



# SUMMARY OF KEY FINDINGS & RECOMMENDATIONS: SUSTAINABLE BLACON LTD

COMMUNITY SUMMARY C2 - KF

SEPTEMBER 2015



## 1. Introduction

- This public facing summary report shares the findings from the EVALOC research project about Sustainable Blacon Ltd's (SBL) energy and carbon reduction projects. EVALOC research was carried out between 2011 and 2014 to assess and explain changes in energy use in six low carbon communities (LCCs) in England and Wales.

- Sustainable Blacon Ltd is a community-based company dedicated to promoting and developing the physical suburb area of Blacon as a model sustainable urban community, working on four activity areas: Energy, Transport, Spaces and Enterprise. In 2009 it was awarded £393,111 from the Department of Energy and Climate Change (DECC) as part of the Low Carbon Community Challenge (LCCC) to undertake energy and carbon reduction activities in Blacon.

## 2. Roles and Capabilities

- SBL is a subsidiary organisation of the Blacon Community Trust (BCT). Whilst operating independently, it has strategic partnerships with other organisations, local government and particularly the University of Chester. SBL was confident about their capacity to engage, motivate and empower residents, and achieve sustained pro-environmental behaviour change. This capacity was evidenced by EVALOC, and by the

University of Chester evaluation reports (Alexander and Hunt 2012, and University of Chester 2013).

- However, during the LCCC programme, as with many other communities, SBL experienced difficulties working with funding which was essentially for capital works where their programme was fundamentally about behavioural change, requiring staff time. This involved the team in seeking successfully suitable additional funding. However, at the end of the LCCC Programme and with the economic downturn, insufficient funds were available to maintain the programme's momentum and its work was scaled down to volunteer contributions only in 2013.

## 3. Change Strategy

- The Sustainable Blacon Ltd project design was tailored to the need of local residents. The change strategy helped residents overcome technical, economic and social constraints on energy and carbon reduction, and working with local organisations to deliver elements of the strategy.

- *At a downstream level (with residents):*

- Local residents were recipients of communication messages, engagement methods and projects in SBL's four areas of activity, which were tailored to local concerns and needs.

- SBL aimed to influence energy and carbon reduction in the home through two areas of activity (which were the primary focus of the EVALOC research):
  - The Blacon Energy Management Project (BEMP) which involved 150 households;
  - Two demonstration eco-houses which were open for visits from the public, including an innovative 'behaviour change' house.

- At a midstream level (with local agencies), SBL sought to make links with public, private and third sector organisations and worked with:

- Cheshire West and Chester Council, through involvement in SBL board, and the BEMP;
- University of Chester, through evaluation of the BEMP project;
- Blacon Community Trust, as SBL was a subsidiary organisation;
- Cheshire and District Housing Trust (CDHT) through support for the first of the two Eco houses, the 'behaviour change house'; and
- Expert advisors in the field of energy and buildings, through involvement in the SBL Board.

- Additionally, SBL held the 'Blacon Sustainability Convention' in November 2011, which shared learning with other Low Carbon Communities across the UK, with relevant national and local government departments, and relevant local organisations.

- At an upstream level (with government or national interest groups), SBL's experience of strengthening the local community through raising awareness, and encouraging and supporting participation and volunteering in low carbon activities was of interest to the Department of Energy and Climate Change (DECC) and the Prime Minister's office. It was clear that SBL's experience in strengthening civic structures and developing the social capital to underpin them was also of relevance to other national Government Departments such as the Department for Communities and Local Government (DCLG), even though DECC's interest in the LCCC programme appeared to wane following the election of 2010. In November 2011, Blacon Community Trust (BCT) was awarded the 'Big Society Award', the work of SBL being significant in obtaining the award. Andrew Stunnell MP, the Minister for Communities, gave the Ministerial input into the Blacon Sustainability Convention in November 2011.

- The work of SBL was also recognised at a national level through being awarded a 'Waterwise Award' with Dee Valley Water in October 2012, for their role in bringing together shared benefits from both water and energy efficiency.

## 4. Learning

- A key aim of SBL was to provide opportunities for learning beyond the project. SBL has been involved in five external research projects, in addition to the DECC LCCC evaluation. The primary learning and evaluation partnership was with the University of Chester, which was an integral part of the BEMP, together with the EVALOC project and work with the Universities of East Anglia, Southampton, and Strathclyde.

## 5. Effectiveness

- Overall, SBL has successfully managed and implemented energy efficiency projects at community and household level. Below, the key findings relating to the effectiveness of SBL's activities are outlined.

### Engagement

- SBL engaged an important sector of residents in the BEMP, with 50% of the BEMP participants in fuel poverty at the outset of BEMP.

- All households in Blacon were reached through newsletters, existing networks, leafleting and door-knocking;

- 1,500 residents participated in SBL community focused events;
- 150 households involved in the BEMP, with 459 individual measures ranging from new gas condensing boilers and solid wall insulation to radiator reflector panels and power-down plugs installed;
- 151 volunteers took part in the wider aspects of SBL, such as the cycle path implementation and regeneration;
- Over 1,300 people visited the two eco-demonstration houses (over 1,000 in nine months).

### Household energy use and carbon emissions

- Based on energy data for the wider community, the average carbon emissions from household combined electricity and gas use in Blacon have reduced by 14% over five years (2008-2012), a greater reduction than the national average (12%) over the same period.

- Whilst the percentage reduction in Blacon's annual average household metered electricity use of 4% is the same as the national average over the five year period (2008-2012), percentage reductions in annual average gas use were much higher than the national average; 21% compared with 17%. These reductions are noteworthy as annual average household baseline (2008) gas and electricity use in the Blacon community was lower than the national average (13,613kWh for gas and 3,765kWh for electricity compared to national averages of 16,906kWh and 4,198kWh), which limited the potential for energy reduction.

- Carbon mapping estimated that 288 out of 373 households (77%) reduced their energy use over the five year period. The findings from carbon mapping also indicated reductions in energy use in both households that directly benefitted from LCC activities and those that did not.

- Furthermore, SBL's activities also appear to have had positive impacts in terms of individual household energy use. Long term annual gas and electricity meter data (2008-2012) of the case study households show overall reductions, with 11 out of the 13 households that benefitted from the BEMP directly, reducing either or both gas and electricity, all stating that they felt SBL had directly helped them reduce their energy use.

- However, monitored energy data (2013) showed that six of the case study households involved directly in SBL were using more energy than the national average, despite having physical and behaviour change interventions; which indicates that further reductions are possible (most likely through further physical interventions).

- Carbon mapping indicates that further savings of up to 63% (on 2012 estimates) per dwelling could be made through packages of physical and technical measures.

### **Performance of physical interventions in case study households**

- Thermal imaging surveys indicate that there are potentially significant issues with retrofitted cavity wall insulation, particularly around and under windows.

- Despite this, several of the respondents commented that both fabric improvements and improved heating systems in their home had increased comfort levels, not only in terms of heat and improved warmth but also noise and condensation issues. Only one noted increased condensation following increased insulation (due to loss of adequate ventilation).

### **Occupant energy behaviours in case study households**

- Most occupants in the 19 case study households (13 involved in SBL activities and 6 'control') exhibited high levels of energy saving awareness, motivations and behaviours, as well as confidence in their knowledge in terms of both undergoing their own energy improvements but also in terms of discussing energy improvements with others.

- Most households appear to have sustained habitual energy-saving behaviours, although some returned to previous energy-using behaviours due to other priorities such as comfort, health and cleanliness. This corroborates the University of Chester research carried out for SBL.

- The majority of the households involved in BEMP stated that it had not only changed small behaviours such as boiling less water and turning lights off, but also helped provide useful practical tips in terms of improving the physical performance of the dwelling.

- Energy display monitors have increased awareness and changes in electricity-related behaviours, but not necessarily had significant impact on actual energy use.

## **Social and economic impacts**

- The social and economic impacts of SBL's activities have been significant:

**Financial:** Most householders reported that they felt they had made energy savings, but due to rising unit energy costs this did not necessarily translate into reduced energy bills; instead their bills remained more or less constant.

**Comfort and health:** The household energy upgrades have been linked to warmer and more comfortable homes.

**Social capital:** Participants in the BEMP experienced an increased sense of community and social cohesion due to the programme's meetings and talks. Some participants went on to volunteer in follow-on energy projects. Blacon Community Trust was awarded the 'Big Society' award by DCLG at the 2011 Blacon Sustainability Convention in November 2011 in recognition of their work to increase civic activity.

**Wider impacts:** Drawing on the household interviews, participation in the BEMP and SBL's wider activities has helped to improve some participant's mental health and wellbeing.

**Jobs:** Eleven people found work through and beyond their contact with SBL's work. In addition to the original two project staff, funding was obtained for three further jobs, and six longer term volunteers.

## **6. Sustainability, Scalability and Replicability**

### **Financial sustainability**

- SBL received DECC LCCC funding to deliver BEMP and two Eco-demonstration homes. Although making very good use of volunteers, the BEMP required more staff and management time and resource than the 10% of the LCCC funding allowed. It is interesting to note that this was also experienced by other low carbon communities participating in the EVLAOC research project.

- SBL aimed to roll out the BEMP as a service or programme to sell to other LCCs, but this proved difficult in practice. Again, other LCCs have also experienced difficulties in generating revenue from rolling out behaviour change programmes that they have developed, as there is little funding for developing an established programme.

- Despite applying for grants, SBL was unsuccessful in receiving funding to continue work, beyond the two rounds of project funding for 'Save Money Keep Warm' (SMKW). They also mentioned the difficulties of competing with larger national organisations to deliver sustainability projects in the local area.

- It was not financially viable to continue with one of the Eco-demonstration house, thus it was sold to the University of Chester. Despite positive feedback from visitors, including school groups, it was difficult to arrange regular paying school visits which could cover the costs of the eco-house. Some material exhibits in the house were donated by companies. Whilst this could have been used as a marketing resource, the uncertainty surrounding the Green Deal at the time meant that they didn't



receive as much interest from local installers as they had envisaged.

## **Scalability**

- The BEMP required leadership and management to continue, particularly to coordinate the highly successful volunteer programme, but no funding was obtained to pay for those roles. Recruiting participants, organising meetings and discussions, and collecting the energy monitoring data requires a significant amount of time, even when volunteers are involved in many of those activities. Without funding to pay for staff time to manage and oversee the expansion of the programme, it was difficult to scale up to wider participation in the area.

## **Replicability**

- The models of the BEMP and the Eco-demonstration house could be replicated by other LCCs, particularly those operating in similar demographic areas. However, to replicate the project, the LCC would need sufficient funding to manage and oversee it. Part of the incentive for continued participation in the BEMP was the eco-upgrading of the participant's homes, the cost of which was covered by the LCCC grant. If other LCCs were to replicate this project, alternative approaches to funding the home upgrades would need to be considered.

## **7. External obstacles**

- In common with other LCCs, SBL faced a range of external structural obstacles which were beyond its influence. Obstacles identified by the EVALOC LCCs include: inconsistent national government leadership and mixed messages about tackling climate change; failure to link the 'growth' and 'green' agendas at national level; difficulties in accessing grants and loans for energy efficiency measures; changes in the Feed-In Tariffs (FiTs); financial cuts and lack of revenue funding; withdrawal of statutory duties on local authorities; increased scepticism in part related to media coverage; the effects of austerity and recession on local people (e.g. reduced confidence to take on loans); lack of local infrastructure (e.g. recycling, trusted installers of low and zero carbon technologies).

## **8. Recommendations**

### **Engagement and involvement**

- Leadership training: Given the difficulty of obtaining funding for leadership and process roles, it would be good to consider how to integrate training for such roles as part of the learning and action group approach employed in the BEMP, for those who are interested in taking on leadership responsibilities. This is an area that the Low Carbon Communities Network is currently investigating (the Low Carbon Commons). Funding and supporting those in leadership positions is an ongoing challenge for many LCCs; thus would benefit from discussions at a regional or national level.

- Networking with other LCCs: Whilst good networking with other local organisations and national LCCs was achieved by the CEO and project managers, some volunteers would have benefitted from attending other networking events such as Low Carbon Communities Network, or other local low carbon networking events. In future, it would be good to consider how to encourage interested volunteers to attend networking and skill-sharing events outside their community. However, whilst external networking can boost the confidence of volunteers, a balance needs to be struck between the internal group work of delivering projects, and networking externally with other groups.

- Given the skills and knowledge the volunteers acquired on the BEMP, it would be good to consider how to utilise these skills in other contexts (e.g. through other non-carbon specific networks that they may be involved with). However, it is recognised that this may be difficult to instigate without an ongoing energy and carbon reduction project.

### **Delivery and installation of fabric and technical measures**

- Quick diagnostic tools such as thermal imaging should be used immediately post-installation of fabric measures, to ensure works have been completed to a satisfactory level.

### **Monitoring and evaluation of activities**

- A holistic approach is worth aiming for; e.g. a programme of annual thermal imaging surveys across the community in order to provide diagnostics on retrofitted cavity wall insulation can be linked to engagement activities and linked with consumption feedback programmes.



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**Environmental Change Institute,  
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**Community partners:**

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The EVALOC project seeks to assess, explain and communicate the changes in energy use due to community activities within six selected case study projects under the Department of Energy and Climate Change's (DECC) Low Carbon Communities Challenge (LCCC) initiative, a government-supported initiative to transform the way communities use and produce energy, and build new ways of supporting more sustainable living.



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