

Introduction



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Executive Summary



- 1. DCE is running a pilot project to allow local trading of renewable energy.**
- 2. It will mean that people can buy energy direct from local generators and split the difference in price; they get cheaper electricity and the generator gets more money**
- 3. We hope this will lead to an increase in renewable energy generation**

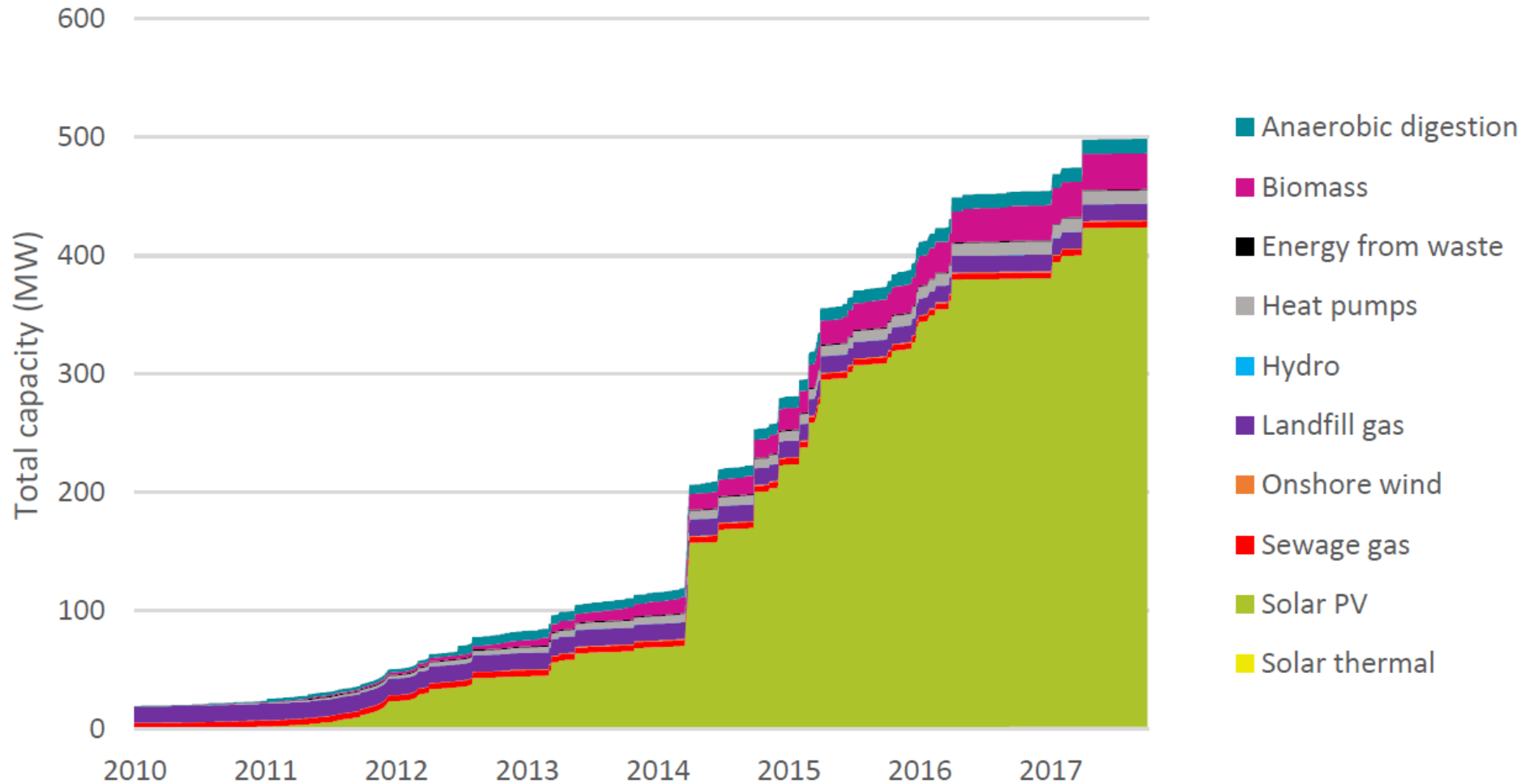
Background

Climate Change

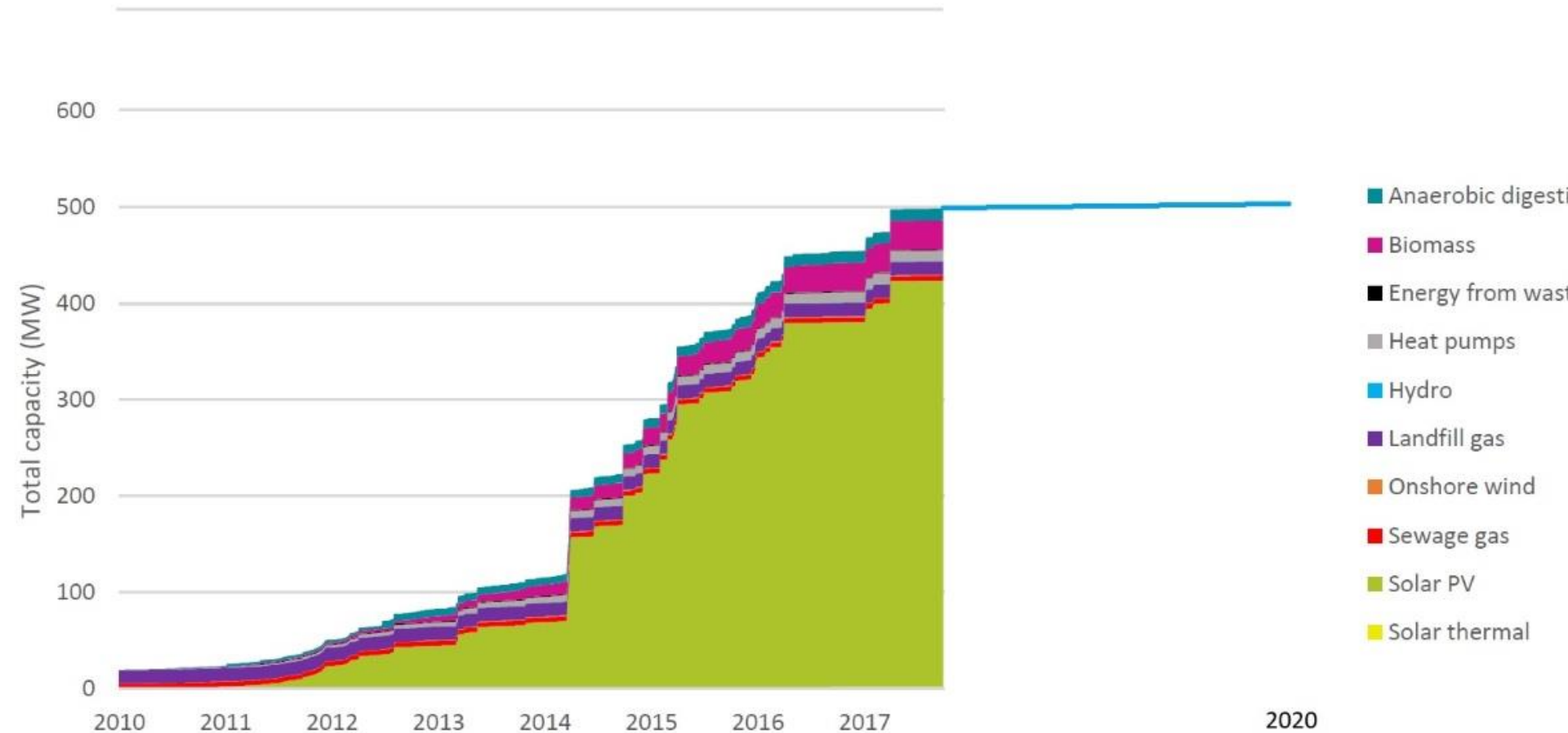
- Paris Climate Agreement
 - UK's target to reach net zero by 2050
- A linear reduction



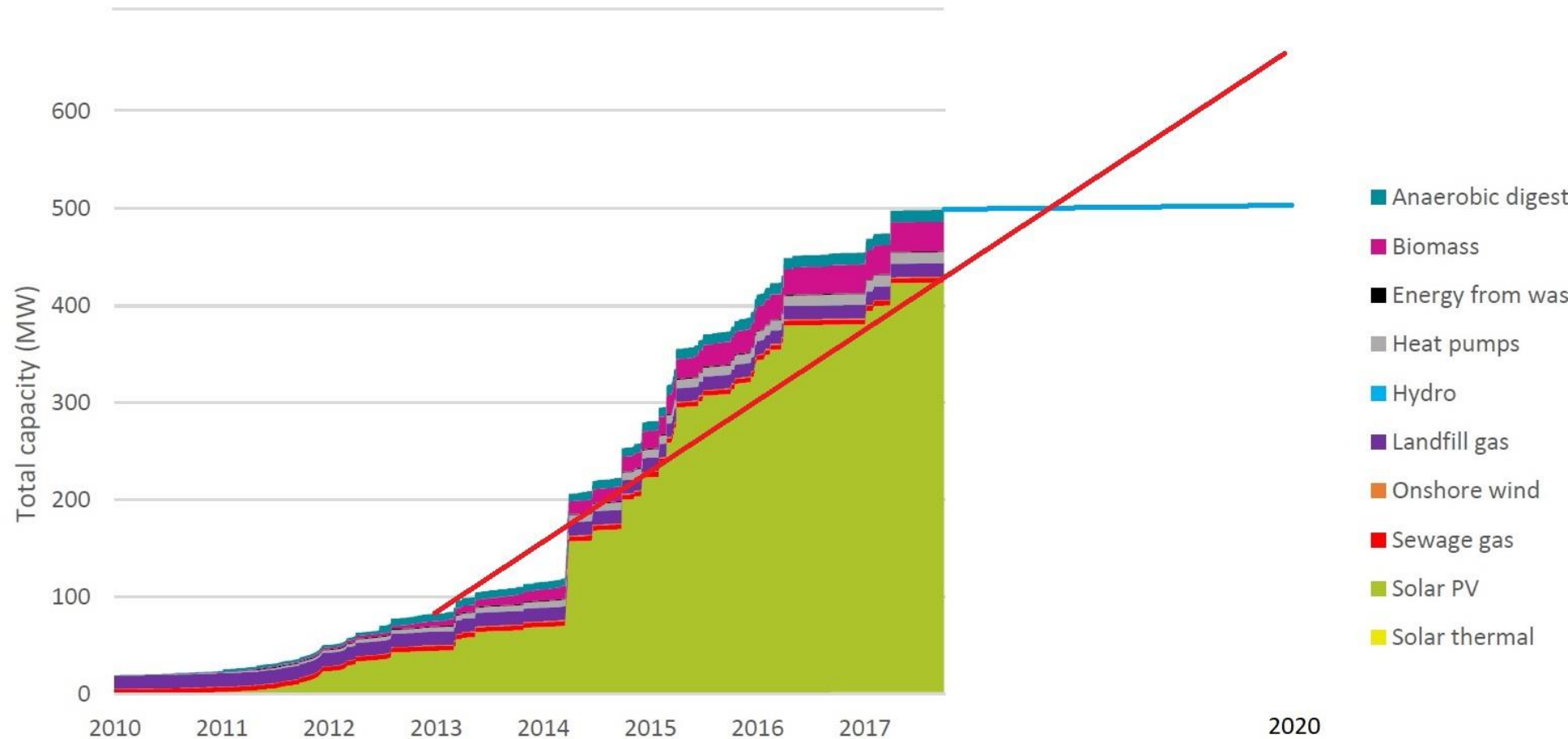
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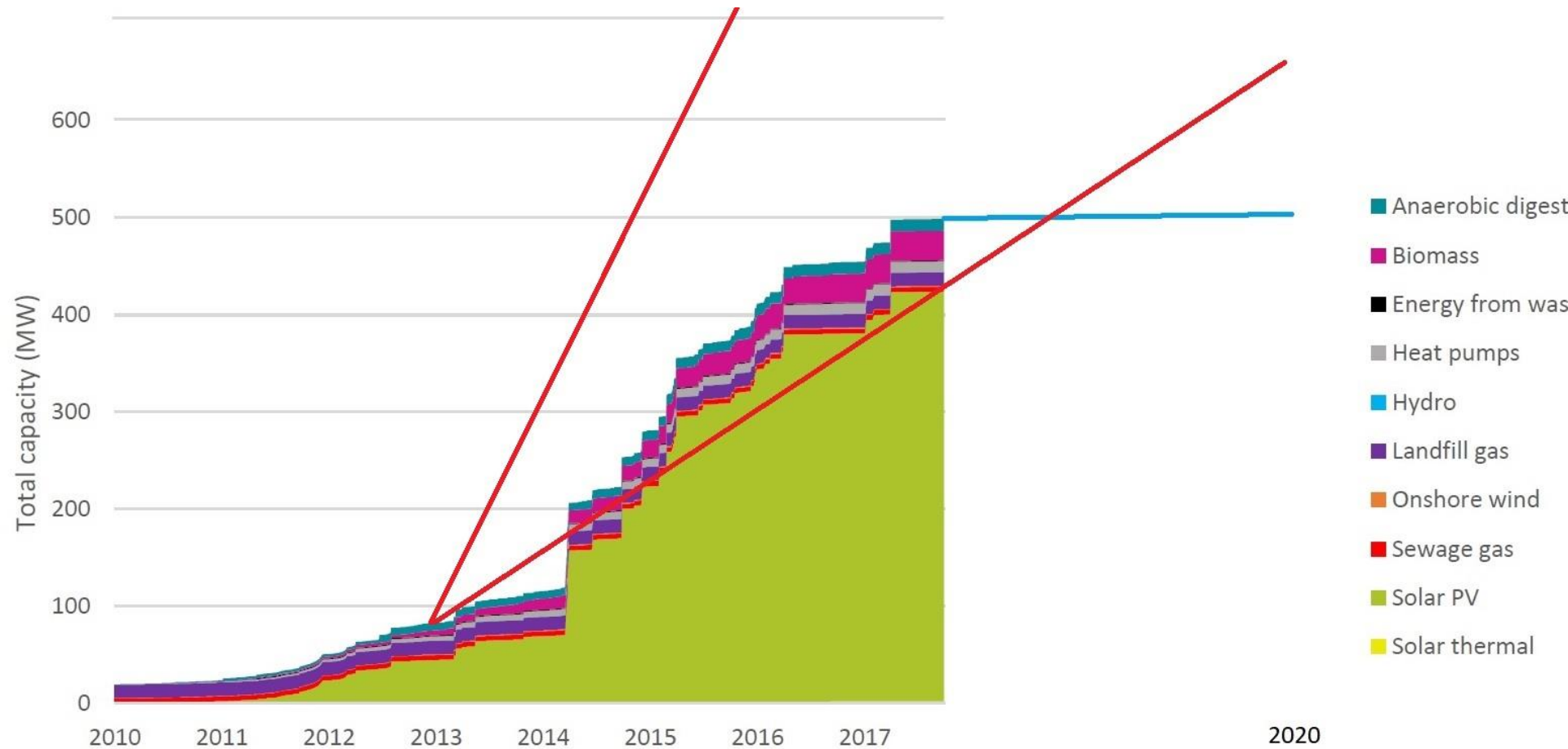
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Dorset



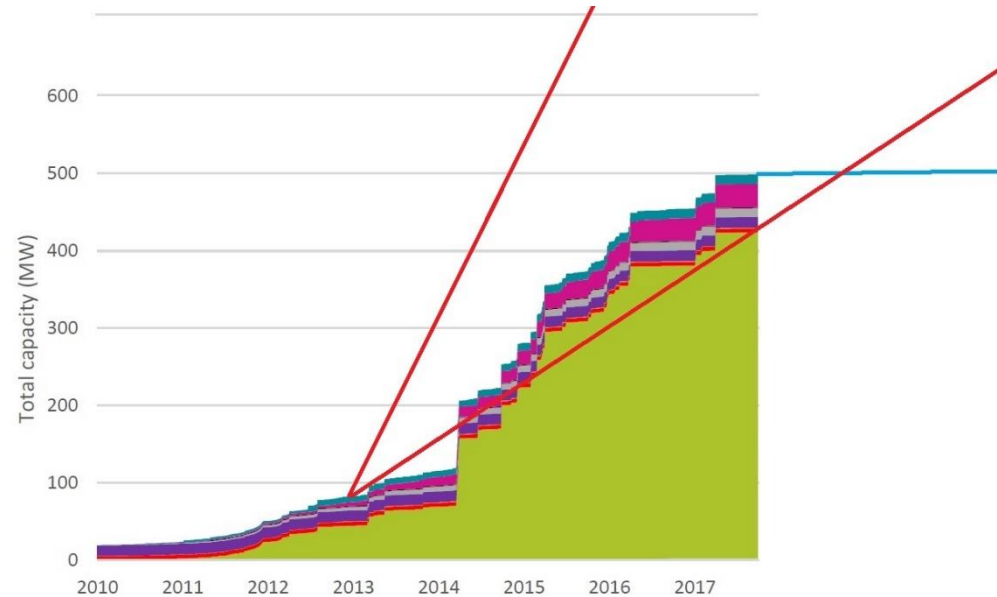
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Problem

Why so bad?

- We said no to onshore wind turbines
- We said no to offshore wind turbines
- Removal of subsidies so no more big solar farms



→ No financial argument to invest in renewables

Problem

Why no investment?

- **Renewable Energy is still expensive to install**
- **If you sell the generated electricity, you get only 5p/kWh**

→ **Very long paybacks (15 yr +)**

If you can:

- **Use the electricity yourself,**
- **Sell the electricity to a host building, or**
- **Get a grant**

Then paybacks <10 years

DCE's business model requires 2 of these!

Independent generators can't use any of them



Solution

We need to find a way for generated energy to be worth more than 5p/kWh



You may have noticed that 5p/kWh is a lot less than the 15p/kWh that you pay for electricity

The difference is the cost of the grid, the cost of administering the bills, and the profit for the energy suppliers.

There is a loophole in the Supply Regulations which allows direct trading, which avoids these.



Solution

There are lots of conditions:

- **Needs to be local (across one substation)**
- **Needs to be at low voltage**
- **Needs to be within one organisation**



There is one example of this in the country, at Bethesda in Wales. A company called Energy Local set up a co-op to trade energy from a 100kW hydro scheme.

For various reasons, that is not directly repeatable. Similar projects are being tested in Wales

Energy Local Bridport



DCE (well, mostly Pete) have set up Energy Local Bridport

- **A co-op to trade local renewable energy**
- **Initially from the 50 kW wind turbine at Salway Ash**
- **Eventually other renewables (mostly solar due to planning and resource constraints)**



How it works:

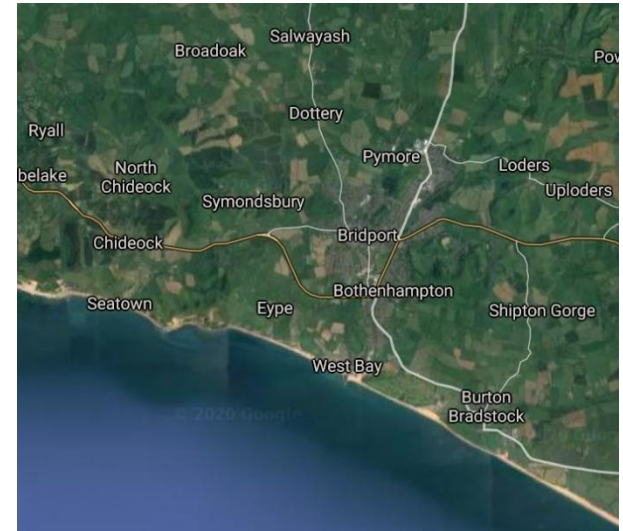
- **Generator signs up to Octopus Energy**
- **All demands/customers in the club sign up to an Octopus Energy Time-of-Use tariff**
- **When the turbine is generating, the output is split across the demands of the members of the club**
- **This energy is traded at the local price of 9.5p/kWh (<15p, >5p)**
- **Excess demand is met by Octopus**
- **It is purely a legal and financial arrangement; no actual engineering or physical changes**

Energy Local Bridport



Pilot Study:

- **1 x turbine (50 kW)**
- **50 - 60 households around Bridport**



Progress

- **Co-op set up**
- **55 households in the club**
- **COVID-19 put the brakes on**
- **Might start a miniclub in November**
- **Expanding to the full pilot study in early 2021?**

When there is demand in the club, generators will be able to sell at 9.5p/kWh ($>5\text{p/kWh}$)



Essentially a 4.5p/kWh community-funded local subsidy!

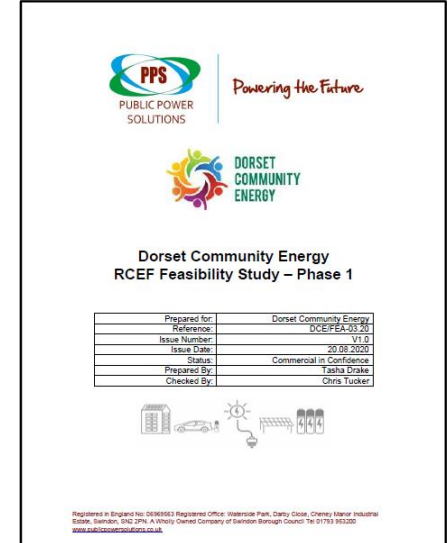
We hope this will lead to new deployment:

- **Homes with existing solar join club**
- **Homes install new solar to join**
- **Businesses install new solar on their buildings**
- **New pure generation ($<1\text{MW}$)**

Future

**DCE is currently doing a feasibility study
(funded by RCEF) into two ground-mounted
PV arrays to sell into the club
Each 200 kW (around 1 acre)
Several promising sites with good grid
connections**

**At least one other
organisation looking into
doing similar things**




The cover page of the report includes the following information:

PPS PUBLIC POWER SOLUTIONS | *Powering the Future*

DORSET COMMUNITY ENERGY

**Dorset Community Energy
RCEF Feasibility Study – Phase 1**

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www.dorsetcommunityenergy.co.uk



If this all works, we'll try to set up other Energy Local clubs around Dorset.

**Swanage (has two small turbines),
Dorchester, Portland, Beaminster,
Wareham, Weymouth, Wimborne have
all expressed an interest**



Each could lead to many 100s of kW.

Exciting times!!!!