

Developing an Eco-social Enterprise

Session 2

Tuesday, 9 April, 2024

Tim Crabtree, Wessex Community Assets & Plymouth University

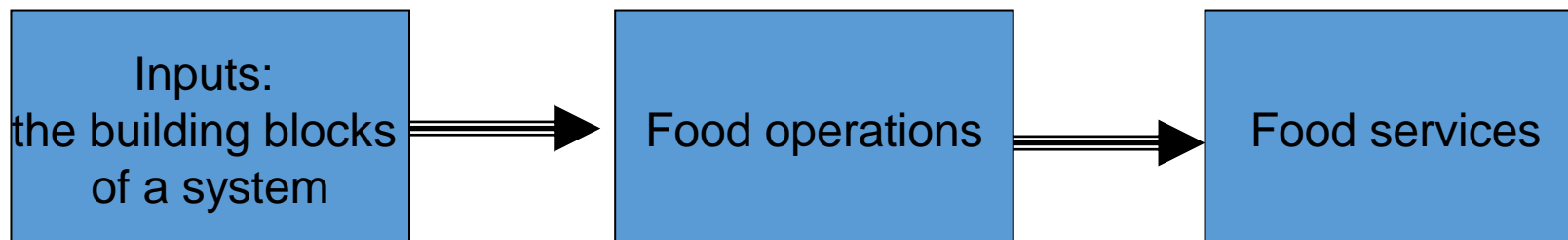
Local food systems

A system is a set of things working together:

“A system is an interconnected set of elements that is coherently organised in a way that achieves something.....a system must consist of three kinds of things: *elements, interconnections,* and a *function or purpose.*”

- Meadows, D. (2008) *Thinking in Systems. A Primer* London: Earthscan

All food systems transform inputs into goods & services



Local school children

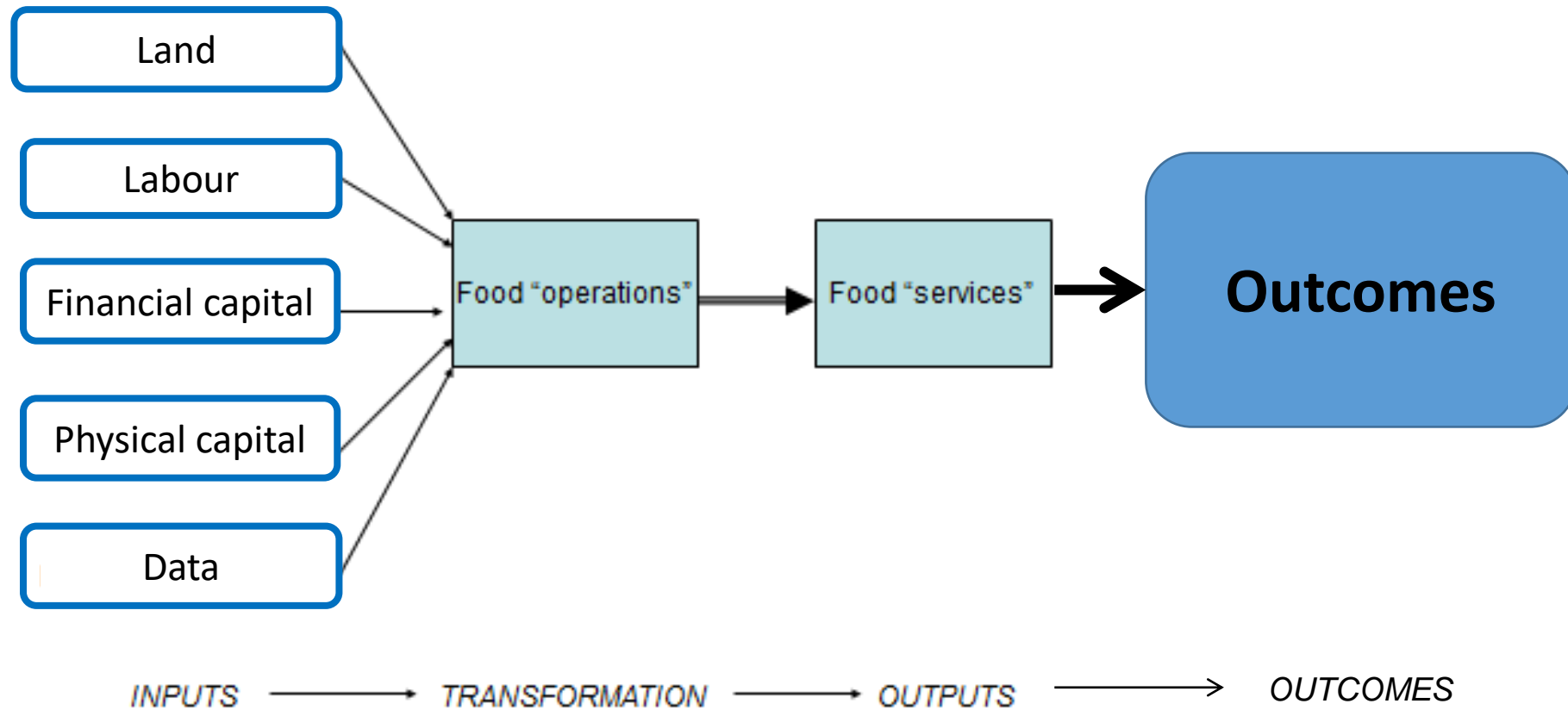
Outputs:
School meals

Operations

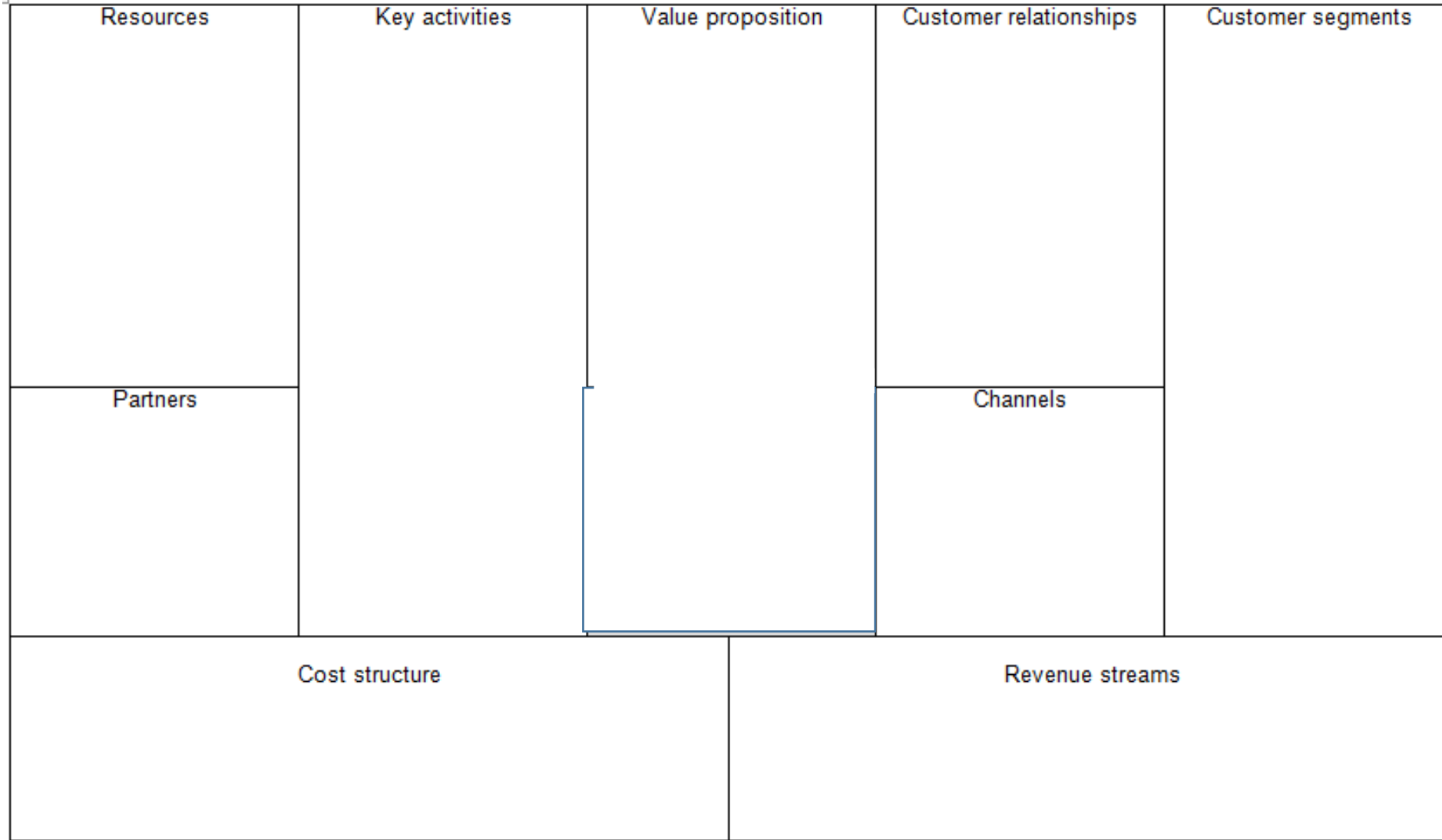
Labour
Physical Capital
Land & Natural Resources
Financial capital
Data

Inputs

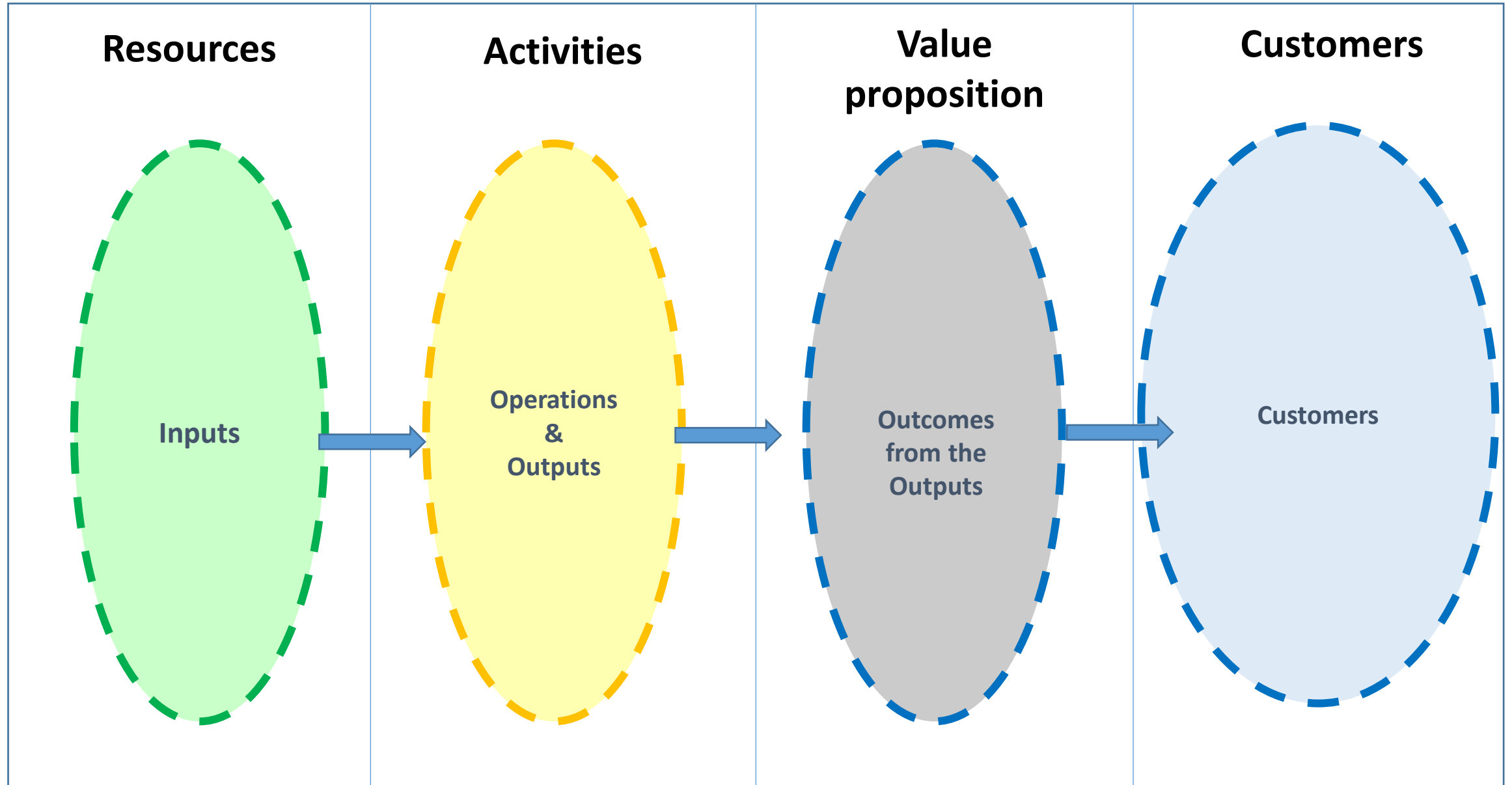
From outputs to outcomes



The Business Canvas



The Business Canvas - simplified



Customers

Who are the customers that you will provide products and services to.

Are there different types of customer?

Outputs

For your eco-social enterprise, what are the outputs (products or services) that you will deliver to customers

Operations

What will your eco-social enterprise do to produce the products/services?

Inputs / Resources

What inputs/resources will you need?

In other words, what inputs will be transformed during the operations processes?

Inputs

Labour

Environmental resources

Physical resources

Data/Knowledge

Financial resources – grants, loans, equity

Labour

What will your enterprise require?

- Staff?
- Volunteers?
- Trainees/apprentices?
- People disadvantaged in the labour market?
- Board members?

Land & Natural Resources

- What natural resources will you require?
 - Land
 - Water
 - Sunlight
 - Etc

Physical capital

What is required?

- Buildings
- Equipment
- ICT
- etc



Data

What information do you need to collect?
Do you need to access platforms or create
your own?

Financial capital

- Who will provide this?
 - Grants?
 - Loans?
 - Equity?
- What rights do they get?

	The challenges we are addressing	The activities we are proposing	The outputs we will create	The outcomes we are seeking
Social				
Environmental				
Economic				
Other, e.g. Health				

Framework Outcomes	Need/baseline	Activities	Outputs	Outcomes / Impact
Health & well-being	<ul style="list-style-type: none"> - Increasing incidence of obesity in children & young people - Increasing incidence of diet-related ill-health, e.g. type-2 diabetes - 	<ul style="list-style-type: none"> - Produce school meals - Promote scheme to new schools - Establish new hub kitchens 	<ul style="list-style-type: none"> - Children eating healthy meals - Better concentration in the afternoons - Reduced illness/absences 	<ul style="list-style-type: none"> - Improved health - Improved sense of well-being - Improvements in health reflected in reduction in costs of obesity & diet related ill-health
Community development	<ul style="list-style-type: none"> - Limited opportunities for parents to get involved and contribute - Limited opportunities to sit down as a family or with others - Reduced links between the generations 	<ul style="list-style-type: none"> - Increase number of local suppliers - Recruitment & training of staff team - Encourage volunteering 	<ul style="list-style-type: none"> - Reduced isolation through greater opportunities for socialising over food - Volunteering opportunities for parents/grandparents 	<ul style="list-style-type: none"> - Improved community cohesion - Greater cross-generational links - A more positive food culture, with more people eating together
Economic development	<ul style="list-style-type: none"> - High cost of better quality food - Affordability is a major concern for families on low incomes - Limited capacity to produce meals for children in Dorset - Lost opportunities to create local jobs or provide a market for local producers 	<ul style="list-style-type: none"> - Encourage parents to come in at lunchtime and eat with children 	<ul style="list-style-type: none"> - Improved affordability of quality food for children from low income families - Employment created - Training opportunities created 	<ul style="list-style-type: none"> - Reduction in “food poverty” - Import substitution: local economic activity created through greater opportunities for local suppliers. - Local multiplier improved - Increase in value added locally (GVA)
Environmental sustainability	<ul style="list-style-type: none"> - Environmental impact of food transportation - Limited sourcing from sustainable food producers - Consequent pollution 		<ul style="list-style-type: none"> - Growing market for sustainable food producers 	<ul style="list-style-type: none"> - Increase in sustainable food production - Reduction in carbon output has positive impact on climate change

Framework Outcomes	Need/baseline	Activities	Outputs	Outcomes
Health & well-being				
Community development				
Economic development				
Environmental sustainability				



**DORSET
COMMUNITY
ENERGY**



Tim Crabtree - Chair, Dorset Community Energy

Dorset Community Energy

Local ownership of renewable energy production

- Community Benefit Society
- Board of Directors (voluntary)
- 3 paid p-t staff plus contractors



**DORSET
COMMUNITY
ENERGY**

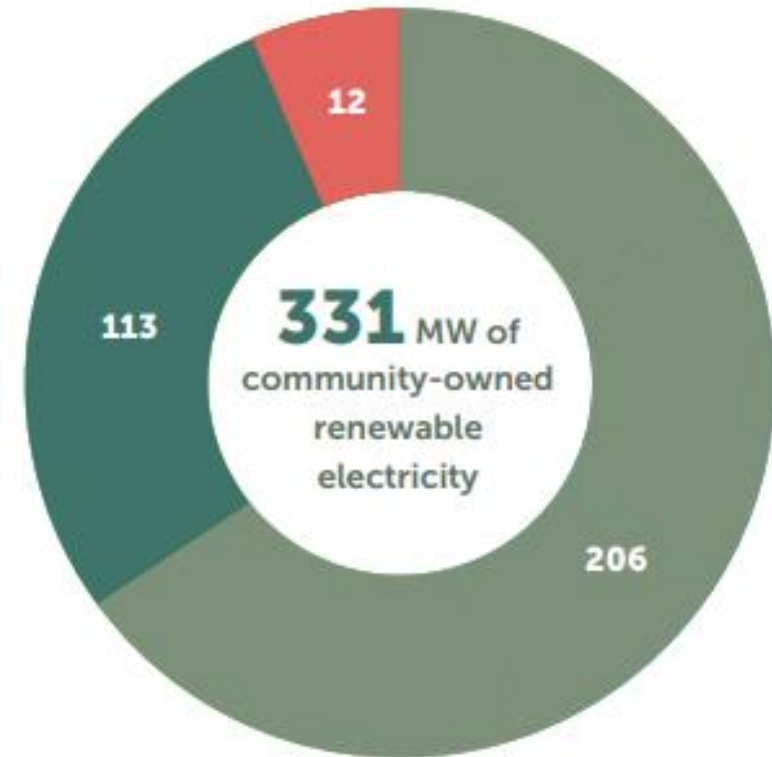


Community Energy

- Community-led energy projects: generation, ownership, efficiency.
- Allows communities to play a role in transition to sustainable energy.
- Local, national and worldwide.

Generating
506 GWh of electricity

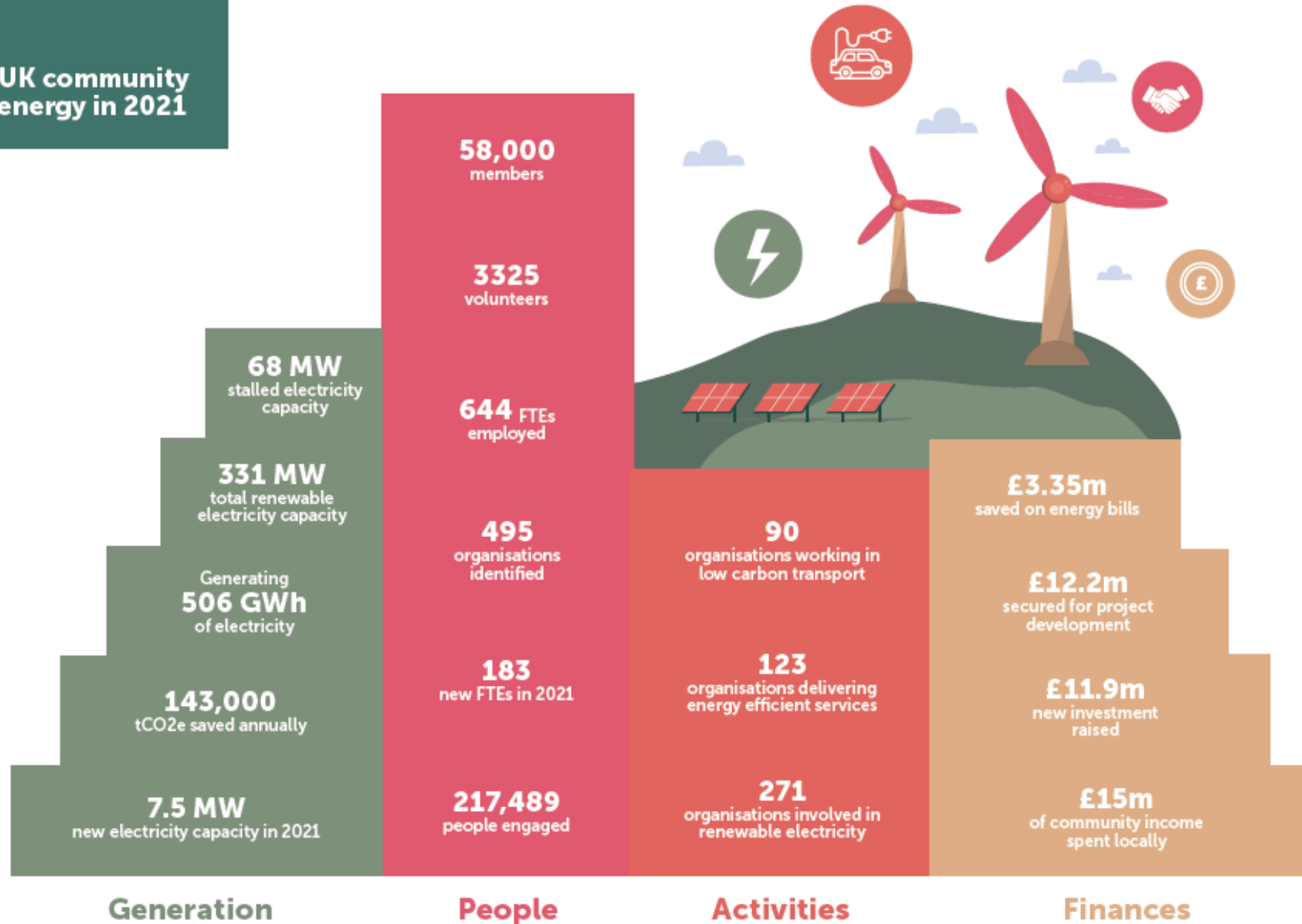
Saving
143,000 tCO₂e annually



■ Solar PV ■ Wind ■ Hydro

UK 2021 figures, Community Energy England

UK community energy in 2021



What is energy?

- Energy is something that makes a change. Making a change is called "doing work."
- Scientists define energy this way: **Energy** is the ability to do work.
- The total amount of energy in the universe always has been and always will be the same. Humans use energy. We do not make energy, but do work by changing energy from one type to another.

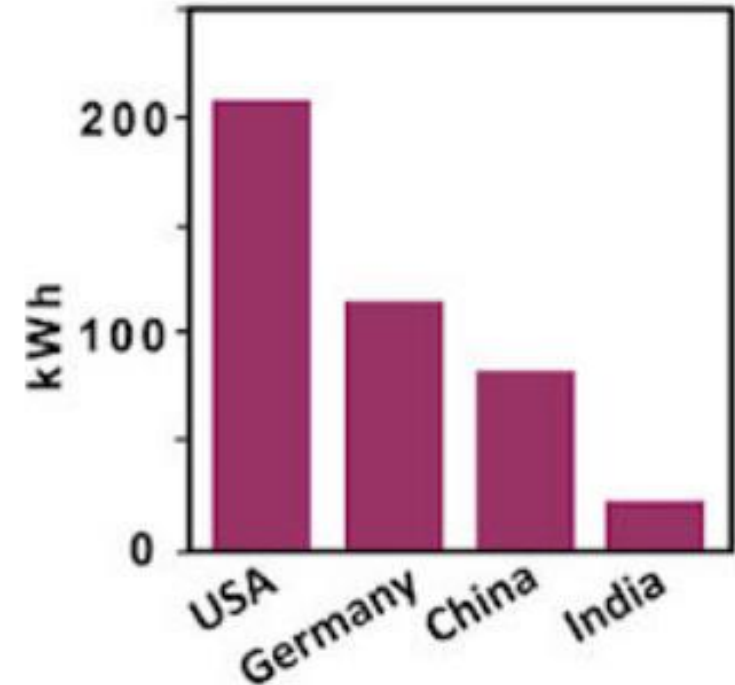
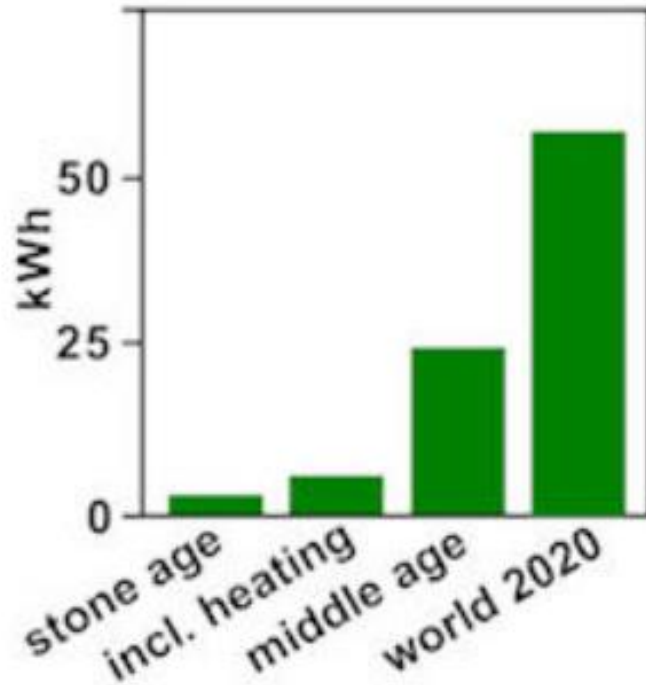
Energy has many different forms. These are the most common:

- **Solar** energy - energy that comes from the sun
- **Heat** energy - occurs when the heat from one object moves to another
- **Light** energy - comes from light bulbs or LED
- **Chemical** energy - energy released when one substance changes to another like wood burning or metal rusting
- **Mechanical** energy - the motion of machines
- **Electrical** energy - energy caused by moving electrical charges from one place to another

Energy can be transferred, but it cannot be created or destroyed.

- When energy is used, it changes from one form of energy to another.
 - Example: When coal is burned, its energy is changed into heat and light.

Daily Energy Needs



If the world population increases to 10 billion as expected, & all countries advance to match the present consumption of US, the world energy demand will eventually increase nearly fivefold.

Dorset Community Energy

MODEL:

- Solar panels on schools community buildings
- Financed by community shares, repaid over 20 years, 5.5% interest
- Free or low-cost electricity to the host building

PROGRESS TO DATE:

28 locations

- 21 Schools
- 3 Healthcare sites
- 4 Community buildings

205 shareholder members

£1 million raised through shares

>1.5MW installed capacity



 DORSET
COMMUNITY
ENERGY

Share Offer
Document
2015

The cover features a green and blue geometric design with a background image of solar panels and a white stylized logo of three people.



 DORSET
COMMUNITY
ENERGY

Share Offer
Document
November
2015

The cover features a purple and red geometric design with a background image of solar panels on a building under construction and a white stylized logo of three people.



 DORSET
COMMUNITY
ENERGY

3rd
Share Offer
Re-opening
Covering letter

May 10th 2021

Dorset Community Energy (DCE) is pleased to announce that it is re-opening its 3rd share offer that closed in July 2019 having successfully reached its target of £445,000.

These funds have been used to install 700kWp of rooftop solar panels on schools and hospitals across Dorset. We have been able to secure a further three rooftop solar sites and are now seeking to raise £194,418 of additional share capital to fund these.



PV solar installation at
Beamminster School, Dorset

The document cover features a blue and green geometric design with a background image of solar panels on a roof and a white stylized logo of three people.

Community share issues using a Community Benefit Society (IPS)

- Wessex Community Assets developed a set of model rules for raising share capital at low cost
- This means members of a community can invest directly in community projects and services
- It is cheap to set up and acceptable to independent financial advisors
- Exempted from the Financial Promotions Regulations





Bridport Primary School 15kW



Beaminster School 112kW



Salway Ash Village Hall 20kW



Bridport Community Hospital 99kW



Bridport Arts Centre 17kW

DORSET COMMUNITY ENERGY										
IMPACT FIGURES @ 31.3.23										
		22/23	21/22	20/21	19/20	18/19	17/18	16/17	15/16	CUM
Sites commissioned at year end	Number	28	26	21	18	16	16	16	7	
Production capacity commissioned	KwH	1581	1541	973	604	420	420	420	127	
Average site size	KwH	56	59	46	34	26	26	26	18	
Saved by client sites	£	253196	59245	55834	35129	32048	27919	9279	4029	476679
Carbon savings	Tonnes	564	437	267	168	153	134	44	19	1787
Clean energy produced	MwH	1604	1243	759	457	446	432	112	23	5076
Homes powered equivalent	Number	461	357	218	131	128	124	32	7	1458
Community fund contribution	£	7747	3164	1582	0	0	0	0	0	12493



**DORSET
COMMUNITY
ENERGY**

Community Fund

DORSET COMMUNITY ENERGY				FINANCIAL YEAR ENDED 31.MARCH 2022								
CONTRIBUTIONS TO COMMUNITY FUND (EQUIVALENT TO MEMBER'S INTEREST SAVINGS AS CAPITAL IS REPAID)												
SHARE OFFER												
YEAR	YEAR	PV1/2	PV1/2	YEAR	PV3	PV3	YEAR	PV4	PV4	COMBINED		
		£	CUM		£	CUM		£	CUM	£	CUM	
2020	1	1582	1582							1582	1582	
2021	2	3165	4747							3165	4747	
2022	3	4747	9494							4747	9494	
2023	4	6329	15823							6329	15823	
2024	5	7911	23734	1	1439	1439				9351	25173	
2025	6	9494	33228	2	2879	4318	1	629	629	13001	38175	
2026	7	11076	44303	3	4318	8636	2	1258	1887	16652	54827	
2027	8	12658	56962	4	5758	14394	3	1887	3774	20303	75129	
2028	9	14240	71202	5	7197	21591	4	2516	6290	23953	99083	
2029	10	15823	87025	6	8636	30227	5	3145	9435	27604	126687	
2030	11	17405	104430	7	10076	40303	6	3774	13209	31255	157941	
2031	12	18987	123417	8	11515	51818	7	4403	17612	34905	192846	
2032	13	20569	143986	9	12954	64772	8	5032	22644	38556	231402	
2033	14	22152	166138	10	14394	79166	9	5661	28305	42207	273609	
2034	15	23734	189872	11	15833	94999	10	6290	34595	45857	319466	
2035	16	25316	215188	12	17273	112272	11	6919	41514	49508	368974	
2036	17	26899	242087	13	18712	130984	12	7548	49062	53158	422132	
2037				14	20151	151135	13	8177	57239	28328	450461	
2038				15	21591	172726	14	8806	66045	30397	480858	
2039				16	23030	195756	15	9435	75480	32465	513323	
2040				17	24470	220226	16	10064	85544	34533	547856	
2041							17	10693	96237	10693	558549	



**DORSET
COMMUNITY
ENERGY**

making with mums

a local matters workshop

Local Matters is a social furniture making workshop that explores the links between community, landscape, ecology and craft.

Our first session is dedicated to making with single mums and youth.

Sessions are **FREE** and you get to take home what you make.

If you are a single mum and fancy a new piece of furniture and learning to make it yourself, send us an email or drop us a text and we can talk about what you want.

They will take place on Saturdays and Sundays at The Shed.

Free childcare will be provided at Millenium Green next door.

 
localmattersworkshops@gmail.com

Sign up for a 2-day session!

Jun 25-26
Jul 2-3
Jul 9-10

And a post-making celebration at local woodland with storytelling July 16


Supported by




Prior and current recipients

THE BLANDFORD SCHOOL



Become an Energy Champion





Match funded

Bridport Cohousing

Withdrawable Shares

4% Forecast return

Bridport Cohousing are pioneering cohousing as a means of enabling affordable and sustainable community living for local people.

Bridport Co-housing: Solar PV Micro-grid



Energy Local Bridport



*Local market for renewable electricity
Reducing electricity costs
Keeping value in local economy*

- 50kW wind turbine
- Capacity ~ 55 members
- Project launched December 2019
- Club started trading September 2021
- Last members joining now



The match price



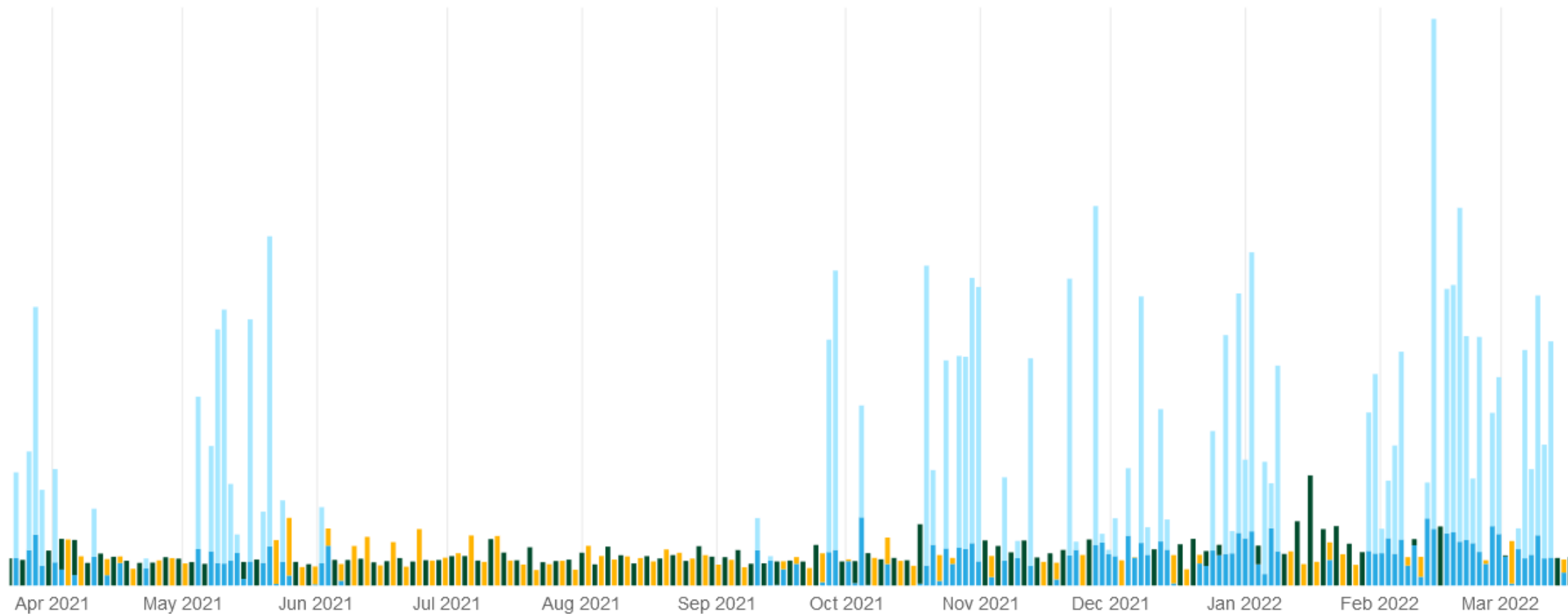
Match price = the price of renewable electricity used by the club at the time of generation.

This is for both the consumer AND the generator.

MEDIUM

Generating 22 kW now

Overnight Daytime Evening Wind



Wind output is currently exceeding club consumption



Bridport
Overview



Your
Household



Your
Club



Tips

Club score and savings

Year



In the last year, we scored:

68/100



We could do more to make the most of the wind power and power at cheaper times of day. Can we move more electricity use away from peak times?

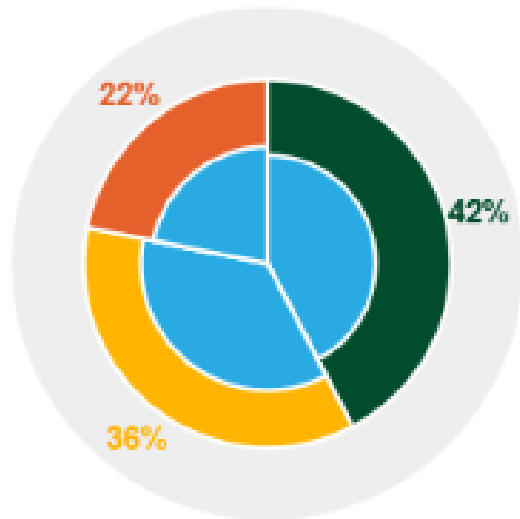
Together we've kept

£2282

in the local area by using your local resource wind power!

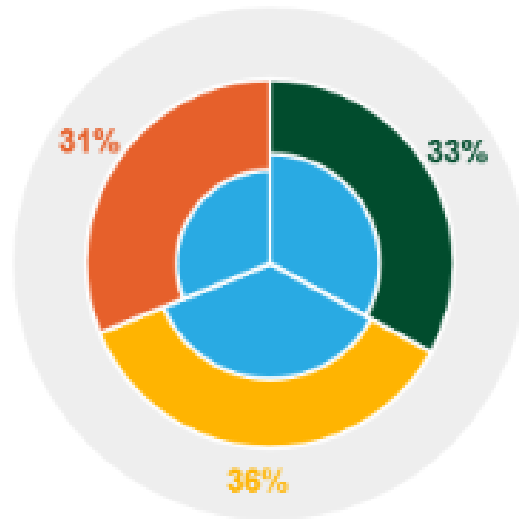
ELECTRICITY

52064.06 kWh



COST

£6766.59



SAVING

£1324.17

- Wind**
20996.98 kWh @10.87 p/kWh
Costing £2282.23
- Overnight**
14426 kWh @10.0 p/kWh
Costing £1442.63
- Daytime**
9821 kWh @15.0 p/kWh
Costing £1473.10
- Evening**
6820 kWh @23.0 p/kWh
Costing £1568.63

Average Price:
13.0 p/kWh



Future Plans

New generation could be added in a second phase.

Dorset Community Energy are exploring building a ground-mounted PV array, creating additional capacity to supply households or businesses with low-cost solar energy during the daytime.



Energy Local Bridport portal

energylocal.org.uk/bridport

alison@dorsetcommunityenergy.org.uk



PEOPLE
POWERED
RETROFIT



HOMES FOR A LOW CARBON FUTURE



Assessment Services

- Insulation value
- Heating system
- Ventilation/condensation
- Size of rooms
- Digital scanning & infrared tools

Training

- Existing contractors
- Architects
- New entrants & apprentices
- Retrofit co-ordinators

Retrofit & Energy Efficiency installations

- Insulation
- Doors & windows
- Ventilation
- Heat pumps

Community Participation

- Online / face-to-face learning
- Practical workshops
- Neighbourhood action
- Energy champions
- Woodclubs
- Festivals

Zero Carbon Materials

- Replacing PVC & PIR etc
- Avoiding materials with high embodied carbon
- Local sourcing options & processing/fabrication

Benefits of a retrofit service being provided by a community organization

1. Community Engagement and Trust
2. Local Knowledge and Networks
3. Sensitivity to Local Contexts
4. Empowerment and Participation
5. Long-Term Sustainability

Activity or milestone	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
• Engagement with local partners to discuss and coordinate programme of activity	x											
• Workshops & training with People Powered Retrofit		x	x	x					x			
• Further development of the outline business model and service offer		x	x	x								
• Community engagement, including meetings, events, social media, literature		x	x	x	x	x	x	x				
• Assessment of potential to use net zero materials		x	x	x								
• Engagement with potential contractors			x	x	x	x	x					
• Survey of residents & selection of pilots				x	x							
• Pilot retrofit assessments, using People Powered Retrofit software						x	x					
• Pilot training courses for assessors, coordinators and installers					x	x	x	x				
• Assessment of financing options, e.g. loans from Lendology CIC or grants								x				
• Business model development to assess feasibility of the five proposed elements, including ability to pay and the potential to introduce grant funded subsidies								x	x			
• Project management/financial management for the feasibility study	x	x	x	x	x	x	x	x	x	x		

Raise the Roof



Fair economy. Better world.



FUNDED BY:

Government funded with private sector delivery

Community enterprise

Community groups undertake assessment, training & community engagement



Recommend contractors

e.g. Exeter Community Energy
www.ecoe.org.uk/retrofit-advice/
& People Powered Retrofit
<https://retrofit.coop/>
<https://plymouthenergycommunity.com/>

Cooperative:

- Households
- Assessors
- Materials suppliers
- Contractors

e.g.

- <https://locohome.coop/>
- <https://carbon.coop/>
- <https://ownedbyoxford.org.uk/barton-community-retrofit-cooperative/>

Boldwood House: partnership with Bridport Area Community Housing, Magna Hsg & Assemble Studio



<p>RESOURCES</p> <ol style="list-style-type: none"> 1. Trained energy assessors and consultants. 2. Access to a network of certified contractors. 3. Relationships with suppliers and manufacturers. 4. Technology for data analysis and project management. 5. Marketing and promotional materials. 	<p>OPERATIONS/ ACTIVITIES</p> <ol style="list-style-type: none"> 1. Train assessors & coordinators 2. Conduct comprehensive energy assessments & provide personalized retrofit recommendations. 3. Procure sustainable retrofit materials. 4. Coordinate professional installation services. 5. Manage customer relationships and project timelines. 	<p>OUTPUTS/ VALUE PROPOSITION</p> <ol style="list-style-type: none"> 1. Convenience: One-stop solution for all retrofit needs. 2. Expertise: Professional assessment and personalized recommendations. 3. Affordability: Access to cost-effective retrofit options and financing. 4. Quality: Assurance of high-quality materials and installations. 5. Net Zero Carbon: Contribution to reducing energy consumption and carbon emissions. 6. Sustainable construction: Provide advice on alternatives to traditional construction materials with low carbon footprint. 	<p>PROMOTION/ MARKETING CHANNELS</p> <ol style="list-style-type: none"> 1. Digital platforms for marketing and online booking. 2. Social media for community engagement and awareness. 3. Partnerships with contractors, suppliers, and industry associations. 4. Referral programs to incentivize customer referrals. 5. Participation in trade shows, workshops, and events. 	<p>BENEFICIARIES/ CUSTOMER SEGMENTS</p> <ol style="list-style-type: none"> 1. Residential homeowners seeking energy savings and comfort improvements. 2. Commercial property owners aiming to reduce operational costs. 3. Real estate developers looking to enhance property value and marketability. 4. Government entities implementing energy efficiency initiatives. 5. Non-profit organizations focusing on sustainability and social impact.
<p>PARTNERS</p> <ol style="list-style-type: none"> 1. Suppliers of retrofit materials and technologies. 2. Certified contractors for installation services. 3. Government agencies providing incentives and rebates. 4. Financial institutions offering financing options. 5. Industry associations for networking and collaboration. 			<p>CUSTOMER/BENEFICIARY RELATIONSHIPS</p> <ol style="list-style-type: none"> 1. Personalized consultations to understand needs and preferences. 2. Timely communication throughout the assessment and installation process. 3. Follow-up support and maintenance services. 4. Educational resources and guidance on sustainable practices. 5. Feedback mechanisms for continuous improvement. 	
<p>COST STRUCTURE</p> <ol style="list-style-type: none"> 1. Personnel costs for energy assessors, consultants, and administrative staff. 2. Marketing and advertising expenses for promoting services. 3. Procurement costs for retrofit materials and technologies. 4. Operational costs such as office rent, utilities, and insurance. 5. Investments in technology, equipment, and training. 		<p>REVENUE STREAMS</p> <ol style="list-style-type: none"> 1. Fees for energy assessments and consultations. 2. Revenue from procurement markups on retrofit materials. 3. Income generated from installation services. 4. Commission-based partnerships with suppliers or contractors. 5. Potential revenue from financing arrangements or referral fees. 		

	The challenges we are addressing	The activities we are proposing	The outputs we will create	The outcomes we are seeking
Social				
Environmental				
Economic				
Other, e.g. Health				