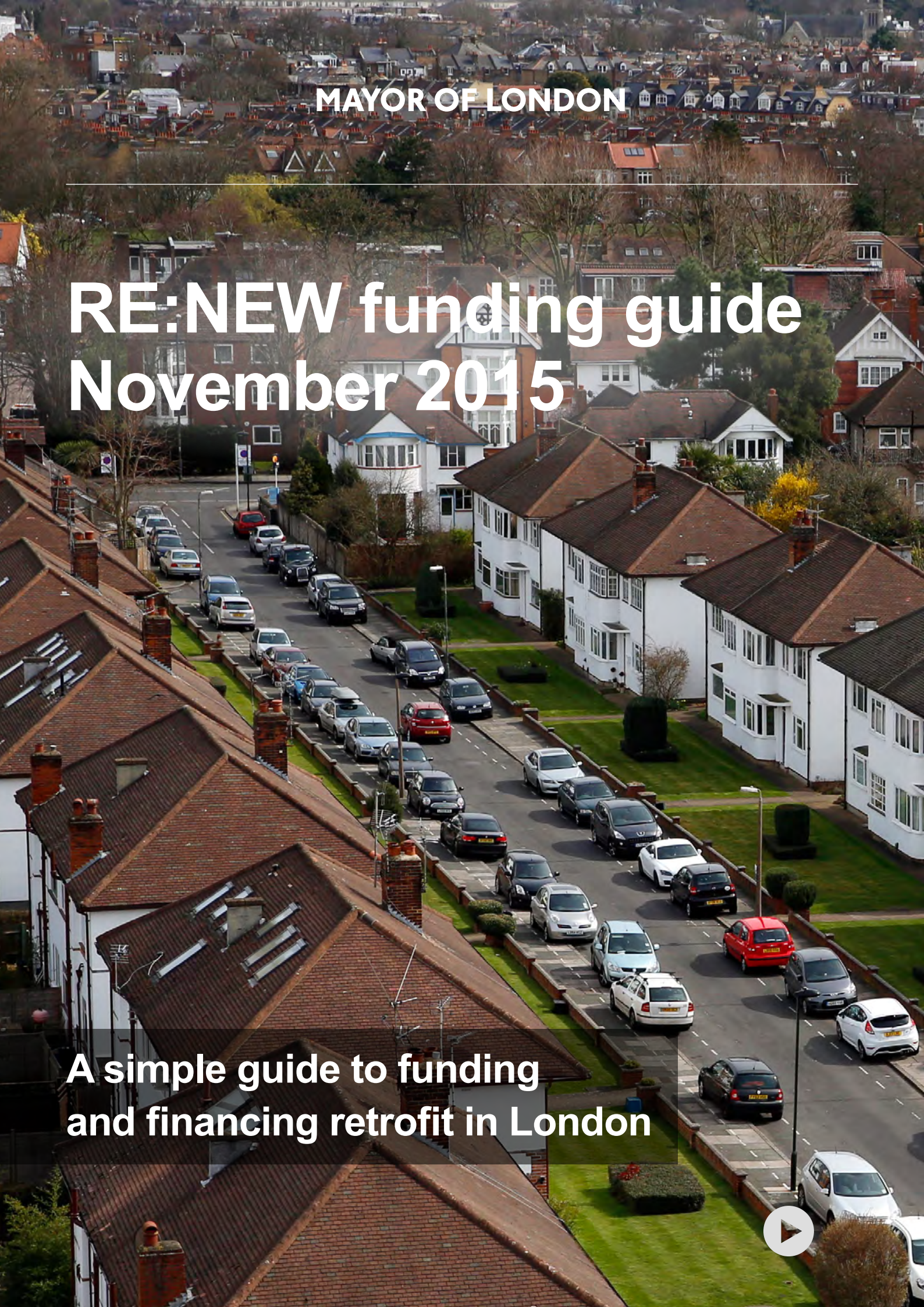
MAYOR OF LONDON

RE:NEW funding guide November 2015



A simple guide to funding and financing retrofit in London

How to use this guide

This guide is targeted at professionals involved in housing management and retrofit. Its purpose is to:

- provide guidance on how to build a business case to secure investment in retrofit
- raise awareness of the various sources of funding and finance available for different types of projects

As funding rules and opportunities are constantly changing, this guide does not seek to provide an in-depth explanation of all available funding. Where possible, hyperlinks have been provided to enable you to obtain further detail on each source of funding.

This guide will be updated on a regular basis to ensure that it remains as accurate as possible. The RE:NEW Support Team can also provide you with further advice and support on funding, as required. Please sign up to the Support Team bulletin by e-mailing **renew@london.gov.uk** to receive regular funding updates.

The guide is divided into seven sections:

New funding opportunities available

Click each section to easily navigate around the funding guide

The RE:NEW programme

RE:NEW is the Mayor's award-winning programme to help make London's homes more energy efficient.

The aim of the Mayor's RE:NEW programme is to reduce carbon emissions and energy bills in London's homes. These account for around 36% of the capital's total carbon footprint. RE:NEW helps organisations such as London boroughs, housing associations, and universities implement retrofit projects and alleviate fuel poverty through:

- **the RE:NEW Support Team**, an expert team providing the end-to-end support needed to get projects up, running and successfully implemented
- **the RE:NEW framework of suppliers**, which saves time and resources for organisations that are procuring retrofit services and works

RE:NEW is helping to achieve the Mayor's ambitious target to cut carbon emissions in the capital by 60 per cent by 2025.

Established in 2009, to date RE:NEW has helped improve over 113,000 of London's homes, saving around 31,800 tonnes of CO_2 a year. Coupled with wider market delivery, over 500,000 homes in London have been retrofitted.

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1. Welcome

1.0 Welcome

The retrofit funding landscape can change rapidly from one month to the next; new funds are introduced, old ones withdrawn and funding rates and criteria altered. At a time of constrained public finances, changing policy and varying levels of funding, it can be difficult to make the business case for large-scale investment in retrofit.

Despite the fluidity of the funding landscape, retrofitting the current housing stock remains essential to reducing carbon dioxide emissions in the domestic sector, relieving pressure on household incomes, and addressing fuel poverty and health risks associated with cold homes, as well as reducing maintenance requirements and rent arrears for landlords.

Therefore, while the current funding landscape is seen by many as a challenge to retrofit projects, it arguably presents a strong opportunity to get retrofit right.

By making the best use of available resources and planning projects carefully to maximise the opportunities for retrofit, many organisations are benefiting from adopting a strategic approach over an opportunistic one.

The table in the next section provides a quick reference summary of the funding currently available and what type of projects each source of funding is suited to, with further details of the funding streams available following throughout the guide.

2. Funding opportunities

2.0 Autumn 2015 update

There are a number of new funding streams available this quarter, although it is important to note most of these new streams are available through the Horizon 2020 funding call from the European Commission.

These funding streams typically have short windows, with six of those newly listed here due to close in January, three in February and a further three in April 2016.

Additionally, grant funding from Innovate UK for technical feasibility studies in collaboration with business is due to close in November 2015, and organisations are encouraged to act on these schemes urgently.

You can see the full list of funding sources available in the following pages.

Contact the RE:NEW Support Team for further advice and support on funding.
Email: renew@london.gov.uk

Key

New sources of funding

Expired sources

Funding source	Accessible to whom	Type of funding	Measures funded	Available until	More information
Community generation fund	Community groups	Loan	Renewable energy	Ongoing	Click here for more information
ECO CERO	All housing tenures	Grant funding	Energy efficiency measures	March 2017	Click here for more information
ECO CSCO	Social housing providers (but funding covers all tenures)	Grant funding	Energy efficiency measures	March 2017	Click here for more information
ECO HHCRO	Private housing	Grant funding	Energy efficiency measures	March 2017	Click here for more information
Energy company charitable trusts	Fuel poor households, third sector organisations	Grant funding	Measures to reduce fuel poverty, including debt relief	Ongoing	See section 5.2.4
ECO funding	All	Grant funding	Energy efficiency measures	March 2017	Speak to the RE:NEW Support Team
European Local Energy Assistance (ELENA)	Local and regional authorities	Grant funding	Renewable energy and energy efficiency	2020	Click here for more information
European Regional Development Fund (ERDF)	All	Grant funding	Energy efficiency in buildings, renewable energy and smart grids	2020	Click here for more information (European Commission)
Feed-in Tariff (FIT)	All	Generation based incentive	Small to medium scale renewables generating electricity: • anaerobic digestion • hydro • micro CHP • solar PV • wind	Ongoing	Click here for more information
Gas Network Funding	All	Grant funding	New gas connections	Ongoing	Click here for more information (National Grid)
Green deal	All housing tenures	Loan	Energy efficiency measures	Ongoing	Click here for more information
Horizon 2020	All	Grant funding	Research and innovation, including in low carbon buildings	Ongoing	Click here for more information
Horizon 2020	All	Grant funding	Supporting accelerated and cost-effective deep renovation of buildings through Public Private Partnership	January 2016	Click here for more information

Funding source	Accessible to whom	Type of funding	Measures funded	Available until	More information
Horizon 2020	All	Grant funding	Socio-economic research on consumer's behaviour related to energy efficiency	January 2016	Click here for more information
Horizon 2020	All	Grant funding	Behavioural change toward energy efficiency through ICT	January 2016	Click here for more information
Horizon 2020	All	Grant funding	Models and tools for heating and cooling mapping and planning	January 2016	Click here for more information
Horizon 2020	All	Grant funding	New heating and cooling solutions using low grade sources of thermal energy	January 2016	Click here for more information
Horizon 2020	All	Grant funding	Standardised installation packages integrating renewable and energy efficiency	January 2016	Click here for more information
Horizon 2020	All	Grant funding	Developing the next generation technologies of renewable electricity and heating/cooling	February 2016	Click here for more information
Horizon 2020	All	Grant funding	Development of next generation biofuel technologies	February 2016	Click here for more information
Horizon 2020	All	Grant funding	Social Sciences and Humanities Support for the Energy Union	February 2016	Click here for more information
Horizon 2020	All	Grant funding	Next generation innovative technologies enabling smart grids, storage and energy system integration with increasing share of renewables	April 2016	Click here for more information
Horizon 2020	All	Grant funding	Demonstration of smart grid, storage and system integration technologies with increasing share of renewables	April 2016	Click here for more information
Horizon 2020	All	Grant funding	Smart Cities and Communities lighthouse projects	April 2016	Click here for more information
Horizon 2020	All	Co-ordination & Support Actions	Project Development Assistance	September 2015	Click here for more information
Horizon 2020	All	Co-ordination & Support Actions	Development and roll-out of innovative energy efficiency services	September 2015	Click here for more information

Funding source	Accessible to whom	Type of funding	Measures funded	Available until	More information
Horizon 2020	All	Co-ordination & Support Actions	Increasing capacities for implementation of energy efficiency measures in industry and services	September 2015	Click here for more information
Horizon 2020	All	Co-ordination & Support Actions	Engaging private consumers towards sustainable energy	September 2015	Click here for more information
Horizon 2020	All	Co-ordination & Support Actions	Engaging and activating public authorities	September 2015	Click here for more information
Horizon 2020	All	Co-ordination & Support Actions	Overcoming market barriers and promoting deep renovation of buildings	September 2015	Click here for more information
Innovate UK	Business led with public sector collaboration	Grant funding	Technical feasibility studies	November 2015	Click here for more information
LIFE	All	Grant funding	Climate change adaptation and mitigation measures	Ongoing	Click here for more information
London Energy Efficiency Fund	Public, private sector or joint venture entities	Loan	Energy efficiency and renewable energy in buildings	Ongoing	Click here for more information
National Grid Affordable Warmth Solutions Innovation Award	All	Grant funding	Innovative projects aiming to tackle fuel poverty in the local area	Annual (first competition run in September 2014)	Click here for more information
Planning related funding: Section 106	Local authorities	Grant funding	Varies according to wording of S106 agreement and local planning policy	Ongoing	Click here for more information Refer to local planning policy
Public Works Loan Board (PWLB)	Local authorities	Loan	Anything – but usually capital works	Ongoing	Click here for more information

Funding source	Accessible to whom	Type of funding	Measures funded	Available until	More information
Renewable Heat Incentive (RHI)	All	Generation based incentive	Renewable heat technologies: • air source heat pumps • biomass boilers • biogas combustion • geothermal • ground source heat pumps • solar thermal • water source heat pumps	Ongoing	Click here for more information (Ofgem – Domestic) Click here for more information (Ofgem – Non-Domestic)
Third party finance	All	Invest to save	LED / efficient lighting / Solar PV	Ongoing	Numerous offers are available both for solar PV roof rental schemes and LED lighting hire-purchase schemes. The RE:NEW Support Team can advise further
Water companies	All	Free measures	Water efficiency measures including: • tap aerators • save-a-flush devices • shower timers • water saving shower heads	Ongoing	Click here for more information (Affinity Water) Click here for more information (Essex & Suffolk Water) Click here for more information (Sutton and East Surrey Water) Click here for more information (Thames Water)

3. Social housing

3.0 Social housing

Over the years central government has developed several funding schemes to finance retrofit in the social housing sector. This funding, in the form of direct government grants or through energy supplier obligations such as the Energy Company Obligation (ECO), has been scaled back in recent years – increasing the importance of developing a sound business case to help secure internal funding for retrofit.

This section outlines how to develop the business case, including:

- the importance of accurate housing stock data and how to analyse it
- how existing programmes can be optimised to create better value for money
- targeting low and no cost measures
- making the best use of funding opportunities

3.1 Developing the business case

Any successful project starts with a well thought through business case with clear objectives, a risk mitigation strategy and sound financial underpinning. It is important to have a clear strategy for retrofit that sets this out – this will help you access funding, be it from internal budget allocations or external funding programmes. The key elements for you to consider are itemised below.

How is your work aligned with other organisational priorities?

Is energy efficiency an organisational objective in itself, or are there other/ additional reasons, such as health or fuel poverty, operational cost savings, or the creation of local jobs?

By aligning retrofit with other priorities and programmes, it will be easier to obtain organisational support, secure budgets and deliver works.

What are your desired outcomes?

These could be an increase in Standard Assessment Procedure (SAP) rating, for example, or a reduction in fuel poverty or maintenance costs. Whatever the target, having a clear benchmark and set of objectives will allow progress to be estimated (which will help in terms of allocating resources) and measured.

How will your work be delivered?

This might be through existing programmes and contractors or with new ones.

You will need an understanding of necessary approvals, timescales, options for procurement, and availability of resources for delivery.

The RE:NEW Support Team can assist you to develop your business case, whether you need help with data analysis, advice on making existing programme budgets go further through programme optimisation, or support in securing funding.

Further information on all of these can be found in the following sections.

3.2 Making the best use of housing stock data

Having good quality data on your housing stock and analysing it in the right way will provide you with a better understanding of your retrofit requirements, identifying the most cost effective measures to make your resources go further and helping to refine and shape your strategy.

It will also make it easier to attract funding, as it will provide a thorough understanding of what needs to be done, the level of investment required, and the resulting impact on SAP ratings. And it can also help you to plan and schedule works in a way that minimises costs and disruption.

A useful data set for retrofit purposes should contain, but not be limited to, the following elements:

- Unique Property Reference Number (UPRN)
- building year, type
- SAP rating
- Energy Performance Certificate (EPC) worksheets
- heating system type and age
- communal or individual boiler data (where appropriate)
- type and age of:
  - roof
  - windows
  - doors
  - kitchens
  - bathrooms
- insulation measures
- details of previous retrofit works

Stock data analysis provides a sound basis for assessing priorities, defining opportunities and identifying how funding may be used to achieve the greatest impact. Depending on your priorities, you might also seek to augment this with other information.

A thorough analysis of repairs data and tenant complaints, for example, might highlight specific technical issues in properties and therefore how retrofit measures could help reduce maintenance costs.

3.3 Optimising existing programmes to create better value for money

Programme optimisation is the process of analysing planned programmed works to consider how the energy performance of buildings can be improved in a more cost-effective way. This might include installing additional retrofit measures alongside planned measures to make the most of time spent in a property and reduce installation costs, for example making use of scaffolding to install solar PV at the same time as external wall insulation.

It might also mean specifying existing programmes in a way that means retrofit measures can be installed at a lower cost later on. An example of this might be to specify a roof replacement with longer eaves, to avoid having to extend eaves at a later date when external wall insulation is installed.

Some key outcomes of the programme optimisation process could include:

- making the most of site surveys to identify retrofit measures
- scheduling works in a way that allows measures to be installed more cost effectively and reduces disruption to tenants
- scheduling works to prioritise less energy efficient dwellings to minimise the risk of fuel poverty
- ordering works in a way that increases the funding available
- improving product specification to help reduce tenant utility bills, for example specifying higher efficiency heating systems or water saving sanitaryware

3.4 ECO funding for social housing

The Energy Companies Obligation (ECO) is a statutory scheme established by the Gas and Electricity Order 2012, which imposes a legal obligation on larger energy suppliers to deliver energy efficiency measures to domestic energy users. ECO is not a grant scheme, but a target placed on energy companies to deliver CO_2 savings and fuel bill savings.

The ECO Scheme is administered by Ofgem, and two of ECO's three funding streams are available for social housing:

- **Carbon Emissions Reduction Obligation (CERO)** – this funding prioritises solid and cavity wall insulation, loft insulation and district heating
- **Carbon Saving Community Obligation (CSCO)** – this funding is targeted at insulation measures and connections to district heating systems in low income and rural areas

Visit the Ofgem website for the full list of ECO measures: https://www.ofgem.gov.uk/publications-and-updates/energy-companies-obligation-eco-measures

Each energy supplier is responsible for meeting its share of the obligation, so there is no single application process for funding. All funders are looking to secure the most cost effective ways of delivering their ECO obligations and need to be confident about a partner's ability to deliver. RE:NEW engages with ECO providers regularly to identify current opportunities in the pipeline.

Full guidance can be found here: https://www.ofgem.gov.uk/environmental-programmes/energy-company-obligation-eco/eco-guidance

3.4 ECO funding for social housing

The availability of good data and a well-developed delivery programme are therefore critical to securing ECO funding. Energy suppliers can choose how they reach their ECO targets and who they work with to deliver it, for example:

- through their own delivery arms (i.e. managed schemes, where the supplier takes on the funding and delivery)
- through bilateral partnerships (which could be funding-only, where the supplier solely provides the funding and the project is delivered by the local authority or housing association)
- through brokerage (a market-based mechanism where projects are offered to suppliers through anonymous auctions – this is a seldom-used route)
- through third-party delivery agents, who are contracted to the ECO provider to deliver a given amount of CO_2 savings at a set price

The obligated energy suppliers will have to fulfil their targets by 31st of March 2017, but most suppliers are aiming to have all measures installed by the end of 2016.

While the suppliers have made substantial progress in delivering measures, no supplier has completed their entire obligation and there is still ECO funding available.

Given the timescales set out above, anyone seeking to deliver a programme involving more difficult retrofit measures such as solid wall insulation should engage a funding partner as early as possible.

We recommend speaking to a number of potential funders in order to compare offers and gain a good understanding of different conditions and requirements.

The RE:NEW Support Team can help you identify where ECO funding is applicable, develop the project and ensure you are achieving value for money through ECO funding that may be available.

3.5 Other funding sources

3.5.1 London Energy Efficiency Fund (LEEF)

LEEF is a sub-fund of the London Green Fund and has £100m to invest by December 2015 with £50m from the London Green Fund and up to £50m in additional private finance. Loans can be anything from £1m to £20m and all projects need to be approved by the Greater London Authority (GLA).

LEEF is a loan fund that can finance a broad range of energy conservation and carbon reduction measures that provide a financial saving to the borrower. Loans are flexible, but for housing providers, the fund may be best suited to renewables programmes, district heating or energy efficiency upgrades in communal areas or sheltered accommodation.

The fund can lend to public, private sector or joint venture entities, including Energy Service Companies (ESCos), but the projects must involve eligible works to public sector owned or occupied buildings. Projects need to be based on a specific premise, or be related to a specific group of buildings, for example a university campus, hospital site or housing estate.

Visit the website for further details of the LEEF:
http://www.leef.co.uk/

3.5.2 Public Works Loan Board and the Housing Revenue Account

The Public Works Loan Board (PWLB), is managed by the UK Debt Management Office, one of HM Treasury's executive agencies, and provides loans to local authorities in Great Britain, primarily for capital projects. Local authorities can borrow money from the PWLB at interest rates lower than market rates.

Loans can be fixed-rate or variable rate, each with a defined set of repayment options. Fixed rate loans must have a final repayment a maximum of 50 years after the loan was taken out, while variable rate loans must be repaid in full within 10 years.

Under the prudential capital finance system, local authorities are free to borrow for any capital expenditure without government consent, provided they and their auditors are satisfied they can afford to meet the borrowing costs. Authorities have a statutory duty to make an amount of debt provision which the authority considers prudent – the minimum revenue provision.

The guidance on determining a prudent level of minimum revenue provision is available on the Department for Communities and Local Government (DCLG) website:
https://www.gov.uk/government/publications/capital-finance-guidance-on-minimum-revenue-provision-third-edition

Visit the UK Debt Management Office website for further information on the Public Works Loan Board:
http://www.dmo.gov.uk/index.aspx?page=PWLB/Introduction

3.5 Other funding sources

3.5.3 Gas network funding

Funding for new gas connections is available from both of London's gas network operators. National Grid operate north of the Thames, while Southern Gas Networks (SGN) operate south of the river. Funding is available for household that are defined as fuel poor.

The current criteria can be found on the websites of the two gas network providers:

Southern Gas Networks
https://www.sgn.co.uk/connect/

National Grid
http://www.nationalgrid.com/uk/

Funding for each individual property is capped, although it is anticipated that it will be able to completely cover the costs of a new connection for most properties. The funding is restricted for:

- new gas connections to consumers not currently connected to the National Grid gas distribution network
- free or discounted gas central heating systems (qualifying households only)

Advice is also available to help choose the appropriate tariff.

3.5.4 Planning-related funding: Section 106

Both Section 106 of the Town and Country Planning Act (S106) and the Community Infrastructure Levy (CIL) are so-called developer contributions – i.e. obligations on developers to mitigate any adverse impacts the development may have on its surroundings.

S106 obligations focus on site-specific mitigation and any contributions must be necessary to make the development acceptable in planning terms, directly related to the development, and fairly and reasonably related in scale and kind to the development.

A number of local authorities have used S106 to secure financial contributions in lieu of the development meeting the required on-site emission reduction targets.

These contributions could be used for a number of local CO_2 reduction projects, including energy efficiency improvements in existing buildings. It is not possible to pool more than five S106 contributions towards a single project.

Visit the Planning Advisory Service website for more informatio http://www.pas.gov.uk/s106

3.6 Free water measures

All of London's water companies offer free water saving measures to households, regardless of tenure, to help them reduce water consumption.

These measures are straightforward to install alongside other works and may help tenants realise substantial utility bill savings:

- water-saving shower heads
- tap aerators (which mix air into the water stream coming out of a tap)
- shower timers
- devices to reduce the amount of water used in toilet flushes

The RE:NEW Support Team is helping organisations in London to integrate water efficiency into their planning. The support is bespoke to each organisation and includes services such as opportunity analysis, programme optimisation and the free measures and services available.

Contact the RE:NEW Support Team to find out more.
Email: RENEW@London.gov.uk

London is served by four water suppliers:

Thames Water (most of London)
http://freebies.thameswater.co.uk

Affinity Water (parts of North London)
www.affinitywater.co.uk

Essex and Suffolk Water (in North-east London)
https://www.eswater.co.uk/your-home/saving-water/water-saving-kit.aspx

Sutton and East Surrey (south London)
http://www.waterplc.com/pages/home/saving-water/free-water-saving-packs/

Some companies also offer training to staff (e.g. surveyors, tenant liaison officers etc.) to install measures.

4.
Invest to save opportunities

4.0 Invest to save opportunities

There are a number of financial benefits to landlords that can be linked to retrofit, including maintenance savings and reduced rent arrears.

There are also opportunities for landlords to invest in measures that deliver savings directly to them. In particular, this section considers:

- solar PV
- renewable and low carbon heating
- low-energy lighting

Given the limited opportunities for wind and small scale hydroelectricity in London, this document does not discuss these technologies.

The RE:NEW Support Team can assist by helping to identify these opportunities within a housing stock and building the business case for investment.

By helping to eliminate any uncertainty over the likely return, we can provide landlords with the confidence to invest.

4.1 Making best use of energy consumption data

To understand the nature and scale of these opportunities, it is first necessary to have a good understanding of energy consumption data for communal areas of a housing stock (e.g. sheltered housing) or communal systems (e.g. communal heating).

Analysis of data, using techniques such as benchmarking and regression analysis, will help you understand where your energy consumption is higher than necessary.

In many cases, it may be possible to make savings on operational costs relatively cheaply and quickly, for example through obtaining accurate bills, installing smart meters or automatic meter readers and adjusting heating controls.

This may free up revenue that could be used elsewhere in your organisation, for example to part-fund tenant engagement activities such as energy efficiency advice.

4.2 Solar photovoltaic (PV) panels

Solar PV is a straightforward and reliable technology, and steady improvements in performance are being made in parallel with reducing technology costs.

Support for small-scale and building-mounted solar PV technologies is provided in the form of the Feed-in Tariff (FIT).

This provides:

- a **generation tariff**, which pays the owner of the installation a guaranteed fixed amount for each kilowatt hour (kWh) of electricity generated. The tariff is set at the point at which the installation is registered. It is indexed to inflation (RPI) and lasts for 20 years. The tariffs available for new installations are reviewed on a quarterly basis and may be subject to periodic digression (i.e. a reduction in the tariff)
- an **export tariff**, which is a fixed amount paid to the owner of an installation for each kWh of electricity generated that is exported to the grid. This tariff is also indexed to inflation

Where electricity is consumed at the point it is generated, the occupants of the building to which the installation is connected may also benefit from a reduced electricity bill.

Whilst uncertainty over the long-term future of the FIT exists, costs have continued to drop steadily.

With careful management and consideration, a valuable window of opportunity remains to secure a stable long-term revenue stream from PV.

The RE:NEW Support Team provides a specific solar PV service and can assist with some of the most important factors in getting solar right.

To set the scope of a solar PV programme, the following questions should be addressed as a minimum before and during as a feasibility assessment.

Consideration	Questions
Objectives:	Are your objectives purely financial, or is installing PV also a means to achieve further objectives, e.g. reduce tenants' fuel bills, reduce CO_2 emissions, generate revenue to invest in further retrofit measures?
Return:	What is the minimum rate of return you require?
Property type:	Should you include street properties, which typically provide a lower return but help to reduce fuel poverty and SAP rating, or focus on blocks of flats where the installation can be connected to the landlord's supply, and return are typically higher?
Revenue vs. return:	Is your aim to generate as much revenue as possible, or to obtain the highest rate of returns possible?
Asset condition and disposals:	Have you given consideration to the likely life-cycle of an asset, particularly the roof and maintenance programmes? Any roof replacements in the near future might provide a good opportunity to install solar PV at a reduced cost for example.

4.2 Solar photovoltaic panels (PV)

Financing PV projects

A number of options exist to finance solar PV projects, including for organisations who do not have capital available to invest. Some of the options are set out in the table below.

Finance source	Advantages	Disadvantages
Reserves:	• generates higher return on investment • creates predictable revenue stream	• need to consult existing lenders on properties where installations occur • limited availability of capital means projects likely to be smaller
Prudential borrowing:	• generates good return on investment • low cost finance options available • creates predictable revenue stream	• need to consult existing lenders on properties where installations occur • project size limited by borrowing capacity
Third party finance:	• no cost to organisation • fewer restrictions on project size • third party has financial risk	• limited revenue opportunities as third party receives benefits • need to consult existing lenders on properties about installation and roof leasing arrangements
Joint venture/ SPV:	• ability to combine own funds/borrowing with third party finance to deliver increased scale • potential to partner with other organisations and share benefits	• need to consult existing lenders on properties • longer lead in time to set up
Community investment:	• offers chance to tenants and wider community to invest	• likely to work at smaller scales only • need to consult existing lenders on properties

The RE:NEW Support Team has carried out a number of feasibility studies for organisations in London and are on hand to provide comprehensive information on the risks and opportunities of solar PV projects.

The RE:NEW framework can also be used to run solar specific mini-competitions to secure value for money. For further information, please contact the team. Email: RENEW@London.gov.uk

4.3 Heating technologies

The Renewable Heat Incentive (RHI) helps to support the installation of renewable heat technologies, for example solar thermal, heat pumps and biomass heating, in existing buildings.

It works in a similar way to FITs, though there are some key differences:

- the RHI is funded directly from the Treasury, rather than through fuel bills, and is split into two parts – the domestic RHI[1] and non-domestic RHI[2]
- installations in new build housing are not eligible for the RHI
- Domestic RHI payments are based on a deemed output rather than actual generation
- Domestic RHI payments are made over a seven year period, but payments are intended to account for 20 years of heat generation

The Domestic RHI is primarily targeted at properties that are not connected to the gas grid and there is greater scope for fuel bill savings and a higher return on investment. However, there is no reason why properties on the gas network could not benefit.

The likely return will vary according to the technology used, building type and likely heat demand. The RHI rates for each technology are subject to review each quarter.

Ofgem has published an FAQ document aimed at social and private landlords which is a good starting point when considering renewable heat technologies:

https://www.ofgem.gov.uk/environmental-programmes/domestic-renewable-heat-incentive-domestic-rhi/registered-social-and-private-landlords-and-domestic-renewable-heat-incentive

[1] https://www.ofgem.gov.uk/environmental-programmes/domestic-renewable-heat-incentive

[2] https://www.ofgem.gov.uk/environmental-programmes/non-domestic-renewable-heat-incentive-rhi

4.4 Lighting

Replacing existing lighting with high-efficiency fluorescent lamps or LEDs and upgrading lighting controls in the communal areas of flats or sheltered housing can be one of the most straightforward ways of reducing energy bills and maintenance costs.

This type of project usually pays back within 1-5 years based on energy bill savings alone, but maintenance savings can also be substantial as new fittings have a much longer lifespan and are more reliable.

When deciding whether to go ahead with a lighting upgrade it is important to understand the following as a minimum:

- **baseline** – current lighting costs, energy consumption and running hours
- **output of replacement fittings** – do they provide the same level of light?
- **life-cycle cost of each current fitting compared to the replacement** – including installation, running, lifetime and replacement costs
- **current control set up compared with what is needed** – e.g. do lights need to be on permanently or could daylight controls or passive infrareds (PIRs) be used?
- **maintenance costs**

While lighting upgrades are a relatively straightforward, low cost and reliable invest to save initiative, if you do not want to commit any money towards funding these upgrades it is worth noting that there are also a number of fully financed LED installation offers on the market that have no up-front costs.

However, the terms of these offers can differ significantly, so it is always worth considering a minimum of three offers to determine which offers best value.

5. Private housing

5.0 Private housing

Of London's 3.4m households[3], almost 2.7m (78%) are in the private sector, with 1.7m owner-occupiers and 1m renters. There are almost 800,000 households living in social housing.

More than half of homes (59%) in the private rented sector were built before 1965, and a third (32%) were built before 1919. This age profile contributes to the UK's housing stock being amongst the least efficient in Europe, and helps to outline the scale of the retrofit challenge in London.

Without fully engaging the private sector, we will struggle to meet targets for fuel poverty and CO_2 emissions.

At the same time, retrofit in the private sector offers significant wider benefits. These include job creation, reduced risk of cold-related health conditions, and an improved, more comfortable housing stock that costs less to heat.

This section sets out some of the factors to be considered when setting up a private sector energy scheme.

The RE:NEW Support Team is also able to assist scheme development in terms of data analysis, marketing, targeting, help in securing funding and procurement.

[3] Source: English Housing Survey 2013-2014. To compare: of the 22.6 million households in England, 18.7m (82%) are privately owned, of which 14.3m are owner occupiers and 4.4m private sector renters. 3.9m households in the UK live in social housing.

5.1 Data and targeting

Experience from London's previous retrofit schemes indicates that targeted approaches with specific messages tend to work better than more general promotions, given the wide range of motivations for uptake of retrofit packages.

What data is available on private sector housing?

Potentially useful sources of data include Energy Performance Certificate data and Experian data, but there is also a great deal of open source data including Department of Energy & Climate Change (DECC) Lower and Middle Super Output (LSOA) data and census data, as well as information you might have in-house such as benefits data.

What are your objectives?

An area-based scheme may require a close analysis of housing tenure, typology and energy performance to select an area, while a scheme aimed at reducing fuel poverty might require more targeted engagement.

Very different approaches might be required depending on your objectives.

What tenure are you targeting?

Tenure is one of the most important factors in whether a household takes up retrofit measures or not, with landlords often unwilling to sanction improvements that they perceive as only benefiting the tenant. Retrofit in the private rented sector requires an approach that appeals to landlords as well as tenants.

Who are you trying to target and what is likely to motivate them?

There is no one-size-fits-all approach to retrofit and people tend to respond to messaging that directly addresses their concerns.

What is the best way of contacting and engaging people?

In order to succeed, you will need a clear understanding of how people respond to different approaches.

For example, a scheme targeting elderly and vulnerable tenants might enjoy more success if marketed through community groups or existing services, rather than relying on door knocking and leafleting, which might work well in an area-based scheme.

Some programmes may require a more sophisticated approach, segmenting a target group to appeal better to what motivates individuals or small groups.

To understand how to develop such an approach, contact the RE:NEW Support Team.

5.2 Sources of funding

5.2.1 ECO

All three elements of ECO are relevant to the private sector, though CSCO funding cannot be accessed directly by individuals.

Most suppliers are aiming to have all measures installed by the end of 2016. While the suppliers have made substantial progress in delivering measures, no supplier has completed their entire obligation and there is still ECO funding available.

5.2.2 Green Deal

The Green Deal is a government housing energy efficiency initiative whereby finance for retrofit is provided to improve a dwelling at no up-front cost to the occupants. The costs of any measures installed and finance are then repaid by the occupants through energy bill savings. The package of measures should meet the 'Golden Rule' that the costs of repaying the initial investment do not exceed the energy bill savings.

While Green Deal Home Improvement Finance is no longer available and the Green Deal Finance Company no longer exists, the legislation governing Green Deal packages remains in place and is an option for all housing tenures, provided that a suitable source of finance can be obtained.

5.2.3 DECC grant funds

In line with the government's fuel poverty strategy, DECC has made a number of grant funds available previously, which local authorities have been able to access.

A recent example is the Central Heating Fund[6], a £25m capital funding programme designed to support local authorities, in conjunction with their local partners, to deliver first time central heating systems to their fuel poor households.

[6] The Central Heating Fund opened 26 March 2015, closed 5 June 2015

5.2 Sources of funding

5.2.4 Energy company charitable trusts

Each of the "Big Six" energy companies has a charitable trust which is able to provide small amounts of funding to fuel poor households or charitable organisations.

This funding is available to help reduce the impacts of fuel poverty, provide debt relief and sometimes fund support packages including energy efficiency measures.

Occasionally, larger pots of funding are available, such as the British Gas Healthy Homes Fund, which is funded by British Gas as a result of a voluntary redress agreement with Ofgem.

Each charitable trust has different objectives and funding is subject to availability.

Links to the website of each charitable trust can be found in the table below:

Energy Company	Trust	Link
British Gas	British Gas Energy Trust	**More information**
EDF Energy	EDF Energy Trust	**More information**
E.On	E.On Energy Action Fund	**More information**
Npower	Npower Energy Fund	**More information**
Scottish and Southern Energy	N/A	**More information**
Scottish Power	Scottish Power Energy People Trust	**More information**

5.2.5 Community funds

There are more and more grass-roots community initiatives starting around the country. The Community Generation Fund has a vision for widespread community-led renewable energy projects around which communities will congregate, form collaborations and work together.

The Fund is designed to assist communities seeking to develop renewable energy generation infrastructure which will create renewable energy, social engagement and a long-term income source to be recycled by the community into relevant social impact initiatives.

Visit the FSE Group website (who administer the scheme) for further information: http://www.thefsegroup.com/social-impact-funding/community-generation-fund

5.3 Fuel poverty and health

There is a growing recognition that poor housing conditions, including cold and damp, contribute to poor health and cost the National Health Service (NHS) a large amount of money every year. By improving the energy performance of poor-quality housing, it is expected that healthcare costs will reduce and therefore there is a case to be made for healthcare providers to allocate a proportion of their budgets to funding retrofit measures in at-risk households.

The evidence base to support a return on investment for health providers is limited to date, but a growing number of pilots have started to provide encouraging results. An example of this is the "Boiler on Prescription" scheme set out in the case study below.

Boiler on prescription

In January 2014 the first pilot, funded by Sunderland Community Commissioning Group (SCCG), included six Sunderland households identified by their local GP as suffering from Chronic Obstructive Pulmonary Disease (COPD) – a serious respiratory condition made worse by living in cold homes.

Working with the patient, a specialised team from Gentoo carried out an energy efficiency assessment on the property to see what improvements could be made, including:

- replacing single glazed windows with double glazing
- installing energy efficient boilers
- loft and cavity insulation
- external wall insulation
- internal wall Insulation
- draught-proofing

Gentoo carried out the necessary improvements and continue to monitor the environmental improvements to the home, while the patients' GP measures any improvements in health.

In the six months prior to their homes being improved, the six patients involved had 63 interactions with the NHS, with three of those being emergency admissions.

The average spend on energy efficient improvements to homes in the trial is £5,000, and each single emergency admission to hospital costs £2,500.

After six months GP appointments had been reduced by 28% and outpatient appointments by 33%.

Read the full case study from the Gentoo Group:
http://www.gentoogroup.com/media/123772/Boiler-on-Prescription-Report-The-story-so-far.pdf

5.3 Fuel poverty and health

Local Health and Wellbeing Boards (HWB)[6] have the ability to allocate funding to target fuel poor households with the objective of reducing healthcare spend on cold-related conditions.

This depends on the local priorities identified by the HWB in the local Joint Strategic Needs Assessment, which in turn informs the Health and Wellbeing Strategy.

Your local Health and Wellbeing Strategy will set out whether housing is identified as a priority. If this is not the case, it may be worth finding out why, and gathering evidence to make the case for its inclusion.

One health-related fund that might align particularly well with fuel poverty objectives is the Better Care Fund (BCF), which is allocated locally by the HWB.

The BCF was created by government to support transformation and integration of health and social care services to ensure local people receive better care. The BCF is a pooled budget that shifts resources into social care and community services for the benefit of the NHS and local government.

The National Housing Federation has produced a Guide to the Health Economy - Prescription to Success. The Guide aims to transform housing organisations' offer to health, enabling them to build a robust business case to commissioners and become a crucial part of the future of the NHS:
http://www.housing.org.uk/publications/browse/prescription-for-success-a-guide-to-the-health-economy/

While this document is primarily focused on funding sources that are currently available, given the scale of retrofit work that is required across the UK and the likely length of time needed to complete this work, it is inevitable that new approaches to funding will still be needed.

This section highlights some of the emerging approaches that may help to bring forward greater investment in retrofit in the medium to long-term. Some of these approaches will take some time to develop. For this reason we recommend organisations start to consider their suitability at an early stage and with senior level involvement.

The RE:NEW Support Team can provide further guidance on each of the areas, as well as support in identifying, scoping and developing these opportunities.

[6] Health and Wellbeing Boards bring together the NHS, public health, adult social care and children's services, including elected representatives and Local Healthwatch. For contact details, see this Local Government Association website: http://www.local.gov.uk/c/document_library/get_file?uuid=edee1dd4-51df-417c-8211-5304e6f84e6e&groupId=10180

6. Long-term approaches

6.1 Energiesprong

Energiesprong ('Energy leap') is an initiative that originated in the Netherlands. The approach enables housing providers to retrofit homes to a net zero energy standard, generating a return on investment for the housing provider and reducing maintenance costs without increasing living costs for tenants. This is achieved through a combination of long-term low-cost finance, off-site manufacture of key building elements, and a performance guarantee that ensures projected savings are realised.

This differs from a conventional approach to retrofit in a number of key ways:

- the approach considers the whole building fabric envelope rather than separate elements
- the aim is a net zero energy standard rather than an incremental improvement in building performance
- a performance guarantee and regular monitoring of performance means that energy savings can be quantified, with tenants paying an energy charge to the housing provider that replaces their existing bill, ensuring the project pays back. Payments can be set at a lower rate than existing energy charges
- off-site manufacture of components helps to ensure higher quality and faster installation – for example, a whole house retrofit might take only eight days
- projects are focused on regenerating properties, rather than simply increasing energy performance, and can also contain kitchen and bathroom improvements. This makes them more attractive from a tenant's point of view and helps to realise increased benefits in terms of maintenance savings and health outcomes

The first Energiesprong projects in the Netherlands were carried out on terraced properties from the 60s and 70s to demonstrate that the concept was viable, and approaches to a wider range of typologies, including tower blocks, are currently being developed.

Transfer of this initiative from the Netherlands is well underway with Energiesprong UK – a partnership of housing organisations in the UK – now established and financial commitment in place to test the likely impact it would have on their housing stock and develop pilot schemes.

Please contact the RE:NEW Support Team to find out more and get involved.

6.2 Local energy partnerships

The term “Local Energy Partnerships” is used here to describe a number of different types of approach to local energy demand and supply that are being developed across the country. These approaches are briefly explained in the table below. Each approach may provide a means of addressing fuel poverty, bringing forward investment in local energy projects or generating a revenue stream for the organisation.

Approach	What is it?
White labelling arrangement	A local authority/housing association or group of organisations partners with an established energy supplier to supply energy to local households. Tariffs are set as competitively as possible to enable households to save money. It may be possible to include other services in such a scheme, including smart meter roll out, a void switching service, energy efficiency advice and ECO funding offers.
Social housing tariff	Similar in some ways to a white labelling arrangement, a housing provider partners with an established energy supplier to offer a competitive tariff available only to its tenants. This arrangement may typically include a switching service and roll out of smart meters to void properties.
Local energy services company (ESCo)	A public sector organisation establishes an arm’s length management organisation to develop and invest in local energy projects. This might typically centre on a district energy project, for example, or solar PV programme, but might also extend to energy performance contracting and could even apply to an approach like Energiesprong.
Licence Lite	Also known as a junior electricity supply licence, this allows a public sector organisation to partner with an existing holder of a full electricity supply licence to sell surplus electricity from local supply to meet local demand. This is perhaps best suited to where local generators, for example a district heat network, have a regular and predictable surplus that can be matched to demand. The GLA is the only organisation in the country to have applied for Licence Lite and completed its first call for London-based generators to come forward in June 2015.
Local energy supply company	A public sector organisation applies for a full electricity supply licence to enable it to sell energy to local households. This would require the organisation to take on all of the functions of an energy supplier, including energy trading, balancing, customer service and billing, and therefore comes with a number of risks, as well as a sizeable fee to acquire a licence. In order to work, a relatively large number of customers would be needed. However, this approach could also be combined with the functions of a local ESCo, enabling the organisation to invest in local supply, and match this with local demand.

Examples of each of these approaches exist, though most are relatively new or in the early stages of development.

The right approach for each organisation (including doing nothing) will depend on a number of factors, including organisational priorities, appetite for risk and reward, available resources and expertise and local demand and opportunities. Given the current policy and market context, exploring these approaches for their ability to help meet strategic objectives and potentially generate revenue are a highly worthwhile consideration.

Please contact the RE:NEW Support Team for further information.

6.3 Innovation and EU funding

There are a number of UK and EU funding streams available that support projects to reduce CO_2 emissions and promote the introducing of new technologies and innovative approaches.

European Regional Development Fund (ERDF)

This fund is aimed at supporting projects that strengthen social and economic cohesion across Europe and is focused on a number of priority areas, including the low-carbon economy. The current programme runs from 2014 - 2020. Of the €79m ERDF funding nationally allocated to London, 40% of this is available for projects that contribute to a low-carbon economy. ERDF is available to public, private and voluntary organisations. Funding is revenue, and a minimum of 50% match funding is required from applicants, though this can be capital as well as revenue funding.

Horizon 2020

Horizon 2020 is the EU framework programme for research and innovation, funding research projects that will help support the growth of sustainable, inclusive jobs. Two year programmes announce the specific funding areas that Horizon 2020 will fund and these are updated regularly on the **Horizon 2020 website**. One of the fund's objectives is supporting a transition to secure, clean and efficient energy and previous calls have included 'making Europe's buildings more efficient'.

Click here to view the funding opportunities available

European Local Energy Assistance (ELENA)

This programme, run by the European Investment Bank, aims to maximise investment in sustainable energy by covering up to 90% of the technical support costs of setting up a renewable energy or energy efficiency programme. The intention is that, by funding business cases, technical studies, energy audits and programme structuring for example, the fund will enable organisations to lever-in significant additional investment to deliver these programmes.

LIFE (the Financial Instrument for the Environment and Climate Action)

This EU initiative offers co-funding of environmental projects, including climate change mitigation projects. Funding is available for pilot, demonstration and best practice projects, and can include funding for action plans, strategies and feasibility studies.

The current funding call for LIFE funding is open until September 2015.

National Grid Affordable Warmth Solutions Innovation Award

This fund, first launched in 2014, awards funding to organisations seeking to develop innovative solutions to reducing fuel poverty in their area. Funding is available through an annual call.

7. Further information

7.0 Further information

The RE:NEW Support Team has been appointed by the Greater London Authority to engage with and support London's boroughs, social housing providers and private landlords to increase the scale of domestic retrofit in London.

The support, which is FREE and tailored to each organisation, involves a review of retrofit potential, formulation of retrofit projects, funding and procurement advice and support through the procurement process.

Addressing fuel poverty and carbon emissions

Retrofitting is vital in addressing fuel poverty and reducing CO_2 emissions: almost 300,000 households in London are fuel poor and 36% of London's CO_2 emissions are produced by housing.

Support is expected to initially focus on large landlords, predominantly stock-owning London boroughs and housing associations, but the Team will also be aiming to support environmental retrofit activity on a much wider scale with the specialist services outlined below.

7.1 RE:NEW support services

RE:NEW has developed a fully OJEU compliant procurement framework for all aspects of the domestic retrofit programmes. The new framework, which went live this summer, will provide access to high quality approved contractors quickly and effectively for retrofit programmes of all shapes and sizes regardless of value, retrofit measure and housing type.

RE:NEW's services are tailored to fit each situation and partners receive a free support package, according to their needs.

The RE:NEW Support Team will provide support at every stage of the process to help deliver a successful programme. This is the largest procurement framework of its type in the UK and will provide competitively procured rates, robust contract terms and enhanced buyer power.

Opportunity Analysis

Strategy Development Support

Technical Advice

Funding & Finance Advice

Training & Coaching

Programme Optimisation

Planning Support

Marketing & Engagement Advice

Procurement Support

Project Delivery Support

Contact the RE:NEW Support Team
E: renew@london.gov.uk

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