

Relish Smartwire: The future of domestic wiring...

Outcomes from the Relish Smartwire
pilot project (2014)



Introduction by Robin Roberts

RIBA FRICS property services director,
Worthing Homes

Since Relish (Residents 4 Low Impact Sustainable Homes) was created in 2009, we have continued to build on our simple philosophy and further explore ways in which low cost solutions can support the affordable warmth agenda.

In many respects, not much has changed since 2009, household energy costs continue to rise and the sector and construction industry are still seeking solutions that will improve the fabric of our homes and reduce household fuel bills. Our Smartwire project builds upon an approach which was piloted in Relish phase 2 that aims to reduce energy bills for our residents.

The outcomes detailed in this report demonstrate that a single power-down switch for non-essential appliances, alongside energy advice, can make a real difference to a household's fuel consumption. Unlike other research pilots, the trial households were not pre-selected, but were residents who chose us through a choice based lettings system.

This initiative is part of a much wider project – Relish – which continues to influence all we do as a social business. The focus of Relish is about evolution not revolution; it is about raising awareness, continuing to influence and promoting the benefits of changing our habits – whether for residents, housebuilders, renovators or landlords. Relish and Smartwire are part of Worthing Homes' evolutionary journey. We know Smartwire delivers benefits for residents and the low cost investment we make as landlord contributes not only to the affordable warmth agenda but also to carbon emissions reduction.

Our hope, is that this simple cost effective solution can be a part of all new homes... not only ours.

Robin Roberts



Foreword by Jeff Timms

MPhil FRICS RMaPS senior partner,
Faithorn Farrell Timms

It must be rare in any career to have the opportunity to collaborate on a project such as Relish. To work with a team of like-minded professionals towards a common goal is usual enough for the building surveyor – it is what we do – but Relish is far more than just a project to be delivered.

Relish started life simply as a concept, the outcome of which was uncertain at best. Relish has now proven to be successful, not only in concept but in implementation, and real benefits are now being derived from it. It has demonstrated that by improving people's awareness of how they use energy – real, tangible benefits can be delivered. Relish SmartWire is an innovative energy saving tool that makes the delivery of the benefits just a little bit easier. Worthing Homes have facilitated the implementation of the Relish and Smartwire concepts, from design through to implementation, without the comfort of knowing the outcome would be positive.

This report shows that Smartwire works and delivers benefits in the real world and, as with all things Relish, simplicity lies at its heart. Who would not want to save energy (and money) by simply better managing their use energy and throwing a switch when they go out or go to bed?

Relish has the potential to make a profound difference to domestic energy consumption across the UK and beyond. For a small additional investment in new build and re-wiring projects housing associations will help reduce their residents' energy bills in perpetuity. If the next 100,000 new homes built incorporate Relish-It! and Smartwire, it will save at least £8 million a year in electricity.

It has been a privilege to work with the Relish team in developing an idea into a proven, working methodology with such massive socio-economic potential. The mission now is to find more client champions to adopt Smartwire for the benefit of their residents and to embed Relish principles within their organisation, just as Worthing Homes have done so comprehensively and successfully.

Jeff Timms



Foreword by Tim Loughton MP

member of parliament for
East Worthing and Shoreham

In 2010, I wrote a foreword for the exciting Relish phase 1 report, which clearly demonstrated the positive benefits of low cost works supported by household energy advice. At that time, I mentioned I would be supporting the work Relish as it progresses – I am pleased to have been able to do so over the last four years.

This report promoting the results of the innovative Smartwire is yet another example of how Worthing Homes continues to research and promote the affordable warmth agenda. Smartwire offers a simple low cost solution to the reduction of household energy consumption in new homes, with the master power down switch allowing all non-essential appliances to be turned off rather than be left on standby.

What impresses me most about Relish is the initiatives desire to embed their simple principles into all that they do; the team are committed to changing the culture of their organisation, their supply chain and its customers. As I mentioned before in the phase 1 report, this local project has demonstrated there is a simple way to support the affordable warmth agenda where landlords can help their residents in reducing their fuel bills, particularly as energy costs continue to rise.

I have seen the Smartwire first hand at both the Relish It! Community Hub and the 20 homes who had it installed at the recent New Brunswick Drive scheme; in my opinion every new home should have a Smartwire.

I am delighted to see these positive results and I continue to support the work of this award winning initiative.

A stylized, handwritten signature in black ink.

Tim Loughton



Foreword by Alison Mathias

strategy manager
Homes and Communities Agency

It is exciting to see Relish both developing new ideas and continuing to grow. Relish illustrates that simple, often inexpensive measures can make a big contribution to reducing energy usage; and how a social landlord works with its residents to make a difference in their lives. I was very pleased to see that Relish was used by another social housing provider, in the NHF Count Us In project which piloted different methods of resident engagement.

With Smartwire, Worthing Homes have taken Relish to another level. They have applied the Relish principles to technology – a simple, user-friendly concept, of switching everything off at source, makes it easier for residents at a time when controls that are too complicated for residents to use are all too common.

Through Relish, Worthing Homes demonstrates how we need to approach many of the challenges that face us in social housing. It tackles difficult problems with a determination to find a solution; it takes a holistic approach, and engages with residents and with all the parties that contribute to a solution; it is innovative; and it works by embedding the right principles into every aspect of what it does.

As government develops implementation of smart meters, which will include a display telling us how much energy we are using, and will be rolled out as standard across the country by 2020; it is inspiring to see how a social housing provider can contribute to this agenda.

A handwritten signature in black ink, appearing to read 'Alison Mathias'.

Alison Mathias

Why Relish Smartwire?



If everyone buying or renting a new home were able to choose between a home that delivers between **12-23% electricity savings** and one that does not, which one would they choose? The answer is simple, one with a Relish Smartwire and its simple master power down switch.

"There is now a wide governmental and scientific consensus on the need to shift to a low-carbon economy. The UK has set itself the target of an 80% reduction in CO₂ emissions by 2050.

Nearly one third of UK carbon emissions are from housing. We can and should build new houses to rigorous energy efficiency standards. Yet at current rates of demolition and new build, it will take 1,000 years to completely renew the UK housing stock – so most of the homes standing today will still be in use in 2050.

The challenge is to refurbish the homes of the past as homes for the future."

BRE GROUP

The average UK electricity bill is £504 per annum (Ofgem). This represents an average across all property types, from studio flats to large dwellings. Most people living in a typical house probably pay between £480-£720 per annum and predictions are that this will continue to rise.

Smartwire is a low cost, repeatable innovation that reduces electricity use and saves households money. Smartwire and Relish-it! advice has the potential to make a real difference to household gas and electricity bills.

We have calculated that the next generation of Smartwire will cost housebuilders around £300m to install (when installed as part of a new build). So just on average figures alone, taking our most conservative estimate, **after six years Smartwire will pay for itself in reduced bills for householders*.**

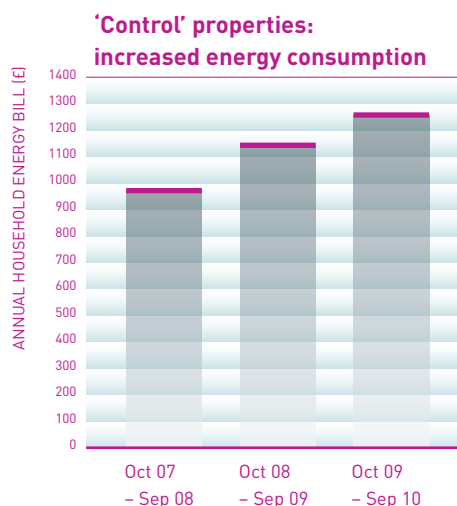
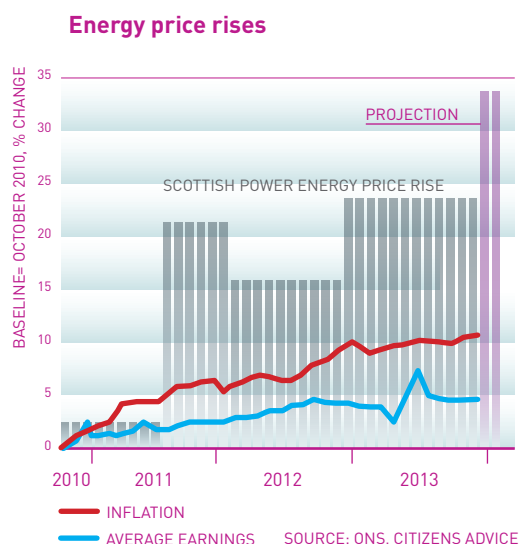
With rising utility bills and the target to reduce CO₂ emissions by 80% by 2050, Smartwire offers an affordable option to slow or even halt upward trends in household fuel bills.

Smartwire not only supports the affordable warmth agenda but also kickstarts better energy habits and helps householders make intelligent and informed decisions about their energy use.

* We accept there is no payback for landlords, but believe as a social business, this is money well spent – and for commercial builders an added enhancement.

Rising energy costs and use = higher bills

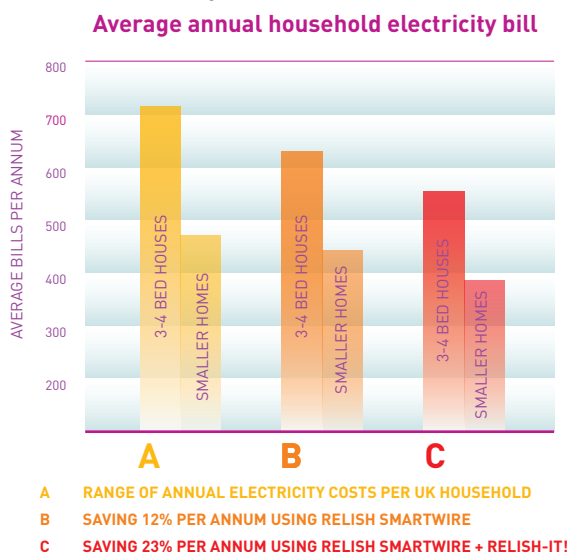
According to the Energy Saving Trust, in the last decade there has been an increase in household energy consumption. The increasing demand for electrical consumer equipment and the falling price of technologies has made electrical products, such as televisions, hi-fi equipment, mobile phones, laptops and entertainment games machines more accessible. In fact, all of our Relish phase 1 pilot properties had televisions in every bedroom!



We quantified the impact of the increased use of electrical equipment in our Relish phase 1 pilot by analysing three years of historic bill data. The results show an average increase in household energy consumption of 12% in just 1 year. This equates to an additional 600kg of CO₂ and costs residents an average of £116 more in their energy bills per annum (at 2010).

Savings

UK electricity costs averages out at £504 per annum (Ofgem) across all property types, with a standard house costing £480-£720 per annum. Our results show that even in more thermally efficient newbuilds, the power-down switch can deliver significant savings and benefits in terms of behaviour change.



Smartwire supports Relish-it! energy advice: A study by the Energy Saving Trust found that leaving appliances on 'standby' costs UK households up to £86 a year – accounting for 9%-16% of electricity costs.

With household energy costs predicted to rise to over £2,000 by 2016 and £3,200 by 2020, Relish and Smartwire supports the affordable warmth agenda, kickstarts better energy habits and helps householders make intelligent and informed decisions about their energy use.

This is an affordable way for social landlords to slow or even halt upward trends in fuel bills while contributing to the government's 80% emissions reduction target.

What is Relish Smartwire?

Relish Smartwire is a simple to use power-down switch for all non-essential devices in the home – developed as part of the Relish initiative and initially tested in phase 1 in the Relish-it! community hub.



SMARTWIRE WAS INSTALLED IN 20 NEW HOMES AT NEW BRUNSWICK DRIVE (BELOW).

Smartwire works like a hotel swipe card. The Smartwire switch, located near the front door, controls the whole home and allows essential devices to remain on, while powering down everything else, including standby switches. This has been installed by Worthing Homes in 20 of their new build homes in 2012 at New Brunswick Drive.

Smartwire costs on average, less than £700 when specified/installed at construction stage. This cost is calculated on the basis that non-essential (white) sockets are replaced with essential (grey) sockets and run on separate, independent circuits.

A simple-to-fit solution that can be installed by an approved electrician; it comprises two circuits – one for 'non-essential' sockets (white) and another for 'always-on' sockets (grey). 'Always-on' sockets are used for appliances such as fridges, smoke alarms, boilers etc.

We have developed the next generation of Smartwire that will cost just £300 to install in a new home. Taking our most conservative estimate, after three years it will have paid for itself in reduced bills for householders.



Keep essential services
switched on but
turn off everything left
on 'standby' and save
£80 per year!

RELISH TOP TIP:
GET AN INTELLIPANEL FOR
YOUR TV/DVD AND IT WILL
PAY FOR ITSELF TWICE
OVER IN 12 MONTHS!



Grey socket
controls
'always on'
appliances.



THE FIRST SMARTWIRE PROTOTYPE WAS PILOTED IN THE RELISH IT! COMMUNITY HUB (SHOWFLAT) BUILT DURING PHASE 1. THIS WAS USED TO SHOW RESIDENTS THE IMPACT OF 'ALWAYS-ON' DEVICES AND HOW MUCH POWER COULD BE SAVED IF THEY WERE SWITCHED OFF.

Outcomes: Relish-it! + Smartwire

= better energy habits = lower energy bills

Relish-it! advice

The Relish-it! programme is designed for all participants involved in a refurbishment/newbuild project. The language and style of all Relish-it! material is inclusive, engaging, simple and relevant to the audiences it is engaging with. Relish-it! incorporates:

- resources for advisors: energy consultants, advisors, third party resident liaison officers (method statements/checklist/survey templates, advice guides and visual aids);
- support for specific tasks (client team);
- resources for client team: energy assessors, resident facing staff, minor works teams, RLOs etc;
- resources for residents: demonstration showflat/education hub with presentations, bespoke Relish-it! advice pack.

The objective of the Smartwire pilot was to investigate its impact on energy consumption in new properties and to evaluate the impact of both Smartwire and Relish-it! advice on household energy consumption. Our studies included:

- households without Smartwire;
- households with Smartwire not receiving Relish-it! advice;
- households with Smartwire and receiving Relish-it! advice.

Prior to moving in, residents were consulted on participating in the pilot (with a 45% take up)*. All residents received a moving in pack explaining Smartwire and the purpose of the pilot study.

For households engaging in the Relish-it! advice programme we scheduled 6 one to one sessions over the year. They received their own bespoke Relish-it! pack and handheld smart meters. We showed residents the dramatic reduction in energy use when the Smartwire was switched off.

Residents were encouraged to monitor energy use so they understand the impact their energy habits and lifestyle has on energy use and bills. We monitored and shared energy consumption across all the pilot properties.

*We considered this as a good participation figure based on the fact that as a landlord we cannot pre-select residents.

Facilitating lasting change in an affordable, pragmatic way

The strategy that led us to develop Relish Smartwire is predicated on common sense, low cost interventions. Each pilot programme is designed to deliver proven results, measuring costs against benefits to demonstrate potential long term, sustainable benefits for residents, landlords and the environment. It has enabled us to drive innovations and focus on making change easy and affordable for social landlords, staff, contractors, advisors and residents.



Everyone involved with the programme is trained as a Relish champion – promoting energy advice at every stage. Residents enjoy sustainable benefits by changing what they do. Better energy habits, lead to reduced bills. We create energy efficient homes and tools to help residents optimise their chances of reducing their energy use.

Reduced energy use = reduced bills = reduced carbon emissions

Relish Smartwire is a demonstration of both innovation and stakeholder engagement. By placing residents' welfare at the heart of our approach, we can make an important contribution to the achievement of the government's goal to reduce CO₂ emissions by 80% by 2050, while improving residents' wellbeing.

Percentage reduction in electricity consumption

Average reduction in annual electricity consumption (compared with home no Smartwire fitted and no Relish-it! advice).

Type A (1 bed flat: 45-56m²):

- Relish-it! advice and Smartwire: **16% reduction**
- Smartwire: **12% reduction**

Type B: (2 bed flat: 60-97m²):

- Relish-it! advice and Smartwire: **13% reduction**
- Smartwire: 3% reduction*

* This result was impacted by a specific occurrence/change within the household.

Type C (1 bed flat: 45-56m²):

- Relish-it! advice and Smartwire: **23% reduction**
- Smartwire: **13% reduction**

Relish Smartwire is about behaviour change, which does not happen overnight. We often describe this initiative as having similar challenges to that of early recycling campaigns. Once people 'get it', it becomes second nature.

Outcomes from the Relish Smartwire pilot

Every phase of Relish and Smartwire is approached in a scientific way, using monitored evaluation methods that maximise the value of the data. Results are measured over 12 months. All collated data informs the next phase and potential wider roll-out programmes.

All participating properties comply with the Code for Sustainable Homes Level 3.

There were a range of different property types:

- **A: 1 bed flat: 45-56m²**
- **B: 2 bed flat: 60-97m²**
- **C: 2-3 bed house: 67-120m²**

The next generation – **Smartwire+** has modifications that make it both easier and cheaper (around £300) to fit into new homes and more flexible for residents and customers.

The savings for householders, compared with the cost of the initial installation for housebuilders and registered providers, is very powerful evidence in the argument for fitting Smartwire in every new home.

This data shows that even in the more thermally efficient environment of newbuild, the power down switch can deliver significant savings for residents and the environment in terms of reduced fuel bills and CO₂ emissions.

Smartwire: technical overview

The idea for Smartwire

Relish Smartwire took its initial concept from the way in which hotel operators save electricity by using a swipecard key to control the electrical services to a room. All electrical services are powered down when the key is removed and the room no longer uses unnecessary energy – even if devices such as the air conditioning, television, lighting etc are left on. Equipment such as alarm clocks or mini bars are wired on a separate circuit which remains active after the key is removed.

By applying this concept to a domestic situation there are real opportunities to reduce electricity consumption. Many people are not aware that almost any product with an external power supply, that charges batteries, is switched on by remote control or has a continuous display (including LED) will draw power continuously – even when it might appear to be off. Sometimes there is no obvious sign of this continuous power consumption – it can only be detected by looking at the energy being consumed on your meter.

What should be left on and what can be powered down?

We assessed all the electricity consuming appliances and fittings within a typical home and evaluated the best way to identify the non-essential from the essential.

We decided that lighting, hard wired smoke and heat detectors and alarm systems should not be modified on the grounds of health and safety. It was also agreed that kitchen appliances which are wired on a dedicated circuit and could be left unaltered – giving the user the option of running the major energy consuming appliances of washing machine, tumble dryer, dishwasher on a reduced night time tariff.

By elimination, the ring mains and 13 amp sockets became our focus. We divided those appliances that need to receive constant signals to function properly, (e.g satellite television boxes, WiFi, portable telephones etc) from all other appliances, such as games consoles, televisions, DVD players, Hi-Fi and devices fitted with rechargeable batteries.

In order to offer residents maximum flexibility two ring main circuits have been fitted in each room. White sockets are permanently connected and used for 'always on' devices. Grey sockets can be switched off with the master power down switch near the front door, allowing residents to switch off un-essentials when they go out or go to bed.

Circuit protection and electrical safety is maintained by connecting both ring circuits to the same circuit breaker within the consumer unit distribution board.

We also hard wired a simple current cost smart meter adjacent to the power down switch to measure electrical consumption. This shows the rate of energy use and highlights the immediate benefit of the power down switch.

At its simplest, our Smartwire pilot demonstrates the concept is sound, its implementation is cost effective, both in new build and re-wire situations and that energy use (and therefore bills) can be reduced with the minimum of user input.

How much electrical energy do we waste?

Data published by the Energy Saving Trust calculated that on an average, a household wastes between £45 and £80 per annum by leaving non-essential equipment on standby. For instance, if a mobile phone is left recharging overnight and the charger will continue to use electricity, even though the battery has been fully charged after just two hours. We can confirm from our monitoring data that the Energy Saving Trust findings are certainly true, if not rather conservative. With further mobile devices being adopted by households, these figures are set to rise.

Lessons learned and the next generation of Smartwire

As with the development of all new ideas, we have learned many lessons during this pilot and realise that technological advances will ensure that the next generation of Smartwire is simpler, more adaptable and cheaper. However, this pilot not only demonstrates compliance with all current regulations and standards, but also significant savings for householders.

We have also observed that residents are using the power down switch and smart meter as a prompt for all the family to adopt better energy habits.

We are already looking at different wiring methods, adaptable wall sockets, remote switching relays, multiplexed signalling which may allow the power down switch to be controlled remotely via WiFi control hubs and mobile device applications.

The future of domestic wiring?

Although this kind of energy saving measure is not considered in current regulations, we believe it is very straightforward for Part P of the Building Regulations to be amended to include energy saving solutions such as Smartwire – making it mandatory in new builds, when undertaking notifiable works.

Regardless of legislation, Relish Smartwire is a proven solution that addresses the affordable warmth agenda, is simple and affordable for social landlords and commercial builders to install and will make a significant impact on reducing carbon emissions if rolled out nationally and indeed internationally.

Our ambition is for every specifier of new homes to recognise Relish Smartwire as best practice and to amend their specifications and employer's requirements to incorporate this type of energy saving solution.

Make the
smartwi
save yo



Lessons learned

Low cost can still mean high achieving. As a registered provider we recognise that reducing household fuel bills is part of our day job – not something that is ‘a nice to do’ or left for residents to address unaided.

Relish Smartwire outcomes demonstrate we all have a part to play in reducing emissions and helping residents to stop wasting energy and money – underlining the need to embed Relish principles in all we do. Relish has changed the way in which we work and the ways in which we:

- work with staff, advisors and contractors to ensure Relish principles are embedded throughout our organisation;
- evaluate contractors' tenders and select preferred suppliers;
- induct and communicate with operatives and the supply chain;
- promote and communicate with residents, contractors and stakeholders: keeping it simple, understandable and engaging for everyone;
- monitor and evaluate results to ascertain how best to deliver value and most impact in our sector.

Lessons learned

Worthing Homes' next new build development is now on site and will include Smartwire. As we build more new homes, there will be more Smartwire users and we will continue to monitor and evaluate the benefits and improve its effectiveness. The lessons we have learned from this pilot project include:

- when incorporating any innovation such as Smartwire, early engagement and buy-in of the supply chain is essential;
- ensure that any influencing parties and or regulatory bodies understand and endorse the innovation;
- Smartwire and Relish-it! must be delivered together, not as separate 'modules' to achieve the most effective results for residents;
- Everyone involved in the design, construction and handover of the new homes must take an active part in positively reinforcement the benefits
- Smartwire is less effective in smaller flats because residents can see what is on or off and the scale of the savings is minimal.
- An app for powering down a home remotely via WiFi or a mobile device would extend the benefits for residents.

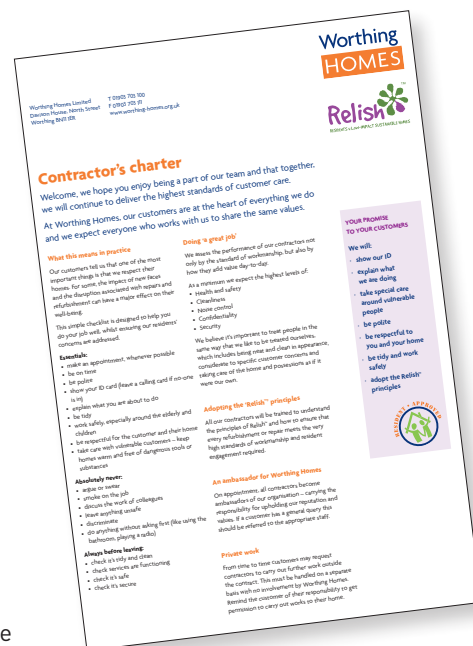
Spreading the word

Worthing Homes have always been proactive in sharing lessons learned, believing that the sharing of best practice will accelerate the rate and appetite for change, especially in our sector. We share best practice through workshops and presentations to the HCA, Sustainable Homes, Eco Technology Show, Housing Forum, NHMF, NHF, Inside Government, WSCC and more. We promote Relish and Smartwire through relish.org and downloadable reports. Kevin McCloud, Don Foster MP, Tim Loughton MP, Sir Peter Bottomley MP, Charles Hendry MP, Alison Mathias (HCA) are all advocates. We have affiliations with:

- superhomes.org.uk
- Case study on Healthy Places: healthyplaces.org.uk
- SCRI

Reggie Relish and friends get out and about in the neighbourhood and are regular tweeters through twitter.com/reggiereish.

Worthing Homes new 'Power Ranger' will be dedicated to promoting Relish and Smartwire with our residents, contractors and throughout the housing sector.





“Using the switch has become a natural instinct. I turn the power switch off every night before bedtime and every time I go out. It has also helped my children to understand about switching things off and saving money as they find it fun to flick the switch”.

RACHAEL BARNETT, RESIDENT
NEW BRUNSWICK DRIVE, WORTHING

Rachael’s direct debit for her electricity usually increases every year, but since moving in, even with price rises – her direct debit remains the same.



Worthing Homes and the creation of Relish



Creating a solution to meet the challenges faced by social landlords

The development of the Relish and Smartwire initiatives support one of Worthing Homes' key strategies – asset management, development and sustainability.

So we set out to develop a sensible, affordable and pragmatic approach to reducing energy consumption and carbon emissions in our existing homes. We accepted that we may not attain the magical 80% target set by government, but were convinced we could create a proven practical, repeatable and affordable programme that would make a real difference to our residents' well-being and energy costs.

The Relish strategy is based upon:

- making relatively small financial investments in existing, occupied homes, informing and empowering residents, placing them at the heart of lifestyle changes;
- evaluating the most cost effective, sensible ways to improve each property;
- embedding Relish principles through a contractor's charter and including them as a mandatory part of every refurbishment and new build contract;
- investing in Relish specific training for every operative working on our sites;
- investing in Relish specific training for our inhouse maintenance team and resident liaison teams;
- promoting the financial benefits of good energy habits; engaging with the whole family, making everyone aware of how they influence energy consumption;
- incentivising and embedding good energy habits through the Relish-it! community hub (our showflat) advice packs, ongoing guidance and a unique household Relish Rating;
- sharing best practice whenever we can and making our Relish-it! community hub and pilot study results available to other organisations.

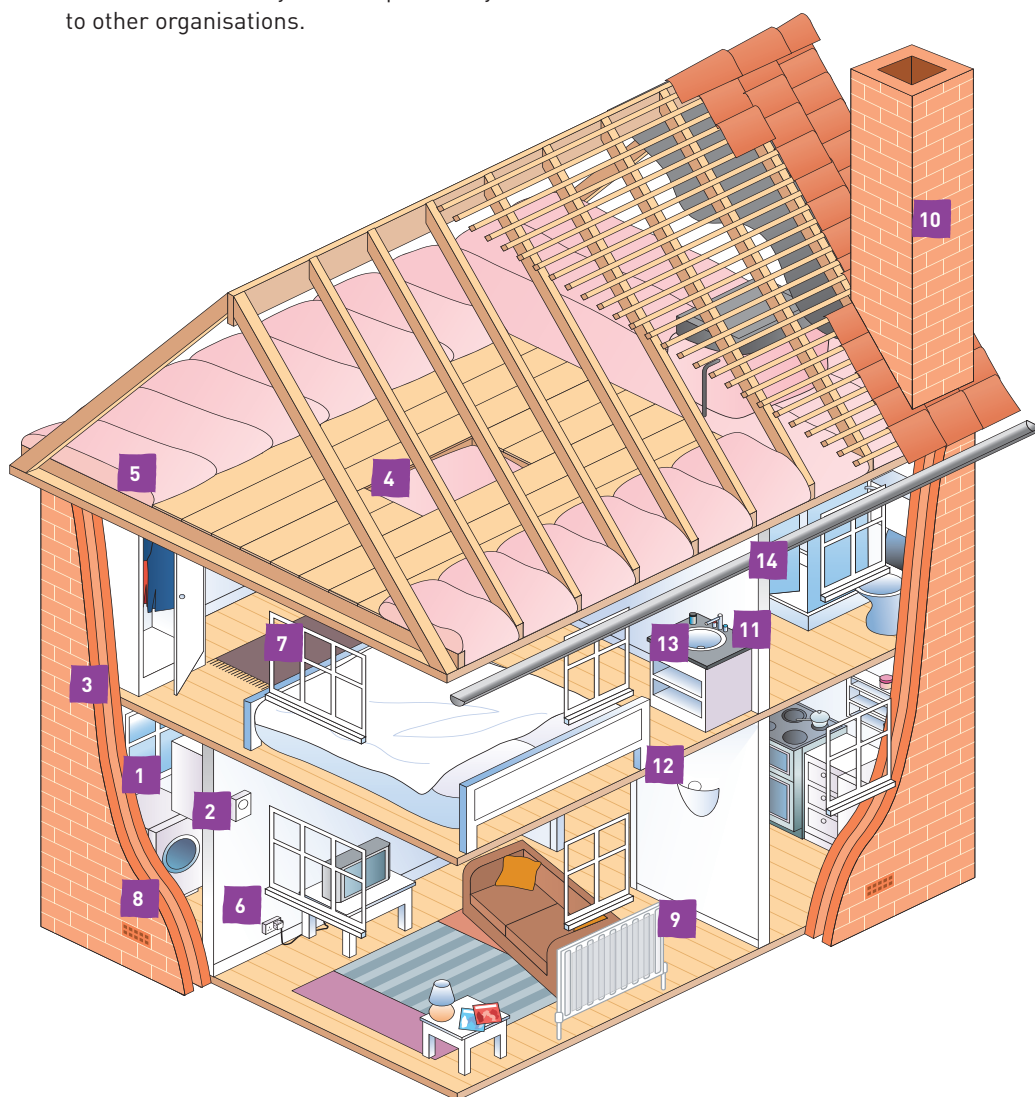
"The idea for Relish was conceived by Worthing Homes as we wanted to explore ways in which we could reduce energy consumption and CO₂ emissions through an affordable project that would fit with the size and vision of our organisation and residents."

"Many of the 'exemplar' sustainable energy reduction demonstration projects are unaffordable for most registered providers and carried out in homes that are unoccupied – an unrealistic scenario for Worthing Homes."

ROBIN ROBERTS, PROPERTY SERVICES
DIRECTOR, WORTHING HOMES

RIGHT:
THE RELISH 'SHOPPING LIST'
OF IMPROVEMENTS TO:

- 1 HEATING
- 2 BOILER CONTROLS
- 3 CAVITY WALL INSULATION
- 4 LOFT HATCH
- 5 LOFT INSULATION
- 6 ELECTRICAL INSTALLATION
- 7 WINDOWS AND DOORS SEALING
- 8 AIR BRICKS
- 9 RADIATOR REFLECTOR PANELS
- 10 CHIMNEY
- 11 SEALING AIR GAPS
- 12 LIGHTING
- 13 TAPS
- 14 SHOWERS



Change the culture of our sector, supply chain and customers

Results from the initial Relish pilot showed that for a budget of £6,500 (in addition to the cost of typical planned maintenance and 'decent homes' works), it is possible to get close to an 80% carbon reduction in a typical older style property. Energy advice and education can further enhance this saving with households realising up to a 20% reduction per year in energy bills – the equivalent of four weeks rent for families to spend on other things.

Relish has created a legacy and we are keen to continue the journey. Relish Smartwire is the next tangible step and the results from our latest pilot indicate this is a viable and cost effective measure to significantly reduce domestic energy bills.

However, we realise that not all households and indeed professionals are committed to the concept of making small changes to achieve the results that will make a difference. As with the concept of recycling, individuals were sometimes slow to see how their actions could make an impact.

Our evolving journey with Relish and Smartwire will not change behaviour overnight or deliver dramatic results. But outcomes do show that it can halt upward trends in energy use and cost, create savings for people who really need to spend as wisely as possible and improve wellbeing and thermal comfort.

One key outcome for every phase of Relish and Smartwire is that 100% of people who have been involved with the pilot schemes – whether they are residents, consultants, contractors or operatives are now aware that they have a part to play in reducing energy costs.

Awareness is the first step on the journey to change.



Smartwire + BIM: our next Relish pilot



Worthing Homes are continuing to invest in building new homes. The next phase of Smartwire will be installed in 12 new houses at Meadow Road, Worthing. This project not only incorporates Smartwire but also is one of the first domestic house building projects to use BIM (building information modelling). Meadow Road incorporates a refurbishment (to Relish principles) of one of the existing blocks, as well as new build.

REMODELLED FIRST PHASE NOW COMPLETE



A NUMBER OF SUSTAINABLE DESIGN FEATURES ARE INCORPORATED INTO THE HOMES. THE ORIENTATION OF THE FLATS AND ASPECTING OF THE MAIN LIVING ROOMS MAXIMISES THE POTENTIAL FOR SOLAR GAIN, NATURAL VENTILATION AND DAYLIGHT WITH ALL DWELLINGS HAVING LIVING ROOMS WITH EITHER EAST, WEST OR SOUTH ORIENTATION.

CONDENSING BOILERS WILL BE FITTED AND THE HOMES WILL CONFORM TO HIGH INSULATION STANDARDS TO MAXIMISE ENERGY EFFICIENCY. DUAL FLUSH TOILETS AND FLOW RESTRICTOR TAPS WILL BE PROVIDED.

THE HIGH LEVELS OF INSULATION COMPARED TO EXISTING POORLY INSULATED DWELLINGS WILL SIGNIFICANTLY REDUCE CO₂ PRODUCTION. THE SCHEME IS DESIGNED TO LIFETIME HOMES STANDARDS AND WILL BE BUILT TO LEVEL 3 OF THE CODE FOR SUSTAINABLE HOMES

Regeneration road

Meadow Road in Worthing has been under Worthing Homes ownership since the organisation was formed in 1999. The 1950s homes were studio/bedsits, which we considered no longer fit for purpose and this was borne out by the higher than average void rate of 50% (compared to a usual rate of 8%). After a number of meetings with residents to discuss the problems they were facing, which included thermal and soundproofing insulation issues, along with poor use of space we provided a solution that created a mixture of new build and refurbishment. The regeneration of Meadow Road, not only aims to address the issues contributing to the decline of the neighbourhood, but also to create exemplars in terms of design and through Relish sustainability.

Setting precedents for the future

The Meadow Road project is delivering a number of 'firsts':

- It will be the first domestic scheme to use Building Information Modelling (BIM) – using an intelligent 3D model to inform and communicate project decisions – giving greater clarity for all stakeholders across the project lifecycle. BIM makes it easier to achieve project and business goals.
- The deployment of BIM at Meadow Road has been approved as part of the Constructing Excellence innovation in practice demonstration programme. The 12 new 2 bedroom homes will be fitted with the next generation of Smartwire.

Every new resident will be offered and have the option to sign up to our Relish-It! energy advice programme, which will be delivered through Worthing Homes newly appointed home energy champion – our very own Relish 'power ranger' – welcome, Poppy Scott!

"We are implementing full 6D Level 2 BIM on this £1.5 million project, which is much closer to the average project value and more representative of the bulk of the construction industry's workload," says Robin Roberts, "so the principles are the same as those adopted with Relish and Smartwire. As social landlords, we want to evaluate what benefits BIM can deliver in this context – for us as clients, for residents and the wider community".

Refurbishment phase completed

Works are due to start on site for the new build and the first refurbishment phase of Meadow Road is now complete. Many residents have moved into their new homes, now transformed into contemporary one bedroom flatlets, complete with living room, separate bedroom with en-suite wet room and a modern kitchen with storage and room for all essential appliances.

Issues around security, energy efficiency and soundproofing have been resolved with new windows and doors, a communal entry phone system and thermal and soundproofing insulation. Tests have been carried out to check the air tightness and our Relish principles have ensured the results are in excess of current building regulations.

The communal gardens have also been given a new lease of life with new lawns and paving, new secure fencing and communal rotary driers and designated refuse areas.

RETAINED AND REMODELLED BLOCK



"Initiatives such as Relish and Smartwire are only effective if as a client, you are totally focused on achieving the objectives, obsessed with construction quality and really attend to the detail," comments Robin Roberts... "educating everyone involved and constantly looking for better ways to do things is a philosophy which now informs everything we do".

Innovation in Practice



**CONSTRUCTING
EXCELLENCE**
in the built environment

THE MEADOW ROAD
DEVELOPMENT HAS BEEN
ACCEPTED BY CONSTRUCTING
EXCELLENCE AS AN INNOVATION
IN PRACTICE PROJECT



THE MEADOW ROAD
DEVELOPMENT HAS
BEEN ACCEPTED BY THE HOUSING
FORUM AS A DEMONSTRATION
PROJECT.

Relishing excellence!

Relish has been recognised nationally and internationally: successes and recognition include:

- Awarded: Constructing Excellence's (first) Innovation in Practice project (2009) and one of only three projects nationally
- Winner: Constructing Excellence (London and South East) award – legacy award sustainability 2010
- Winner: Sustainable Housing national award – energy initiative of the year award 2010 (finalist for two awards)
- Winner: two Constructing Excellence (London and South East) awards 2011 (finalist for four awards)
- Finalist : four Sustainable Housing national awards 2011
- Winner: National Constructing Excellence award 2011 – legacy award sustainability (finalist for two awards)
- Achieved: Housing Forum demonstration project 2011 for Relish phase 2
- Case studies: Relish published as a best practice case study by the following organisations:
 - Cause Action
 - The Missing Quarter
 - NHFs Count Us In
- Finalist: CIH UK Housing national award – sustainable landlord of the year 2012
- Finalist: Constructing Excellence (London and South East) award 2012 – value
- Exemplar case study: SuperHomes 2012
- Sustainia100: selected as one of 100 best practice projects launched to world leaders at Rio+20 June 2012
- Finalist: two Sustainable Housing national awards 2012
- Finalist: two Constructing Excellence (London and South East) 2013 – innovation/achiever award (individually)
- Highly commended: South East LABC awards 2013 – best large development
- Recognition: Relish highlighted as best practice project including by Kevin McCloud, Don Foster MP at 2013 Lib Dem conference
- Finalist: 2 Constructing Excellence awards (London and South East) in 2014 – innovation and sustainability
- Finalist in 3 categories: Sustainable Housing national awards 2014: Green housing performance award, Sustainable larger housing retrofit project of the year (more than 25 homes), Social housing provider of the year.





With thanks to...

The project partners have all contributed towards the success of Relish Smartwire. However, we would like to recognise the outstanding efforts of some key members of our team.

We have been encouraged and supported in our journey by Tim Loughton MP, who takes an active interest in the project.

The advocacy of Alison Mathias at the Homes and Communities Agency has been invaluable.

The progress that Relish Smartwire has made would not have been possible without the enthusiasm, co-operation and commitment from an increasingly growing group of people – Jeff Timms, Colin Farrell, Graham Mills, Ian Reed, Shaun Greenfield, Matt Mather, Mary Evans, Chris Pelling-Fulford, Osborne, Worthing Homes' board of directors, Alex Waring and Vic Horswell.

Tina Carter and the creative team at Day 1 have brought our ideas alive and given birth to Reggie and his family – long may they reign!

Biggest thanks of all go to our participating families, they were generous with their time and stuck with us.

Worthing
HOMES

www.worthing-homes.org.uk



www.effefftee.co.uk