REPORT FUNDING AND GRANTS OFFICER

SUBJECT*:* SUSTAINABLE DEVELOPMENT FUND UPDATE REPORT

Purpose of Report:

To consider the 12 applications made to the fund since the previous committee 4 November 2020.

Background

The Sustainable Development Fund is a fund supporting community projects in and around the Pembrokeshire Coast National Park. The Fund supports community projects that contribute towards a reduction in carbon and help respond to the climate emergency.

Applicants can apply for projects to deliver the following:

a. Install renewable energy generation facilities to a community building i.e. solar panels

b. An initiative to promote reduction in carbon emissions in transport i.e. installing an electric charging point for bikes or cars or by supporting access to non-individual travel

c. Install a community facility that minimises waste, i.e. water fountain

d. Any other community-based carbon reduction initiative.

SDF Financial position

Funds Available 2020/21

A total of £150,000 has been allocated to the fund for the 2020/21 financial year. Including £50,000 from Welsh Government's Sustainable Landscape Sustainable Places Fund which needs to be spent by 31st March 2021.

The table below outlines the projects and funding that have been allocated to date, this financial year:

SDF ref	**Applicant**	**£ grant awarded**	**£ grant** paid	**£ grant outstanding**
SDF/112020/1	Theatr Gwaun	15,183	0.00	15,183
SDF/112020/2	Marloes & St Brides Village Hall	12,738	12,738	0.00
SDF/112020/3	Pembrokeshire Mencap Ltd	3,558	3,558	0.00

SDF/112020/4	Wildlife Trust South & West Wales	17,596	17,596	0.00
Total		**£49,075**	**33,892**	**15,183**

From this allocation £4,858 has been spent on the Little Green Grant.

Total amount grants available 2020/21	150,000
Little Green Grant expenditure	-4858
Grants expenditure	-33892
Grants Allocated from 2020/21	-15183
Total grants remaining	**96,067**

Leaving £96,067 in grant funding available this financial year.

Current applications and financial commitments – Active Projects (pre 2020/21 financial year

SDF ref	**Applicant**	**Project**	**£ grant awarded**	**£ grant** paid	**£ grant outstanding**
359	PCNPA	Pembrokeshire Outdoor Schools	18,637	12,723	5,914
361	PCNPA	Heritage Guardians	11,729	6,947	4,782
362	VC Gallery	The Power of Pembrokeshire	11,488	10,370	1,118
364	iSea Surfware	Mobile shop and beach cleaning hub	8,347	8,347	0.00
SDF/2019/1	Springboard	Family Explorers	19,100	0	19,100
SDF/2019/3	KlickKlack Print	Sustainable Printing	20,428	200	20,228
SDF/2019/4	Emma Evans	St Davids Old Farmhouse Brewery	24,613	24,428	185

Total left to pay (allocated) from running projects £51,327. Please note this is to be paid from previous SDF budget years.

Financial considerations

12 applications for consideration requesting a total of £271,607 from the available funding pot of £96,067.

As you will see the funding requested exceeds the amount available by nearly threefold. In assessing the applications I have taken into account the scoring criteria agreed at the November 2020 meeting as well as considering the following as additional criteria:

1. Quality of the application
2. Location of the applicant/community and the number of applications from the same area already being funded by SDF.
3. Proposed start date
4. Match funding offered
5. Type of organisation applying

Recommendation
Members are requested to review the 12 applications and come to a decision in respect of the request for grant funding. It is recommend that some projects are part funded in order to support a wider number of projects across the National Park.

APPLICATIONS FOR CONSIDERATION

There are 12 applications for consideration in this round.

2 projects that were deferred from November 2020 round plus 10 new projects.

The summary & eligibility check for each application follows and is linked from this table.

Summary table

Project Type	Ref	Organisation	Funding Sought
Deferred Projects from November 2020			
D	SDF/012021/1	Newport Area Environment Group (NAEG)	£24,973
D	SDF/012021/2	Cwm Arian Renewable Energy Ltd (CARE)	£24,280
New Applications January 2021			
A	SDF/012021/3	Herbrandston Sports and Recreation Association	£30,046
A & B	SDF/012021/4	South Ridgeway Community Association	£37,568
A	SDF/012021/5	RSBP	£9,420
A	SDF/012021/6	Clwb Rygbi Crymych Cyf	£13,689
A & B	SDF/012021/7	Neuadd Gymuned Bwlchygroes Community Hall	£4,500
A, B, C	SDF/012021/8	Haverhub	£28,168
B	SDF/012021/9	Eco Dewi	£24,210
D	SDF/012021/10	Clynfyw Community Interest Company	£24,800
D	SDF/012021/11	Springboard, Learning Pembrokeshire	£24,963
D	SDF/012021/12	Ffynnone Community Resilience in North Pembrokeshire	£24,990
		Total funding sought	**£271, 607**

Deferred projects from November 2020

Project Summary: Newport: Decarbonisation through Biodiversity

Ref: SDF /012021/1
Project Title: Newport: Decarbonisation through Biodiversity
Applicant: Newport Area Environment Group
Location of project: Newport
Project description: Project funding for 18 months, which includes paying for a Biodiversity officer (BDO) to facilitate 3 inter-related elements:

1. Community awareness and action – engage local groups, the school, homeowners and landowners though community activities & workshops to change behaviours.
2. Carbon sequestration – through tree planting.
3. Biodiversity and climate change resilience – a biodiverse area is intrinsically more resilient to the effects of climate change.

Three components of the project will address these elements:

- Tree planting - 1 tree planted for every member Newport's population (approx. 1200.) Planting sites will be public open space and community areas, private land and gardens. NAEG will work with the Pembrokeshire Nature Partnership's Land Use Planning Tool to identify sites which will help strengthen wildlife corridors and improve connectivity. An Enhancement Study sponsored by the National Park proposing suitable tree planting sites will be consulted. The community will be engaged throughout, from finding and offering sites, attending tree planting events and providing aftercare. Native species will be used.
- Wildlife gardening - Private homeowners will be invited to improve their gardens for wildlife, through activities such as planting wildflowers, leaving areas of lawn uncut, creating log piles and bug hotels, nesting boxes and wildlife ponds. Much of Newport is second homes, managed by only a few gardeners. They can have significant influence on the sites they manage, and will receive wildlife gardening training through the project. A network of ecologically valuable gardens and wild places will increase biodiversity and allow for greater movement of wildlife across a relatively hostile urban environment. Stickers declaring homeowners as participants will be distributed.
- Wildlife Monitoring and mapping - Citizen Science is recognised as a vital method of gathering information about our environment and a fantastic way to engage people. Community members will be encouraged to gather observations of target species (determined by the Steering Committee). Observations will be collected using an existing wildlife monitoring app from the West Wales Biodiversity Information Centre. The observations, tree planting and wildlife sites will contribute to existing wildlife maps

Impact measurement: Community action and awareness activities measured through surveys taken before and after workshops and activities to show how the project has changed behaviours, attitudes and awareness. Report on the number of workshops and activities held, the topics and the number of attendees at each event. Community engagement will also be measured by the number of volunteers, households and citizen science participants involved in the project.

Carbon capture through tree planting will be estimated based on the total number of trees planted (at least 1200).
The impact of improved biodiversity and habitat connectivity will be measured through the creation of a Biodiversity Map of Newport showing the new areas of trees planted and wildlife gardens created.

Sustainability*:* One of the criteria in choosing planting sites will be the long-term commitment of the landowner. Guidance and guidelines will be developed to ensure aftercare of trees will take place and volunteers working with NAEG, the Footpaths Group and others will maintain community areas. Many of the interventions in gardens are likely to be long-term, e.g. ponds, tree and shrub planting and wildflower seeding.
Training, workshops and an ongoing focus on awareness raising, will ensure participants buy in to the long term aims of the project and foster long term behaviour change. Volunteers will be invited to join NAEG's sub-group, which will continue to provide support, advice and enthusiasm for the goals of the project long after activities end. Buy in from key stakeholders, including Newport Town Council, will embed the outputs of the project in the future development of the town.

Total budget £ 42,490
Total requesting from SDF £ 24,973

ELIGIBILITY CRITERIA	Yes	No	Comments
Not for profit Organisations	Y		
Sufficient project detail supplied on/with application form	Y		The group has supplied a detailed project plan which includes comprehensive job description and structure of how the project will be run which was requested in deferment letter.
Minimum 20% match funding secured	Y		Volunteer Time: £15,070 Woodland Trust Trees (for common land420: £1,764) Subsidised urban tree packs £178 Biodiversity Officer (Anthony Rogers) Specialist support: £505 Total Match funding: £17, 517 (41%)
Copies of quotations enclosed (where relevant)/ Notes of costings)	Y		Staff & office costs for 18m (part- time) £17,981 Awareness sessions community and school £460 Marketing £780 Volunteer time & expenses £15,570 Software for mapping and specialist support £1,005 Trees – private land £2,560 Trees Common land £1,764 Tree packs £178 Stakes & Pole & bark £250 Seeds for private & common land £200 Contingency £1,742 Total project cost £42,490

ELIGIBILITY CRITERIA	Yes	No	Comments
			Provided a detailed breakdown of costs including for employed BDO.
Can be delivered in 6 -18 months	Y		Start date 1/6/2021 18 month project
Planning consent			N/A
Eligibility checks completed	Y		

Reason for deferment: The Committee requested that the applicant provides additional information regarding the structure of project/how it would be delivered and how the staff member would be employed; also provision of a plan of what trees would be planted and where; more detailed outcomes and outputs of the project as well as demonstrate engagement with other organisations such as the Woodland Trust.

The group have provided a comprehensive plan of how the project will be run, delivered and managed. Including detail that evidences the Group's ability to deliver the project in a known timescale (Indicative Project Plan) analysis of known volunteer groups and their ability to contribute their time. A 'deliverables list' is provided to demonstrate that consideration to measuring the positive impact of these has been given. The Biodiversity Officer BDO Job Description and Reporting Approach. As part of the project development, one of the first tasks of the BDO officer as part of their community engagement activities they will map the tree planting.

Officers Recommendation – Part fund

Rationale: The group have provided a lot of additional information, the amount sought has nearly doubled from £13,620 requested in November to £24,973. The outputs and outcomes have been clearly defined and measurement identified, so too has the budget. The volunteer in kind costs seem very ambitious at 1415 hours which equates to 78 hours per month of the project, but they have provided an explanation of this.

My recommendation is for part funding. I suggested that the group identify all public land which might be suitable and do a brief audit of each of these to look at the possibility for tree planting. Whilst I understand the reasons for planting on private land, at this time I do not think we should fund trees on private property. I would therefore suggest that we offer a contribution to the project.

Project Summary: Pembrokeshire Energy Efficiency Programme (PEEP)

Ref: SDF/012021/2
Project Title: Pembrokeshire Energy Efficiency Programme (PEEP)
Applicant: Cwm Arian Renewable Energy Ltd (CARE)
Location of project: Pan Pembrokeshire – targeting North East Pembrokeshire for the pilot
Project description: Revenue funding (staff costs) to pay for a 12 month project (research and pilot) into a county-wide energy efficiency programme (PEEP). PEEP's aims are to reduce energy use and tackle fuel poverty by increasing and normalising the uptake of low carbon life choices. The project will do this by;

- encouraging low carbon life choices including energy efficiency, renewable energy and low-carbon transport
- helping residents to deliver their ideas and share their experiences
- demystifying the low carbon transition options available, and stimulating more uptake of government endorsed schemes

Phase 1: Research

- collecting data from energy efficiency projects and behaviour change programmes, to find out what works and what doesn't in terms of mobilising residents to take up energy efficiency measures
- collecting data from residents about what they need to help make the transition to low carbon living
- Networking with relevant organisations and advice services to assess the feasibility of rolling out a programme of support across Pembrokeshire.

Phase 2: pilot/ delivery
The exact nature of the delivery/pilot phase will depend on the results from research, but is expected to consist of;

- training PEEP Project Officers according to the results of the research phase
- establishing a call centre and/or email inbox for receiving queries and giving bespoke advice to residents
- visiting residents to walk them through the options and help to fund and deliver their initiatives
- hosting activities within communities to embed collective social norms around low carbon transition
- supporting residents to become community champions of low carbon lifestyles & share their experiences

CARE will lead the project and work with local and national organisations they have carried out a scoping exercise and identified gaps in provision of advice and support for energy efficiency and low carbon life choices. Gaps such as working with domestic households to bring about behaviour change and explore opportunities to pool local knowledge and resources around low carbon solutions.

The pilot would be run in a discreet area of the North East of Pembrokeshire, to include the following wards; Clydau (incl Boncath), Crymych (incl Eglwyswrw), Cilgerran (inc Manordeifi), St Dogmaels, Maenclochog, Newport and Dinas Cross.

Impact measurement: The impact of PEEP project will be measured against baseline figures taken at the start of each phase where relevant.
Number of …

- organisations involved in the project,
- households taking part & taking up governmental energy efficiency schemes,
- households reporting having made life choice changes for energy efficiency or carbon reduction,
- people reporting increased understanding of how to make low impact life choices recorded at events/activities.
- Number of private individuals supporting the pilot scheme or volunteering to act as energy champions
- Number of local and national businesses who are involved in energy efficiency delivery that link with the project and report uptake in their services as a result of the project

From some of the above data the project can extrapolate estimated carbon reduction if comparing households' energy use before and after the intervention. However, giving evidence of the project's ability to generate tangible carbon reduction could well be a factor in the project's ongoing expansion and success (for example, if PEEP were to provide a service in future to larger organisations or the local authority) - and as such, the development of a method for measuring carbon reduction across all project activities could be incorporated as part of the Research phase of the project.

Sustainability: The group have considered numerous ways in which the project will be sustainable in the future including strengthen partnerships, supporting PCC to deliver on their energy efficiency/carbon reduction targets. Although a free 'service' there may be potential in the future to develop elements whereby modest charges are made and income fed back into the project.
The community wind turbine project that CARE has developed generates revenue from the sale of electricity, profits from which are used solely for community benefit. CARE could utilise core staff and revenues from the wind turbine to sustain PEEP.

Total budget £30,350
Total requesting from SDF £24,280

ELIGIBILITY CRITERIA	Yes	No	Comments
Not for profit Organisations	Y		Community Benefit Society Registration Number: IP031380
Sufficient project detail supplied on/with application form	Y		
Minimum 20% match funding secured	Y		£6,070 (20% project costs) from CARE reserves
Copies of quotations enclosed (where relevant)/ Notes of costings)	Y		Researchers 3days/week x 6 months £7,605 Project officer/ manager 5days/week x 6 months £12,675 On costs and overheads for 12 months £5,070 Training and travel £5,000
Can be delivered in 6 -18 months	Y		Start date 1/2/2021

ELIGIBILITY CRITERIA	Yes	No	Comments
			12 month project
Planning consent			N/A
Eligibility checks completed	Y		

Reason for Deferment: The Committee requested that the applicant provides additional information regarding delivery of the project in the current COVID-19 circumstances; and details of linkages to the existing zero carbon Britain hub based at CAT to ensure they do not duplicate existing research.

Response to queries
COVID:-
CARE have adapted to the Covid regulations and are currently delivering projects within those regulations, by risk assessing all activities according to the government guidelines as they change, i.e using video conferencing where necessary and ensuring gatherings are kept to the maximum numbers. Under current regulations, the proposed activities at household level and contact relating to work activities are allowed where it is deemed necessary to meet face to face, however we have found that most people have themselves adapted to having meetings, discussions and workshops via video conferencing.

CARE is a well-networked organisation which has been actively engaged with the broader energy efficiency and renewable community in Wales for over a decade - this includes having been involved with Renew Wales as Mentors & Coordinators, receiving recognition as a community group who is 'tackling climate change local 'against all odds', and has very strong links with Community Councils, the County Council and a whole range of local community organisations. CARE personnel are also receiving mentoring from the Sustainable Behaviour Change Manager of Welsh Government, and have direct insight into how the most up to date social science is being applied at a governmental level.

Networked:-
CARE has worked alongside CAT and have close previous professional links with that organisation. We are an active part of an Energy Efficiency Working Group, supported by Community Energy Wales, which is reaching out to all the groups and projects working in this field across the UK to assess what the best practice is. This includes CARE personnel looking to develop this network to include advisor services such as CAB. Furthermore, one of CARE's directors has close ties with the Centre for Sustainable Energy in England.

The research phase of PEEP would be focused on collating best practice and relevant research in the field of energy efficiency for households and businesses, so that we can inform the delivery phase. As such, we will be looking to programmes such as Zero Carbon Britain, to which we already have strong links, in order that we make the most of the research they have already carried out and take every opportunity to ensure existing research and evidence is applied in the work we are delivering.
In light of the above we feel that we are doing everything possible at this stage to avoid unnecessary duplication but rather enhance what work is already being done in the field of energy efficiency.

CARE is known as a renewable energy and sustainability project in this local area, and are working within communities in the wards of Clydau (incl Boncath), Crymych (incl Eglwyswrw), Cilgerran (inc Manordeifi), and St Dogmaels through the Growing Better Connections project we are currently running. By targeting the PEEP pilot project on this same discreet geographical area, we will be working with communities in which CARE and its personnel are already known and trusted. Because CARE has 'reach' in these communities already, this will address any potential issue of capacity as there will be so much overlap in the conversations that we are already stimulating about CARE's work, and will allow us to continue maximising our social and professional connections.

The well-established contacts we have in this area of Pembrokeshire - the individuals and families - would be 'seed people' from whom we could immediately start garnering information for the research phase, and via whom we would then grow lateral networks of people within those neighbourhoods. These 'seed people' may become the community champions who support other local residents to make pro-environmental lifestyle choices. This approach would allow us to carry out research with several people on one street in each major conurbation of the project area - these street-scale networks could then become the settings for our delivery phase, if the research indicates that this scale of delivery is most suitable.
We would aim to engage people through existing trusted social links, to ensure the community-wide promotion activities we propose to promote low-carbon lifestyles are well promoted and accessible to all. Individuals and communities would be targeted through our active social media platforms and regular mailing list, the latter already includes several hundred people, mainly from the test pilot area. We would also target the whole range of community organisations active in the pilot area from community councils, Merched y Wawr, WI, YFC, sports & arts groups as well as social hubs such as pubs, supportive retail outlets and community halls.

Officers Recommendation – Part Fund

Rationale: The group have provided detailed answers to the concerns the committee had during the November meeting. They are networked with energy efficiency organisations including CAT, Zero Carbon Britain, Renew Wales. The group have provided information about how they will encourage behaviour change. They will be working with communities within the National Park. There is evidence of match funding and future sustainability of the project.

As we are currently over subscribed to the fund and there are several applications from north Pembrokeshire I would recommend we part fund the project. In light of the current Covid restrictions and particularly the immediate 'stay at home' message I would suggest we support the research element of the project with the option of reapplying to the fund for the second stage when Covid restrictions have eased.

New Projects January 2021

A. Renewable Energy generation projects

Project Summary: Energy saving project for community hub
Ref: SDF/012021/3
Project Title: Energy saving project for community hub
Applicant: Herbrandston Sports and Recreation Association
Location of project: Herbrandston
Project description: Installation of roof mounted 25.42kwp solar photovoltaic system with battery storage. The Association have recently completed a new build at the sports field, comprising of a community entertainment room with kitchen and licenced bar facilities. The building will require extra energy to heat and light. The PV panel will reduce the carbon footprint and help with climate change.

Impact measurement: Energy use and generated will be recorded. The monitoring equipment will show:

- Total electrical consumption of the community hub
- Total generation of the solar system
- Electricity imported from the grid
- Electricity exported to the grid
- Self-consumed electricity (ie. how much of the electricity generated has been used on site)

Sustainability: The club has a 99 year lease from the Community council. Many youth teams use the club. The panels will provide future reduction in energy from the grid. Any surplus energy will be sold back to the grid and funds reinvested.

Total budget £37,558
Total requesting from SDF £30,046

ELIGIBILITY CRITERIA	Yes	No	Comments
Not for profit Organisations	Y		Constituted Community & Sports Association
Sufficient project detail supplied on/with application form	Y		
Minimum 20% match funding secured	Y		£7,512 (20% total budget) cash match from reserves
Copies of quotations enclosed (where relevant)/ Notes of costings)	Y		Cost for a 25.4kwp PV system with battery storage. A quote has been provided, although work will have to be procured as over £25K. The group have agreed to this.
Can be delivered in 6 -18 months	Y		Start within the next 6 months.
Planning consent			The group have checked, and it is not required.
Eligibility checks completed	Y		

Officers Recommendation – Approve subject to available funding

Rationale: Well used sports and recreation hub in the National Park installing PV panels generating renewable energy. Suggest the group look at the future sustainability of the panels, guarantee and how much will be needed and when for the up keep – they could use any surplus income to save for any future improvements.

Project Summary: Giraldus Hall 'A place for All' South Ridgeway Community Association

Ref: SDF/012021/4
Project Title: Giraldus Hall 'A Place for All'
Applicant: South Ridgeway Community Association
Location of project: Manorbier
Project description: Funding for PV panel, battery storage and 3 EV charging points. New community hub is being built for the community and surrounding areas. There is 180msq of usable roof space on the east, west and southern inclines of the building. It's estimated that this will yield 30kw+ which is almost the calculated usage of the hub. Therefore reducing carbon and operating costs. Incorporating battery storage will allow access for use during high tariff periods or enable sale of surplus energy, supporting the income of the hub. The 3 EV charging stations will contribute to the county EV network and attract new users to the hub.

Impact measurement: With the hub being calculated to use 30kw - 40kw at its peak in the 1st weeks / months usage, storage and grid transfers will be monitored, calculating savings and income. The EV stations will provide data on the usage/ income from the users.

Sustainability: Cost savings generated by PV's plus potential of raising a small amount of income will be used for future costs. An electric monitoring system would provide data for ongoing evaluation and would highlight any drop in performance and efficiency, allowing issues to be dealt with in a quick and cost effective manner. The installations will have warranties. PV's 15-20 year guarantee, invertors and battery storage system 10yr warranty. The EV will suffer wear and tear and may require ongoing maintenance after the warranty has expired.

Total budget £46,960
Total requesting from SDF £37,568

ELIGIBILITY CRITERIA	Yes	No	Comments
Not for profit Organisations	Y		Registered Charity 1147202
Sufficient project detail supplied on/with application form	Y		
Minimum 20% match funding secured	Y		£9,392 (20% of total budget) secured as part of the Big Lottery People and Places grant
Copies of quotations enclosed (where relevant)/ Notes of costings)	Y		PV's 180msq £23,763.00 Battery Storage £7,364.16 Electric Vehicle Chargers £6441.00 Additional Costs £9392.04 (this includes additional electrical works, plant room, trenching, cabling, scaffold) Total cost £46,960.20. Quotes provided
Can be delivered in 6 -18 months	Y		Yes build commences Jan 2021
Planning consent	Y		Granted
Eligibility checks completed	Y		

Officers Recommendation – Approve subject to available funding

Rationale: The community hub is based in the National Park. The project will make the new hub more energy efficient and provide a sustainable basis for future running costs as well as reducing carbon footprint. The group have demonstrated that they can deliver in the timescale and have the match funding in place representing value for money.

Project Summary: Ramsey Island Alternative Energy Project - phase 2

Ref: SDF/012021/5
Project Title: Ramsey Island Alternative Energy Project - phase 2
Applicant: Royal Society for the Protection of Birds
Location of project: Ramsey Island
Project description: Ramsey Island is an RSPB owned National Nature Reserve. Up to 4,000 visitors come to enjoy the reserve every year. In order to manage this volume of visitors staff are helped by residential volunteers (up to 4 a week in a normal year). In 2009 SDF funded phase 1; solar panels, a small wind generator, battery banks and inverters were installed in both buildings. Resulting in a 70% pa reduction in diesel use.
Phase 2 is to install 10 x JA 330watt solar panels (6 at the Farmhouse, 4 at the bungalow), battery and drinking water sterilisation. In order to get near to 100% green energy generation for the volunteer and visitor facilities. Funding will also pay for replacement battery bank at the volunteer's bungalow with lithium ion batteries that are more efficient and require less maintenance.
The project will demonstrate to visitors that actions can be taken to minimise every day impact both as organisations and individuals. To have a site that is hosting thousands of people a year being funded at or near to 100% alternative energy capacity will send a strong message both to the public and policy makers.

Impact measurement: The impact of the project will be measured in several ways:
- A reduction in carbon output. Currently producing 3.2 tonnes of carbon a year to run the visitor and conservation side of the island. The aim is to see this drop to as close to zero as possible. Data will be collected and reported on this.
- The impact will also be measured on how the message of zero emissions is communicated to the public.

Sustainability: Solar is by far the most 'simple' alternative energy option available on the island, offering the most cost effective solution for maintenance and repair options. Staff are well used to carrying out simple maintenance work on the existing solar panel, battery and inverter systems with annual service visits from experienced contractors who are accustomed to the vagaries of working on islands.
All kit has a long life span and good guarantee periods and annual maintenance budget to ensure longevity.

Total budget £11,775
Total requesting from SDF £9,420

ELIGIBILITY CRITERIA	Yes	No	Comments
Not for profit Organisations	Y		Registered Charity 207076 Large National Charity
Sufficient project detail supplied on/with application form	Y		
Minimum 20% match funding secured	Y		20% from reserves
Copies of quotations enclosed (where relevant)/ Notes of costings)	Y		10 x JA 330 watt solar panels at farmhouse including labour (6 @ farmhouse, 4 @ bungalow) £3,725 Solar panel mounting frames including labour £1,650

ELIGIBILITY CRITERIA	Yes	No	Comments
			Lithium battery bank for volunteers bungalow plus new inverter system £ 5,200 Drinking water sterilising system £1,200 Total £11,775
Can be delivered in 6 -18 months	Y		Due to start May 2021
Planning consent	Y		In place
Eligibility checks completed	Y		

Officers Recommendation – Part fund

Rationale: The project is in the National Park, benefiting visitors and volunteers. It will be a good demonstration project. They have clearly outlined how they will be able to deliver the project as well as measure and sustain the investment in the long term. The project is due to start May 2021 so if sufficient funds are not available this round they could reapply in the spring, or we could part fund the project.

Project Summary: Improve Energy Efficiency & Environment

Ref: SDF/012021/6
Project Title: Improve Energy Efficiency & Environment
Applicant: Clwb Rygbi Crymych Cyf
Location of project: Crymych
Project description: Funding to install 11.04kW (13.7kW DC) solar PV system with load diverter for immersion heater to the main club house roof and a new more efficient oil boiler. The installations will reduce electricity costs, oil consumption and reduce carbon emissions within the village.
Being a community based club, the facilities are regularly used by external organisations. It would make the facilities more environmentally friendly; more inviting and welcoming to engage the community all year round.

Impact measurement: Monitoring electricity and oil bills. It is anticipated that 50% of the generated power from the solar panels will be consumed in the property, and the remaining 50% exported. The initial system cost of £11,236 is expected to be recouped after 10 years.

Sustainability: The solar panels have an indicated 25 year life span, both panels and boiler have a 10yr warranty. These will be maintained in line with a warranty agreement with the installer. Future costs will be met by cash reserves and future income.

Total budget £17,112
Total requesting from SDF £13,689

ELIGIBILITY CRITERIA	Yes	No	Comments
Not for profit Organisations	Y		Sport Club, Company Limited by Guarantee all profits go back into the club
Sufficient project detail supplied on/with application form	Y		
Minimum 20% match funding secured	Y		20% Cash Reserves
Copies of quotations enclosed (where relevant)/ Notes of costings)	Y		PV panel £10,701 New boiler £6,411 Total £17,112 Quotes received.
Can be delivered in 6 -18 months	Y		Yes start date March 2021
Planning consent			Planning not required
Eligibility checks completed	Y		

Officers Recommendation – Reject

Rationale: Although this is a good application and particularly the PV panels would make a contribution to reducing carbon emissions. It is unfortunate that this current round of funding is oversubscribed by nearly 3 x the amount available. I am sure community groups from the surrounding area including communities in the National Park use the club, priority is still given to those projects within the National Park and those with the widest community benefit. Although profits from the company are ploughed back into the club (not for profit), charities are prioritised.

Project Summary: Neuadd Bwlchygroes Hall - Rebuild

Ref: SDF/012021/7
Project Title: Neuadd Bwlchygroes Hall - Rebuild
Applicant: Neuadd gymunedol Bwlchygroes Community Hall
Location of project: Bwlchygroes
Project description: Install 5kW solar PV system and EV charging point on the community hall. The Bwlchygroes village hall is currently being rebuilt. The local community has raised over £30,000 towards the rebuild and is seeking support to complete various aspects.

The hall and adjoining field are used regularly by a variety of groups including the local scouts and guides groups who hold jamboree meetings on site. They often camp at the hall and explore the National Park and the Preseli hills. The hall is also used by The Duke of Edinburgh organisation. Groups typically camp on the field before walking the length of the Preseli Mountains as part of their award scheme, starting at Frenni Fawr. The hall is the base of the Green Dragon (North Pembrokeshire) community transport initiative.

The PV system will generating over 4000kWh of electrical energy p.a. This system will be configured to heat all potable water with the excess being fed to the grid. Reducing energy costs and the carbon footprint of the new building. This will enable the cost of hiring the hall to remain costs low, thereby facilitating it use by a wide range of individual and groups.

Impact measurement: The direct kWh and Kg of Co2 savings made will be easily measured by way of the display on the solar inverter. This translates easily into a £GBP saving per annum.
Less tangible benefits are the educational aspects of installing such systems. It is hoped to have an open day at the hall explaining the various design features that have been incorporated such as, large south facing windows for passive solar gain, remote control of heating systems to save energy, movement detecting switches for lights and of course the solar array and charge station.
By leading by example it is hoped that community members will follow the initiative shown by the hall.

Sustainability: The hardware for solar systems and charge stations has proved to be reliable if proven brands are chosen. The solar inverter will have a 10 year warranty and the panels warrantied for 20 years.
There exists considerable expertise in the community with regard to Solar and energy use and these individuals have agreed to be champions for the systems.

Total budget £6,500
Total requesting from SDF £4,500

ELIGIBILITY CRITERIA	Yes	No	Comments
Not for profit Organisations	Y		Registered Charity 1091532
Sufficient project detail supplied on/with application form	Y		
Minimum 20% match funding secured	Y		30% from community reserves

ELIGIBILITY CRITERIA	Yes	No	Comments
Copies of quotations enclosed (where relevant)/ Notes of costings)		N	PV system £5,000 EV charging point £1,500 Total £6,500 No quotes provided
Can be delivered in 6 -18 months	Y		Start date 1/2/2021
Planning consent	Y		Solar panels are a requirement of the planning that has been consented.
Eligibility checks completed	Y		

Officers Recommendation – Reject

Rationale: As with the earlier application, this project would make a contribution to reducing carbon emissions, by the installation of PV panels and EV charging points, particularly with the hall being the hub for the North Pembrokeshire community bus. Unfortunately quotes have not been provided.
The application has demonstrated the benefits to the National Park visitors and community groups from the surrounding areas, however due to this funding round being oversubscribed priority is given to those projects based within the National Park.

Project Summary: Haverhub sustainability renovations

Ref: SDF/012021/8
Project Title: Haverhub sustainability renovations
Applicant: Haverhub CIC
Location of project: Haverfordwest
Project description: Install an air source heat pump (ASHP), grey water capture, electric charging point and water fountain & filler unit. Haverhub is renovating a grade 2 listed building in the centre of Haverfordwest. The building will be a multipurpose all year community venue by April 2021. The project will enable a switch from mains services and will reduce the use of single plastics by centre users, visitors and locals. They currently have a solar array (EGNI charity) which contributes renewable energy but not to their own electric use. The ASHPs would help reduce bills.

Impact measurement: The group will monitor the number of visits to refill water - and feedback forms to assess behavioural change. Reduction in mains utility bills from running on mains non-renewables, reduction in water use.

Sustainability: Haverhub is to be a self-sustaining community building, which has a 25 year lease with purchase option. The building is asset locked as a community building and will therefore remain as a sustainable and carbon reduction site for its entire public life.

Total budget £35,210
Total requesting from SDF £28,168

ELIGIBILITY CRITERIA	Yes	No	Comments
Not for profit Organisations	Y		Community Interest Company.
Sufficient project detail supplied on/with application form		N	More detail needed on impact of the project, measurement and sustainability
Minimum 20% match funding secured		N	In kind – not explained and additional funding application not submitted yet.
Copies of quotations enclosed (where relevant)/ Notes of costings)		N	No quotes submitted
Can be delivered in 6 -18 months	Y		Start date 1/9/2021
Planning consent	Y		Planning consents in place including for ASHP and charging point
Eligibility checks completed		N	Query on governing document, accounts, quotes & impact.

Officers Recommendation – Reject

Rationale: Several queries on the project and more detail is needed. Particularly quotes; £500 for EV charging point seems very low. More work needed on costing and measuring impact and sustainability, the group need to consider the maintenance of equipment and costs associated with this. The match funding is not

explained / secured. There are queries within the accounts that the committee would need clarification on before funding. The project is not in the National Park.

B. An initiative to promote reduction in carbon emissions in transport i.e. installing an electric charging point for bikes or cars or by supporting access to non-individual travel

Project Summary: Local Decarbonised Transport Pilot
Ref: SDF/012021/9
Project Title: Local Decarbonised Transport Pilot
Applicant: Eco Dewi
Location of project: St Davids peninsular
Project description: The project is intended as a vehicle pilot to establish whether local communities such as St. David's might have the capacity to convert, manage & maintain small-scale decarbonised community transport systems.

Local production of electricity is more sustainable and more viable when supply and demand can be balanced locally as well. Direct charging of vehicles and energy storage via electrolysis of Hydrogen are two of the best ways of doing this, and they are technologies that are by now fairly well established. Both Hydrogen and Battery-power can be used to minimise fuel use within vehicles, while small-scale processing of waste vegetable oil (WVO) locally can improve waste management. These sources of energy rely on adapted supply chains that are often scarce within rural communities – meaning that a local transport system that can be scaled to fit the adaptation, and designed to meet specific needs (displacing carbon intensive solutions), is the ideal solution. Catalysed WVO has often been found to run less well in more modern engines. However, more recently, workarounds have been established that reduce the deposits that cause the problem. Hydrogen enrichment in some form is also likely to have the effect of solving this issue.

The pilot to be shaped in such a way as to enable a few specific transport needs / challenges to addressed – that have been identified locally: Shuttle services to facilitate the barring of large coaches from the historic centre of the village, high rates of air pollution within St. David's, increased transportation of pupils after school reorganisation, and avoidance of potential impacts on the environment involved in the development of Ramsay Sound as a Marine Energy mini testing site.

1. An initial qualitative research and information gathering-phase, consulting groups involved in previous community-based and innovative transport projects – especially in Wales, in order to ensure maximum relevance and ongoing impact for the pilot
2. Establishing whether a system can be operated in such a way as to optimally complement a local energy network and/or small-scale WVO catalysation – adding value and stability to both.
3. Blazing a trail for producing such a system in a way that minimises capital costs and maximises the benefit to the local economy and growing a technical skill-base locally

Doing this by converting a long-wheel-base van (not more than 10 years old, of a type adaptable to the projected uses listed above, while minimising cost for the pilot), to Diesel-Electric Hybrid, then trialling the most likely methods of adapting to recycled bio-diesel and to hydrogen enrichment, and evaluating the reliability and efficacy of the range of potential combinations. Additionally, the effect on the vehicle of running on conventional fuels without readjustment to be evaluated.

Project involves: 1x Project co-ordinator for 10hrs per week for the project duration, 1x Mobile Mechanic & 1x Trainee Mechanic for 200hrs each as required across the project timeline; contact with the CAT Zero Carbon Britain project and Community Energy Wales to be sustained, for support, networking and dissemination. Regular reporting & ongoing evaluation within EcoDewi, x2 community outreach events & external evaluation support. Vehicle intended to be run by the project co-ordinator or other interested party locally, with the expectation that the value of the vehicle and additional parts be recouped as match funding for the project through sale to this individual either in two stages or in instalments. Potential partnership with another community sustainability organisation within West Wales to administer contracts, if required.

Impact measurement: Feedback taken from x2 community engagement events, evaluation carried out by returning to contributors in the qualitative research phase, Interviews with representatives from key partner organisations (expected to be ZCB, CARE, TBG, & CEW)

Sustainability: Outcome of the project will be

- An accessible guide for other communities across Pembrokeshire and further afield regarding rural low-infrastructure transport systems as a way of enhancing the impact and viability of community-led sustainable energy.
- A physical vehicle available and accessible within Pembrokeshire upon which the most useful technologies have been trialled and evaluated
- Groundwork for a successor project built into the latter part of this one: involving specification of the small-scale supply chain methods, and creation of a funding strategy for the next steps.
- Pilot project used as a platform to gain additional support for the next steps towards a successful system.

Total budget **£37,610**
Total requesting from SDF **£24,210**

ELIGIBILITY CRITERIA	Yes	No	Comments
Not for profit Organisations	Y		Constituted voluntary group
Sufficient project detail supplied on/with application form	Y		More detail about the 2nd phase vehicle development required.
Minimum 20% match funding secured	Y		In kind 35% Lead Mechanic volunteer hours 800 Trainee Mechanic volunteer hours 400 Donated workshop equipment 1500 Workshop rent discount as donation 1200 Vehicle sale, under condition of continued project involvement 8000 Disbursement / sale of equipment 1500
Copies of quotations enclosed (where relevant)/ Notes of costings)		N	Project Co-ordinator £12,960 Lead Mechanic £4,000 Trainee Mechanic £2,000 Vehicle purchase £4,500

ELIGIBILITY CRITERIA	Yes	No	Comments
			Components and additional equipment incl. performance monitoring £9,750 Workshop rental £1,600 External feedback support £2,000 Events £800 Total costs £37,610 Require more detailed breakdown of how costs and budget worked out.
Can be delivered in 6 -18 months	Y		Start date 1/2/2021
Planning consent			n/a
Eligibility checks completed	Y		

Officers Recommendation – reject

Rationale: This is a very innovative and interesting project. Perhaps the project could be funded in 2 phases. Conducting the research first before embarking on the pilot phase. The application is lacking in detail on the costings, in particular the match funding is not secured. Concerned with employing someone who is also contributing part of their time voluntarily, and also sale of the vehicle as match funding. An explanation of how the project would be managed by the group would have strengthened the application.

D) Any other community-based carbon reduction initiative.

Project Summary: Tyfu Clynfyw
Ref: SDF/012021/10
Project Title: Tyfu Clynfyw
Applicant: Clynfyw Community Interest Company
Location of project: Blaenffos in north Pembrokeshire. Raw compost materials such as horse manure would be collected from within the National Park.
Project description: Clynfyw CIC supports disabled and vulnerable people using a variety of projects as tools for learning, engagement, contribution and fun through farm based Day Services and supporting people living on site.

In response to the climate emergency and Covid-19 pandemic, Clynfyw has been exploring new outdoor sustainable activities that can be undertaken with small groups in a safe environment. 'Vermicomposting' (worm composting) creates a quality rich sustainable compost that can be used to improve soil conditions (organically) for local vegetable produce growers and sequestrating carbon in the process. Clynfyw has been offered an established vermicomposting business with existing customer base (current owner retiring) and wishes to develop it into a micro-enterprise.

Funding will pay for equipment and materials (set-up costs) and training in vermicomposting methods, as well as some project expenses such as marketing and volunteer expenses. Staff time will be covered by Clynfyw and will include overseeing the project, as well as supporting the individuals who take part in the activity. Clynfyw is accredited to deliver ASDAN qualifications, and this project will provide opportunities for participants to gain credits. The leased site where the vermicomposting will take place will be away from Clynfyw itself, located on the edge of the National Park. Raw compost materials such as horse manure would be collected from within the National Park.

The project would help to reduce carbon and address climate change by:

- using local horse manure (waste) from Stables located within PCNP as basis of product
- mixing coarse green waste into the product (exploring bracken etc.)
- composting process being done to PAS100 standards ensuring the minimum amount of CO2 and other Greenhouse gases (GHG) are produced
- reducing the demand for unsustainable peat-based compost, by offering a quality, local alternative product
- compost, once in use to grow plants, supporting sequestration of carbon in the soil
- encouraging local vegetable growing, by improving the yield and health of plants
- providing a service closer to participants' homes (so would travel less miles)
- Clynfyw's minibus using vegetable oil, so carbon emissions would be reduced for group transport

Impact measurement: To estimate the impact /carbon reduction of the project, research has shown that the effect of substituting compost for peat resulted in a net reduction of 70-150 kg CO2e per tonne of growing media. Each tonne of compost added to soil sequesters between 0.1 and 1 tonne of CO2 in the soil.

The main benefit for composting projects comes from emission avoidance. Carbon expert Chris Goodall suggests that the production/use of a 60-litre bag of 100% sphagnum peat compost could be responsible for releasing up to 50kg (110lb) of CO2 into the atmosphere. If, as research suggests, non-peat-based compost emits 48% of the CO2e of peat-based, each 60 litres of vermicompost produced could save 26kg of CO2e into the atmosphere. If we assume 2000 40 litre bags produced/used (80,000 litres) this equates to a potential 34,000kg reduction of CO2e released annually.

We expect to undertake actual calculations once the project is underway, assessing our positive impact on climate change and carbon sequestration, including carrying out tests at our own Care Farm vegetable patch.
In the first instance, we will monitor the project annual outputs:
* Number of bags/estimated weight of manure collected from within PCNP
* Number of bags of vermicompost produced (and estimated carbon saving)
* Number of local vermicompost outlets (logging those within the PCNP boundary)
* Number of participant days spent vermicomposting
* Number of participants gaining ASDAN qualifications

The project officer will report to the Board of Directors, enabling monitoring and evaluation to be carried out. Participants will also be asked for feedback during participant meetings.

Sustainability: Clynfyw has experience of running micro-enterprises (apple- juicing and charcoal-making) that are now self-financing and expect this project to be the same. With the local Health Board anticipating a 40% increase in mental ill health due to the ongoing pandemic, services for Clynfyw are expected to grow and therefore do not anticipate staff/volunteer shortages.

Initial costings show that the vermicomposting project could become self-financing once a years' vermicompost production has been achieved (anticipated profit of £1 per 40 litre bag, 2000 bags/annum rising to 5000 bags/annum). All profits from the sales of the vermicompost will be reinvested into the project, enabling repairs and replacement of equipment as required.

Total budget £49,098
Total requesting from SDF £24,800

ELIGIBILITY CRITERIA	Yes	No	Comments
Not for profit Organisations	Y		Community Interest Company
Sufficient project detail supplied on/with application form	Y		
Minimum 20% match funding secured	Y		49% match funding secured for the project.
Copies of quotations enclosed (where relevant)/ Notes of costings)	Y		Working out of staff time and quotes for materials provided. Vermicompost mixing machine £2,300 Bag sealer £1,000

ELIGIBILITY CRITERIA	Yes	No	Comments
			Materials to build vermicompost bays (worm beds), Tools & equipment (e.g. wheelbarrows, rakes) £6,873 Worms & Coir £5,800 Bags/marketing £1,800 Rent £5,000 Insurance £1,250 Key worker support (21hrs/wk x 45 weeks @£15/hr) £14,175 Expenses £900 Knowledge transfer, mentoring and help with set up (from Martins TLC) (50 days @£200/day) £10,000 TOTAL £49,098
Can be delivered in 6 -18 months	Y		1/3/2021
Planning consent			Waste exemption NRW-WME057984 received.
Eligibility checks completed	Y		Just outside the NP

Officers Recommendation – Approve subject to available funding

Rationale: Interesting and innovative project that reduces carbon, makes use of waste, and supports vulnerable people. Very well written and thought out project. The group have demonstrated in detail how they will measure the impact of the project and how it will be sustainable in the long term, reducing carbon and benefiting disabled and vulnerable people. It is unfortunate that this round is oversubscribed and the project is, just outside the National Park, these would be the only reasons to not support this project at this time.

Project Summary: Eco hubs for Eco heroes!

Ref: SDF/012021/11
Project Title: Eco hubs for Eco heroes!
Applicant: Springboard, Learning Pembrokeshire
Location of Project: Johnston School
Project description: The funding requested is for the construction of an outdoor classroom space with solar powered lighting, outdoor pizza oven, compost toilet, eco trail and seating area. Delivering education about carbon reduction and climate change.
With the SDF funding Springboard has planned to create:

1. a carbon neutral Mandan (6 metres in diameter) using locally sourced wood and solar powered lighting that will provide a) an inspirational outdoor learning environment and b) a safe space to promote sustainable living and alternative ways of producing green energy
2. an outdoor clay pizza oven with shelter and pizza allotment to a) promote off grid cooking and healthy eating and b) reduce food miles for local school children and volunteers eating on site
3. a reflective and sustainably sourced wood carved circular area with storytelling chair that will a) celebrate the local culture and biodiversity and b) offer a focus point for more mindful carbon free learning activities linked to the 4 purposes of the new Curriculum for Wales
4. an Eco trail, modelled on the Eco Champion trail at Scolton Manor, that can be continuously adapted by children and their families to help educate visitors on how and why to reduce carbon emissions.
5. a compost toilet to demonstrate how human waste can be disposed of in a carbon neutral way (without need to use/waste water)

Impact measurement: numbers of parents and children who got involved in the creation of each project and report on how their involvement:
1) Increased their understanding of ecological issues and sustainable living
2) Developed their practical and team working skills
2) Improved their sense of physical and mental health and well-being
3) Developed their links with the school and the wider community

The school will measure:
1) How many learning hours are spent outside by children from each year group per week?
2) Impact on school attendance levels and attainment standards
3) How much of a reduction there is in school transport off site
4) How much cooking is done off grid
5) How many members of the community access the site on weekends (and therefore are reducing their need to travel further afield to access outdoor spaces suitable for play
6) How many times schools from the Milford Family of schools access the site instead of more distant locations.

Sustainability: The school is committed to maximising the benefits of the site as it develops by opening up the site to the whole Family of Milford Schools for years to come.
School staff are committed to working with volunteers to support local families gain access to the hub through monthly Play/Work Saturdays from spring 2021 as a long

term solution to local issues of limited access to places of natural beauty. Members of the Community Council are exploring how they see themselves supporting the development of the land as a community resource.

Learning Pembrokeshire's Essential Skills tutors are committed to working in partnership with Springboard staff to support a core Steering group gain the necessary skills required to put in funding applications to develop the site's potential even further and into the future.

Total budget £35,964
Total requesting from SDF £24,963

ELIGIBILITY CRITERIA	Yes	No	Comments
Not for profit Organisations	Y		Local Authority
Sufficient project detail supplied on/with application form	Y		
Minimum 20% match funding secured	Y		Staff time and School cash contribution
Copies of quotations enclosed (where relevant)/ Notes of costings)	Y		Mandan construction 22,780 Pizza Cob Oven and Shelter 3026 Oak carved story telling chair and oak boards & Eco trail £3507.34 Springboard staffing/ resources over 2 terms (including £650 towards build of Compost toilet) £6650 Total project £35,963.34 Quotes have been provided.
Can be delivered in 6 -18 months	Y		Start date Spring 2021
Planning consent		N	Planning hasn't been sought yet.
Eligibility checks completed	Y		Not in the National Park

Officers Recommendation – Reject

Rationale: Such a lovely project, however the aim of SDF is reduce local carbon emissions in our environment and to respond to the climate emergency. This is an education project based outside the National Park. It was difficult so see how the development in the school grounds would deliver and measure carbon reduction in line with the funding aims. No planning in place yet. Really great project though and unfortunate that we are oversubscribed this funding round and the benefits of the project aren't more aligned with the purpose of the fund.

Project Summary: Biochar Initiative for North-Pembrokeshire Share-Economy (BINS)

Ref: SDF/012021/12

Project Title: Biochar Initiative for North-Pembrokeshire Share-Economy (BINS)

Applicant: Ffynnone Community Resilience in North Pembrokeshire

Location of project: North Pembrokeshire

Project description: Pilot a community-based Carbon Capture Utilisation and Storage initiative to enable and empower individuals, groups and businesses to sequester carbon and/or greatly reduce their CO2 emissions by using biochar and enhanced charcoal production for better land management, community climate change mitigation, environmental amelioration and woody residue waste repurposing.

The project will:

- Establish a biochar/charcoal production user group in North Pembrokeshire. Train members in the mechanisms of biochar production and application, and seek mentorship from biochar experts.
- Purchase a mobile Exeter Retort - biochar and charcoal production unit for shared use by group members and other project partners.
- Work with partners to train more landowners to become users of the retort across Pembrokeshire, and raise awareness of biochar applications.
- Test the financial viability of a Share Economy system for biochar production, to be rolled out across the County

How the project will support the reduction in carbon or help with climate change:

- Biochar sequestration is identified in the IPCC 2018 Special Report, and by global carbon trading marketplaces, as one of few valid carbon removal methods.
- The retort can be retrofitted with equipment (in development) to harvest wood gas to offset fossil fuel use in heating and electricity generation.

The project will:

- Produce 90 metric tons of biochar/charcoal over the initial unit's lifetime sequestering 324 tons of CO2, if not used as barbeque charcoal.
- Reduce CO2eq emissions further when used in livestock and crop production.
- Displace less efficient methods of barbeque charcoal production with consequent CO2eq savings.
- Provide land managers with practical incentives to maintain and increase woody components in land
  Stewardship, with resulting CO2 sequestration, and reduce waste wood bonfires

Current key partners who have come together as a consortium with Ffynnone Community Resilience, to
develop this project: are Severn Wye Energy (with the European cooperation project, THREE-C), Coppicewood College, Cwm Arian Renewable Energy (with the Growing Better Connections project), Clynfyw Care Farm, Interested parties from within PCNPA are Caerhys Organic Community Agriculture, The Coppice Plot, Real Seeds, Torth y Tir.

Impact measurement: Quantifiable amount of CO2 sequestered and the amount of CO2eq emissions reduced. Based on:

- No. of cycles performed by unit
- Estimated weight of biochar produced each cycle
- How much conventional barbeque charcoal production offset by the unit.
- Volume of waste woody material captured from disposal
- No. of project partners and user group members signed up
- No. of trainings and demonstrations implemented and the No. of participants at these events
- No. of media pieces (print/online).
- Testimonials: Whether individuals and groups participating in the retort utilisation, trainings and demonstrations feel have an increased sense of well-being and/or psychological benefits of taking practical action to combat climate change, greater empowerment to tackle climate change in other aspects of their life. Whether land managers are encouraged to maintain/increase woody elements in their land stewardship due to the project, less likely to use bonfires to dispose of woody material.

Sustainability: The project will pilot a user group sharing system to maximise use of the retort. The mobile piece of equipment will therefore travel between locations, and users will pay a fee for use to cover maintenance, insurance and to add to a replacement fund. User costs will be kept low to enable maximum use. Users will receive thorough training in how to operate the retort, and they themselves will become trainers. This community will also ensure the principles of the Shared Economy and the environmental benefits of individual's potential for sequestering carbon are rolled out across the county.

The sharing model will benefit from having a range of users requiring it for different periods. For example,
key project partner Clynfyw Care Farm currently produce charcoal via less environmentally friendly equipment and would utilise the retort to make the land management outreach work done with its participants more carbon efficient. As a result of being a frequent user with office coverage, Clynfyw will take on additional administration including an app or web based platform to coordinate the sharing, with overall management of the retort and user group remaining the responsibility of Ffynnone Resilience and the consortium of committed partners we have brought together.

Total budget £31,240
Total requesting from SDF £24,990

ELIGIBILITY CRITERIA	Yes	No	Comments
Not for profit Organisations	Y		Constituted Voluntary group (New) Established March 2020
Sufficient project detail supplied on/with application form	Y		
Minimum 20% match funding secured	Y		£3,000 from Seven Wye energy £3,250 mentoring support, Cwm Arian, Renew.

ELIGIBILITY CRITERIA	Yes	No	Comments
			More detailed breakdown required
Copies of quotations enclosed (where relevant)/ Notes of costings)		N	More detailed breakdown required Field trips, trainings, demonstration and consultancy budget £3,250 Business and life cycle analysis £3,000 Support worker time to establish user group and Share Economy platform £2,600 Exeter retort with automation package £22,390 Total project cost £31,240
Can be delivered in 6 -18 months	Y		February 2021
Planning consent			n/a
Eligibility checks completed	Y		

Officers Recommendation – defer

Rationale: Interesting and innovative project idea that reduces carbon. The group will organise a consortium of organisations and land owners to pilot and test the idea. They have demonstrated in detail into how they will measure the impact of the project. A more detailed breakdown of costs and match funding would have strengthened the application. There is concern with the capacity of a relatively new volunteering group to deliver such a large project, particularly around cash flow.

Date of Future SDF Committee Meetings

28th April 2021

Background Documents:

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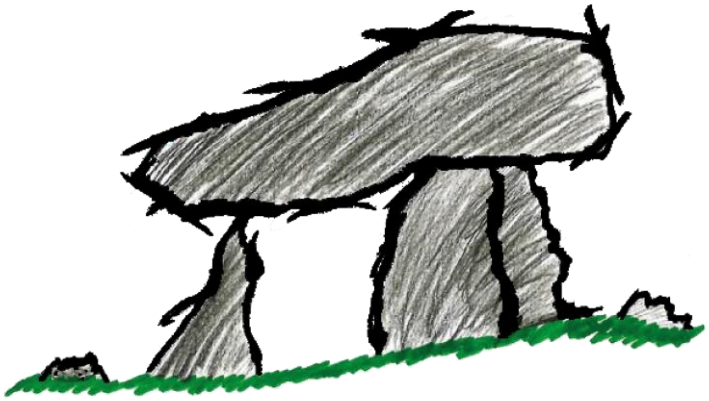

Arwyr Amser
Heritage Guardians

PROJECT UPDATE

REPORT

PERIOD 2018 - 2020

By

Tomos Ll. Jones
Community Archaeologist

SUMMARY OF REPORT

The following report provides background to the project, its purpose and main aims, targets and milestones. In addition it highlights milestone achievements during 2018, 2019 and 2020. Finally it points out the main aims, targets and milestones that have been met by the activities between 2018 and 2020 and the areas that have proved more challenging to achieve. The report concludes by recommending that the project including remaining funds is extended beyond the current timescale into financial year 2021-2022 due to COVID-19.

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1. PROJECT BACKGROUND AND PURPOSE

Heritage Guardians commenced in January 2018 following a successful application for funding from the Sustainable Development Fund to the value of £11,728.60. As a condition of funding, the funds were to be used over the project period with completion due in 2020. Due to the COVID-19 pandemic, it has been agreed to extend the project funding until the end of the 2020-2021 financial year. This is due to the fact that activities with schools have been unable to continue due to associated restrictions.

Under the original proposals, the project was described as wanting to achieve the following:

- Work with local primary schools within the National Park to 'adopt' a local heritage monument and engage with it.
- There will be improved appearance, access, awareness, monitoring and interpretation of sites.
- As part of the process and following completion of the project, the sites can be used as outdoor areas for learning and delivering lessons covering all aspects of the curriculum inlcuding art, history, science and mathematics.
- Pupils are introduced to archaeological techniques such as artefact identification, recording and excavation methods.
- The National Park Authority will work with schools to safeguard monuments by developing a monitoring programme, carry out repair work and necessary access improvements.
- The profile of monuments will be raised by schools through the production of artwork, photography, films, drama, social media that can be shared with the wider community for enjoyment.
- Ultimately pupils will be introduced to their local heritage, encouraging their interaction and inspiring them to take pride in their heritage. Schools are an integral part of communities, therefore the interaction of schools with monuments will hopefully inspire other members of the community to interact with them.

In connection to the project's aspirations, Heritage Guardians hoped to deliver the following:

- Educate school pupils and local communities within the National Park about their local heritage and archaeology.
- Provide an opportunity for school pupils and local community to learn new skills including archaeological techniques (artefact identification, recording, metal detecting), monument monitoring, habitat identification, environmental skills (vegetation clearance) as well as creative and IT skills through the interpretation of monument.
- Encourage schools to use local monuments to deliver aspects of their curriculum in a creative and interactive way.
- Access, appearance, awareness and interpretation of monuments in the National Park will be improved.
- Improved access means more people will be able to visit, learn and enjoy the monuments.
- The improvement of appearance/condition and reduction of risks to the monument will ensure that the monuments will not be added to the list of monuments at risk or if it is already on the list, the works will allow it to be taken off and deemed no longer at risk.

- The establishment of a monitoring programme will ensure that any changes to the condition of monuments will be identified quickly and thus can be dealt with in a timely manner.
- The involvement of schools with monuments will raise awareness of their existence not only to the local community but also to the wider public. The work of the schools will also highlight what can be done by the local communities and land owners to preserve their heritage.
- The project will provide the opportunity for the creation of interpretation for the monuments in order to improve community and the wider public's understanding of their past.
- As part of the creation of interpretation, any artwork created by the pupils can be displayed at Oriel y Parc, Castell Henllys and Carew Castle as well as having an exhibition at their respective schools. Furthermore, any films created by the pupils can be displayed on the PCNPA website, Facebook and Twitter page.
- Through partnerships with local heritage groups and local museums, the project will encourage the development of a positive relationship between schools and these organisations.

In order to help achieve aims and delivery targets as stated above, a number of project targets and milestones were set:

<u>January 2018 - March 2018</u>

- Establish final number of participating schools- Target number of 10 primary schools
- Create timetable for introductory school visits
- Agree with schools/Cadw/ land owners which sites would be suitable for the needs of the school and monuments most in need of attention. Then match at least one monument to each of the 10 schools (10 monuments minimum in total).
- Agree on dates for heritage and archaeology sessions.
- Establish dates for site visits.
- Creation of information packs for schools
- Risk assessment for sites.
- Creation of child friendly monitoring form
- Gain land owner permission to visit sites

<u>March 2018- May 2018</u>

- Undertake introductory school visits at each participating school
- Deliver heritage outreach sessions at each participating school

<u>June 2018 - July 2018</u>

- Conduct site visits with each school at their chosen monument
- Monitoring training sessions for each school at each monument
- Pupils to create films (using school iPads) on their initial thoughts on visiting the site and what they'd like to do.

<u>August 2018</u>

- Gain Scheduled monument and SSSI consents if required as well as land owner permission.
- Organise work programme for each site and create timetable with rangers and ensure availability of PCNPA volunteers if needs be.

September 2018- July 2019

- Deliver work programme at each site and provide training for improvement of monuments. If the work is deemed to complex then an 'out of school' session will be organised so their parents and local community can help in the process in conjunction with PCNPA volunteers with the children doing a record of the works, taking pictures and film the process.

August 2019

- Creation of information pack for teacher with Interpretation officers and Outdoor School coordinator on ideas for delivering aspects of curriculum at site.

September 2019-December 2019

- Each school with advice from PCNPA archaeologist and Interpretation officer to explore different forms of interpretationfor the minimum of 10 sites e.g film, play, art, book, information board.
- Continuatiation of monitoring programme.

January 2020- March 2020

- Exhibit and publicise the work done by pupils. Artwork and information boards to be exhibited at PCNPA centres, plays created to be performed at schools, films to be premiered at schools and then shown on PCNPA website, Twitter and Facebook.

2. PROJECT PROGRESS 2018 – 2020

During 2018 the following milestones were achieved:

- An alteration to project delivery was agreed with the schools in the early part of 2018. Instead of attempting to deliver sessions to 10 schools at the same time over the three year project period, schools would complete the programme over a shorter time frame (3-4 months). This meant that the 10 participating schools would participate at different times in the project. Rather than 10 schools at any given time, three or four schools participated at one particular point.
- The form of delivery was trialled with schools between January and July 2018 and schools provided feedback that the sessions would be better delivered within the school term timetable. This meant that the full number of sessions would be delivered within a school term.
- Between April and May Bro Ingli, Puncheston and Llanychllwydog primary schools participated in site visits to local monuments. Bro Ingli pupils visited Carreg Coetan Arthur and the Old Castle; Puncheston visited Castell Mael and Wern Camp and Llanychllwydog visited an Iron Age enclosure in Allt Pengegin. Only the trip to Wern Camp required a minibus as the other sites were within walking distance of the school. All of these schools participated in a condition monitoring activity which involved the children conducting a survey of the site using both the monitoring form and cameras. No work needed to be done at Carreg Coetan Arthur or Castell Mael. A work programme was drawn up for Wern Camp, the Old Castle and the Iron Age enclosure at Allt Pengegin with the pupils' input, however the work itself was not appropriate for the children to undertake.

- During June and July, the three schools mentioned above created forms of interpretation to tell the stories of the heritage sites they visited. This was delivered over two sessions: the first was to explore the various ways that they could tell the story (film, poster and leaflet) and then research more in-depth information regarding each site. In the second session, the children then created their chosen form of interpretation. Bro Ingli School pupils decided to do a mixture of interpretations for the Old Castle site next to their school and Carreg Coetan Arthur (a Neolithic burial chamber). Some students created posters, others made a drama which they performed in front of the other children and others created a film on their I-pads. 30 pupils participated in this activity. Llanychllwydog pupils created a time travelling film around the Iron Age enclosure of Allt Pengegin just above their school whilst incorporating some of the other monuments of the area, such Castell Pengegin which is suspected to be Norman. 15 pupils participated in this activity. Puncheston school created a number of posters and 'artist's impression' of their sites of Castell Mael (suspected Norman castle) and Wern Camp (Iron Age enclosure). They also did a documentary radio talk show about what they created. 29 pupils participated in this activity. All activities were delivered through the medium of Welsh for the three schools.
- During August work was underway to produce the information pack that would be sent to schools upon completion of the project. The information would enable participating schools to replicate the activities in future, including material that the teachers can use in class or at chosen sites.
- Between September and December, sessions were completed with Ysgol Penrhyn (bilingual), Ysgol Croesgoch (Welsh) and St Dogmaels Primary School (Welsh). Fitting the sessions within the school term worked well for the school and fit in with the teaching theme for that term.
- The proposal for pupils to undertake remedial work on monuments was removed. This was due to the fact that monuments that were visited either did not need remedial work or the work required was too complex for pupils to undertake. As an alternative, work identified by pupils was undertaken by PCNPA volunteers at the sites visited by the pupils. This work was then shown to the pupils via photographs on PowerPoint or from other monuments not visited by pupils but required work.
- In September, St Dogmael's and Penrhyn primary schools began the project both with up to 30 pupils. In that month they participated in the introductory session, the metal detecting and test pitting sessions. Croesgoch began and completed these sessions in October.
- In terms of site visits and interpretation sessions for St Dogmael's, as they were studying Darwin they explored St Dogmael's Abbey looking at it from the point of an antiquarian. During the site visit the school not only conducted a survey to monitor the condition but also undertook a new activity where the children were given a page with a picture of the abbey drawn during the Georgian and Victorian era. They first had to identify which part of the abbey was drawn and secondly draw how it looked like today underneath the original drawing. In the interpretation sessions they researched the story of the abbey then talked and explored different ways of telling the story of the abbey. In the final session the children created their forms of interpretation, some told the story through stained glass windows, others through a 'horrible histories' style documentary and others through posters and medieval style illuminations.
- Croesgoch Primary School looked at the First World War and commemorating the dead. A visit took place to Carreg Samson which is a Neolithic mortuary monument. At the site they explored the differences between how people remember and commemorate the dead today compared to how they did it in the Neolithic. They also conducted a site survey. In the

interpretation sessions, the pupils researched the various heritage sites in the Croesgoch area, including Carreg Samson, Mesur y Dorth cross, Aberfelin mill and Porthgain harbours. The pupils then chose to do a fact file on each and then develop an artist's impression of how each site would have looked like in their respective periods.

- Penrhyn school visited the Dry Burrows Bronze Age round barrows where the pupils undertook a survey of the condition of the site. As there were a number of mole hills in the field the pupils checked them for artefacts, which they enjoyed despite not finding anything. The pupils researched the Bronze Age in Wales and how round barrows were used and decided to produce a website providing information about the Bronze Age and the barrows which they uploaded to the internal school website upon completion. Due to safeguarding issues and the fact that the pupils produced a video of themselves as part of the website the site could not be shared publically.

During 2019, the following milestones were achieved:

- Between January and March, recruitment of new schools proved challenging. Several schools were contacted, but the majority did not respond, of those responding, one stated that the sessions did not fit with their curriculum and another said they did not have the time to commit. Despite this, four schools expressed an interest; Manorbier, Maenclochog, Ysgol y Frenni and Eglwyswrw. Unfortunately, no progress was made with Manobier and Eglwyswrw despite several attempts to setup a meeting were made. Ysgol Maenclochog were interested but wanted the National Park to make contact at a later date.
- During the first quarter of 2019, the National Park worked with Ysgol y Frenni, Crymych and also Plas Dwbl College.
- Plas Dwbl College focussed on a Celtic Art project which connected with Catell Henllys Iron Age Village. As part of this project pupils did a Celtic art session at the college, including coming up with Celtic designs that have since been painted on a roundhouse as Castell Henllys.
- A total of 47 pupils participated from Ysgol y Frenni and these were in years five and six. Due to the high number of pupils, some of the sessions were run more than once. The pupils focussed on the Rebecca Riots and the sessions were tailored as much as possible to focus on this. With the artefact handling session (which was done with all 47 children at once!) they were introduced to the concept of archaeology and how it helps people tell the whole story of history not just what is written down. Tenby museum kindly allowed the project to borrow artefacts from the period of the Rebecca riots such as Clay pipes as well as axe heads through the ages (as Twm Carnabwth used an axe to cut down the tollgate) as well as the normal artefacts used. The test pitting session was done by year 6 first in February and year 5 in March (due to bad weather). The pupils found lost toys and plastic during their dig, which highlighted that the plastic problem is also apparent in the land as well as in the sea!
- The interpretation and research sessions were delivered in late February and early March due to the bad weather. The pupils researched the Victorian period, the Rebecca riots and the Welsh Not and worked in groups to develop their form of interpretation to tell the story of the riots. These included Victorian dress design (as the rioters dressed up as women), artistic impression of tollgates and rural cottages (tai unnos), film scripts, songs, poems and a comparison presentation. This worked well as the pupils became enthused and excited about creating and learning about something in a way that they chose and enjoyed.
- At the end of March the pupils conducted a site visit at Iet y Wilym cottage which is a ruin of a cottage on the common land at Gors Fawr. It is likely that this originated as a ty unnos. The

school conducted a condition survey of the site as well as some other activities that made the children think about the layout of the house compared to their house and to think about what it would have been like living in the cottage.

- Sufficient funds in the budget allowed a trip to Narberth museum for Ysgol y Frenni pupils. The pupils looked at the way that the museum tells the story of the riots and also provided them an opportunity to present the interpretation material they had produced to the museum.
- During June and July discussions recommenced with Ysgol Maenclochog to discuss their participation in Heritage Guardians. Following a meeting with the head of Ysgol Maenclochog, the National Park Authority agreed to work with the school and also Ysgol Bryn Conin that the head was responsible for.
- Between September and November, 43 pupils participated over the two schools. In total, the National Park Authority delivered seven sessions, with some of these done jointly between the schools. Both schools were focussing on the theme of flight and its use in World War II. As such, the pupils visited a plane crash site at Mynachlog-Ddu from the period. Also, they were given an aerial archaeology session including staff from the Royal Commission on Ancient and Historical Monuments of Wales carrying out a drone survey with the pupils. In addition, the Pembrokeshire Aviation Group gave a talk and the pupils visited the Pembroke Dock Heritage Centre. An artefact handling session took place thanks to material from Tenby Museum and pupils produced posters of National Park monuments and created Lego replicas of these.
- During November, the work of the project including showcasing some of the material produced by the pupils, schools and college were showcased at the Annual Archaeology Day Conference to an audience of over 180 people.
- During December, the National Park Authority held a meeting with Ysgol Croesgoch who were keen to participate for a second time. The school and National Park Authority agreed to run a series of sessions in early 2020. The National Park Authority also held a meeting with Ysgol Penrhyn Dewi to run a series of sessions as part of the project in early 2020.

During 2020, the following milestones were achieved:

- Between January and February, year five and six pupils from Ysgol Croesgoch participated in Heritage Guardians. Following a similar series to the sessions delivered to Ysgol Maenclochog and Ysgol Brynconin, the students learnt about archaeology and had an opportunity to engage with their local heritage. This school decided to focus on climate change and its impact on coastal sites. As such, they explored its impact on Industrial archaeology at Abereiddu, St Patrick's Chapel, Whitesands and Caerfai coastal fort, St Davids. Towards the end of the sessions they undertook research to explore ways to mitigate the impact on these sites and gave group presentations to fellow students. As an extension to the programme, students from Ysgol Croesgoch were supposed to be taking part in a local excavation taking place during the summer term. In light of COVID-19, this is no longer possible as all excavations were cancelled in 2020. The Authority hopes to offer this opportunity as and when excavations recommence.
- During early 2020 meetings took place with Ysgol Penrhyn Dewi, Coleg Plas Dwbl and the Pembrokeshire College regarding getting involved in the Heritage Guardians programme. All three settings were interested in the prospect of being involved with the programme. The Authority agreed to run sessions with Coleg Plas Dwbl in April 2020 and this would include adopting Gors Fawr Standing Stone Circle to monitor its condition and help safeguard it. A

programme was agreed with Ysgol Penrhyn Dewi to run between April and May 2020 followed by involvement in a local excavation. A meeting had been scheduled with students at the Pembrokeshire College to discuss opportunities and there appeared to be an excitement from the College around this prospect. In light of COVID-19, these plans were put on hold. Attempts were made to recommence discussion with Ysgol Penrhyn Dewi and it is hoped that sessions will take place with the school in due course. Staffing changes have occurred in Coleg Plas Dwbl as a result of the pandemic, however initial contact has been made with other stuff, but nothing has been agreed thus far. No contact has yet been made with Pembrokeshire College, however this was an extension of the project, in light of COVID it has not been possible to recommence discussion.

- During August, discussions took place with Ysgol Gelli Aur to discuss the possibility of the school participating in heritage guardians with a focus on Neolithic monuments, including burial chambers. The programme would be delivered as a blend of both virtual and physical sessions (COVID permitting). Initially, the school was interested in participating in the autumn term, however this was not possible due to the changing circumstances around the pandemic. A follow on meeting took place in December and it was agreed that the National Park Authority would deliver a blend of virtual and physical sessions in early 2021.

3. PROJECT PROGRESS FROM THE PERSPECTIVE OF THE AIMS, TARGETS AND MILESTONES

It is evident from the work that has been done has part of the project that a number of the aims, targets and milestones have been achieved, in particular:

- Full sessions have been completed with 10 educational institutions across Pembrokeshire. Positively this includes those within and in the surrounding area of the National Park. Also, the sessions have covered a broad spectrum of local heritage that compliments and enhances the particular curriculum of the school.
- As a result of the work that has been done to date, pupils, institutions and their communities have greater awareness of the heritage that is on their doorstep. For schools that undertook monitoring of monuments, these are in an improved condition as a result.
- The various themes and work done as part of the sessions means that there is an opportunity to use this material to create resources for schools and educational institutions to complement their curriculum priorities.
- The project has benefited a high number of pupils across Pembrokeshire by teaching them archaeological techniques and skills that are transferable.
- The programme has allowed pupils, schools and one college to use heritage to produce creative pieces of work including posters, poetry, film and other artistic pieces.
- Schools have made connections with other heritage institutions operating within Pembrokeshire, including museums.
- The work of some pupils, schools and college were showcased during the 2019 Annual Archaeology Day Conference.

While the project has achieved a significant amount, a number of changes and challenges have been faced, including:

- Adopting heritage monuments for the longer term has proved more problematic, as many schools are not within the vicinity of appropriate monuments. Despite this, this is possible

for schools like Bro Ingli who have a scheduled monument directly adjacent to the school. Other issues include the fact that the curriculum of the school does not stay the same and the pupils who have participated will have moved on. In order to sustain adoption, relationships need to be maintained in the longer term.

- The project has revealed that heritage guardians is only successful with schools if it is undertaken during term time and also at a time that does not impact on other priorities for the school, such as examinations. Ensuring that the sessions complement the curriculum as the time of undertaking sessions is also important. As such, the programme needs to be dynamic and have the ability to adapt.
- An information pack for the programme was in development during the first year of the project, however the programme have evolved significantly since that time. As such, resources of this kind should be developed whilst taking into account recent changes in working practices. COVID-19 has revealed that digital resources are incredibly important to complement the work of schools and institutions. Any resources developed should be done so utilising the National Park's website.
- In relation to an exhibition and publicity, due to the variety of schools that have taken part within different areas and also the time that has lapsed since sessions took place. It is unlikely to be possible to showcase at the centres, due to pupils having moved on and also GDPR restrictions around personal data and consent. It may however be possible to utilise the work produced, if copies still exist with the participating schools and the college for the purpose of creating digital resources on our website.
- It is impossible not to highlight the impact that COVID-19 has had on the project during 2020. Planned participation of schools and colleges were cancelled and it has not been possible to hold sessions for the latter part of 2020.

4. PROPOSED EXTENSION OF PROJECT

During the project period, the project lead moved on to another post, in-between recruitment of a new Community Archaeologist to take the project forward, there was a delay of a few months. This is likely to have contributed to the delay in completing the project as per the original deadline and also in the direction that the project has taken. To complicate things further, COVID-19 has resulted in no significant progress being possible for most of the 2020-2021 financial year. The confirmation that a third lockdown will commence at the end of 2020 and into an unconfirmed period in 2021, indicates that the planned sessions with Ysgol Gelli Aur will be impacted.

In light of these uncertain conditions and the fact that a significant amount of project time has been lost it would be beneficial to allow the project to extend until the end of financial year 2021-2022 including the remainder of any grant from the Sustainable Development Fund awarded at the beginning of the project. As part of this extension, the project would focus on:

- Delivering sessions to schools or educational institutions.
- Work with PCNPA colleagues to develop digital resources in connection with Heritage Guardians. This should include the information pack that has been in development during the project. Utilise resources that have been produced by the schools and colleges (where possible).

SDF 20th January 2021 Committee members scoring sheet

Project Applicants

Project Type	Ref	Organisation	Funding Sought
D	SDF/012021/1	Newport Area Environment Group (NAEG)	£24,973
D	SDF/012021/2	Cwm Arian Renewable Energy Ltd (CARE)	£24,280
A	SDF/012021/3	Herbrandston Sports and Recreation Association	£30,046
A & B	SDF/012021/4	South Ridgeway Community Association	£37,568
A	SDF/012021/5	RSBP	£9,420
A	SDF/012021/6	Clwb Rygbi Crymych Cyf	£13,689
A & B	SDF/012021/7	Neuadd Gymuned Bwlchygroes Community Hall	£4,500
A, B, C	SDF/012021/8	Haverhub	£28,168
B	SDF/012021/9	Eco Dewi	£24,210
D	SDF/012021/10	Clynfyw Community Interest Company	£24,800
D	SDF/012021/11	Springboard, Learning Pembrokeshire	£24,963
D	SDF/012021/12	Ffynnone Community Resilience in North Pembrokeshire	£24,990
		Total funding sought	**£271, 607**

Scoring

Sufficient Evidence 4, Some Evidence 3, Poor Evidence 2, No Evidence 1.

The aim of SDF is to reduce local carbon emissions in our environment and to respond to the climate emergency.

Applicants can apply for projects to deliver the following:

a. Install renewable energy generation facilities to a community building i.e. solar panels

b. An initiative to promote reduction in carbon emissions in transport i.e. installing an electric charging point for bikes or cars or by supporting access to non-individual travel

c. Install a community facility that minimises waste, i.e. water fountain

d. Any other community-based carbon reduction initiative.

1. SDF/012021/1

GRANT CRITERIA	Evidence Score	Comments
Project is in the Pembrokeshire Coast National Park or demonstrates genuine support and benefit to communities within the National Park		
Project achieves one or more of the aims of the Fund		
Project shows how there will be a reduction in carbon / mitigation to climate change		
Evidence that the project will be able to measure carbon reduction		
Demonstrate long term sustainability of the project		
Demonstrate commitment by match funding 20% or more of total project costs (inc. voluntary in-kind contributions)		
Value for money – well costed, quotes received		
TOTAL Score		

2. SDF/012021/2

GRANT CRITERIA	Evidence Score	Comments
Project is in the Pembrokeshire Coast National Park or demonstrates genuine support and benefit to communities within the National Park		
Project achieves one or more of the aims of the Fund		
Project shows how there will be a reduction in carbon / mitigation to climate change		
Evidence that the project will be able to measure carbon reduction		
Demonstrate long term sustainability of the project		
Demonstrate commitment by match funding 20% or more of total project costs (inc. voluntary in-kind contributions)		
Represents good value for money		
TOTAL Score		

3. SDF/012021/3

GRANT CRITERIA	Evidence Score	Comments
Project is in the Pembrokeshire Coast National Park or demonstrates genuine support and benefit to communities within the National Park		
Project achieves one or more of the aims of the Fund		
Project shows how there will be a reduction in carbon / mitigation to climate change		
Evidence that the project will be able to measure carbon reduction		
Demonstrate long term sustainability of the project		
Demonstrate commitment by match funding 20% or more of total project costs (inc. voluntary in-kind contributions)		
Represents good value for money		
TOTAL Score		

4. SDF/012021/4

GRANT CRITERIA	Evidence Score	Comments
Project is in the Pembrokeshire Coast National Park or demonstrates genuine support and benefit to communities within the National Park		
Project achieves one or more of the aims of the Fund		
Project shows how there will be a reduction in carbon / mitigation to climate change		
Evidence that the project will be able to measure carbon reduction		
Demonstrate long term sustainability of the project		
Demonstrate commitment by match funding 20% or more of total project costs (inc. voluntary in-kind contributions)		
Represents good value for money		
TOTAL Score		

5. SDF/012021/5

GRANT CRITERIA	Evidence Score	Comments
Project is in the Pembrokeshire Coast National Park or demonstrates genuine support and benefit to communities within the National Park		
Project achieves one or more of the aims of the Fund		
Project shows how there will be a reduction in carbon / mitigation to climate change		
Evidence that the project will be able to measure carbon reduction		
Demonstrate long term sustainability of the project		
Demonstrate commitment by match funding 20% or more of total project costs (inc. voluntary in-kind contributions)		
Represents good value for money		
TOTAL Score		

6 SDF/012021/6

GRANT CRITERIA	Evidence Score	Comments
Project is in the Pembrokeshire Coast National Park or demonstrates genuine support and benefit to communities within the National Park		
Project achieves one or more of the aims of the Fund		
Project shows how there will be a reduction in carbon / mitigation to climate change		
Evidence that the project will be able to measure carbon reduction		
Demonstrate long term sustainability of the project		
Demonstrate commitment by match funding 20% or more of total project costs (inc. voluntary in-kind contributions)		
Represents good value for money		
TOTAL Score		

7. SDF/012021/7

GRANT CRITERIA	Evidence Score	Comments
Project is in the Pembrokeshire Coast National Park or demonstrates genuine support and benefit to communities within the National Park		
Project achieves one or more of the aims of the Fund		
Project shows how there will be a reduction in carbon / mitigation to climate change		
Evidence that the project will be able to measure carbon reduction		
Demonstrate long term sustainability of the project		
Demonstrate commitment by match funding 20% or more of total project costs (inc. voluntary in-kind contributions)		
Represents good value for money		
TOTAL Score		

8. SDF/012021/8

GRANT CRITERIA	Evidence Score	Comments
Project is in the Pembrokeshire Coast National Park or demonstrates genuine support and benefit to communities within the National Park		
Project achieves one or more of the aims of the Fund		
Project shows how there will be a reduction in carbon / mitigation to climate change		
Evidence that the project will be able to measure carbon reduction		
Demonstrate long term sustainability of the project		
Demonstrate commitment by match funding 20% or more of total project costs (inc. voluntary in-kind contributions)		
Represents good value for money		
TOTAL Score		

9. SDF/012021/9

GRANT CRITERIA	Evidence Score	Comments
Project is in the Pembrokeshire Coast National Park or demonstrates genuine support and benefit to communities within the National Park		
Project achieves one or more of the aims of the Fund		
Project shows how there will be a reduction in carbon / mitigation to climate change		
Evidence that the project will be able to measure carbon reduction		
Demonstrate long term sustainability of the project		
Demonstrate commitment by match funding 20% or more of total project costs (inc. voluntary in-kind contributions)		
Represents good value for money		
TOTAL Score		

10. SDF/012021/10

GRANT CRITERIA	Evidence Score	Comments
Project is in the Pembrokeshire Coast National Park or demonstrates genuine support and benefit to communities within the National Park		
Project achieves one or more of the aims of the Fund		
Project shows how there will be a reduction in carbon / mitigation to climate change		
Evidence that the project will be able to measure carbon reduction		
Demonstrate long term sustainability of the project		
Demonstrate commitment by match funding 20% or more of total project costs (inc. voluntary in-kind contributions)		
Represents good value for money		
TOTAL Score		

11. SDF/012021/11

GRANT CRITERIA	Evidence Score	Comments
Project is in the Pembrokeshire Coast National Park or demonstrates genuine support and benefit to communities within the National Park		
Project achieves one or more of the aims of the Fund		
Project shows how there will be a reduction in carbon / mitigation to climate change		
Evidence that the project will be able to measure carbon reduction		
Demonstrate long term sustainability of the project		
Demonstrate commitment by match funding 20% or more of total project costs (inc. voluntary in-kind contributions)		
Represents good value for money		
TOTAL Score		

12. SDF/012021/12

GRANT CRITERIA	Evidence Score	Comments
Project is in the Pembrokeshire Coast National Park or demonstrates genuine support and benefit to communities within the National Park		
Project achieves one or more of the aims of the Fund		
Project shows how there will be a reduction in carbon / mitigation to climate change		
Evidence that the project will be able to measure carbon reduction		
Demonstrate long term sustainability of the project		
Demonstrate commitment by match funding 20% or more of total project costs (inc. voluntary in-kind contributions)		
Represents good value for money		
TOTAL Score		

The Exeter Retort

The Cleaner Greener Easier Way to Charcoal Production.

For thousands of years the methods of charcoal production has remained unchanged across the world. Whether made in an earth clamp, a ring kiln or a brick oven the basic principle remained the same, a carefully controlled slow burn of a large amount of covered wood.
It took years for a charcoal maker to gain a high skill level and even an experienced man could still lose his work if caught out by sudden bad weather or a clamp collapse.
A successful burn produced only a relatively small amount of charcoal that had to be separated from the dirt, ash and blackened wood that lined the bottom of his fire pit.
The wood selected for charcoal production had to be stacked and dried for around two years to ensure the right moisture content and then cut to an even size to maximise the chance of a good burn. At best 6/7ths of this would be consumed to convert the remainder to charcoal.
In short the charcoal made during each burn was the result of many hours of back breaking and very hard work.

For most of the history of charcoal making nobody had to worry about emissions or where the wood they used came from.
Because only the trunks and larger branches of the tree was useful for making charcoal the remainder, the brash, was typically burnt. The brash could represent as much as thirty percent of the mass of each tree.
All charcoal production produces greenhouse gases (methane and similar) and the traditional methods make a great deal of smoke and release nearly all the greenhouse gas produced to atmosphere.
When examined carefully it becomes clear the old methods of charcoal making are very inefficient and polluting

The Modern Way.

It is possible to improve greatly on the old ways.
The retort method of making charcoal has been with us for about 150 years but has been little used until the last thirty years or so.
This is largely because materials with sufficient strength to withstand the very hostile environment a retort creates have been expensive and heavy. Engineers have struggled to control distortion in metals and disintegration in ceramics.
The Carbon Compost Company have overcome these challenges by allowing our materials to behave as they are inclined to do under stress.
This machine has been designed to accept considerable distortion without compromising efficient charcoal production.
It is also the first fully mobile retort and offers unrivaled flexibility of use. The design has been arranged so that all work is carried out at waist height and much less wood processing is needed. Wood can be loaded in 2 metre lengths and converted green--no drying is required.
The machine is very simple to use and requires no skill. Anybody can safely operate an Exeter Retort after a few days of training.
It also returns charcoal at a rate of 4:1 by weight at 20% moisture. If you put in 600kg of hardwood you will get 150kg of high quality very clean charcoal in return.
Anything from a log to a leaf can be converted to charcoal. There is no part of your trees that cannot be processed in our machine.

How a retort works.

In order to show how a retort is different from traditional charcoal manufacturing methods a brief description is given here of the process.

As can be seen above the material you wish to turn to charcoal is placed in a chamber above a firebox. This chamber is initially sealed except for two vents to atmosphere.

The outer chamber is then sealed except for access to the firebox via two small firebox doors, one at each end of the machine.

A fire is lit below the inner chamber and the temperature of the inner chamber monitored.

As the temperature rises water in the wood is allowed to escape through the open vents in the inner chamber, along with some non combustible gases.

There comes a point (around 375-400 deg C) when nearly all the water in the wood has been driven off and now the machine is venting gas. At this time the vents are capped and this action forces the gas being produced by the hot wood in the inner chamber down two pipes and into the firebox.

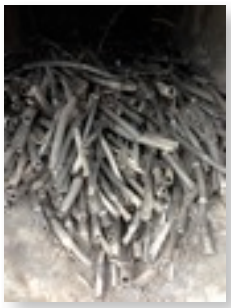
Once in the firebox this highly flammable gas burns and raises the temperature still further. After this point has been reached the machine is self fueling and requires only small adjustments to the firebox door and a bleed valve on a retort chamber vent to control gas supply to the firebox, and therefore temperature.

As the wood inside the inner chamber turns to charcoal it produces less and less gas and eventually none at all. All the operator has to do then is wait until the machine has cooled sufficiently to allow it to be opened. This usually happens overnight.

Because the wood that you are converting has not been in contact with direct flame all that is left in the inner chamber is charcoal of high purity. There is no dirt and no ash.

Whilst the machine is operating on gas from the inner chamber it is running in a very clean manner. All the gas created by the wood being converted is burnt in the firebox and not released to atmosphere. This reduces emissions of greenhouse gases by 75%-90%.

This method of production also allows unusual loads to be converted to charcoal. We have proved the Exeter Retort with some odd materials. We have converted reed, bamboo and even bone with our machine. None of these feedstocks can be processed in the traditional way.



The ability to process such materials as well as brash from woodland opens up another market for the product of our retort. The biochar market is becoming established slowly across the world and means that char from wetland growth and waste from gardens has a slowly increasing value. Some of our char analysis makes very surprising reading, charred bone in particular lending itself to soil amendment. There have been other surprises too. Bamboo, for example, makes a rather good fuel/BBQ charcoal.

Analysis of willow char and bone char are at the back of this brochure.

Safety advantages

Charcoal manufacture using traditional methods has always been accompanied by a certain amount of hazard associated with the process.

Because the seat of the fire in a ring kiln, for example, is on the ground the area around the kiln must be kept clear of brash or any other combustible material. Such kilns are also fitted with 4 to 8 flues, all of which create a spark hazard. Accidental fires are not an uncommon occurrence and precautions should be taken by any sensible kiln operator.

Most ring kiln operators have a story to tell of explosions and flying kiln lids, too. This can happen when the sand seal at the top or bottom of a ring kiln fails and allows a sudden inrush of air, and therefore oxygen.

This causes instantaneous ignition of wood gas trapped within the kiln which causes the lid to blow upwards. 500kg of flying steel and a lot of burning wood in the past has caused serious injuries and some sizeable fires. The drier the environment in which such methods are used more serious the danger.

A retort does not present the same hazard level at all. The seat of the fire is 60cm above the ground in a sealed steel container. The bottom of an Exeter Retort is the coolest part of the machine and the temperature it reaches is insufficient to ignite anything.

There is just one flue that sparks only when the machine is started and then only very lightly. Wood gas is constantly being vented into the firebox and used as fuel. This means no build up of gas in the retort chamber--even if there is a leak gas can escape only into the firebox where it is safely consumed. Slight positive pressure in the retort chamber will mean gas can only be pushed out--a reverse flow allowing air in to the chamber is not possible.

Emissions

Because it is the flammable greenhouse gases released to atmosphere that makes traditional methods so dirty, a retort has a clear advantage. All flammable gas is run through the firebox and burnt as fuel. This changes them chemically into less harmful gases. Nearly twice as much carbon is captured as charcoal by a retort than by traditional charcoal producing methods so much less CO2 is released to atmosphere.

Because of the manner of operation even the least efficient retort (an Adam Retort, for example) is around 75% cleaner than most other production methods.

Awards and Research.

During the continuing development of our machine we have investigated ways of using the excess energy our machine produces in operation.
More gas is manufactured by the subject wood than is needed to convert it to charcoal and we have developed a simple gas bleed which will allow gas to be taken off, cooled, cleaned and stored for later use. This gas can be used to run a small petrol generator.
We have also looked at removing waste heat by running water pipes between the outer cover and the insulation beneath it for heating use.
Some of this work was carried out as part of a UK government Department of Energy and Climate Change/RSPB competition to convert wetland biomass to bioenergy.
We worked with The University of Sheffield to look at the feasibility of producing a mobile unit that could convert reed to heat and electricity using hot water, gas and charcoal. Some of the energy would come directly from our machine whilst the charcoal would be consumed in a USS gasifier to create yet more gas and electricity.
In 2016 we won a UK Government Energy Catalyst grant, and with four other companies

we are developing a portable system that uses excess gas created by the wood in our machine to run a sizeable CHP unit. This will mean it will be possible to produce hot water and electricity anywhere there is a suitable feedstock.
The Exeter Retort has also been approved by the British Biochar Foundation for the production of biochar. The BBF is a leading authority in the biochar industry and has set high standards for those companies wishing to manufacture this product.
Only low emission methods of char production are approved--any char that comes from traditional methods will not meet BBF criteria.
Carbon Compost Company also won the 2012 DEBI Low Carbon Innovative Business for its work with the Exeter Retort and the biochar compost it produces.
Our machine is built under license in the USA, Lebanon, South Africa and Australia.

Technical Specifications

Construction material	Mild Steel and Stainless Steel.
Insulation	Body soluble ceramic wool, 10cm.
Door seal material	Glass reinforced ceramic rope applied with fire cement
Mass on supplied trailer	1860kg
Mass without trailer	1580kg
Dimensions on trailer	3737mm long X 1706mm wide X 2400mm high
Dimensions off trailer	2700mm long X 1706mm wide X 1760mm high
Dimensions with firebox flue fitted	2700mm long X 1706mm wide X 3410mm high
Retort chamber capacity	1.6 cubic metres
Supplied axle max. load	1900kg
In use axle weight relief	Four screwjacks and pads
Trailer certification	To UK VOSA requirements
Temperature monitoring	K type electronic thermometer
Thermocouple	Inconel sheath in leading retort flue

Comparison chart.

	Exeter Retort	Ring kiln/Brick kiln/Earth clamp
Low emission	Yes	No
Able to process entire tree	Yes	No
Hardwood conversion rate	4:1 @ 20% MC	7:1 at best @ 20% MC
Dry feedstock needed	No	Yes
Fully mobile	Yes	No
Non wood feedstock	Yes	No
Fuel source	Waste softwood start then self fuelling	High quality hardwood feedstock
Fuel economy	Very high	Very low
Working height	Waist height	Ground level
Charcoal quality	Very clean	Mixed with dirt and ash
Process time per burn	1 day	2 days
Loading time	20 minutes	2-6 hours depending on kiln size
Unloading time	10 minutes	2-6 hours variable on results
Insulated	Yes	Very rarely
Energy bleed possible	Yes	No
Required skill level	Low	High
Burn success rate	100%	Dependent on many factors
Cost of initial purchase	High	Low
Cost of operation	Very low	High

American Agricultural Laboratory, Inc.

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FERTILIZER SAMPLE REPORT

CALLICRATE CATTLE CO
PO BOX 748
ST FRANCIS KS 67756 0748

Account Number: 30840

Date Sampled:
Date Received: 11/20/2014
Date Reported: 12/02/2014

Name: CALLICRATE CATTLE
Sample ID: BONES

Lab Number: 27407

Constituent Analyzed	Results	Analytical Method
Nitrogen, Total	0.30 % N	AOAC 978.02
Nitrogen, Ammoniacal-N	0.50 % N	SM 4500 NH3 F
Phosphorus, Total	35.87 % P_2O_5	AOAC 957.02/962.02
Potassium, Total	0.86 % K_2O	AOAC 957.02/985.01
Sulfur, Total	0.75 % S	AOAC 980.02 B
Zinc, Total	0.01 % Zn	AOAC 957.02/985.01
Calcium, Total	33.17 % Ca	AOAC 957.02/985.01
Magnesium, Total	0.71 % Mg	AOAC 957.02/985.01
Sodium, Total	0.77 % Na	AOAC 957.02/985.01
Iron, Total	0.02 % Fe	AOAC 957.02/985.01
Manganese, Total	< 0.01 % Mn	AOAC 957.02/985.01
Copper, Total	< 0.01 % Cu	AOAC 957.02/985.01

BY: _____

LOGAN LABS
SOIL TESTING SERVICES

Compost Analysis Report

Job Name	Light on the Land Services	**Company**	Light on the Land Services
Contact		**Sample ID**	Charred Cow Bones
Rep		**Lab Number**	16070
Submitted by	Scott Bagley	**Run Date**	11/24/2014

Sample Location	Charred	**Notes**	
Sample Name	Cow Bones		

	% Dry Basis	% Wet Basis	lbs/Ton
Moisture		1.06	21.20
Mineral Matter	94.82	93.81	1876.20
Lost By Ign (Org M+)	5.18	5.13	102.60
Total Nitrogen	0.16	0.155	3.10
Ammonia-N	0.02	0.019	0.38
Nitrate-N		<0.010	
Organic-N	0.14	0.136	2.72
Phosphorus	15.46	15.300	306.00
Phos. as P205	35.43	35.058	701.16
Potassium	0.62	0.617	12.34
Potassium as K20	0.75	0.743	14.86
Calcium	34.83	34.459	689.18
Magnesium	0.62	0.656	13.12
Sodium	0.84	0.836	16.72
Sulfur	0.04	0.043	0.86

	ppm Dry Basis	ppm Wet Basis	lbs/Tons
Boron	6.53	6.46	0.013
Iron	89.80	88.85	0.178
Manganese	14.30	14.15	0.028
Copper	0.89	0.88	0.002
Zinc	110.17	109.00	0.218

Logan Labs, LLC

ANALYTICAL REPORT

Report Number	64634-12	R361	**Client**
Date Received	11-JUN-2012		
Date Reported	19-JUN-2012		
Project	BIOCHAR		
Reference			
Order Number	POCROP91		

Laboratory Reference		MANU42549	MANU42550	MANU42551
Sample Reference		1	2	3
Determinand	**Unit**	**WASTE**	**WASTE**	**WASTE**
Dry Matter	%	95.3	73.4	68.6
PAH EPA16	mg/kg	<1	<1	<1
Total Nitrogen	% w/w	0.63	0.73	0.63
Total Phosphorus (P)	mg/kg	1046	377	461
Total Potassium (K)	mg/kg	5715	4389	1327
Total Magnesium (Mg)	mg/kg	2568	241	629
Total Copper (Cu)	mg/kg	2442	19.2	6.08
Total Zinc (Zn)	mg/kg	121	12.5	47.0
Total Lead (Pb)	mg/kg	9.02	0.44	2.94
Total Cadmium (Cd)	mg/kg	0.15	<0.01	0.07
Total Mercury (Hg)	mg/kg	<0.05	<0.05	<0.05
Total Nickel (Ni)	mg/kg	54.2	1.07	1.60
Total Chromium (Cr)	mg/kg	3.61	4.89	2.80
Naphthalene	mg/kg	0.2	<0.05	<0.05
Acenaphthylene	mg/kg	<0.05	<0.05	<0.05
Acenaphthene	mg/kg	<0.05	<0.05	<0.05
Fluorene	mg/kg	0.2	<0.05	<0.05
Phenanthrene	mg/kg	0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.05	<0.05
Fluoranthene	mg/kg	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1
Benzo[a]anthracene	mg/kg	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1
Benzo[b]fluoranthene	mg/kg	<0.1	<0.1	<0.1
Benzo[k]fluoranthene	mg/kg	<0.1	<0.1	<0.1

Page 1 of 2

Sample reference 1 AU Pyrolyser

Sample reference 2 Exeter Retort

Sample reference 3 Ring Kiln