

CAN PROJECT

Innovative Financial Models for the retrofit of inner city neighbourhoods

Community-led solutions

Background

Energise Sussex Coast (ESC) is a community benefit co-operative organisation working towards the generation and supply of local renewable energy to mitigate climate change and address energy inequality in East Sussex.



UK Summary

80% of the UK housing stock (25 million homes) will exist in 2050. Retrofitting energy inefficient homes is a high priority for social and economic as well as environmental reasons. Interventions by UK Government (the Green Deal 2012-2016) failed to stimulate the retrofit market. Hastings has many pre 1919 and energy inefficient homes in poor condition exposed to extremes of coastal weather with a high proportion of housing privately rented to vulnerable residents on low incomes.

ESC is exploring the following community led solutions as part of the CAN project. This list excludes grant funded home energy efficiency improvements for vulnerable residents.

1. Revolving retrofit fund.
2. Local Energy
3. Brighton co-operative (BHESCO) model – pay-as-you-save contract
4. Retrofit Works – co-op of local contractors
5. Energy equity release model for retrofit

Model 1 (see appendix 1)

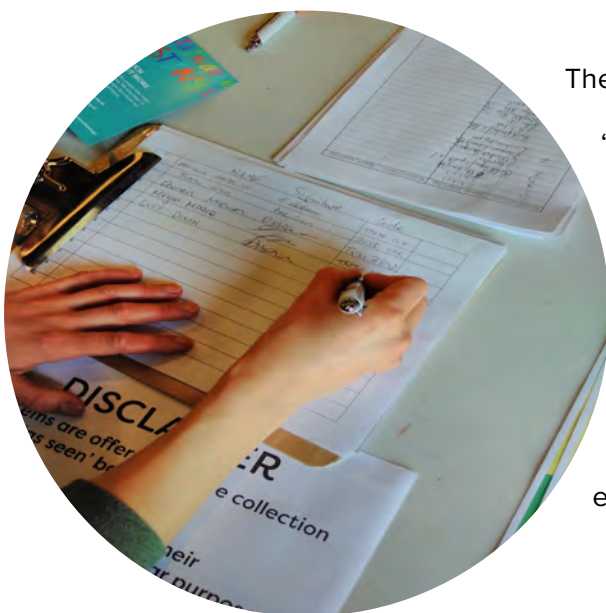
Revolving Retrofit Fund

In 2015/2016 ESC contacted and engaged with Professor Andy Gouldson of the Low Carbon Futures unit at Leeds University to explore the option of a Mini Stern Report for Hastings and the surrounding area. (See Bristol City report). Using available housing data the Mini Stern review conducts a high level analysis of the retrofit potential for a city setting out a timetable towards a low carbon transition. The key findings of the work show that – following the Kirklees pilot in Yorkshire - if the UK invested in a revolving retrofit fund it would reduce the cost of retrofit of the domestic housing sector by 26% or £ 9 billion. The fund would be cost neutral over time but would involve significant upfront investment.

Outcomes:- the analysis was not commissioned, mainly for cost reasons as the analysis could not offer sufficient granularity for a town but would require the whole region of Sussex. Some cities and regional authorities are exploring this model by setting up funds with social investment tax relief (SITR) for investors in energy efficiency improvements. ESC continues to explore the option for a local revolving retrofit fund with, for example, Credit Unions, The Sussex Foundation, Parity Trust, Abundance Generation, Energy 4 All (Rescoop member) and social finance lenders. However, making energy efficiency pay for itself remains elusive.

Model 2 – Local Energy

It is important to understand that Local Energy can mean many things. In 2016 UK Government energy regulator (OfGem) commissioned a Future Insights report : *Local Energy in a Transforming Energy system* (see Appendix 2).



The report claims

“Local energy projects have a range of characteristics and often cut across traditional sector boundaries such as generation, supply and consumption. These schemes stem from the desire to involve local communities in delivering energy outcomes and, in many cases, contribute to broader local social, economic and environmental objectives.”

Ofgem explains Local Energy as

“Energy arrangements led by (or for the benefit of) a local group and for the benefit of local consumers. A local group is a collection of people and organisations with shared interests in local energy outcomes within a common geographical area.”

The report differentiates 5 Local Energy *Archetypes* :

- Local Consumer Services
- Local Generation
- Local Supply
- Micro-grid
- Virtual Private Networks (VPNs)

ESC Activities

As part of the CAN project ESC is exploring most of these archetypes.

The report lists a limited number of organisations, three of which are partners of ESC.

[OVESCO](#) and [BHESCO](#) are listed under Local Consumer Services. These include

- Energy awareness and advice schemes
- Energy efficiency schemes
- Collective switching and purchasing schemes
- Fuel poverty schemes e. Energy Services Company (ESCO)



ESC helped to found [Community Energy South \(CES\)](#) - a network of local energy organisations in South London, Kent, Surrey, Sussex and Hampshire – and ESC director (Richard Watson) together with the directors of OVESCO and BHESCO (Chris Rowland, Ollie Pendered and Kayla Ente) are co-directors of Community Energy South.

ESC currently engages in (a) *Energy Awareness and Advice* and (d) *Fuel Poverty schemes*. In 2017 we appointed the Director of BHESCO (Kayla Ente) to the board of ESC to help us develop activities (b) and (e) – to develop ESC into an *energy services company offering energy efficiency schemes*.

In the *Local Supply* category ESC and CES worked with OVO energy in 2015/2016 to develop a community energy tariff but this was not successful because of market and contractual complexity. However this negotiation was continued between OVO and West Sussex who ran an OJEU procurement framework for a white label tariff for Sussex residents (to be launched in September 2017)

In the Micro-grid category ESC visited the Isle of Eigg in July 2016.

In the Virtual Private Network category ESC is a partner with Energy Local in the pilot project. The Energy Local model is part of the CAN project (to be discussed in a separate report).

While Local Energy is not itself an innovative financial model providing retrofit solutions it nevertheless offers opportunity for community-led innovation to transform the energy market. While these models are categorised as “local” by Ofgem the partnerships between local organisations (e.g ESC, BHESCO and OVESCO coming together to form Community Energy South) are repeated across GB to form national networks : creating [Community Energy England](#), [Scotland](#) and [Wales](#). Through this network successful local energy models can scale up nationally since the community energy sector is by its nature and constitution a collaborative and co-operative sector.

Model 3 – Pay as you save – Community Energy model developed by [BHESCO](#)

The BHESCO model has a number of successful projects in Brighton where homeowners, small businesses and local organisations can contract with BHESCO for energy audits and energy efficiency improvements funded by BHESCO who cross-finance some projects through community energy shares.

The model has been extended to an offer for Landlords – the [Offer for landlords](#) is a brave attempt to tackle the *elephant in the room* in many seaside towns: Leaky, energy inefficient, expensive to run, unhealthy housing suffering neglect and lack of investment from the owners.

ESC activity

We appointed the founder of BHESCO as a director of ESC to help us develop the model in Hastings.



Model 4 – Retrofit Works.

[Retrofit Works](#) is a co-operative of local contractors set up by [Parity Projects](#) to improve the retrofit market. As a model it incorporates several innovations designed to improve the quality, efficiency and cost effectiveness of retrofit measures delivered by local contractors. Parity Projects are the contracted supplier to PP02 Amicus Horizon to complete energy surveys on properties in Hastings.

ESC Activities

ESC and BHESCO are working together to set up a Retrofit works scheme in Brighton and East Sussex. A Retrofit Workshop has been organised in Lewes on June 30, and ESC is organising a second workshop for local contractors in Hastings in July as part of the Neighbourhood forums due to be held at the Ore Campus of Sussex Coast College (where technical and construction courses are run).

This is the college that has agreed to install solar PV funded by community shares through the 1066 Energy campaign led by ESC (see separate report).

Model 5 – Energy equity release model for retrofit.

The Energy Equity release model is being pioneered and investigated by ESC. There are two stages to the model. The focus is to deliver retrofit solutions to home owners (often elderly) who have inefficient homes they cannot afford to heat.

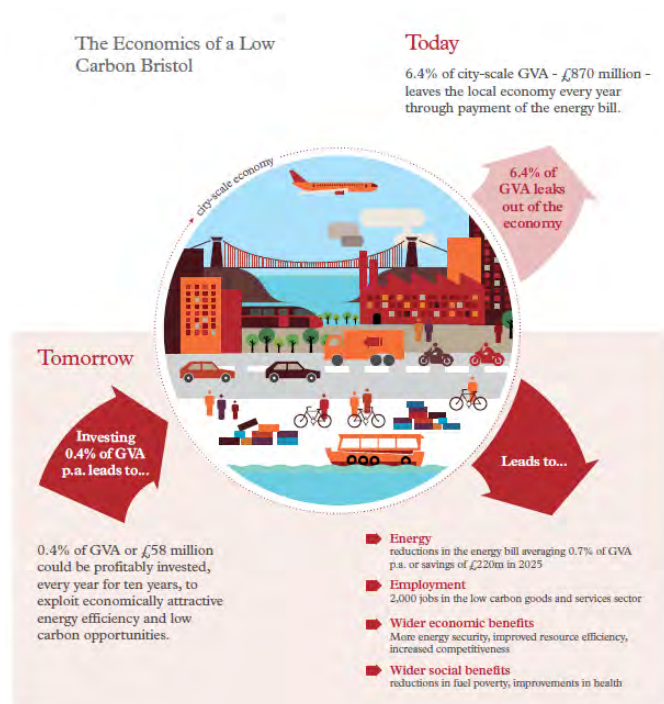
Anxiety relating to energy bills afflicts many people but for the elderly it is especially acute. With the help of a financial broker and actuary we explored the energy equity release model offering homeowners the option to never have to worry about utility bills again.

Our contacts had established connections with large insurance companies who were

enthusiastic about this energy bill “annuity” and equity release model. In the first version little or no retrofit was included in the actuary’s spreadsheet and the homeowner gives up 21% of their equity by year 12 and 31% by year 16 (in our view this is unacceptable). The second model we developed in house and this shows the funder taking a lower equity share where the owner benefits from any renewable energy income directly.



Appendix 1 : Revolving Retrofit Fund



Publications

[The Economics of Low Carbon cities_mini Stern Review Bristol City](#)

[2015 Gouldson et al Energy Policy](#)

[2015 Webber Gouldson Kerr Energy Policy.pdf](#)

Appendix 2 : Future Insights : Local Energy



Table 1

Local Energy Archetypes		
Archetype	Description	Example projects
Local consumer services ⁶	Services that aim to improve energy outcomes for local people: a. Energy awareness and advice schemes b. Energy efficiency schemes c. Collective switching and purchasing schemes d. Fuel poverty schemes e. Energy Services Company (ESCO)	Home Energy Scotland - local advice centres providing free, impartial energy advice. Brighton and Hove Energy Services Cooperative - finances energy efficiency measures paid for by consumer bill savings. The Big London Energy Switch - collective switching scheme run by a number of London councils. Nest - Welsh government scheme supporting households struggling with their energy bills. OVESCO - ESCO providing energy services in Lewes.
Local generation	Involves a local generation asset to benefit local consumers. Projects can be financed (wholly / partly) by the local community. The asset can be actively managed or passively owned by the community, generating revenues for local use.	Braxton Energy - revenues from block of flats' rooftop solar farm support community energy activities and local shareholders' dividend. Burnhams Bridge Hydro - Scottish community-owned hydro scheme with revenues supporting a community benefit fund and to enhance local economic outcomes. Avel Cog - a community-owned windfarm being built north of Swansea with revenues supporting local fuel poverty and renewables projects.
Local supply	Models aimed at supplying local communities with affordable / low carbon energy: a. Direct supply (licensed and exempt) b. Retail / commercial models (white labels / sleeving / tariffs)	Robin Hood Energy - a national supplier, owned by Nottingham City Council with local discounted tariffs. GLA - Greater London Authority is developing a Licence Lite supply arrangement. Greener for Life Energy - Anaerobic Digestion (AD) plants supplying electricity through a private wire. OVO Communities - white label tariffs provided through local authorities (including Peterborough and Southampton). Good Energy local tariff - local tariff 20% less than standard for homes within 2km of wind farm.

Local Energy Archetypes		
Archetype	Description	Example projects
Micro-grid	Decentralised grids which operate in parallel to or independent of the national grid. a. Grid connected b. Off-grid	Centre for Alternative Technology Micro-grid - renewable powered micro-grid in Wales exporting to the grid. Isles of Scilly - an island based micro-grid that is connected to the national grid via a subsea cable. Isle of Eigg - micro-grid for small, remote island without a connection to the GB national grid. Knapstart - hydro-powered renewable electricity off-grid micro-grid.
Virtual private networks	Virtual private networks (VPNs) seek to operate on the public distribution network, typically offsetting generation and demand (local balancing) through commercial arrangements. Projects in this archetype are not widespread, often in concept design or trial phase and vary in scale. They range from very localised peer-to-peer approaches to multi-party arrangements and others exploring Distribution Network Operator (DNO) level market arrangements.	Pinny smart meter - aims to deliver a more affordable tariff for local residents (and understanding the potential for such schemes more widely) by virtual linkage of consumption with local generation including a nearby AD plant. Energy Local - pilot in Bethesda matching local consumer demand to local generation to minimise imbalance and provide lower tariff to consumers through licensed supplier. Heat Smart Orkney - scheme anticipates curtailment (network constraints mean renewable generators are sometimes curtailed) and switches on local electrical demand to maximise local generation. Cornwall's Local Energy Market (LEM) - a smart technologies pilot in Cornwall involving renewable generators, businesses, households, large energy users and energy storage to unlock new revenue streams. Participants will connect to a virtual marketplace to sell their flexible energy capacity to both the local and national grid, plus the wholesale energy market.

Activities towards the top of the table tend to be more established. Those at the bottom are often more at the proof-of-concept and development phases, tend to be more complex and to be less aligned with current market and regulatory arrangements.

The emergence of local energy is a development common to other countries. The prevalence of local in a country depends on that state's administrative, policy, governance and market arrangements⁶.

Publication

[ofgem_future_insights_series_3_local_energy_final_300117](#)