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# Devon County Council



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better regional policies*



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# Foreword

Devon County Council (DCC) signed up to the Nottingham Declaration on Climate Change. By signing this agreement, it has committed to work on delivering a climate change programme.

The authority has an Energy Policy which includes a renewable energy objective of achieving 30% of energy to come from renewable sources for our corporate estate. The policy also commits DCC to assist in the implementation of measures to reduce the region's greenhouse gas emissions.

It was identified the policy needed to better reflect the move to a subsidy-free environment for RES and the creation of new, multi-vector renewable energy systems, as well as contractual arrangements which increase the profitability of renewables and, therefore, enable investment from public, private and community sectors. DCC is required to be a net-zero county by 2030, which will be achieved through carbon reductions and offsetting.

Through the participation of DCC in AgroRES project, funded under Interreg Europe's 4<sup>th</sup> call, interesting lessons have been learned that will help reach the established targets.

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Among those learnings that affect an important sector of the county's economic activities are the high potential community-owned renewable energy and new business models.

# Devon County Council Action Plan

## Part One – General Information

Project: AgroRES

Partner Organisation: Devon County Council (DCC)

Country: United Kingdom

NUTS2 region: UKK4

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## Part Two – Policy Context

The Action Plan aims to impact:

- Investment for Growth and Jobs program
- European Territorial Cooperation program
- Other regional development policy instrument

Names of the policy instruments addressed: 1) Devon County Council Carbon Reduction Plan 2020-2030

PI addressed: DCC Carbon Reduction Plan 2020-2030

In February 2019 Devon County Council (DCC) declared a climate emergency and in May of the same year brought together partners from across the county to form the Devon Climate Emergency project. The 27 partners prepared the Devon Climate Declaration, which requires its signatories to review their plans (within 6 months) to reduce their own organisation's carbon emissions. DCC signed the Declaration in June 2019. And in

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response to its signing, DCC set a target for its activities to be carbon neutral by 2030 committing to the following:

- Reduce the corporate carbon footprint by minimum 70% by 2030, compared to 2012 levels
- Retain the existing target to source 30% of its total corporate energy requirement from renewable sources by 2030
- Incrementally increase the percentage of the remaining carbon footprint that is offset, from 5% in the current year to 100% by 2030
- Engage with contract providers to reduce carbon emissions from their operations and offset the remainder by 2030
- Offset residual emissions from the supply chain from the year 2030 onwards

This plan replaces the council's previous Energy Strategy and Action Plan of 2014; its scope includes the council's supply chain and will impact on its farm's estate.

The actions defined in this Action Plan have developed from the learnings achieved through the AgroRES project and they will influence the mentioned PI by helping to achieve the set targets more efficiently and in a shorter period of time.

According to Programmed Manual, section 4.3.1., the proposed improvement of the policy instrument is a type of change 2 a change in the management of the policy instrument (improve governance) through the use of community-ownership and new business models in order to increase the use of renewable energy in the agricultural sector.

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## Part Three – Details of the Actions Envisaged

### **Action One: Increasing the use of renewable energy in the agricultural sector through the use of community-ownership and new business models**

#### **The Background**

Currently, in the post-subsidy world, large-scale renewables are not viable and there is substantial untapped potential in the agricultural sector through the use of farmland and buildings. The Committee of Climate Change has determined that a quadrupling of renewable energy is required to meet the 2050 net zero carbon targets. It is also needed to engage citizens in renewable energy generation as this supports the ongoing work to move people to low carbon lifestyles.

Our Regional Self-Assessment found that investment in renewables can be difficult for the Devon farming sector. Volatile cash flow is cited as a key barrier to growth for farm businesses, with the availability of capital a key factor in determining investments. The DCC agricultural sector is characterised by small family-owned farms, traditionally associated with modest income levels. The number of small farms is declining in the SW, posing a risk to the DCC agricultural sector as a whole.

The installation of solar panels is a key renewable energy growth area. However, many building owners do not have the capital to invest or don't own the building they operate from, such as tenant farmers. PPAs can be used to secure third-party investment in the deployment of solar panels with the generator entering into a PPA with the building owner to supply generated electricity. That is done through a lease but the terms of the lease can be a barrier to take up, particularly for tenanted properties. Renting instead of leases may be a better way forward and, through the project, DCC now have a legal risk assessment of the rental model.

Wind power installations are feasible but location dependent. DCC receives strong prevailing westerly winds making large commercial wind farms, small clusters of turbines or single, small wind energy systems viable; these also allow for continuation of agricultural activity but can be harder to obtain planning permission for. DCC commissioned a wind assessment of the farms estate so we can engage community groups to take forward projects. It is very difficult to get planning permission for renewable wind technologies but having community ownership can massively help.

Through the AgroRES project, DCC found out about how the agricultural sector can work with the community energy sector. In Ireland, for example, their Better Energy Communities initiative highlighted the value of community orientated renewable projects and during the cross-cutting visit to Ireland we heard about the range of benefits this type of approach can offer. DCC also learnt about Finland's use of community-owned energy such as the district heating scheme Good Practice and which DCC visited as part of the cross-cutting visit. As part of the regional self-assessment, DCC studied the socio-economic benefits of and this determined that for a 20 MWp solar PV installation a community-owned scheme offers £15m more value to the local economy than a more traditional, privately-owned model.

New business models are needed to enable renewables to be deployed. Power Purchase Agreements (PPA) are widely used in the renewables sector and are contractual agreements between a generator and end user in relation to power. However, for public sector organisations, they need to be procured and this means awarding organisations cannot stipulate the generation must be within a locality of community owned. Stimulated by the lessons learnt from Ireland and Finland on the benefits of community-ownership, DCC started to research new business models and this led us to Synthetic PPA (SPPA). An SPPA is a financial instrument enabling a generator to secure a long-term price for energy generated and so secure long-term financial backing to

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deploy a power asset. SPPAs don't need to be procured so enable a public sector organisation to stipulate location and ownership model. The project as developed the business case and this needs to be signed off by councillors and then DCC can enter into negotiations with developers.

DCC also learnt through AgroRES about the benefits of using generation combined with storage. Dairy farms consume large amounts of electricity to carry out the milking process and would benefit financially if the electricity could be provided from renewable sources. Wind or solar renewable technologies could be used but both have their issues in the UK. Milking is generally at times when the solar panels are not generating or at less than peak (early morning and late afternoon). Deployment of wind generation is difficult in the UK due to planning restrictions. The installation at J & M Dairies, a Good Practice from Ireland, combined solar PV with batteries so that energy generation could be shifted to times of use. As part of the project, we obtained half hourly data on a typical Devon dairy farm energy consumption and mapped this against solar PV energy generation to determine the storage required so we could build our own business model.

In Devon we have a very innovative community group called the Dartmoor Woodfuel Cooperative that engages landowners to get woodland into management, provide logging services and produce woodchip and logs for biomass heating systems. During our cross-cutting visits to Ireland and Finland we saw similar initiatives to produce high-quality biomass for producing energy. However, discussions between stakeholders from Finland and project partners from Finland and Ireland confirmed that each country was having biomass exploitation held back. Recent UK and EU studies have shown that burning wood can cause significant air pollution issues to the building user and those living outside. Some health risks can be mitigated by using seasoned, dry wood burnt in efficient wood burners but there will still be pollution effect even when these factors have been taken into consideration. DCC has met with AgroRES project partners and stakeholders and determined there is likely a place for biomass if a number of factors are complied with. This includes wood being sourced locally, seasoned correctly, burnt in biomass boilers situated in external plant rooms, medium to large-scale units and only in rural locations a distance from other habitable buildings. Best practice guidance will be produced as part of AgroRES in conjunction with partners and stakeholders from Ireland and Finland.

If DCC can deliver more renewables this will enable progress to be made towards the DCC carbon targets and the regions elimination of carbon emissions.

## Action

The action is to increase the use of renewable energy in the agricultural sector through the use of community-ownership and new business models. To be able to complete this action and achieve its objective, the following activities (or sub-actions) will be implemented by the DCC AgroRES team:

- 1.1- Develop a Synthetic Power Purchase Agreement (SPPA) business plan and secure backing of DCC and other public sector organisations in Devon to enter into the SPPA with a community energy organisation. The aim will be to develop sufficient demand (c.100GWh) that installations of renewable energy totalling 100 kWp are developed on low-grade, agricultural land.
  - 1.1-1. Work packages needed to be completed to develop the business plan are
    - a) draft financial forecasts incl. cash flow forecast, b) draft heads of terms, c) determine risks and mitigations, d) determine carbon accounting approach, e) draft financial accounting approach, f) secure offtake in principle agreements, g) enter into in principle agreement with developer, h) developer secure investment and land, i) deploy renewables

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- 1.2- Develop a community-owned energy storage and solar PV installation sited on a dairy farm. The aim will be to deliver at least one demonstration site on the DCC farms estate using the business plan to secure approvals and investment.
  - 1.3- Work packages needed to be completed to deliver the aim are a) draft financial forecasts incl. cash flow forecast, b) draft heads of terms, c) determine risks and mitigations, d) secure community energy partner and investment and e) build demonstration site. Demonstrate use of a community-backed rental model for the provision of renewable energy on at least one farm.
    - 1.3-1. Work packages needed to be completed are a) determining risks through legal consultation b) develop business case, c) determine viability and interest through a stakeholder workshop, d) secure community energy partner to demonstrate model on DCC farms estate, e) build demonstration site.
  - 1.4-

### **Players Involved**

- Devon County Council Finance Director and Cabinet: final approval of SPPA model.
- Devon Energy Collective: community energy organisation business entity for large-scale projects.
- Devon Community Energy Network: network of community energy organisations operating in Devon.
- National Farmers Union: trade association for the farming sector and key partner in gaining feedback on models.
- Dartmoor Woodfuel Cooperative: key community stakeholder for increasing biomass use
- Sligo IT: partner in developing business models and research
- Sirkkala Energy Park: partner in developing business models and research
- Regional Council of North Karelia: partner in developing business models and research
- Royal Forestry Society: key stakeholder in engaging landowners and research

### **Timeframe**

- Secure approval from DCC to take forward SPPA negotiations with Devon Energy Collective: July 2022
- Agree terms, sites, and enter into SPPA with Devon Energy Collective: February 2023
- Complete engagement with farming sector over lease vs rental arrangements: August 2022
- Demonstrate solar PV + energy storage business model at one farm: August 2022
- Monitor solar PV + energy storage: August 2022- August 2023

### **Costs**

- Alastair Mumford, AgroRES project manager, will be responsible for the proper implementation of the action and sub-activities as detailed above.
- Alastair Mumford, 0.2 FTE, £11,440.08

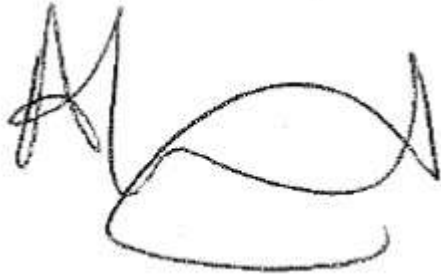
### **Funding Sources**

- DCC will fund all staff costs in relation to delivering and monitoring



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Date: 28<sup>th</sup> July 2022

A handwritten signature in black ink, appearing to be 'A. S.', with a large loop and a trailing flourish.

Signature:

