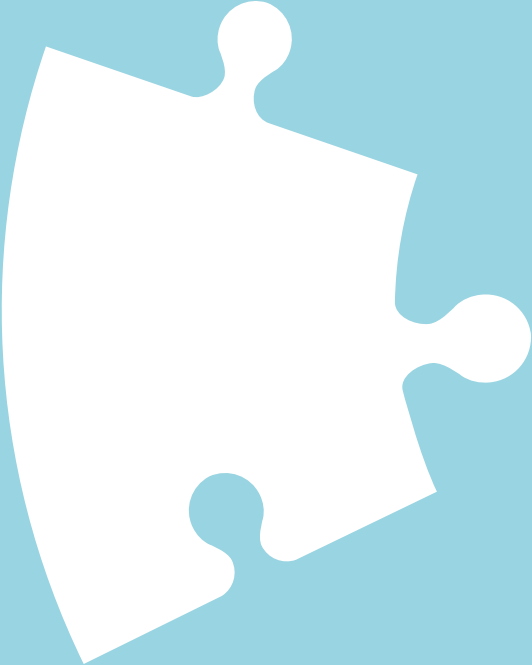




ade

The Association for
Decentralised Energy

Solving the energy policy puzzle for users



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Introduction

It is the near future. Selling units of fuel or power to a passive customer is no longer the dominant energy sector business model. This transition has come about because energy users now play an active role in maintaining a low carbon, secure and affordable power system. The energy system has become user-led, delivering energy and energy services to households, businesses, and the public and third sectors. Such a transformation may seem challenging but it is vital if we are to achieve decarbonisation while meeting customers' needs in a way that is fair, and builds and maintains trust.

Energy customers make many of the key decisions that lead to changes in carbon emissions, whether choosing to buy a new car, renovating their home, or buying new IT equipment for the office. To move to a low carbon system, we need customers to choose low carbon ways to meet their needs and also to use their energy in a way that helps keep down the cost for all. In short, we need an energy system that enables the customer to participate.

Decentralised energy

Decentralised energy is a vital element of the new system. It includes all the energy (not just electricity) used, produced and managed at or near a customer. Decentralised energy is defined in terms of its relationship to the customer's needs and is free from the traditional silos of gas or power, supply or demand, renewable or fossil. As a result, any technology, software, infrastructure or service that is designed around, and operates at or near, a particular user is part of the decentralised energy system. It can include energy efficiency and energy flexibility technologies, heat networks, combined heat and power, rooftop solar and energy storage (in or out of electric vehicles).

Achieving the vision

Achieving the vision of an energy system that enables customers to participate and rewards them for doing so depends on changing the way we go about designing policy and regulation. This report examines the energy system as seen from the customer's perspective, highlights the confusing puzzle of signals we currently have and contrasts it with a vision of where we need to be. The section 'Principles for future policy' sets out the principles to be used in transforming the policy and regulatory landscape to achieve this vision.

This is an initial overarching report ahead of a series of detailed policy reports to be published by the Association for Decentralised Energy (ADE) in 2019. Together, these reports will set out how reformed policy making, together with the energy industries, can drive equitable decarbonisation across households, businesses and the public sector.



The energy system we have now

The energy system we have now was designed at a time when electricity generation assets were cheaper at large scale and when communication was slow and difficult. Centralisation of the system was a logical choice. Similarly, plentiful supply of North Sea gas provided the case for a nationwide development of a gas distribution network. Energy customers were viewed as passive drivers of the system: their energy use triggered the system to respond.

Today, however, the focus on low carbon solutions and modular technologies, a communications revolution and the recognition that demand can be more flexible and reduced, make this purely top-down centralised system out of date.

The need for change; the logic of the old system and why it no longer works

Although the first energy systems were city based and decentralised, the economies of scale from thermal (coal, gas, nuclear) power plants and gas from the North Sea supported the case for a large, centrally planned system.

As the systems developed, regulatory and policy frameworks were built on the system structure. Large entities (power stations, electricity and gas networks and government) all worked to meet the customer's need. Policy specialisms grew around each area, such as nuclear or coal power or gas transmission. Very little power was generated locally, so there was very little policy to enable it. Heat policy became predominantly gas policy. The result was a series of policy silos around the active system participants.

This structure is now being fundamentally challenged as a result of climate change, the

need to cut emissions and the ability to send instructions to many different destinations. Under a centralised system, energy customers are broadly passive but in the low carbon system, energy customers can generate power and heat to meet their own and local needs, and can reduce and shift their demand. Digital systems allow all of this to happen in the background so that customers can get on with their day-to-day lives.

The challenge is that the regulatory system was never designed for this. Many smaller actors struggle to participate in a system designed for a few large ones. We therefore need to change the system to enable these energy users to be a part of the energy transition. If we are going to deliver a low carbon system, we need to enable those users to cut the carbon produced on site.

The well-reasoned structure of the current policy and regulatory system ceases to work in a digitalised and decentralised world. The energy framework now needs to reorientate itself, with policy that maximises the opportunity for energy customers to make choices that deliver a low carbon system.

For this to happen, we need to develop a policy landscape that starts by understanding the energy customers, their needs and what they can do to transform the system. We can then harness that understanding to ensure a fair, cost-effective and fast move to a low carbon economy.

The need to restore trust in the system

A change to the top-down system is needed. A system in which customers are at the end of the line has led to a loss of trust: energy is one of the least trusted sectors in the UK⁽²⁾.

While politicians promote supplier switching and a price cap in an attempt to make the system fairer, these solutions treat the symptoms rather than the cause of this lack of trust: a system and its regulatory framework that have been designed from the top-down rather than from the customer-up. While this design was understandable for a centralised system with few players, it struggles when thousands of businesses and millions of homes are vital to making a low carbon energy system a reality.

Confused and inactive customers

Energy policy has been built in silos; for example, gas or electricity, supply or demand, efficiency or low carbon, renewables or fossil fuels. However, customers think differently: a warm home or workplace is a result of both building efficiency and the heating system, and the customer simply wants affordable warmth when it is needed. But, at the moment, customers have to deal with the energy system and policy through these silos. The customer's interest in warmth, mobility and power, and the policy surrounding energy efficiency, power generation, gas and so on are like two different languages, which means that the energy customer cannot readily engage with the system.

Seen through the customer's eyes, the siloed policy making system results in an incoherent patchwork of policy and regulatory measures. These policies are each designed to focus on one or two key policy areas but they are not integrated

with the other policy or regulatory drivers that the customer experiences. This policy patchwork results in confused and inactive customers. Those who try and navigate the system and take energy-related decisions – to invest in energy efficiency, to move to lower carbon heating or renewable power generation – often find a complex puzzle of choices and no overall steer to guide their decision-making. It takes highly motivated customers or very lucrative rewards to drive uptake of any technology or service. Until recently, inactive customers were simply one of many constraints that the energy system operated within. A policy structure built around enabling energy users to participate could allow customers to become huge drivers for change in the energy system. If, however, we fail to enable customers to benefit from the transition, their lack of action could become a central barrier to achieving a cost-effective decarbonised energy system.



Energy users currently face overlapping, uncoordinated and confusing policy choices

Energy customers and decarbonisation



It is simply not possible to decarbonise the energy system without the customer being central to the transition, because customers own so much of the equipment that causes emissions.



As we decarbonise the energy system, we need customers to make decisions which meet their needs and work to support the transition. These decisions fall into three key areas:

- Reducing demand through investment in energy efficiency and changes in behaviour;
- Choosing low carbon heat and power supplies and/or generation; and,
- Using onsite demand, generation and storage to provide system flexibility services to optimise the overall energy efficiency of the system.

Additionally, security of supply remains critical but the understanding of how this is delivered needs to reflect that, in a decarbonising system moving away from fossil fuels, the system services needed to ensure security of supply will increasingly come from different sources. Energy customers can offer a key, cost-effective source of power system flexibility to provide energy security. This contribution from customers could reduce the cost of decarbonisation by over £8 billion by 2030⁽ⁱⁱⁱ⁾.

The financial benefits of energy efficiency are also widely acknowledged. Energy efficiency measures installed since 2004 save the average household around £500 per year, and there are further cost-effective efficiency improvements for households that could deliver benefits to the UK of as much as £47 billion. Businesses could save £1.3 billion per year in fuel bills alone from energy efficiency investments with a payback period of less than three years⁽ⁱⁱⁱ⁾.

The energy system needs engaged, active customers but we are starting from a position of low trust and confusing signals to consumers. Therefore, it is time to radically rethink the policy and regulatory landscape to ensure that we enable the customer-led changes that we need.

This vision, where energy customers are at the heart of the energy system and its policy framework, is the future that we believe is vital, and we will work with our members and with policy makers to deliver it.

Offering energy services to customers

The complexity of decisions facing customers also means that the way energy is sold will change. Customers need clear advice on what to do in their home or workplace. A customer should have a choice between taking action themselves or paying for a service that manages the complexity on their behalf. These services give customers the energy outcomes they want, rather than just the energy itself. That may be a warm home, a bright working environment or a low carbon production line. With such services, customers could focus on the things that matter to them – running a home or a business – while the energy services sector works on their behalf to transform the complexity of a smart and flexible system into simple customer outcomes.



Households

Households in the future energy system

The future energy system is one where householders' needs for warmth, mobility, lighting and so on are met through low carbon systems, and those systems are managed – by the householder themselves or through service providers - so that they actively enable the functioning of the wider energy system. Action by householders or their service providers will include improvements to the efficiency of the home and to its heating system,

choices about heat sources and consideration of on-site low carbon electricity generation, and the use of smart appliances, heating controls and energy storage within and outside of electric vehicles. These technologies will in turn allow in-home systems, when optimised, to meet the needs of the household while also providing services back to the wider electricity (and in some cases heat) systems.

The current system from the household perspective

Today's system does not send clear signals to households about which actions they need to take and, vitally, in what order. It is difficult for the householder to understand the choices that are on offer, what would work best for them, and also how their choices relate to wider energy system goals.

Households are targeted by policies (Table 1) that encourage action in four areas:

- investment in specific low carbon energy supply technologies;
- investment in energy efficiency;
- making energy bills more affordable; and,
- meeting minimum levels of energy efficiency.

Table 1: The key policies that act on householders and their energy use

Policy	Intended effect
Energy Performance Certificates	<i>Encourage investment in energy efficiency:</i> Inform households about the energy efficiency of a home and how to improve it; link energy efficiency to property value
Energy labels	<i>Encourage investment in energy efficiency:</i> Inform households about the energy efficiency of home appliances
Smart meter roll-out	<i>Encourage investment in energy efficiency:</i> Make energy billing more transparent and build trust with suppliers; provide information that will result in energy savings
Energy price caps	<i>Make energy bills more affordable:</i> Protect households on energy companies' standard variable tariffs or using prepayment meters
Warm Home Discount	<i>Make energy bills more affordable:</i> Provide financial support to households who may struggle to afford energy bills
Winter Fuel Payment	<i>Make energy bills more affordable:</i> Provide financial support to households who may struggle to afford energy bills
The Energy Company Obligation	<i>Make energy bills more affordable:</i> Invest in energy efficiency on behalf of households that do not have the financial resources to do this themselves
Feed-in-tariffs	<i>Encourage investment in low carbon technologies:</i> Incentivise investment in renewable electricity generation technologies via payment for energy generated
Renewable Heat Incentive	<i>Encourage investment in low carbon technologies:</i> Incentivise investment in renewable heat supply technologies via staged payments intended to offset additional costs compared with conventional heating options
Planning and building regulations	<i>Require energy efficiency or low carbon technologies:</i> Require developers and builders of new homes and certain home improvement/refurbishment projects to design and build at or above minimum levels of energy/carbon performance
Minimum energy efficiency standards for appliances, boilers and windows	<i>Require energy efficiency or low carbon technologies:</i> Remove the least energy efficient appliances, lighting, boilers and windows from the market
Minimum energy efficiency standards for Private Rented Sector dwellings	<i>Require energy efficiency or low carbon technologies:</i> Remove the least energy efficient properties from the rental market

The best course of action for a household, ensuring that their own needs are met whilst at the same time contributing to the wider energy system transition, will depend on their particular situation. A single person in a modern city apartment has very different energy needs and opportunities for

action than a couple living in a suburban semi-detached house or family of five living in a 19th century rural cottage. Equally, a household that is primarily motivated by reducing its environmental impact may assess options very differently to one focused on managing the costs of its energy use.

To make the right decisions, therefore, the householder needs to understand their own situation well and be encouraged by policy to make changes that help the system transition.

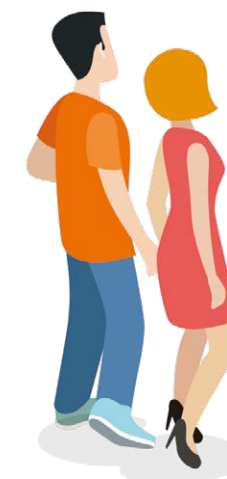
Policy does not currently enable this

- Each policy is focused on a particular output, and a lack of co-ordination between policies together with a lack of consideration of the particular needs of an individual household mean that users are not helped by policy to decide on their best course of action.
- The policies encouraging investment in energy efficiency tend to provide information on options that could be interesting to the 'average' household or explain the efficiency of a particular appliance. They do not take into account the specific household's patterns of energy use or help them decide which energy efficiency measures or appliances they should focus on.
- Policies making energy bills more affordable do not highlight how investment in energy efficiency would also be helpful in this respect, nor do they indicate how households that are financially constrained can find help through other policies.

- Policies encouraging investment in low carbon supply technologies do require a minimum level of energy efficiency but do not take account of the particular home in setting this level or link to suggestions about further energy efficiency investments that could be worthwhile. They do not help the householder decide what the most appropriate technology is for them, instead incentivising investment based on average rates of return.

- The rules around who is eligible for a particular policy incentive or who is exempt from a particular standard are often difficult to navigate, resulting in households that are confused about whether or not a policy applies to them.

- The design of all these policies tends to view the home in isolation, and not as part of the wider energy system. The impact on the system of the changes being encouraged by the policy is rarely encompassed in the policy design.



What needs to change

Policies need to be designed so that it is possible for the householder (or a service provider acting on their behalf) to make the decisions that work for the householder and also support the wider energy system.

A homeowner needs to be able to understand when to invest in fabric energy efficiency, when to upgrade their heating system, when to replace appliances and when to install low carbon electricity generation. The answers will depend on their plans for their home and life and on the needs of the wider energy system.

Any system benefit that the decision delivers should be properly rewarded. This may be via ongoing payments of preferential tariffs for households offering flexibility services; equally it may be through contributions towards initial investment costs from network operators in return for avoided network reinforcement.

Energy services for household customers

Smart technologies will allow a much better understanding of how homes work, and how home energy systems can be optimised to deliver increased comfort while also contributing to carbon emissions reduction and system resilience. All households should be able to benefit from these smarter systems, not only those who have a deep understanding of them and are thus able to navigate the system with little or no help.

Re-designed policy signals, based on the customer perspective, could open up options to offer households integrated packages of energy supply, demand flexibility and demand reduction. Such services could be presented to the household in terms that they understand and relate to: a warm home or major electrical appliances with service level guarantees (for example 'we'll keep your food cold') and a bonus payment if the service provider can manage the appliance operation (within set limits) to contribute to system flexibility.

Businesses

Businesses in the future energy system



Businesses can contribute substantially to the required 80% reduction in carbon emissions by 2050 through energy efficiency, flexibility, heat recovery, fuel switching, connection to a decarbonised electricity supply, Carbon Capture Use and Storage, and circular economy manufacturing methods. Energy efficiency alone has the potential to reduce energy use in businesses by 63 terawatt hours per year, or 39% of current consumption^(iv). Meeting the UK's legally binding climate change targets could also involve at least four gigawatts of industrial and commercial Demand Side Response by 2050^(v).

The more active and engaged business customers undertake such activities on their own behalf. These businesses also propose and develop changes to the markets and services in which they participate where they see a need or an opportunity to do so. Third party service providers bring other business users into the market, meeting their needs and providing system services through bespoke contracting.

The current system from the business perspective

Businesses are targeted by multiple policies (Table 2) which are designed to:

- encourage and incentivise investment in energy efficiency and decarbonisation;
- incentivise investment in low carbon electricity generation and heat supply;
- reward contributions to electricity system balancing and optimisation; and improve system fairness; and,
- meet minimum standards of energy efficiency or carbon emissions reduction.

Table 2: The key policies that act on businesses and their energy use

Policy	Intended effect
Energy Performance Certificates/ Display Energy Certificates	<i>Encourage investment in energy efficiency:</i> Inform businesses about the energy efficiency of the properties they own/ occupy
Energy labels	<i>Encourage investment in energy efficiency:</i> Inform businesses about the energy efficiency of appliances and equipment
Energy Savings Opportunity Scheme	<i>Encourage investment in energy efficiency:</i> Inform decision-makers about opportunities for energy savings through efficiency improvements via regulatory requirement for periodic reports
Streamlined Energy and Carbon Reporting	<i>Encourage energy efficiency and decarbonisation:</i> Raise awareness in decision-makers about energy use and carbon emissions via regulatory requirement for reporting
Enhanced capital allowances	<i>Incentivise energy efficiency:</i> Reduce cost of investment in energy efficiency technologies via tax relief
Business rates exemptions	<i>Incentivise energy efficiency:</i> Reduce cost of investments in CHP via tax relief
Carbon price support exemption	<i>Incentivise energy efficiency:</i> Reduce cost of investments in CHP via tax relief
Carbon price support	<i>Incentivise decarbonisation:</i> Increase cost of generating electricity from high carbon sources
Climate Change Levy	<i>Incentivise decarbonisation:</i> Increase cost of high carbon fuels via tax on fuel bills
Climate Change Levy exemptions	<i>Incentivise decarbonisation:</i> Effectively lower cost of investment in carbon emissions reduction via tax relief linked to sector-wide agreements
EU Emissions Trading Scheme	<i>Incentivise decarbonisation:</i> Increase cost of carbon emissions via allowances that must be purchased

Table 2 continued:

Industrial Heat Recovery Support	<i>Incentivise energy efficiency and decarbonisation:</i> Provide grants and loans to support industrial users to recover and re-use their waste heat
Contracts for Difference	<i>Incentivise investment in low carbon electricity generation:</i> Allows developers and operators building new wind, solar renewable CHP to bid into an auction for subsidy support
Renewable Heat Incentive	<i>Incentivise investment in low carbon heat supply:</i> Reduce cost of renewable heat supply technologies via staged payments intended to offset additional costs compared with conventional heating options
Balancing services	<i>Maintain electricity system stability:</i> Incentivise electricity export via payments to consumers
Firm frequency response	<i>Maintain electricity system stability:</i> Allows users to bid into tenders to receive revenue for changing their demand in response to changes in the national grid's frequency
Short Term Operating Reserve (STOR)	<i>Maintain electricity system stability:</i> Allows users to bid into tenders to receive revenue for changing their use and export to ensure the national grid has sufficient reserves
Distribution system Time of Use tariff	<i>Balance system more effectively:</i> Shift demand and generation via price signals for use and export
Trans-European Replacement Reserves exchanges (TERRE)	<i>Maintain electricity system stability:</i> Allows users to bid into a pan-European auction to receive revenue for changing their use and export to ensure grid operators have sufficient reserves
Balancing mechanism	<i>Balance system more effectively:</i> Allows users to be paid for shifting use and export to help balance the national grid very close to real-time
Transmission Network Use of System Avoided Grid Supply Point Investment Credits	<i>Reduce transmission network investment:</i> Incentivise distribution-network connected generation via payments for electricity exports
Capacity market levy	<i>Optimise system efficiency:</i> Incentivise demand shift away from peaks via levy at peak times
Transmission Network Use of System Triad	<i>Optimise system efficiency:</i> Incentivise demand shift away from peaks via high charges at peak times
Demand Turn Up	<i>Optimise system efficiency:</i> Payments to consumers who increase demand at times of surplus generation
Capacity market	<i>Ensure security of supply:</i> Allows users to bid into an auction to be paid to be available to decrease demand or increase export at times of system stress
Assistance for areas with high electricity distribution costs embedded benefit	<i>Improve system fairness:</i> Incentivises distribution-connected or behind-the-meter generation by allowing them to earn revenue through offsetting a supplier's contribution to these assistance costs
Contracts for Difference and Renewables Obligation exemptions	<i>Improve system fairness:</i> Exempts users with high energy demand from paying energy policy costs
Minimum energy efficiency standards for commercial buildings in the Private Rented Sector	<i>Require energy efficiency or low carbon technologies:</i> Remove the least energy efficient properties from the rental market
Minimum energy efficiency standards for appliances, boilers and windows	<i>Require energy efficiency or low carbon technologies:</i> Remove the least energy efficient appliances, lighting, boilers and windows from the market
Planning and building regulations	<i>Require energy efficiency or low carbon technologies:</i> Require developers and builders of new commercial buildings and certain improvement/refurbishment projects to design and build at or above minimum levels of energy/carbon performance

Business energy users have a limited resource to devote to engaging with the energy system, whether on their own behalf or through payment for services to third party organisations. The available choices, together with their costs and benefits, need to be clear and the task of prioritising between them as straightforward as possible.

The current policy landscape has not been designed from the business perspective and can make these choices unclear and difficult to navigate.

- In some cases there are simply too many different policies targeting the same aim. For example, there are at least six carbon pricing policies or reliefs, each with its own rules. There may also be a lack of linkage between one type of policy and another; for example, there seems to be no link between the new Industrial Energy Transformation Fund and carbon pricing policies.

- These often overlapping policies often have elements of compliance. This can mean that the same information needs to be provided by the user multiple times in slightly different forms. Compliance needs to be as streamlined as possible so that it is effective and easy; this will allow users to move away from tick-box exercises and instead to use the data collected to enable participation.

- Mixed signals from different policies can make it difficult to take a strategic, site-wide approach. How does a supermarket energy manager decide whether to prioritise electrifying their vehicle fleet or putting in a heat pump, adding thermal stores and operating their CHP plant flexibly or recovering heat from chillers? Knowing which of these makes most sense for the business is very difficult; knowing which may offer the most value to the system is impossible. Effective use and appropriate sharing of data so that users can make the right investment choices is crucial.

- Data collection is often not designed to ensure that the benefits customer actions provide to the system can be identified and quantified.

- Some policies present specific barriers for the business energy user. For example, Capacity Market contract lengths deter participation: for a new generator the contract may be for 15 years, but for demand response it is only one year, which means that the amount of time and effort needed to investigate this option is unlikely to be justified by the level of potential reward.

- The lack of a cohesive approach to how users can provide system security services means that users risk making investments that are impacted by subsequent policy changes or that their investments are not as useful as they could be.

What needs to change

“Policies must be developed to focus on outcomes (such as reducing emissions, contributing to security of supply) not outputs (for example, number of measures installed).”

Designed from the perspective of the user, policy should enable business energy users to evaluate which options offer the right solutions for their business needs and align to the wider energy system needs (delivering the desired outcomes of emissions reduction, energy security and cost-effectiveness). Policy needs to align regulations, taxation and incentives to produce a consistent signal and trajectory for how that will develop.

Access to relevant data is vital to help guide investment decision making. Available data needs to include real time energy generation and use, and identify onsite equipment that could be used for potential energy system services. Businesses also need to be able to easily share their data with potential service providers.

Public sector

The public sector in the future energy system

As an energy user, public sector organisations can act in the future energy system in a very similar way to businesses: investing in energy demand reduction, decarbonisation and providing flexibility services to the wider system. Public sector organisations will often form the core users for new heat networks, either through their own properties or as providers of social housing.

The public sector has a second key role in the transition to the future energy system, setting an example to other energy users of what can be done and how. The sector is a major energy user: local councils alone spend around £800 million each year on energy and the public sector as a whole spends over £2.5 billion^(vi). Hence it has the potential to drive market development by demanding higher energy efficiency standards, investing in low carbon supply, and entering into contracts with service providers.

The public sector can also be a rule maker, an enforcer, or an energy service provider. These roles will all be crucial to the development of the future energy system, but they are not the focus of this report. These roles will be discussed in the detailed policy reports that will be published by the ADE in 2019.

The current system from the public sector perspective

Public sector energy users are faced with many of the same policy signals as businesses (see Table 2), and hence many of the same issues. In addition, there are a number of policies that act specifically on public sector organisations (Table 3).

Table 3: Additional energy policies acting specifically on public sector organisations

Policy	Intended effect
The Public Services (Social Value) Act	<i>Require consideration of economic, social and environmental issues in local government procurement decisions:</i> A legal requirement for local authorities to consider improvement of local economic, social and environmental well-being in all their procurement decisions
Heat Networks Development Unit	<i>Support the development of a self-sustaining market in heat networks:</i> Support for the planning and feasibility study stages of heat network development by local authorities
Heat Networks Investment Project	<i>Support the development of a self-sustaining market in heat networks:</i> Financial support for the commercialisation and construction stages of heat network projects
Salix Finance	<i>Encourage investment in energy efficiency:</i> Provide low cost finance and expert advice to support public sector investment in energy efficiency measures
Promoting the use of procurement and energy contracting models(e.g. RE:FIT)	<i>Encourage investment in energy efficiency and low carbon energy generation:</i> Using Energy Performance Contracting to enable public sector organisations to finance energy efficiency and low carbon energy generation projects
Greening Government Commitment	<i>Strongly encourage carbon emissions reductions from central Government departments:</i> A target for a reduction in central Government carbon emissions
Emissions reduction target for the wider public sectors	<i>Encourage carbon emissions reductions from the wider public and higher education sectors:</i> A voluntary target for carbon emissions reductions from public sector organisations

Public sector energy users are perhaps more constrained than others in their choice of what investment and action to prioritise, given they are spending public money, are directed by a framework of mandatory and voluntary targets, and have a set of duties and powers. Clear policy signals are needed if they are to choose to act in the way the system needs them to. In addition to many of the issues set out for business energy users, the policies specifically targeting the public sector cause a number of problems:

- Inconsistent policy drivers. The signals sent to public sector users often vary over time. For example, between 2008 and 2011, local government’s funding settlement with central government was linked to a series of indicators, including carbon emissions. These were then removed and there was little to replace them. The latest voluntary emissions reduction targets do not require action and are not specifically linked to funding sources.
- Some policies, such as the Public Services (Social Value) Act, are very wide ranging and the place of energy action within them may not be clear. This, combined with a wide array of procurement frameworks and options, makes the choice of how to implement procurement goals difficult.

- Strategic drivers for public sector action on energy are patchy. Central government has carbon emissions reduction targets, but for the wider public sector these are merely voluntary. Eighty per cent of local authorities were not included within the CRC Energy Efficiency Scheme and public sector consumers are generally exempt from the Energy Saving Opportunities Scheme. With limited investment resources, this lack of a clear driver limits action from the sector as an energy user.
- There are a number of funding and finance sources for energy-related actions available to the public sector (for example, Heat Networks Investment Project funding, Salix Finance, or Energy Performance Contracting). However, these policies can fail to provide public sector energy users the capacity to take up the opportunities. Challenges can include a lack of resources to access funding or limited understanding of how to negotiate contracts with private sector energy services companies. Also, the range of funding options available can send mixed signals to public sector consumers, making it hard to identify and act on priority actions.

What needs to change

“Clear and consistent signals and trajectories that encourage action and enable leadership by the sector are vital.”

Policy needs to be developed from the perspective of the public sector energy user, taking into account the multiple objectives and resource constraints. Clear and consistent signals and trajectories that encourage action and enable

leadership by the sector are vital. Public sector energy users need to understand the benefits of taking the appropriate energy actions and be rewarded for their contributions to the energy system transition.

Principles for future policy

To deliver a system where energy users are able to participate in and benefit from the transition to a low carbon economy, there has to be a re-think about how policy and regulation are designed. The future system must meet users' needs, be seen to be fair, and re-build user trust. Policy (taxation, regulation and incentives) needs to be integrated to enable energy users to deliver the outcomes of low carbon, security and affordability, rather than being designed to deliver against a dedicated policy silo.

Later publications by the ADE will include specific proposals for policy design, but here we set out the principles that we think should be followed:

- Put the consumer perspective at the heart of the design of the new policy and regulatory framework. Test how the suite of policies will create a collective signal that clearly indicates to users the best course of action.

- Let users compete. Allow energy users to play a part in what has traditionally been delivered by a centralised system. If user actions can offer security of supply, lower carbon emissions or reduced network investment at lower cost, then this should happen. Policies that exclude users risk increasing the costs of the system.
- Reward customers who provide a service to the system. Users that offer support to the system should be paid the price of that service.
- Be clear about what customers can do, and about what the system needs from them – helping keep system costs down, maintaining secure energy supplies and decarbonisation. This information should be clearly communicated to customers and their service providers.
- Regulate for outcomes, not outputs. Innovation will continue to be crucial in a transitioning system, and it must be encouraged. This also means being less prescriptive: policy should set the boundaries and let the market deliver within these boundaries.
- Ensure that the public sector delivers leadership on the transition to the system that we want.
- Ensure that consumers have access to good data on energy, and are able to share this easily with service providers. Good data will be critical to optimising a flexible system, and the sector must work with customers to rebuild a relationship of trust with energy data and with those that use it.



**By putting the energy user at the centre,
we can deliver a local, low carbon and cost
efficient system**



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i Energy Institute, 2017, Energy Barometer (https://knowledge.energyinst.org/_data/assets/pdf_file/0017/304451/Energy-Barometer-2017.pdf)

ii National Infrastructure Commission, 2016, Smart Power (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/505218/IC_Energy_Report_web.pdf)

iii UKERC, 2017, Unlocking Britain's First Fuel: the potential for energy savings in UK Housing; Policy Exchange, 2017, Clean Growth:how to boost business energy productivity

iv BEIS, 2016, Building Energy Efficiency Survey

v National Grid, 2018, Future Energy Scenarios

vi Local Government Association, 2017, Energising procurement: National energy procurement category strategy and Carbon Trust, 2013, Breaking Down Barriers to Public Sector Energy Efficiency Implementation (<https://www.carbontrust.com/news/2013/10/breaking-down-barriers-to-public-sector-energy-efficiency-implementation/>)



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