

Exeter Community Energy

Annual Report

1 February 2018 – 31 January 2019

INTRODUCTION

What an exciting year for ECOE! All of our solar sites have been generating power for at least two years and some are in their fourth year. We have also been developing new solar projects on multiple sites around the city. Although our attempt to build a hydro project at Trews Weir was unsuccessful, our energy saving initiative Healthy Homes for Wellbeing (HHWB) has been a resounding success, as was our second Community Fund awards ceremony. ECOE was shortlisted for two awards. One was Community Energy England's Community Energy & Carbon Saving Award, where our inclusion related to the Healthy Homes for Wellbeing project. For our overall activities, ECOE was shortlisted for Regen's Best Community Initiative award.

Gill Wyatt has stepped back from CEO and Chair duties to concentrate upon HHWB and Peter Bowers has relinquished responsibility for finance, giving ECOE the opportunity to involve new people. Andy Extance was appointed Director of Communications, David Thompson has taken on the role of Secretary, Vicky Vallis becomes our Finance Director and Alan Denbigh our Project Support Officer.

PROJECTS

Solar PV 1 and 2

Site performance for 2018 is shown in Table 1 below with comparison figures for 2016, 2017 and the predicted annual generation. Total generation across all sites for 2018 was 342,985 kWh, 2% down on 2017 and the equivalent of electricity provision for 85 homes for a year. Total carbon savings from solar PV in 2018 are 144,125kg bringing ECOE's total carbon saving resulting from solar PV since 2016 to 363,632kg.

The overall rolling average for 2018 shows the combined output of all sites is at 92% of expected (compared with 93% in 2017).

Table 1: Solar PV 1 and 2 site performance data 2016-2019

Site	Capacity kWp	Annual energy generated kWh				Carbon saving 2018 kgs	Actual usage by host 2018	Predicted Usage by host
		Predicted	2016	2017	2018			
Exeter Library	29	27600	25,616	25,787	25,015*	10,831	104%	95%
Great Moor House	100	92,652	86,227	79,823	84,815	35,622	92%	95%
Shillingford Barton Barn	25	25,000	25,998	24,422	22,810	9,580	53%	60%
Shillingford Processing Site	14.5	14,500	14,597	13,590	12,790	5,371	100%	60%
Wonford CLC	20.5	19,540	18,989	17,735	18,196	7,642	51%	50%
Exeter College	150	138,737		128,431	117,677	49,424	87%	65%
Pinhoe RBC	19.96	17,299		17,267	17,435	7,322	28%	30%
Glasshouse	20.14	17,646		19,372	19,086	8,016	47%	70%
Beehive	29	24,431		23,204	24,565	10,317	82%	50%

Figure 1: Rolling Annual Generation (Exeter Library omitted owing to incomplete data)

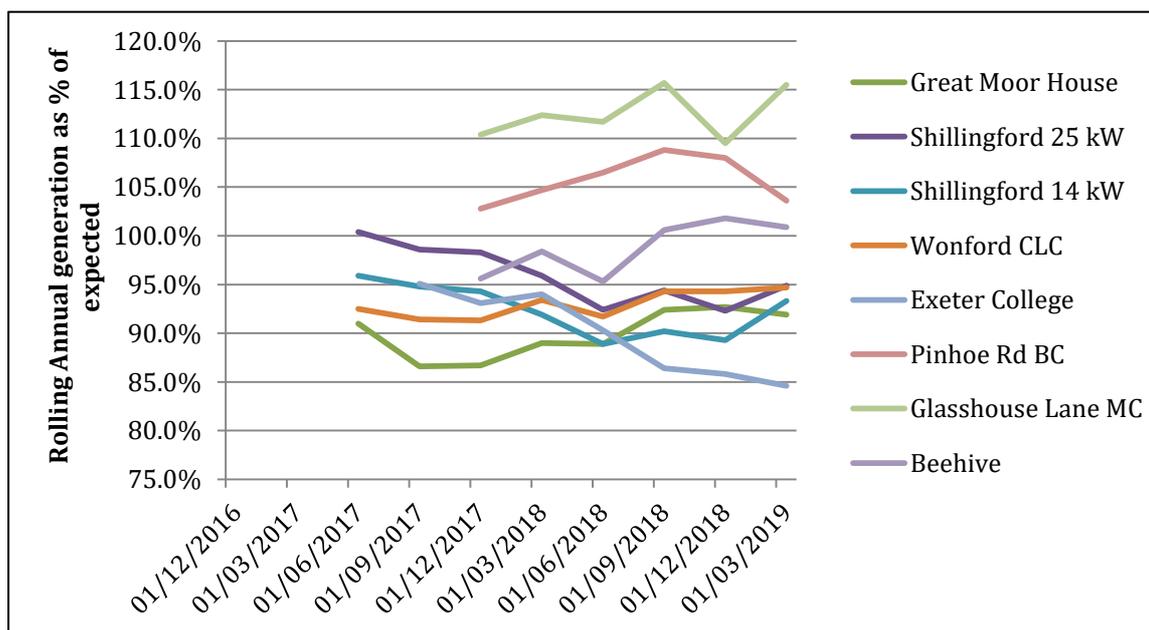


Figure 1 shows rolling annual generation comparison between sites enabling problems to be highlighted. Additional diagnostics from remote monitoring tools are also used.

Issues arising during 2018 are discussed below for each site.

Exeter College

After a lengthy dispute, the roof leaks caused by damage during panel installation were repaired and the costs borne by the installer's insurers. Many thanks to Naturesave's Matt Criddle for support and advice and Gill Wyatt for her tenacity.

Performance deteriorated by around 10% over the past 18 months. We believe this is due to the shallow angle of installation allowing accumulation of dirt and algae on panel ends which has a disproportionate impact on efficiency. The panels will be cleaned during May.

Great Moor House

There have been problems with an inverter tripping out which has been investigated a number of times. It hasn't had a lasting impact on performance and we believe we have found the source of the problem.

Shillingford

The dusty agricultural conditions necessitated cleaning in August.

Pinhoe Road Baptist Church

There have been a couple of data transmission losses caused by internet problems. Meter recordings were not affected.

Solar PV3

The UK government closed the feed-in-tariff (FiT) subsidies for solar power at the end of March 2019, but there was a provision for community energy groups such as ECOE to pre-register schemes for FiTs provided they are installed by March 2020. We have therefore made a big push to pre-register any viable outstanding or new prospects.

We have been assessing various projects and determined that two local community centres should be viable. These are the Beacon Community Centre in Exeter and Westbank Community Health and Care in Exminster. We received confirmation of pre-registration for Beacon in March and Westbank in April. Both sites are keen to progress the projects. Beacon will be a 26kW installation while the plan for Westbank is 46kW. This would increase ECOE's total generating capacity to 480kW. As with many of our projects, we intend to provide displays showing the amount of electricity generated at each site.

Our preliminary discussions with Western Power Distribution indicate that we will be able to export the full output of Westbank to the grid if necessary. However Westbank has high energy consumption from its gym and restaurant and this will provide a steady income by directly using the electricity generated. Consequently the scheme should be financially viable even if we are only able to export part of the total capacity.

We have secured a commitment from a generous benefactor for a bridging loan to fund both project costs. After installation, our intention is to cover the capital costs through loans from existing members.

We are now working on the legal processes to negotiate leases. Following recent consultation with Stephens Scown, it appears that this may be complex, with a number of permissions required for each site. This is now the highest priority within Solar PV3.



Figure 2 : Beacon Community Centre

Healthy Homes For Wellbeing

Our Healthy Homes for Wellbeing project has grown significantly during its second year. We now operate in Exeter, Mid Devon, East Devon, Teignbridge and Torbay.

During the winter, East Devon, Teignbridge and Torbay were as busy as Exeter and Mid Devon. Each month the diaries of our four home energy advisors (Gill Wyatt Tara Bowers, Matt Axe and Chris Walford) are full with Local Energy Advice Partnership (LEAP) home visits, drop-in clinics and talks to community groups. We have been so successful that we now have a project worker, Sarah Rocke-Evans to support the project.

As the delivery partner for LEAP (funded by AgilityEco from the energy suppliers' Warm Homes Grant) we provide in-depth home visits tailor-made to the needs of each householder. The number of visits has steadily increased each month and reached 71 in April.

We continue to receive funding from The Devon Community Foundation, The Big Energy Saving Network (BESN) and Western Power Distribution (WPD) South West Affordable Warmth fund. We also received grants from Smart GB and WPD's Energy Affordability fund. These funds have enabled us to build more health-related partnerships, develop our outreach work in East Devon, Teignbridge and Torbay and provide training to more than 252 staff and volunteers, over 80 of whom are health related, helping them make referrals to the project.

Building such strong links with a wide range of partners means we can reach the most vulnerable in our society. For instance, we have been providing home visits to patients discharged from respiratory wards at the Royal Devon and Exeter hospital to improve their home living conditions, and in the longer term, reduce hospital readmissions.

We now have an online referral form, to make it easier for our referrers and enabling householders to self-refer.



Figure 3 : Healthy Homes banner

Our drop-in advice clinics are thriving across the region with new venues in East Devon, Teignbridge and Torbay. Clinics vary monthly, so for an up to date list, visit the Healthy Homes webpage.

The Energy Company Obligation (ECO) grants available for boiler replacements and insulation were updated to ECO 3 in the autumn, which delayed the installation of ECO measures delivered this winter. However, the Emergency Central Heating Offer (ECHO) was available for broken boilers for a longer period this year and we successfully referred 33 homes. For three weeks in March we also had access to the HEART project, which provides free white goods to people eligible for home visits.



Figure 4: Tara Bowers advising a householder at Healthy Homes Clinic, Beacon Community Centre

We have new contracts with several different ECO providers so we have a wider range of available ECO measures and we are now referring householders whose boiler replacements and insulation were delayed due to the slow start of ECO 3.

Table 2 provides a summary of the outcomes and benefits delivered by Healthy Homes for Wellbeing during the current project year from 1st August 2018 to 31st July 2019 up to April 30th 2019. A further £13,878 of savings relating to water tariffs, tariff switches completed after home visits etc is estimated but unallocated as yet.

Table 2: Outcomes and benefits of the Healthy Homes for Wellbeing project during the current project year (1st August 2018 to 30th April 2019)

	Number	Savings
Enquiries/One to Ones at clinics, talks etc	742	n.a
LEAP Home visits	493	n.a.
Income Max referrals: benefit and debt advice (Interim savings calculated on average £1,500 per referral)	216	£324,000
ECO referrals (boilers and loft and wall insulation)	127	TBA
ECHO referrals (Interim savings £200 p.a.)	33	£6,600
HEART referrals (each appliance £40 p.a.)	60 appliances	£2,400
Fire Safety checks	95	n.a.
Health/LA referrals	61	n.a.
Warm Home Discount	48	£6,720
Switching tariff/supplier	82	£12,948
Behaviour changes/easy measures installed	514 households	£49,653
Priority Services Register sign ups	376	
Water Care Tariff forms submitted/Care team referrals	105	TBA

Including the unallocated savings mentioned above, the total savings are £415,269. This is an average saving of £870 per household receiving a LEAP home visit.

The Open LV Project

ECOE were selected to participate in the Open LV project run by Western Power Distribution (WPD) to make local electricity data available to the energy industry, community groups and app developers.

The purpose is to improve the capacity of the local low voltage (LV) electricity network to cope with the increase in use resulting from the decarbonisation of the UK's energy as heating and transport fuels etc are replaced with electricity.

The project scope was to trial and demonstrate an open, flexible platform that could ultimately be deployed to every LV substation. The electricity network operates on two

voltages: high and low. Most houses are on the low voltage network and with the increase in roof-mounted solar, heat pumps, electric vehicle charging points and smart meters, WPD realised its LV substations might come under pressure. A ‘smart’ system to balance capacity and demand could alleviate pressure and prevent substations failing.

ECOE's role was to participate in collection of data on substation performance and measurement of electricity demand from local homes and businesses using an open-source software platform and then change the behaviour of consumers trialling a test smart phone app developed by Q-Bots.

Although the data collection was dogged by technical and resource issues which were largely outside ECOE's control, we were able to run a successful focus group to get feedback on the app and probe how best to change people's behaviour.

We learned that participants want to be able to change their consumption pattern by using appliances when there is plenty of renewable energy available. However the group considered that the mechanism should be automated and that financial incentives would maximise adoption. Tailoring the app to the needs of individual consumers would increase participation and in turn generate community engagement in the performance of their substation.

The whole area of smart meters and smart networks is currently in a state of flux so it is difficult to see exactly where ECOE takes the project output but we'll definitely be keeping an eye out for opportunities.

The Local Energy Market Devon and Exeter project (LEMDEx)

ECOE have been part of an innovative project examining new contractual and trading systems to improve the business case for renewable energy. In essence, Local Energy Markets secure better prices for renewable generation giving a much-needed boost in a subsidy-free world.

The Local Energy Market Devon and Exeter (LEMDEx) project is led by Swan Barton who have a ‘peer to peer trading platform’ which can settle on a minute by minute basis, enabling generators and consumers of energy to trade. The minute settlement is important as normally this is done on a half hourly basis which makes it more difficult to match generation and usage if, for example, solar PV generation is interrupted temporarily by cloud cover. This problem disappears when working on a minute basis so it is easier to show that a kWh generated here is a kWh consumed there.

We have been providing data on our solar PV generation to enable Swan Barton to model how the platform could work. The next step is to bid for further funding to run it in real life. ECOE will be participating to see how this can benefit citizens in Devon.

COMMUNICATIONS (Publicity, events and community engagement)

A gratifying outcome of our communications this year was being shortlisted for two awards. One was Community Energy England's Community Energy & Carbon Saving Award, where our inclusion related to the Healthy Homes for Wellbeing project. For our overall activities, ECOE was shortlisted for Regen's Best Community Initiative award.

Following the election of Andy Extance as a director at last year's AGM, ECOE has adopted a new communication strategy. Media drives have focussed on ECOE's core activities. We

have placed pieces supporting Healthy Homes for Wellbeing in local newsletters including Newton Wonder, Exe Valley Forum, Re-connect Magazine, St James Contact magazine and Lapford Lookout. When we offered Healthy Homes for Wellbeing clinics in Crediton in February, an interview by the Creditor Courier with director Tara Bowers generated positive coverage. Awareness of our Community Fund was raised by coverage in The Exeter Daily, Newton Wonder and on the Centre for Sustainable Energy website.

Our regular communications with members are via social media. Our Twitter follower count is now 1,649, up from 1,468 last year. Our Facebook page now has 751 followers, up from 679. We now have 188 LinkedIn followers, up from 145. Following a spring clean to comply with GDPR, our email supporter list has fallen slightly from 684 to 663.

We also continued our engagement with the local community. Community engagement activities started in June 2018 with a stall at Exeter Respect festival. Our chair, Patrick Devine-Wright, gave an invited speech and opened a stall at Uffculme Green Day in September 2018. In November 2018, five directors attended the Exeter Energy showcase at the University of Exeter, which brought energy researchers together with local stakeholders. In December 2018 we ran a trip for ECOE supporters to the Cranbrook district combined heat and power plant. We kicked off 2019 in January with our second Community Fund Allocation event. There is a short video of the outcome on our website. In March, Patrick chaired a talk from former Green Party leader Natalie Bennett at the University of Exeter, and we ran a focus group for the Open LV project.

Our events were also very focused on supporting core activities. We were present at the Beacon Heath Summer Fete in June 2018, one of many events this year where we promoted the Healthy Homes for Wellbeing project. Others included Devon & Cornwall Police Blue Light Day at Westpoint Exeter in August and Mid Devon District Council's Landlord Networking Event at Paschoe House near Crediton in September. In November we attended Exeter Council's Renting Minefield event at the Flybe Training Academy and the Self Management UK event for carers and people with long term health conditions at Exeter Library. In February 2019 we attended Crediton Community Fair. Looking forward, on June 26th we will be present at an event called 'Making Homes Healthier' organised by Exeter City Council. Also present will be Mid Devon District Council, Devon County Council, National Energy Action and Wessex Resolutions CIC.

SUMMARY FINANCIAL POSITION AT 31 JANUARY 2019

The accounts for this financial year show a surplus of £6,785, reducing the total accumulated deficit from £46,134 to £39,349. This surplus is after taking account of the proposed 5% interest payment on members' shares and the payment to the Community Fund of £2,000 agreed at the AGM in 2018.

This is the first year in which ECOE has made a surplus, but the result should be treated with caution. It is the Healthy Homes for Wellbeing project that has given rise to the surplus, and that is partly due to the timing. Grants are received over the winter period, with most of the grant income being accounted for on receipt (in accordance with accounting Regulations), whereas the project's expenditure will continue throughout the year. Consequently, if we were to look at the figures in a few months' time, part of that surplus will have been spent.

Aside from the surplus, ECOE's cashflow has been positive, to such an extent that we were able to repay £30,000 of members' loans during the financial year. Since the beginning of the new financial year, we have also started to repay share capital when requested. As we repay

more of our loan and share funding, interest payments will reduce and the accumulated deficit will fall further.

On the strength of the results and of the financial projections going forward, the Directors will recommend to members at the AGM that a transfer is made to the Community Fund of £3,000 this year: half coming from the Healthy Homes for Wellbeing surplus and half from the future profits of the PV installations.

COMMUNITY FUND

Our Community Fund is one of the main ways that ECOE benefits and strengthens the wider community in Exeter and East Devon. It is available for local community groups to apply for funding for projects that help to save energy and/or help to alleviate fuel poverty.

£4,100 was available this year. Of this, £2000 was agreed by members at the 2018 AGM, with the balance of £2,100 coming from 42 members who kindly donated part or all of their share interest for this purpose.

The fund allocation event took place on January 30th and was attended by ECOE members, directors, supporters and applicant groups.

In keeping with the participatory ethos of ECOE, the event was designed to be collaborative. Following presentations from each of the applicants, a collective conversation took place about how best to allocate the funds in a way that would be best for all involved. This wasn't easy as the total amount applied for exceeded the funds available! Following extensive discussions facilitated by Gill Wyatt, the decision, supported by all in attendance, was to allocate £1,400 to Art and Energy for creative solar workshops and £900 to each of the other applicants: MIDI for the installation of solar panels, Friends of the Estuary in Topsham for the installation of an electric vehicle charge point, and Pinhoe Road Baptist Church for the installation of LED lighting.

Pinhoe Road Baptist Church have already used their funds and the other groups will keep us informed of their progress. The presentations from the event are available on our website. We intend to operate a similar process in 2020 and the amount to be made available from this year's profit will be discussed and voted on at the AGM.

GOVERNMENT POLICY UPDATE

Disappointingly, no new policies were announced although a lot of consultations are in progress.

The only clear development was the end of the Feed-in Tariff (FiT) scheme which provided financial incentives for generation and export of renewable energy. For reasons why the scheme shouldn't have been closed, see Regen's response to the consultation https://www.regen.co.uk/wp-content/uploads/Feed-in-Tariff-Closure_Regen-response_for-website.pdf. However the Smart Export Guarantee should be introduced in June.

The recent Committee on Climate Change report highlights the need for policies to reach Zero Carbon so we now wait for the government to introduce policies supporting the amount of renewables that needs to be deployed.

FUTURE STRATEGY

We will continue to work collaboratively with other organisations at the national level, including : Regen, Community Energy England, Cooperatives UK and National Energy Action. We will also continue to collaborate with local organisations including Transitions Exeter, the University of Exeter (Exeter Energy academic network), Devon Energy Collective and other networks where appropriate.

While policy support for community energy remains uncertain, there is increasing interest in local ‘smart’ systems of energy provision and use, an area of innovation in which community energy groups can play a strong role. We have already been involved in two projects of this kind over the past year (OpenLV and LEMDEx) and will continue to seek opportunities and work with partners such as Devon County Council where appropriate.

There is also interest in ways that coalitions of community energy groups can work together to unlock new possibilities and business models. We will continue to engage with the Devon Energy Collective with this aim in mind.

More generally, the increasing acceptance of a ‘Climate Emergency’ by councils and organisations across the country, including Devon County Council and the University of Exeter, could offer a more supportive context for the community energy sector more broadly and ECOE specifically.

As part of our continuing commitment to the climate change agenda, we will devise a formal travel policy to minimise emissions associated with our working practices.

ECOE continues to undergo a transition in personnel. Tara Bowers will take over as Chair after this year’s AGM and Vicky Vallis will formally take up the Finance Director position.

Unless significant additional funding and/or resources are secured, for the coming year the Directors have decided to focus on three priorities: initiating new solar projects, maintaining existing solar installations and continuing Healthy Homes for Wellbeing.