their homes, sometimes at the expense of energy consumption. Overall, households were low energy users.

The disruption caused by the major retrofit works made engaging residents challenging."

## Helena Partnerships

1960s and 1970s houses and bungalows across St Helens.

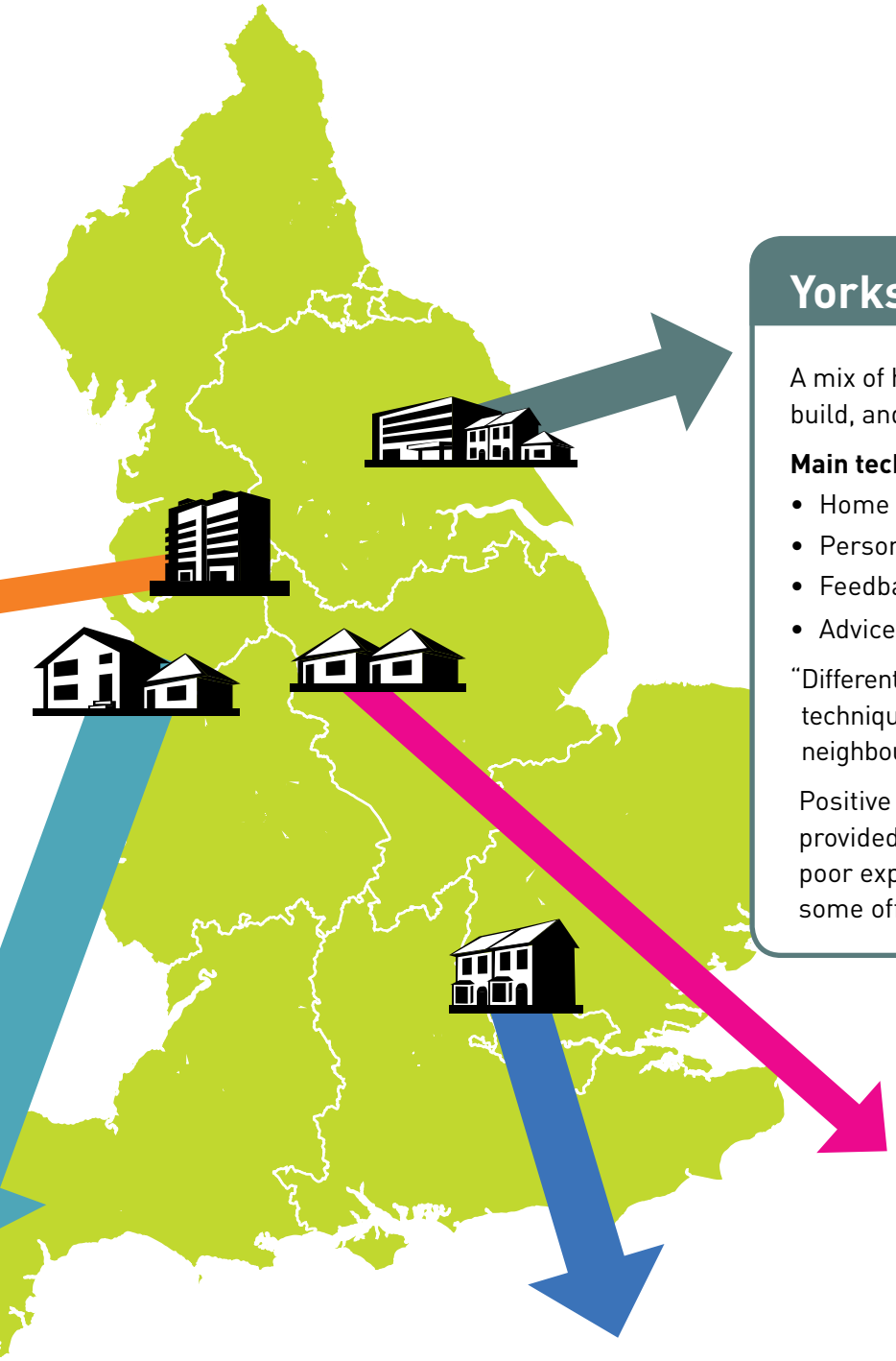
**Main techniques**

- Smart meter with in-home display
- Home advice visits
- Workshops
- Quarterly information leaflets

"Residents became more confident using their heating efficiently.

Personal contact was the most effective way to engage. Smart meters were also popular, though negative experiences with installation put some residents off."

# The Count us in pilots



## Yorkshire Housing

A mix of housing types including off-gas houses, new build, and homes recently fitted with heat pumps.

**Main techniques**

- Home advice visits
- Personal action plans
- Feedback on consumption
- Advice leaflets and calendar

"Different customers favoured different engagement techniques. Trusted messengers such as neighbourhood wardens play a crucial champion role.

Positive experiences with recent retrofit works provided a good basis for engagement. However, poor experiences with air source heat pumps put some off."

## Aspire Housing

1960s and 1970s bungalows in two sheltered housing schemes, including one retrofitted with heat pumps and photovoltaic panels (PV).

**Main techniques**

- Home advice visits
- Communal events
- Top-tips leaflet

"To avoid under-heating, residents adopted a zonal approach to controlling temperature and off-set their consumption by better using the free electricity from the PV.

Continual reinforcement of simple messages worked best. Involving scheme managers was key to getting buy-in and maintaining engagement."

## Shepherds Bush Housing Group

Victorian street-based properties across West London.

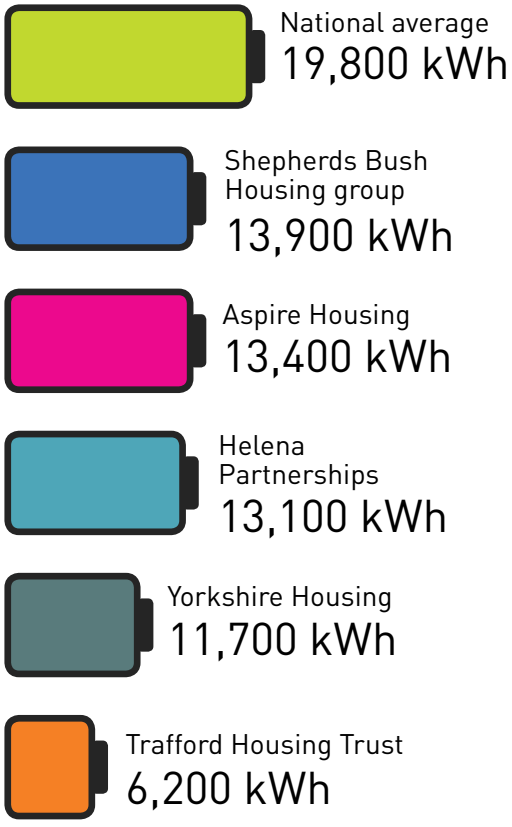
**Main techniques**

- Smart meters with in-home display.
- All engagement was delivered virtually, through an online social networking platform.

"The design and functionality of the social networking platform is crucial. Using an existing network or combining it with other online services and activities may generate more use than our stand-alone platform did."

# Changes in behaviour

- **75% of participants reported making at least one change in their behaviour during the pilot.**
- There was large variation in consumption levels across households. Many participants were already low energy users by national standards and, as such, some participants had more scope to make additional savings than others.




- The cold winter of 2012/13 made it more challenging for participants to keep warm without increasing their bills[1], particularly for vulnerable residents or those on low incomes who may have already been cutting back on their heating.
- Because of the higher cost of electricity compared to gas, relatively small changes in appliance use will have a bigger impact on bills, helping to offset the cost of heating.

## Appliance Use

51% **of households made at least one change to their appliance use**

For some, changes took time to embed, whilst for others early changes made reversed towards the end of the pilot. This suggests the need for ongoing prompts around appliance use.

**Boil only water needed**

+13%

**up from 68% to 81% of households**

- Close to a fifth of participants started to be more careful about how much water they boiled each time they used their kettle. However a small number appeared to stop being as careful.

**Turn most appliances off standby**

+23%

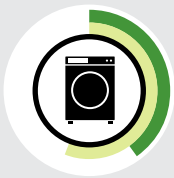
**up from 66% to 89% of households**

- More than a third of participants reported they made more of an effort to switch appliances off at the wall.
- However, many struggled to achieve this all the time or found that some appliances, such as set-top boxes, could not easily be turned off standby.

**Use a tumble dryer**

-16%

**down from 56% to 40% of households**



- Other laundry habits, such as washing temperature, showed little improvement over the pilot. Many residents already had good habits or were limited by external constraints, such as a lack of outdoor drying space.
- Tumble dryer use varied depending on the season. Most residents did not cite this as their only means of drying laundry.
- Residents also became smarter at timing the use of their appliances to coincide with cheaper energy; such as Economy 7 tariffs or when free energy was being generated by recently installed PV.

[1] The Department of Energy and Climate Change (DECC) estimates that over the relatively cold winter consumption increased by 21% on average (DECC, June 2013,"Special Feature – effect of cold 2012/13 winter on energy bills)."

## Heating habits

49%

**of households made at least one change to their heating habits**

### Puts up with cold

-8% **down from 14% to 6% of households**

- Most residents were able to find adequate ways to stay warm. Just 3% reported changes they had made negatively affected their comfort levels. 14% reported an improvement in their comfort.

### Use heating timer

-15%

**down from 42% to 27% of households**

- There was a preference for manually controlling how long the heating was on, particularly among residents who were home for long periods of the day.
- During cold snaps timer settings were often overridden.
- Households with heat pumps also needed to leave them on constantly for optimal efficiency.

### Under-heating (thermostat set below 18°C)

-12%

**down from 19% to 7% of households**

- More residents started using their thermostat to control temperature.
- Almost half turned down their thermostat, using alternative measures to stay warm.
- Almost a quarter turned up their thermostat. This helped reduce under-heating. This could be due to retrofit works making it cheaper to heat homes at higher temperatures, though many residents reported not needing to turn their heating on as often or for as long as they used to following retrofit.

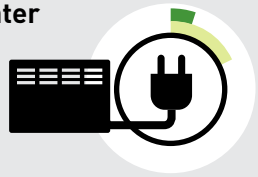
### Radiator valves (TRVs) adjusted

+2%

**up from 81% to 83% of households**

- There was a small increase in residents setting their TRVs to control temperature on a room by room basis.
- Many of these were residents who turned their main thermostat up.
- Others started closing internal doors and using curtains to keep specific rooms warm. This helped lower consumption for those who required the heating to be on for long periods of the day.

### Use portable electric heater



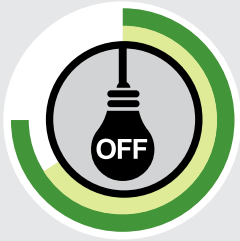
-13%

**down from 18% to 5% of households**

- Residents adopted a range of alternative habits to stay warm, including extra clothing and blankets and closing doors and curtains to keep heat in individual rooms.

### Lighting

+5%




**Always switches off lights up from 70% to 75% of households**

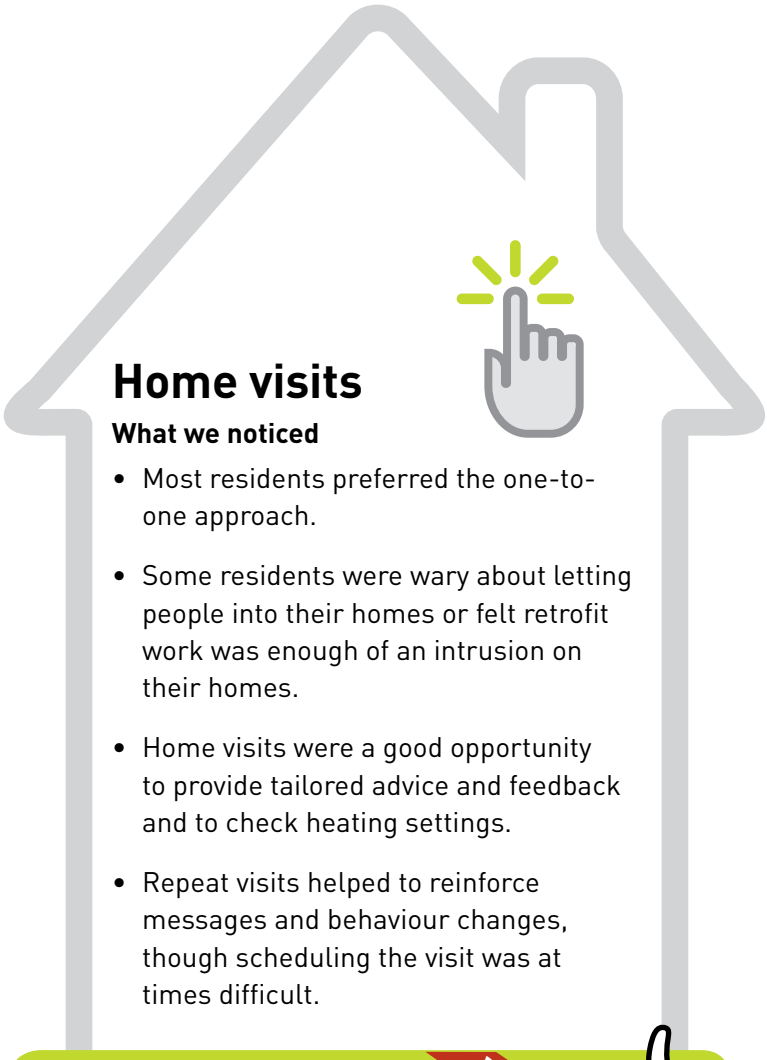
- Habits were generally good to begin with.
- 19% of households reported they made more of an effort to turn lights off. However, many residents struggled to always remember to switch lights off when leaving a room.

before after

Detailed data tables are included in the appendix.

## Success factors

- Engagement should not take a one-size-fits-all approach as different participants favoured different techniques.
- Often the effectiveness of a technique came down to the way in which it was delivered.
- Key success factors included:
  - Personal engagement with households, whether face to face or through phone calls, was most effective at getting and maintaining buy-in.
  - Engaging with all members of a household.
  - Coordinating engagement by neighbourhood/scheme.
  - Locally-based staff who had established rapport with residents helped to overcome mistrust or scepticism, particularly among elderly residents.
  - Keeping messages simple, focused and tailored where possible. Regular reinforcement of messages helped embed good habits over the long term.
  - Framing messages around staying comfortable, avoiding wasting money and the successes of other, similar households.
  - Taking an organisation-wide approach to engagement and linking it with other outreach activity, such as that around welfare reform or household budgeting.



### Home visits

**What we noticed**

- Most residents preferred the one-to-one approach.
- Some residents were wary about letting people into their homes or felt retrofit work was enough of an intrusion on their homes.
- Home visits were a good opportunity to provide tailored advice and feedback and to check heating settings.
- Repeat visits helped to reinforce messages and behaviour changes, though scheduling the visit was at times difficult.

**Worked best when**

- A range of times was offered to residents for the visits, including evenings and weekends.
- Follow-up visits were scheduled at the end of each visit.
- A familiar face undertook the visit.
- Residents were given a hands-on demonstration of new heating systems.
- Households were left with a small number of suggested actions.

## Advice guides

**What we noticed**

- These helped reinforce key messages and provide step by step instructions for operating heating systems.
- The more pictorial guides received better feedback and helped overcome language barriers.
- Guides are easy to misplace and it is unlikely that this method alone is enough to encourage behaviour change.

**Worked best when**

- They were short and very pictorial, focusing on a handful of key messages.
- Used as an active part of face-to-face engagement, rather than sent in the mail.
- They are relevant to the individual circumstances of the household.

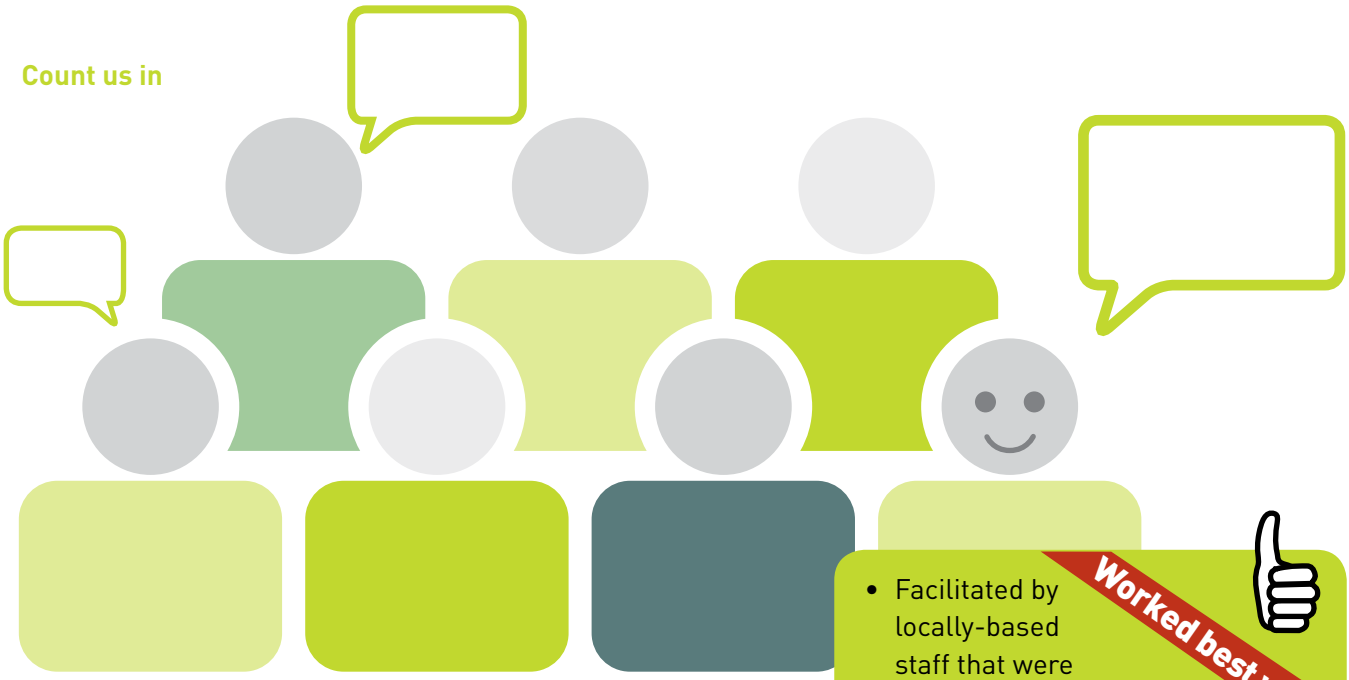

## Smart meters

**What we noticed**

- Many residents liked the idea of no more estimated bills.
- The in-home display helped residents keep track of appliance use and cut down on electricity.
- Many found the traffic light indicator helpful, though for some it created anxiety about using power-hungry appliances.
- Use of the in-home display dropped-off over time.
- Some residents believed having a smart meter meant they didn't need to change their habits to save energy.

**Worked best when**

- The installation process ran smoothly. Delays or miscommunication led to residents disengaging and viewing the smart meter as a hassle.
- Installation was coordinated with engagement to help residents make the most of the smart meter.
- The in-home display was demonstrated to residents and its use regularly reinforced.
- Consumption data was available to staff to provide feedback to residents and help personalise advice.



## Group events

**What we noticed**

- It was difficult to motivate residents to attend energy efficiency themed group events.
- Feedback from those who did attend was generally positive.
- Group events provide an opportunity for residents to share experiences and tips, and be motivated by the success of others.

**Worked best when**

- Facilitated by locally-based staff that were familiar to residents, such as neighbourhood wardens or scheme managers.
- Had a more social aspect (such as coffee mornings) and a neighbourhood focus.
- Were linked to existing social events or meetings.

## Social media platform

**What we noticed**

- Online engagement provides an opportunity to reach large numbers of residents at once and connect dispersed communities.
- Design and functionality is key to overcoming the hassle factor.
- Residents may be reluctant to engage with people they don't know or may view it as something additional they need to do.

**Worked best when**

- It has an intuitive, fun and engaging design.
- Residents have a clear reason to use it; for example it is part of a package of online services, such as household budgeting, or part of networks residents already use.
- Residents receive ongoing prompts or incentives to use it to encourage take up.
- It is moderated to ensure it is a source of relevant and accurate information.

## Tenant energy champions

**What we noticed**

- A lot of groundwork was required to get schemes up and running.
- Volunteer rates were generally low.
- Many residents believed it would be too difficult or didn't feel comfortable enough talking to people they didn't know.

**Worked best when**

- Coordinated by locally based staff who had already established trust with residents.
- There was upfront training and ongoing support for volunteers.
- Linked to skills and personal development schemes.

For more information on different engagement techniques see our January 2013 report 'Count Us In: Approaches to engaging households with their energy use.'

## Barriers to change

- Going into the pilots, most residents already had a good awareness of how they could save energy. This did not always translate into positive action, with some under-heating their homes or being put off by the perceived hassle of change.
- Concern over eroding personal comfort was the most common reason given for not changing habits.
- Many participants were elderly or had long-term health conditions, which made them more vulnerable to the cold. These residents were also more likely to be home for longer periods of the day, placing further demand on heating.
- Safety and security concerns were also a barrier. For example, some residents preferred to leave lights on so that they could see better.
- Some residents didn't feel the need to make further changes believing they were already cutting back as much as they needed to and/or could afford to keep their levels of use as they were. One participant believed that living in an "eco-house" removed the need for them to change their behaviour.
- Physical barriers were also identified as stopping behaviour change, such as draughty rooms, heating systems not working properly or the lack of outdoor clothes drying facilities.
- One group of residents experienced problems with recently installed air source heat pumps and disengaged from the pilot as a result. The disruption caused by major retrofit works on one estate was also a barrier to engagement. However, positive experiences with recently installed heating systems were a good platform for engaging residents elsewhere.
- The need to accommodate other family members or pets was also sometimes cited as a barrier. For example, children leaving appliances on or participants preferring to leave lights on to comfort pets.

## Delivering at scale

Scaling up engagement to large numbers of residents doesn't have to be time consuming. Many residents can be supported through existing maintenance and outreach practices that take advantage of the benefits of one-to-one interaction. This also avoids the need for residents to be motivated enough to opt-in to engagement, which could miss those who need the most help.

## A fresh start

### New tenancies

A moment of transition when households may find it easier to change their behaviour.

**Opportunity to:**

- Discuss energy use as part of welcome visits.
- Demonstrate heating controls.
- Check and set heating.
- Include advice guide and feedback/ prompt devices such as room thermometers in welcome packs.

### Retrofit

Retrofit can be a catalyst for behaviour change. However, disruptive building works may impact residents' willingness to engage.

**Opportunity to:**

- Consider how easy new technology is to use at procurement stage.
- Involve residents in the planning of the retrofit to get buy-in at an early stage. This could help mitigate the hassle factor of major works.
- Demonstrate new technology to ensure residents are confident operating it. This will help avoid negative experiences that may lead to them losing interest.
- Consider holding off on lifestyle advice until immediately after any disruptive building works.

## Trusted messengers

### Community networks

- Existing networks provide an avenue to promote engagement and get buy-in from residents.
- They can help deliver community-based or volunteer-led engagement.

# Ongoing contact

## Programmed outreach activity

Activity already scheduled to take place, such as community investment or engagement on welfare reform.

**Opportunity to:**

- Talk about energy use by linking it with issues that may be more immediately relevant to households, such as health and budgeting.
- Promote tenant champions as an opportunity for skills and personal development.
- Use planned events to deliver group-based activities and encourage sharing of experiences.

## Scheduled visits

Such as gas safety inspections and planned maintenance.

**Opportunity to:**

- Give a small number of season-specific prompts that help sustain good habits.
- Check and set heating.
- Provide feedback on changes in consumption and celebrate success.
- Identify households needing dedicated follow-up support.
- Take meter readings to monitor consumption.

## Front line staff

Including housing officers, maintenance staff and neighbourhood wardens or scheme managers.

**Opportunity to:**

- Deliver advice and ongoing support on energy use as part of their regular visits.
- Locally-based staff can also help promote group-based or volunteer-led engagement and liaise with residents during retrofit works.
- Training staff and contractors will help ensure they deliver consistent messages and are able to identify households needing more dedicated support.

# The importance of measuring impact

Monitoring the impact of engagement activity has multiple benefits:

- It can be an engagement tool in itself, enabling feedback to be given to households and providing a platform for discussing energy use.
- It will help fine-tune and plan future engagement activity.
- It provides evidence to help make the business case for running engagement programmes.
- It supports bids for Government funding, as well as lobbying for more supportive policy.

**What to monitor**

As well as tracking changes in energy consumption, monitoring a range of other factors will give a clearer idea of the impact of engagement. These include:

- Changes in specific habits, such as frequency and length of heating use and room temperatures. This can give a clearer picture of how residents are adapting their habits and how engagement could be better targeted.
- Impacts on health, to ensure residents' behaviour isn't putting them at risk. Collecting evidence of improvements in health would also support bids for new ways to fund energy efficiency programmes, such as through public health partnerships.
- Measuring changes in void rates and rent arrears would also provide valuable insight into the wider benefits of improving resident behaviour.

**Effective ways to monitor**

Collecting data can be time and resource intensive. Residents can also feel inconvenienced by repeated requests for information, leading to low return rates or drop-outs. Data collection would be improved by:

- Using remote monitoring equipment, such as smart meters, heat and humidity sensors or clip-on mains flow monitors. These quickly and automatically collect data on a range of variables, including the time and duration of heating and appliance use.
- Regularly scheduled visits, such as gas safety inspections are also good opportunities to take meter readings.
- Standardised, short questionnaires should be used if information is required from residents. Incentives such as shopping vouchers may help encourage completion. Staff could also carry out surveys as part of scheduled home visits.

Setting a baseline against which to monitor change is also important. Using a control group to compare against is one option. However, this can raise concerns amongst some residents that they are missing out on the benefits others are receiving. An alternative approach would be to use historic consumption data from a household's energy bills, if this is readily available. Alternatively, you could use scheduled visits, such as gas safety inspections, to collect baseline data from households before engagement is rolled out.

# Conclusion

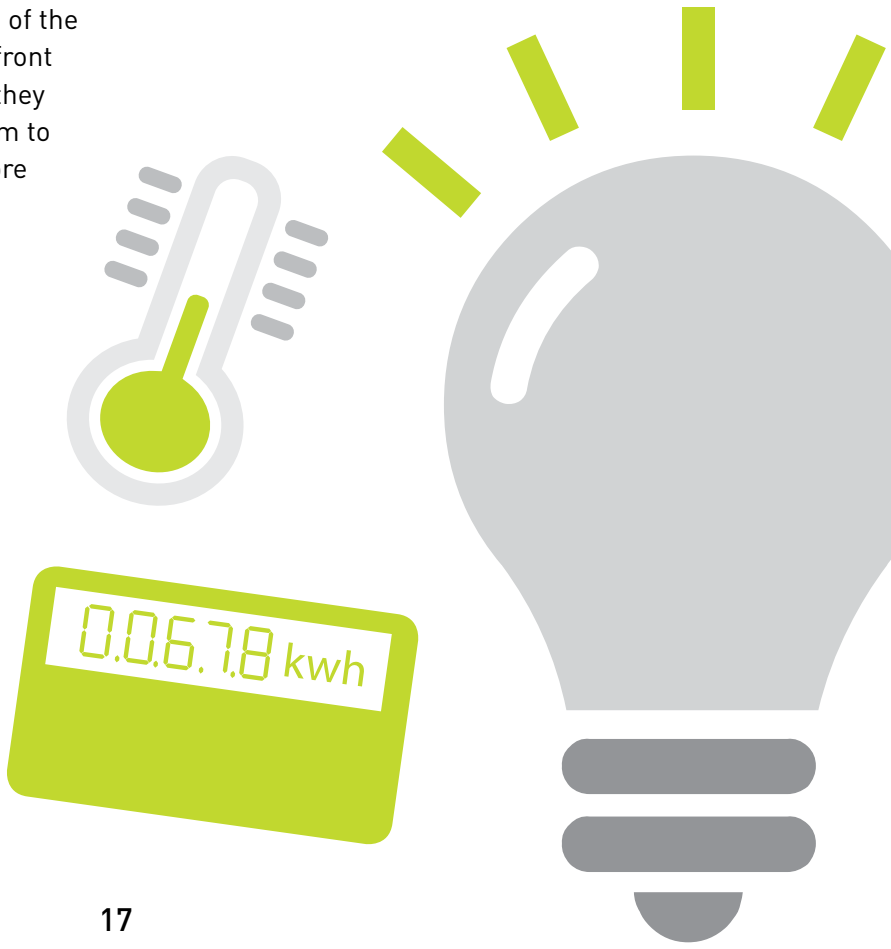
The pilots have shown that action on occupant behaviour can bring real benefits to energy use and personal comfort, and helps get the most value from energy efficiency retrofit works. Many participants reported making at least one change in their behaviour, however the changes made and the impact of these varied from household to household.

This was due to a number of factors including the engagement technique used, how motivated residents were, and the impact of long-term health conditions. Many households had already taken steps to reduce their energy use, limiting the scope for further savings particularly in heating use. For these households, it may be more appropriate to focus on avoiding waste and being smarter about staying comfortable than making outright savings.

To be effective, engagement needs to be sensitive to the individual circumstances of each household. This does not need to be overly complex or resource intensive. Existing maintenance and outreach practices are an opportunity to reach a large number of residents, taking advantage of the benefits of one-to-one interaction. Training front line staff and willing volunteers will ensure they deliver consistent messages and enable them to spot households who would benefit from more intensive support.

Working with residents immediately after retrofit can also be effective. However ensuring a good customer experience of the retrofit itself is crucial. When planning retrofit, consideration should be given to the ease of use of new technology, to avoid it being seen as a hassle to use or a bad fit with a household's lifestyle.

Ultimately, whatever the approach taken, the pilots demonstrate how well placed housing associations are to deliver engagement programmes that respond to the needs of different households. Having established strong relationships with residents through managing large portfolios of homes, housing associations can play an important role in promoting the take-up of energy efficiency measures among consumers, ensuring the success of national initiatives such as the smart meter rollout.



Pilot summary

# Aspire Housing

| | |
|---|---|
| **Location:** | Newcastle under Lyme |
| **Partners:** | Beat the Cold |
| **Key methods tested:** | Home visits; communal events; top tips leaflet. |

### Who we worked with

- 54 elderly residents living in two sheltered housing schemes.
- Most homes were one bedroom bungalows clustered around a community centre.
- One scheme is off-gas and retrofitted with photovoltaic panels and air source heat pumps.
- The second scheme has gas central heating.
- Many participants were living with a long-term health condition.

### What we did

- We focused on appliance use and ensuring residents understood their heating controls and energy bills.
- Residents were initially engaged through a series of home visits during which we assessed their usage patterns and provided tailored advice.
- We also ran a series of communal events, tailored specially for an older audience. Events were timed to coincide with existing planned social activities.
- Residents were given a short top tips leaflet.
- Scheme managers were closely involved in the delivery of engagement and received in-house energy efficiency training.

### How much it cost

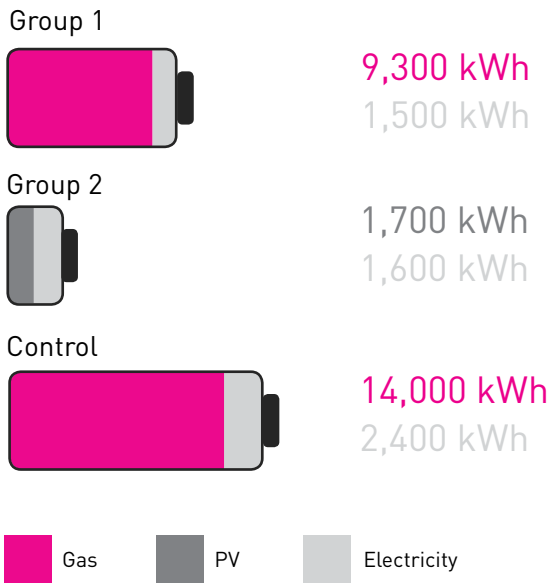
- Total cost: £27,300
- Total staff time: 65 days

**"To avoid under-heating residents adopted a zonal approach to controlling temperature and off-setting their consumption by better using the free electricity from the photovoltaics.**

**Continual reinforcement of simple messages worked best.**

**Involving scheme managers was key to getting buy-in and maintaining engagement."**

### Energy use comparison (kWh) - annual averages

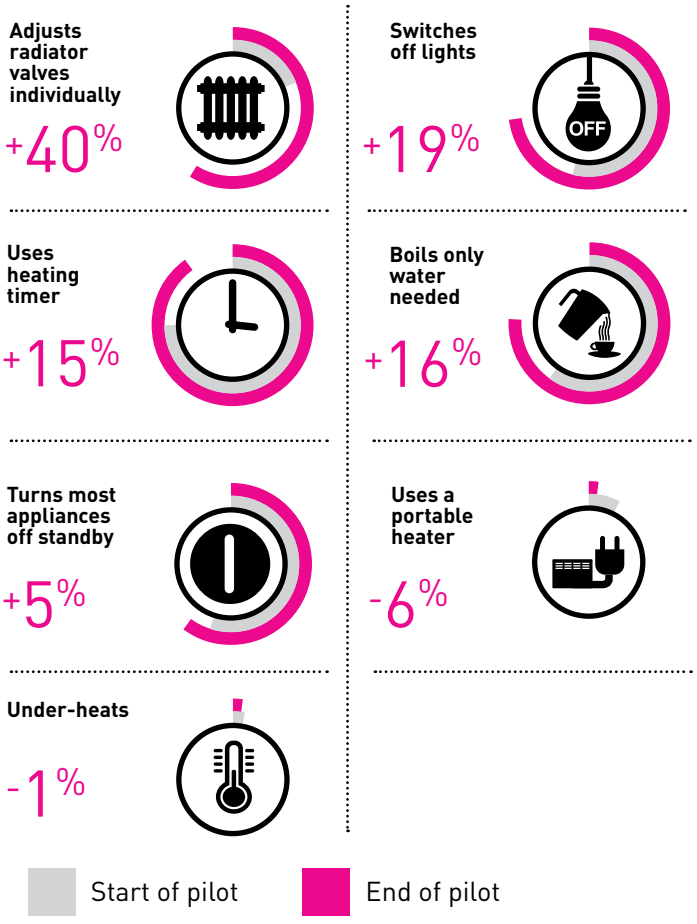



### What we noticed

- Many residents started the pilot with good habits. However, 96% of participants reported making at least one change in their habits.
- Participants consumed an average of 36% less energy than the control group. But consumption levels varied.
- Maintaining comfort and health were the main barriers to change.
- The most common changes related to heating control.
- Despite increased use of a heating timer, many residents also reported heating being on for long periods of the day, suggesting the timer was overridden in cold weather.

- Some residents turned their thermostat down while others turned it up. Overall most set their temperature to over 20°C.
- Many residents started controlling heating room by room, with use of TRVs and closing of doors increasing.
- Many residents struggled to remember to always turn appliances off from standby, particularly in the later stages of the pilot.
- Some preferred to keep lights on for safety and security reasons.

**Behaviour change (households)**




**What worked**

- Constant reinforcement of simple key messages.
- Recent retrofit works, in particular the early savings experienced from the PV, helped get buy-in from residents eager to see what additional savings they could make.
- Engagement helped residents to time their appliance use to achieve the greatest savings from the PV system.
- Residents valued the personal approach of the home visits, in particular the opportunity to have more personal conversations.
- Residents were particularly vulnerable to the cold weather. Our focus on room-by-room control and appliance use helped off-set the demand placed on heating during the cold winter.
- Involving scheme managers in the engagement was vital to getting participation from residents. They were always on-hand to give informal advice and troubleshoot problems.
- Tagging group events onto existing social activities and having them within walking distance of residents' homes improved attendance.

**What didn't work**

- It quickly became apparent that some residents did not feel comfortable sharing personal information. As such we introduced more home visits and used group events to give advice and encourage a feel-good factor around involvement.
- Many control group households became concerned they were missing out on saving energy and chose to drop out of the pilot.
- Despite much interest, only six households managed to switch tariff. Switching took considerable time and support from staff.
- The vulnerable nature of residents made it difficult for them to attend events in the middle of winter.

**Next steps**

- We are in the process of training front line staff across the organisation to enable them to give basic energy efficiency advice to residents.
- We are planning to build Green Champions into our wider volunteer-led support programme, to give residents the tools to deliver energy efficiency support to their neighbours.

Pilot summary

# Helena Partnerships

| | |
|---|---|
| **Location:** | St Helens, Merseyside |
| **Partners:** | British Gas, National Energy Action, E.ON Energy |
| **Key methods tested:** | Smart meters with in-home display; home visits; group events; tenant energy champions; advice packs; DVD. |

**Who we worked with**

- 69 households from urban areas in St Helens.
- Most properties were single occupant houses, but we also included bungalows and flats with up to four bedrooms.
- All properties had gas central heating.
- Participants spanned a range of ages, but most were retired or unemployed.
- Many were living with a long-term health condition.

**What we did**

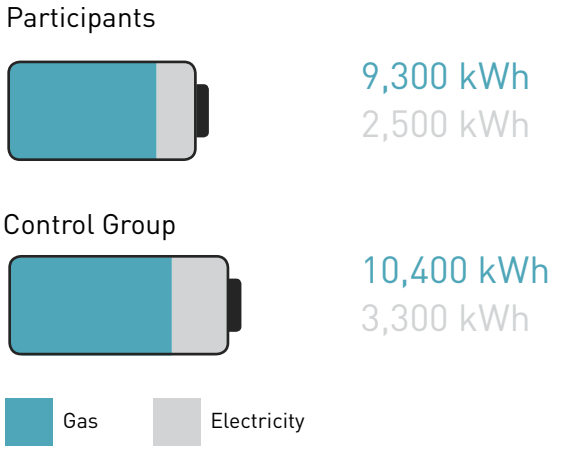
- We targeted a range of behaviours such as heating use, appliance use, lighting and hot water use.
- Participants received a smart meter with an in-home display as well as a home energy pack with a standby saver and room thermometer.
- Each household received a series of home visits during which we assessed their energy usage and gave advice on saving energy.
- This was supported by a series of workshops at which residents shared experiences and discussed best practice.
- Residents were also sent hints and tips leaflets every three months.

**How much it cost**

- Total cost: £26,850
- Total staff time: 150 days

> **Residents became more confident using their heating efficiently.**
>
> **Personal contact was the most effective way to engage, though time intensive.**
>
> **Smart meters were also popular, though negative experiences with installation put some residents off.**

**Energy use comparison (kWh) - annual averages**

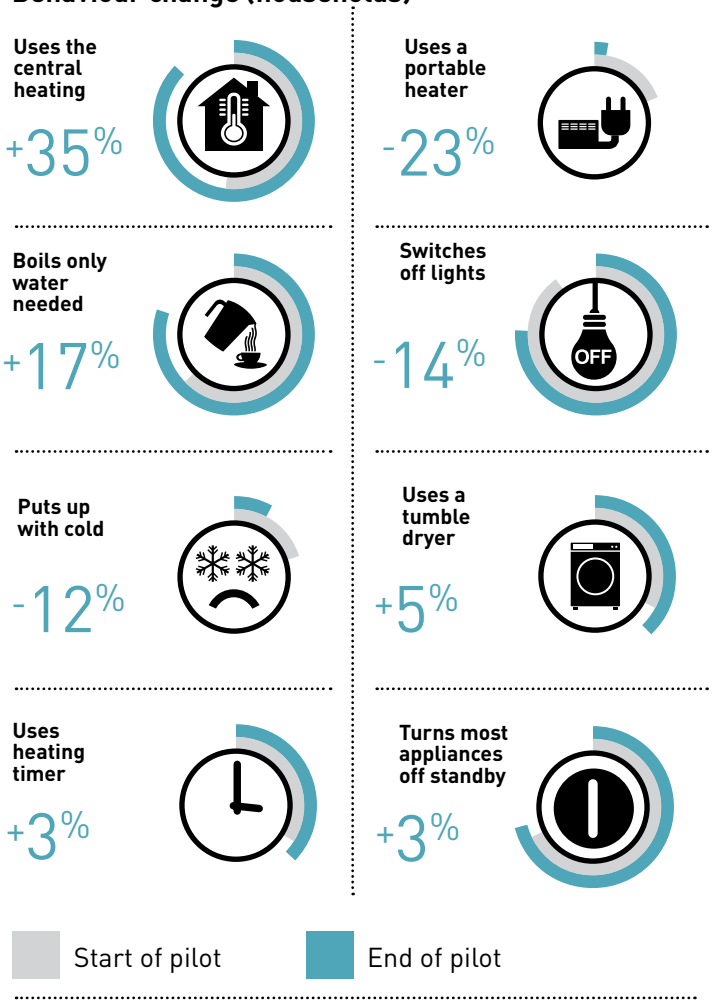



**What we noticed**

- 60% of participants reported making at least one change in their behaviour.
- Households consumed 14% less energy on average than control group households. The biggest savings were in electricity use.
- Participants were not willing to sacrifice comfort if they could afford it.
- There was a decline in the number of residents reporting they put up with the cold, suggesting that more found efficient ways to stay comfortable.
- The proportion of residents using portable heaters declined.
- Use of heating timers was low, though this didn't necessarily increase consumption.

- The residents most willing to engage tended to be those who were already moderately aware of their energy use and were making an effort to be more efficient.

**Behaviour change (households)**




**What worked**

- Personal contact, either by telephone or visit has been a successful method of engaging residents and encourages people to take part in events and activities. However this method is time and resource intensive.
- The traffic light system on the smart meter in-home display was very popular and might explain why the biggest savings were in electricity use.
- Front line staff received excellent affordable warmth training from National Energy Action which enabled them to provide one-to-one advice directly to tenants.
- The home energy pack helped to reinforce key messages and reach people who did not attend meetings.
- Sending out a series of concise information leaflets was more effective than one large booklet.

**What didn't work**

- Residents were reluctant to attend group events. Those that did found them useful.
- Recruiting tenant energy champions was difficult. Most felt uncomfortable reaching out to people they didn't know. There was some success on estates where residents had established relationships with staff delivering a RE:NEW energy efficiency retrofit project.
- Maintaining interest over an 18 month period was challenging, particularly given the demands of having to also prepare residents for welfare changes.
- The impact of some of the measures, such as the in-home display and the use of incentives, may have worn off towards the end of the pilot.
- Some residents began to drop out, believing they were doing all they could to control their consumption.
- Negative experiences with the smart meter installation process led to several participants dropping out of the pilot.

**Next steps**

- Training front line staff to provide energy efficiency advice will improve our capacity to get more residents involved, alongside our work helping tenants cope with welfare changes.
- We will embed fuel poverty awareness training into our existing Street Champions programme.
- Offering to credit a small amount of money to a tenant's gas and electricity account could be a good incentive for engagement, particularly for harder to reach tenants.
- We need to make sure residents who feel they are in control of their energy use aren't acting on misconceptions.

Pilot summary

# Shepherds Bush Housing Group

| | |
|---|---|
| **Location:** | West London |
| **Partners:** | British Gas |
| **Key methods tested:** | Smart meters with in-home display. Online social networking platform. |

### Who we worked with

- 59 households living in Victorian terraces in West London.
- Most properties had been converted into flats, though some were single houses.
- Most households had one or two occupants, though some were larger.
- All properties had gas central heating.
- Most participants were retired or unemployed.
- Many were living with a long-term health condition.
- All households had an internet connection.

### What we did

- Each household received a smart meter with an in-home display.
- We developed a customised online social networking platform, hoping to create a community through which residents could learn, share ideas and support each other.
- We planned to deliver advice through a series of small monthly modules posted online. Each module focused on a different room in the house.
- Participants were asked to respond to posts at least once a month, to encourage regular interaction with their energy use and other households.

### How much it cost

- Total cost: £11,000
- Total staff time: 21 days

**"The design and functionality of the social networking platform is crucial.**

**Using an existing network or combining it with other online services and activities may generate more use than our stand-alone platform did."**

### Energy use comparison (kWh) - annual averages

Participants

10,700 kWh
3,100 kWh

National average

10,000 kWh
3,400 kWh

Gas Electricity

### What we noticed

- Saving money was the main reason given for signing up to the pilot. The promise of a smart meter was what attracted many at the start.
- The households who received a smart meter used an average of 9% less electricity and 7% more gas than the national average for similar properties[2].
- There was wide variation in consumption levels between households.
- Many residents started the pilot with a good level of awareness about what they could do to save energy.
- The most common changes they had made in the past related to heating use and switching off lights.
- 20% of households felt they were already doing all they could to save energy.

[2] The average annual gas use for converted flats in social housing is 10,000kWh. The average electricity consumption is 3,400kWh. Department for Energy and Climate Change, October 2013, "National Energy Efficiency Data Framework (NEED)"

- 15% were relying on physical changes such as insulation and double glazing to help them save.
- Residents were reluctant to post comments on the forum.
- Two participants requested to have their gas smart meter removed as they preferred a pre-pay meter.

**What worked**

- The online forum offered the potential to link with large numbers of residents over a large area.
- The promise of a smart meter helped get interest from residents to join the pilot.
- An initial letter and a follow-up phone call was an effective way of recruiting households to the pilot.
- Involving our customer service staff was a good way of contacting residents and getting them to complete questionnaires over the phone.

**What didn't work**

- Despite participants logging in, the online forum was not well used. This could be due to the design of the forum as a standalone feature on our website; rather than something that could be used for a range of activities.
- Even though all participants had an internet connection, they may not have been comfortable or familiar with social networking sites.
- Lack of familiarity with the other participants may have made them uncomfortable using the forum.
- Participants were not given a log-in to the forum until they had completed the baseline questionnaire. Delays with this process meant not all residents were able to get online and momentum was lost.
- Some residents may have been happy getting a smart meter, not feeling the need to engage any further.
- There were delays to the installation of smart meters which may have contributed to residents losing interest.
- Some residents reported installers did not show up at the appointed time, while others weren't able to receive a smart meter because of a technical issue.
- 30% of households who signed up either changed their minds about having a smart meter or missed the installation appointment and weren't able to reschedule.
- In total, out of 78 eligible households who initially expressed an interest, 20 received a smart meter by the end of the pilot.

**Next steps**

- We intend to revamp the online forum and re-launch it.
- The new forum will be integrated with our other online tenant services, which we hope will encourage use.
- It will be important for staff to work proactively to encourage participants to use the forum. This may require use of incentives.
- It may also be important for training and support to be offered to residents to ensure they are comfortable using an online platform.

Pilot summary

# Trafford Housing Trust

| | |
|---|---|
| **Location:** | Old Trafford, Manchester |
| **Partners:** | Action for Sustainable Living |
| **Key methods tested:** | Advice guides; incentives; tenant energy champions; community events; home visits. |

### Who we worked with

- 59 households living in two 1960s tower blocks undergoing major energy efficiency retrofit.
- The tower blocks contained a mix of one or two bedroom flats.
- Many residents were in or at risk of fuel poverty.
- The retrofit included installation of a new communal heating system.

### What we did

- Staff were trained to City and Guilds Level 3 in Energy Awareness and delivered engagement alongside the retrofit works.
- Participants received a series of home visits, including an Energy Doctor Service, during which the new heating system was demonstrated and energy saving advice was given.
- Residents were left with three top tips tailored to their circumstances.
- Each household also received an illustrated energy saving advice guide.
- We held a series of drop-in community events to share energy saving advice.
- We also aimed to recruit a team of tenant energy champions to deliver advice to their neighbours.

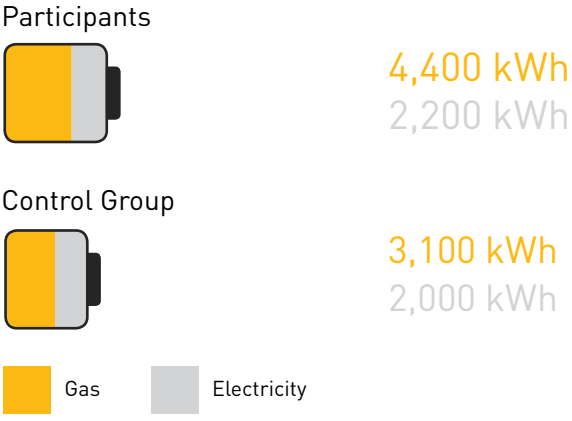
### How much it cost

- Total cost: £38,361
- Total staff time: 225 days

**"Residents became more comfortable in their homes, sometimes at the expense of energy consumption. However overall households were low energy users.**

**Delivering engagement at the same time as major retrofitting works was challenging. Many residents were distracted by the disruption taking place in their homes which meant they had a reduced interest in energy efficiency."**

### Energy use comparison (kWh) - annual averages

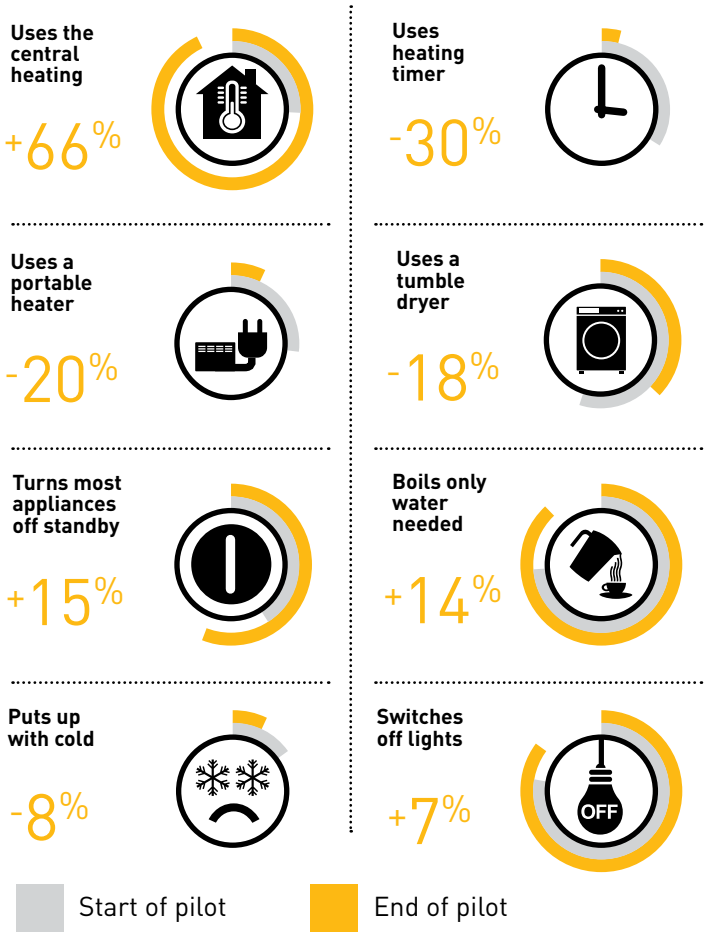



### What we noticed

- 85% of participants reported making at least one behavioural change; most commonly to heating control and turning appliances off standby.
- Changes were slow to take place. Energy use was lower six months after the retrofit works compared to just after they were completed.
- Consumption varied across households, with heating use varying the most. Electricity use was more stable.
- Comfort levels increased, with almost no residents reporting they put up with the cold.
- By the end of the pilot more residents were choosing to control their heating manually, rather than setting the timer and thermostat.

- Use of portable electric heaters fell.
- Most residents already had a good awareness about how they could save energy at the start of the pilot. The biggest motivation for participating was reducing costs and saving money.

**Behaviour change (households)**




**What worked?**

- Working with residents in their homes on a one-to-one basis was very effective. This allowed the team to engage at a time and level which suited them best, giving tailored advice they could relate to.
- The pictorial nature of the advice guides was well received and helped target residents with limited English.
- Focusing our activity on neighbouring tower blocks helped us use our time more efficiently.
- Training helped build capacity among staff to deliver the pilot.
- The retrofit and engagement have been effective at improving comfort. Some residents reported they no longer needed to use their heating.

**What didn't work?**

- The retrofit works provided a platform to discuss energy use with residents. However, many residents have found the works disruptive which has been a barrier to engagement, particularly given other competing priorities.
- Some participants waited for the works to be completed before addressing their behaviour. Others assumed the retrofit meant they didn't have to worry about the impact of their behaviour.
- Events were less popular than expected, possibly due to the disruption of the retrofit works.
- Only a small number of residents signed up to be tenant energy champions and struggled to deliver engagement beyond their immediate neighbours and friends.
- Tenants found it particularly difficult to change their bathing habits in favour of short showers rather than baths.

**Next steps**

- We intend to continue the delivery of the successful Energy Doctor Service by training neighbourhood based staff to deliver energy advice and demonstrate the efficient use of the new heating system.
- The advice guides are now included in all 'sign up' packs for new tenants.
- In the future we would recommend addressing the likely disruption from retrofit works when planning resident engagement.
- Where possible, we will tailor interventions and messages to household types.
- Make clear the personal benefits of participation when recruiting tenant energy champions.

Pilot summary

# Yorkshire Housing

| | |
|---|---|
| **Location:** | Five locations across Yorkshire |
| **Key methods tested:** | Home visits; group events; electricity monitors; seasonal advice leaflets; personalised action plans; energy saving tips calendar; feedback on consumption; text message prompts. |

### Who we worked with

- 68 households from five clusters in both rural and urban locations.
- Elderly customers in bungalows with electric storage heaters.
- Families in houses and small households in flats with gas central heating.
- Families in new build houses with air source heat pumps or biomass boilers.
- One cluster comprised homes recently fitted with ground source heat pumps.

### What we did

- Front line staff received training on delivering energy efficiency advice.
- We focused on heating and hot water, but also covered appliance use.
- Customers benefited from a series of home visits during which they received tailored energy saving advice and help setting their heating system.
- Each household received an electricity monitor and graphs comparing their energy use with others.
- Advice was reinforced by a series of seasonally specific leaflets, text message prompts and an energy saving tips calendar.
- We ran welcome meetings and coffee mornings to support group discussion.

### How much it cost

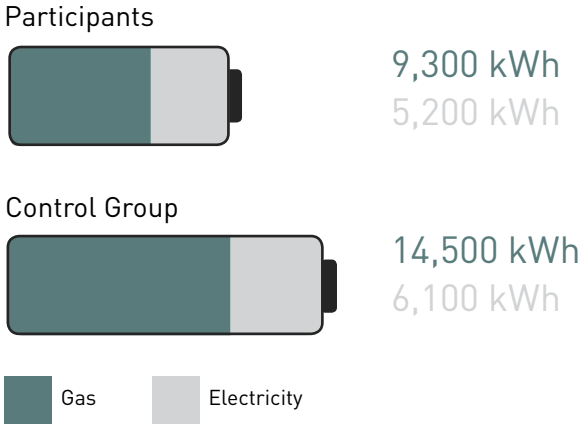
- Total cost: £19,800
- Total staff time: 147 days

**“Different customers favoured different engagement techniques so a range of advice methods are needed.**

**Positive experiences with recent retrofit works provided a good basis for engagement. However, poor experiences with heat pumps put some off.**

**Trusted messengers such as neighbourhood wardens are important advocates.”**

### Energy use comparison (kWh) - annual averages

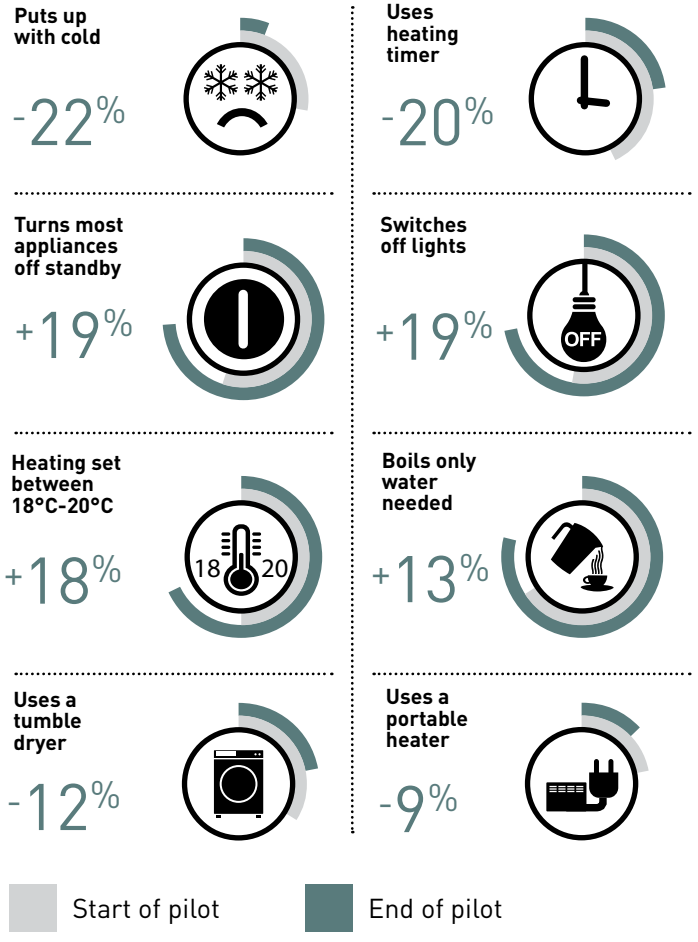



### What we noticed

- 70% of residents reported making at least one change in their behaviour.
- This was despite many participants, particularly elderly residents, already having a good awareness of how to save energy at the start of the pilot.
- Participants used on average 27% less energy than the control group, though consumption varied considerably between households.
- The biggest savings were in gas use. Given the higher cost of electricity this translated into an 11% saving on bills.

- Reducing heating use and not leaving appliances on standby were the most frequent changes we noticed.
- It appears that changes in appliance use were harder to maintain towards the end of the pilot.
- There was a preference for manual control of heating rather than programming the timer.
- Pilot households had less extreme consumption levels compared to the control group, suggesting fewer were under or over-heating their homes.
- SAP rating was not a good indicator of energy consumption.

**Behaviour change (households)**




**What worked?**

- A fresh start: Customers are most receptive when messages are provided at the same time as improvement works to their home. For example, we found it easier to recruit residents who had just had a new heating system installed.
- A clear and consistent message: Different customers favoured different engagement methods, highlighting the importance of using a variety of techniques but with the same message.
- Residents rated the home visits and leaflets as the most useful. Face-to-face engagement was also the best way to recruit people.
- Houses with multiple occupants seemed to get the most benefit from the energy monitors.
- A trusted advisor played a crucial champion role in one of the communities; organising events, encouraging people to be involved, reminding people about the visits and providing advice. This highlights the effectiveness of delivering interventions at the neighbourhood level.

**What didn't work?**

- Some customers felt they were already doing all they could to save energy or that living in an "eco-house" meant they didn't need to change their behaviour. This made them less receptive to engagement.
- Negative experiences with heat pumps caused some customers to drop out altogether.
- Welcome meetings were poorly attended; however those who did attend found them useful. In the future we will link into established social events such as coffee mornings.
- The staff training was well received however we found it difficult to engage colleagues beyond this point. This may have been because of other work pressures such as welfare reform or because the training was held at the beginning of the project.
- Customers generally chose not to switch energy supplier, telling us that they did not want the hassle.

**Our next steps**

- We will make the most of every opportunity to engage with customers and provide more intensive support when the customer has a 'fresh start'.
- We will provide on-going training to staff. In particular we will train our heating engineers to provide advice to customers when installing and servicing heating systems.

# Appendix: Data tables

Questionnaires were given to each household at the start, middle and end of the pilot and included both prompted and unprompted questions about a range of energy use behaviours. The impact of behaviour changes was monitored by comparing meter data from participants with consumption data from a control group who did not receive any engagement activity. Where available, bills data from previous years was also used to identify any savings made.

**Table 1: Key behavioural indicators**

| | % households at start of pilot | % households at end of pilot | Sample[3] |
|---|---|---|---|
| **Average thermostat setting** | 22˚C | 21.5˚C | 110 |
| **Thermostat set between 18°C and 21°C** | 45% | 50% | 70 |
| **Thermostat set below 18°C** | 19% | 7% | 70 |
| Turned thermostat down | - | 44% | 70 |
| Turned thermostat up | - | 23% | 70 |
| | | | |
| **TRVs set lower in rooms less used** | 81% | 83% | 81 |
| Improved use of TRVs | - | 11% | 81 |
| | | | |
| **Use heating timer** | 42% | 27% | 103 |
| Stopped using heating timer | - | 30% | 103 |
| Started using heating timer | - | 17% | 103 |
| | | | |
| **Use portable electric heater** | 18% | 5% | 163 |
| Stopped using a portable electric heater | - | 16% | 163 |
| Started using a portable electric heater | - | 3% | 163 |
| | | | |
| **Puts up with cold** | 14% | 6% | 113 |
| Felt warmer as a result of changes made | - | 32% | 82 |
| Changes made did not impact on comfort levels | - | 61% | 82 |
| Felt less comfortable as a result of changes made | - | 7% | 82 |
| | | | |
| **Don't use a tumble dryer** | 54% | 60% | 89 |
| Stopped using a tumble dryer | - | 15% | 89 |
| Started using a tumble dryer | - | 11% | 89 |
| | | | |

[3] This represents the number of households providing data for this indicator.

**Table 1: Key behavioural indicators (continued)**

| | % households at start of pilot | % households at end of pilot | Sample[3] |
|---|---|---|---|
| **Fill kettle only with amount of water needed** | 68% | 81% | 141 |
| Got better at filling a kettle | - | 18% | 141 |
| Started filling kettle more than needed | - | 6% | 141 |
| | | | |
| **Switch off lights always/most of the time** | 70% | 75% | 142 |
| Got better at switching off lights | - | 19% | 142 |
| Got worse at switching off lights | - | 6% | 142 |
| | | | |
| **Never leave appliances on standby** | 56% | 64% | 145 |
| **Switch off most appliances/most of the time** | 66% | 89% | 145 |
| Got better at switching off appliances | - | 23% | 145 |
| Got worse at switching off appliances | - | 7% | 145 |
| | | | |
| **Always unplug chargers** | 50% | 47% | 104 |
| **Unplug chargers most of the time** | 65% | 85% | 104 |
| Got better at unplugging chargers | - | 26% | 104 |
| Got worse at unplugging chargers | - | 10% | 104 |

**Table 2: "Thinking back over the last 18 months, what are the top five changes you made to save energy in your home?"[4]**

| | % households at end of pilot | Sample[4] |
|---|---|---|
| **Reported at least one change to their habits** | 75% | 181 |
| | | |
| **Reported at least one change to their heating habits** | 49% | 181 |
| "I set my timer to control when the heating comes on." | 18% | 181 |
| "I now close my doors/windows when the heating is on to keep rooms warm." | 18% | 181 |
| "I started using my thermostat to control temperature." | 12% | 181 |
| "I changed my radiator valve settings to reflect how I use each room." | 11% | 181 |
| "I turned down my thermostat to a lower setting." | 10% | 181 |
| "I don't put my central heating on as much as I used to." | 10% | 181 |
| "I started closing curtains/blinds to keep heat in." | 4% | 181 |
| "I started using blankets and extra clothing to help keep me warm." | 4% | 181 |
| | | |
| **Reported at least one change to their appliance use** | 51% | 181 |
| "I try to switch off all appliances at the wall." | 38% | 181 |
| "I now check and only boil what I need each time I use the kettle." | 17% | 181 |
| "I ensure I unplug chargers when I've finished using them." | 7% | 181 |
| "I try to time when I use things; to take advantage of the energy from the PV" | 7% | 181 |
| "I'm more careful with my appliance use." | 4% | 181 |
| | | |
| **Reported improving their lighting habits** "I make more of an effort to make sure lights aren't left on unnecessarily." | 23% | 181 |
| | | |
| **Reported at least one change to their laundry habits** | 14% | 181 |
| "I do fuller loads in my washing machine/use it less." | 6% | 181 |
| "I started using my tumble dryer less." | 4% | 181 |
| "I now wash at a lower temperature." | 4% | 181 |
| "I dry my clothes on a rack instead of on the radiators." | 3% | 181 |

[4] This table summarises the unprompted answers made in reply to the open ended question. When prompted, it became clear many households had made additional changes their behaviour. These are summarised in table 1 on page 28.

30°
OFF
0.06.18 kWh

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