

THE CASE FOR HOME UPGRADE AGENCIES

Mobilising data for Net Zero



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A GLOBAL PUSH FOR NET ZERO HOMES

All over the world countries are trying to shift their homes to become more efficient, less carbon intensive sources – an essential part of getting to Net Zero.

But shifting homes to become more energy efficient is not easy, with barriers of perceived and real cost, practicality and motivation getting in the way.



AN AFFORDABLE SOLUTION

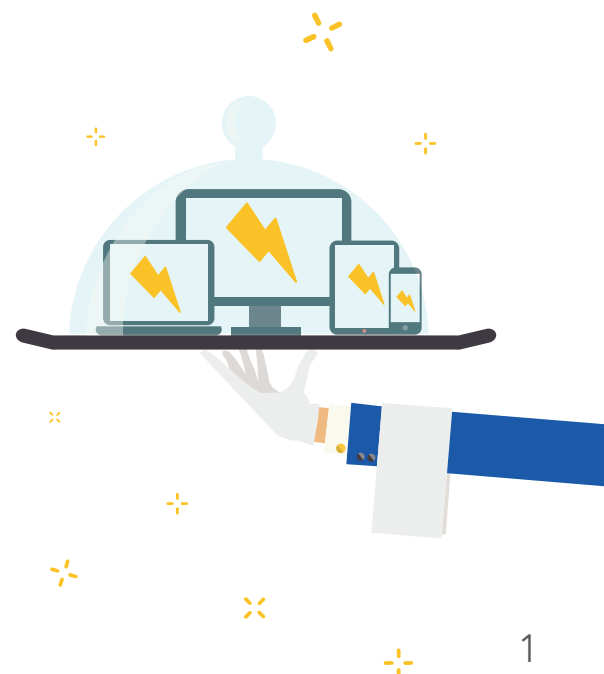
To overcome these barriers and help more homes become energy efficient, we recommend that the government sets up new Home Upgrade Agencies across the UK. These agencies would use data and segmentation to tailor offers and information to households.

For a modest financial investment, IPPO researchers believe these agencies would help spur the transformation needed to upgrade the UK's housing stock.

DATA DRIVEN TAILORED OFFERS

Current incentives and regulations to improve home energy efficiency mostly operate on a one-size-fits-all basis. They are focused on providing financial incentives to upgrade, and ignore the aspirations of homeowners looking to create future-proofed homes of which their families can be proud.

The new Home Upgrade Agencies would use techniques common in marketing as well as applying behavioural insights to provide a mix of subsidies, loans and practical support. They would also act as hubs to connect people with existing schemes, and develop tailored offers to appeal to different households in the right way.



THE CASE FOR HOME UPGRADE AGENCIES, MOBILISING DATA FOR NET ZERO

Upgrading our homes - why the UK needs new institutions to support the net zero transition, mobilising intelligence as much as money

Professor Sir Geoff Mulgan and Jeremy Williams

All over the world countries are trying to shift their homes to more efficient, less carbon intensive sources – an essential part of strategies to get to Net Zero – and campaigners regularly take direct action to prompt more decisive action.

But shifting homes to become more energy efficient is not easy, with barriers of finance, skill and motivation getting in the way, even during a period of very high energy bills.

With domestic housing comprising 38% of the UK's **energy consumption**, getting more homeowners or occupiers to **retro-fit** their properties, to install **heat pumps**, and to modify their energy use **behaviour** will be vital if the UK is to successfully transition to Net Zero.

There is no plausible route to Net Zero without action on this front, and no plausible route to the kind of green-led economic growth which politicians often like to talk about.

NEW INSTITUTIONS NEEDED TO LEAD THE NET ZERO TRANSITION

But most plans are **not on track** to meet their targets and the last decade has seen a series of dramatic policy failures, which has contributed to the UK continuing to have one of the **worst records** in Europe for heat loss from homes.

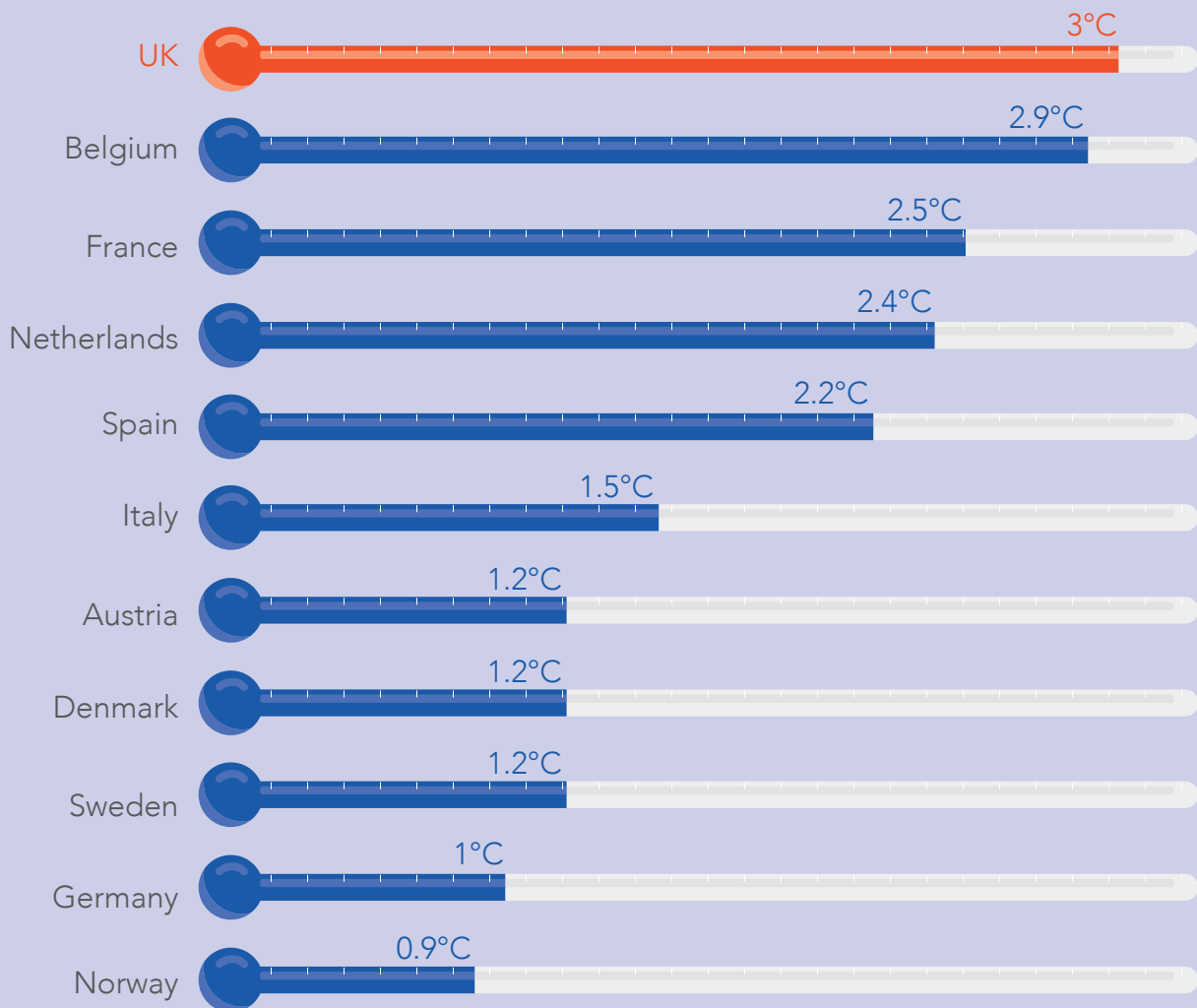
Here we argue that one clear lesson of these experiences is that the current patchwork of incentives and regulations in this area largely operate on a "one-size-fits-all" basis, limiting their reach and effectiveness. Homes vary greatly – from flats in large blocks to

detached suburban homes and rural cottages. So do families, and their financial capabilities. Yet most policies are generic, standardised and ill-suited to the differences of individual homes, and there is remarkably little use of data to customise offers to fit individual circumstances. If this continues, it is likely that any new programmes will continue to fail.

As a result of IPPO's work with experts, policymakers, and other stakeholders, we've concluded that there are missing institutions and not just flawed policies.

UK HOMES SHED HEAT 3 TIMES AS QUICKLY AS THOSE IN NORWAY

Home temperature loss after 5 hours with a temperature of 20°C inside to 0°C outside



Source: Tado 2020

HOME UPGRADE AGENCIES TO DRIVE THE TRANSITION

We therefore recommend that governments establish new public institutions – Home Upgrade Agencies – which make the most of data to tailor bespoke communications and offers to consumers, and then help to orchestrate the many elements that need to be in sync for change to happen, from viable technologies to local skills supply to finance, as one vital component of more comprehensive net zero strategies.

This is one field where government needs to be more active – and more willing to orchestrate systems change – if it is to achieve its stated objectives.

Much of what has to be done to achieve Net Zero will be difficult, and costly. This by contrast is a step which wouldn't cost much and is more about mobilising intelligence than money.

MAPPING THE DOMESTIC ENERGY TRANSITION

Governments across the UK have set ambitious targets for shifting away from gas and oil – but many are [struggling to achieve](#) their [goals](#). There is also a long history of flawed and failed policy from the UK plans [dropped in 2013](#) which led to a collapse of local capacity for retrofitting, to the 2017 [scandal](#) in Northern Ireland that led to the fall of its government.

In this note we map out the various dimensions of the problem as it relates to home energy and make a specific recommendation the implementation of which we believe is essential for bridging the gap between ambitions and current achievements. IPPO has

formulated this recommendation after working with stakeholders from across government, business, and the third sector, as well as academic experts in the field.

To guide thinking with policymakers, we developed a [systems map](#) that sets out the enablers and barriers that are relevant when thinking about home energy change. The map also collates a snapshot of current evidence in the field, including a judgement on their respective strengths, as well as mapping relevant government initiatives and actors.



EVERY HOME IS UNIQUE

Our work reveals, unsurprisingly, that achieving widespread home energy efficiency is complex. For example, there are physical issues to be overcome, with what works for terraced homes, housing blocks, and detached housing all often being different, as well as technical issues of infrastructure, including connection to the National Grid.

Nevertheless, technological developments are moving quickly in this area, with a recent [Catapult study](#)

arguing that all housing types were suitable for heat pumps.

Our work also illuminated a lack of holistic view in areas like [supply chains](#), as well as emphasising the importance of skills supply.

This is an area which has been problematic in the past, where for example, the UK's Green Homes Grant was hampered by a lack of qualified [installers](#).

INCENTIVES AND INFORMATION

In the UK, economic incentives have been the main policy tool to encourage household energy change, but these have been unevenly applied and have had limited effectiveness. They have also perhaps suffered from an assumption that financial factors would be the main motivator for most householders to pursue energy efficiency.

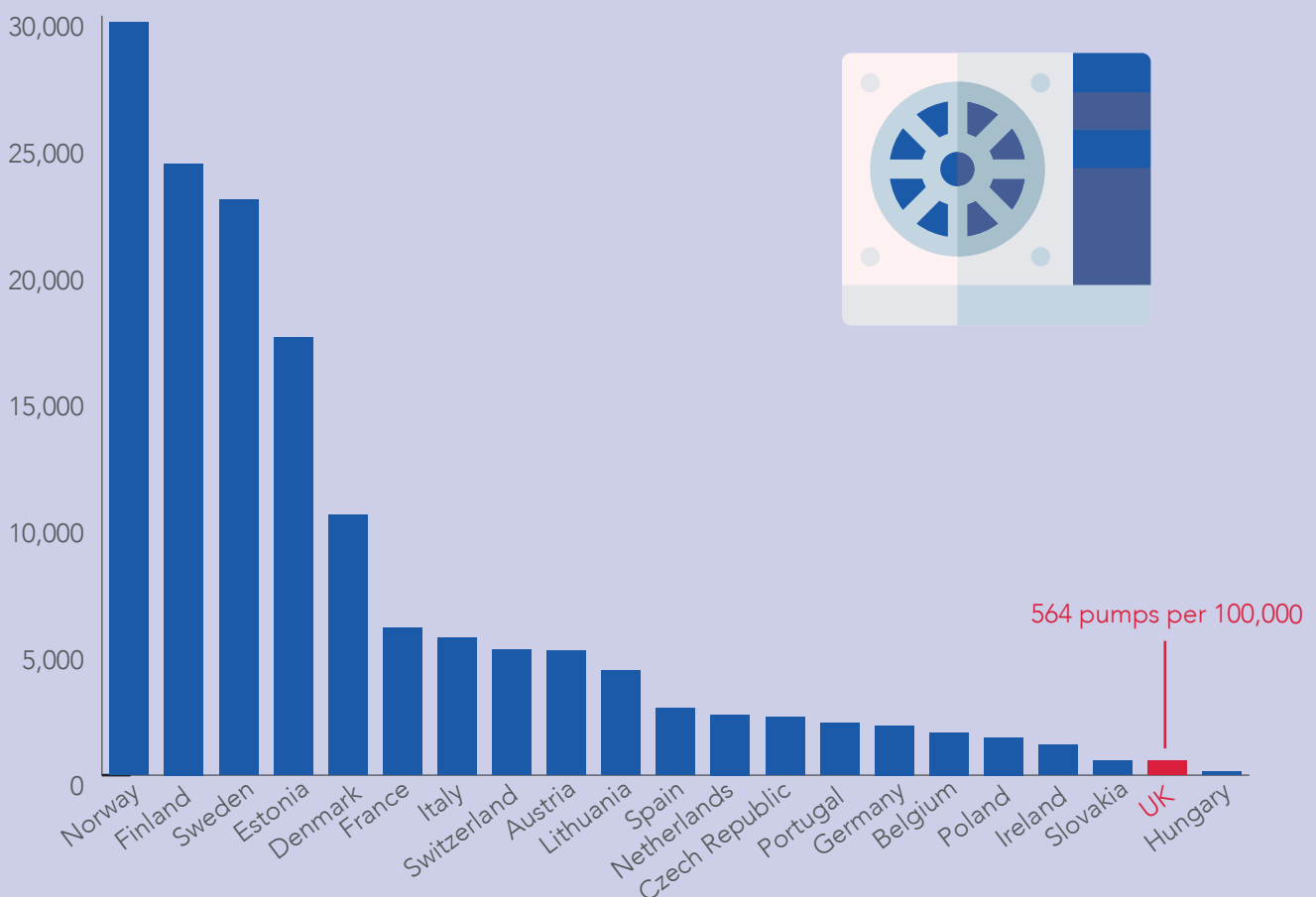
Evidence as to the efficacy of financial incentives on their own is at best inconclusive, with our conversations with those working in this space suggesting that a more holistic and sophisticated understanding is required.

Other recent work focuses on psychology and motivation including deploying **nudges** and encouragements towards **changing behaviour**, with potentially **useful** results.

Countries such as Finland have also had greater **successes** in rolling out heat pumps through a combination of leveraging natural and cultural advantages including peer-to-peer learning and attendant perceived ease on the part of households, all backed up a strong policy environment.

UK TRAILS EUROPE IN HEAT PUMP SALES

Sales of heat pumps per 100,000 people in 2022



Source: European Heat Pump Association 2023

THE NEED FOR PERSONALISED HOME ENERGY ADVICE

Providing information to households directly is also important. The EU's [Turnkey Retrofit project](#) seeks to provide a "one-stop-shop" portal for information on the retro-fit journey through its [Solutions4Renovation](#) platform. This homeowner-centric model is currently operational in France, Ireland, and Spain.

However, while collating information in one place is obviously important, recent work by Citizen's Advice in the UK [notes](#) that the lack of personalised advice is one of the barriers to the uptake of retrofit. This is supported by [work](#) undertaken by Haines and Mitchell on owner-occupiers who argued for a targeted, persona-based approach to domestic energy retro-fitting.



"ONE-SIZE-FITS-ALL" IS INSUFFICIENT

An important message that comes from our analysis is that every home – and every household - is different. This means that the kinds of offers that will appeal to the owner or occupier will vary greatly depending on the kind of home, the financial position of the individual or family, their life stage, and their values and attitudes.

The key implication of this finding is that broad brush and over-standardised approaches are likely to be insufficient. Instead, more bespoke and tailored offers are required to persuade enough households to adopt energy efficiency measures.

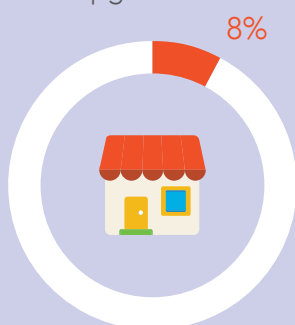
As our conversations with stakeholders also revealed, a singular and top-down approach not adapted to the different realities on the ground, is often likely to fall on deaf ears.

However, in instances where personalised advice is given such as by the Energy Saving Trust in [Scotland](#), this lacks the use of segmentation and insights routinely used in marketing and occurs only at the level of individual phone conversations.

THE END OF THE £1.5BN GREEN HOMES SCHEME

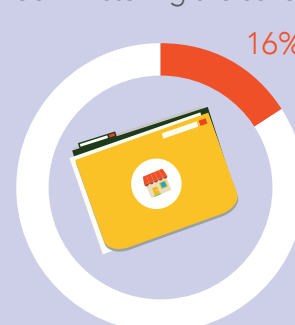
The Green Home Scheme, a £1.5bn initiative, provided homes with grants of up to £10,000 for insulation or eco-heating. It concluded after six months. Whitehall's spending watchdog identified challenges with industry communication, project timelines, and preparation.

The scheme will cover less than 1 in 10 of the projected home upgrades



47,500 homes are expected to receive grants instead of the planned 600,000

The cost to the taxpayer will be £314m, including £50.5m for administering the scheme



Source: National Audit Office 2021

A DATA-DRIVEN APPROACH

The UK currently lacks the infrastructures and institutions that can use data to provide personalised advice on energy efficiency more systematically. This need for a personalised approach is obvious in other fields and is fairly normal in much of business (and some companies such as Octopus are attempting to move in the direction we advocate).

But this more personalised approach is less common in the public sector – and it requires pooling and making use of data on the key factors shaping choices to ensure there is the right fit between offers and likely users.

While some countries are increasingly deploying data-led [personalisation](#) in service delivery, we argue for a logical extension of this approach to encourage home energy efficiency. This would see advice, encouragement, and bespoke offers provided to households based on their individual circumstances, linked to a more strategic approach to capacity.

This linkage is important since there is no point encouraging lots of people to install heat pumps or insulate their lofts if there is a lack of local capacity to do so.

RECOMMENDATION: CREATE HOME UPGRADE AGENCIES WHICH USE DATA TO TAILOR OFFERS TO HOUSEHOLDS

We therefore recommend as a priority creating new, intermediary institutions which can harvest and organise data to shape offers to households.

These institutions, which could be named Home Upgrade Agencies, would provide a mixture of subsidies, loans, and practical support to households.

They would ensure there is the right supply-side capacity to meet demand and tailor personalised offers to different circumstances. Their ethos should be aspirational – hence the use of the language of upgrading.



HOME UPGRADE AGENCIES, DEFINITION AND USE

DATA-DRIVEN



Orchestrate data to tailor options to households – this could include a legal obligation on electricity companies to share relevant usage data, as well as relevant data on housing type, and consumer data on consumption patterns, life-stage, and financial circumstances, drawing as much as possible on what is known from behavioural science.

RESOURCE & EXPERTISE

Work with local authorities and other agencies to ensure supply of both physical resources and skills.



FINANCING

Offer financing options, with a mix of options suitable to different needs.



MAKING A TRANSITION EASY



From the household perspective the aim would be to make change easy.



For example, if you wanted to increase the energy efficiency of your house, you could contact local Home Upgrade Agency who would provide you with a tailored upgrade plan built using data on things like the size and type of house, geographical area, budget, and other preferences you articulate.

These agencies would also have a role in proactively reaching out to households with a targeted offer based

on their data in a way almost akin to advertising.

The minimum scale for efficiency would likely require these to operate at the level of a few million population.

Our recommendation would therefore be one agency to cover each for the devolved nations, with potentially either one, or a small number of agencies covering the regions of England. Ideally these would share much of the same underlying capacity – including evidence, data and assessment tools.

REDEFINING PUBLIC INSTITUTIONS FOR EFFECTIVE HOME UPGRADES

In recent years there has been a marked reluctance to create new public institutions, and a default of combining incentives and subsidies with an assumption that markets will deliver the rest.



This assumption has been tested to destruction and has been proven unreliable in this field. Sometimes new tasks require new institutions, and this is such a case, particularly because of the need to orchestrate both better use of data and more effective local systems of supply.

We believe that the comparatively low cost of investment in the creation of these agencies would lead to a potentially high return in terms of facilitation of home upgrades and attendant impact on the UK's carbon emissions.



The development of new institutions should closely involve the likely contributors and stakeholders; should draw on best practice in using customer



data; and should segment target households to ensure the biggest impacts.



The marketing should emphasise that these are about reaching a gold standard for homes – an aspirational message about upgrading in ways that will also boost homes value and save money.



Such targeted support would be a marked improvement on the current "one-size-fits-all" model of information provision by leveraging the use of data in a way already common in the private sector and used in the marketing profession for many decades.



It would not be a panacea on its own – and will also require complementary action on standards, regulations and skills, including potentially much stricter requirements for new homes. But without such a data-driven approach the UK will continue to fall behind on its Net Zero obligations.



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HOME UPGRADE AGENCIES