



The Story of Westmill



Are you living sustainably?

- Human activity is now the main cause of **global warming** and **climate change**
 - We have the power to make **changes** that can make a **positive difference**
 - What does **'sustainable'** mean?
 - Do you think you live your life in a sustainable way?





The changes

- Throughout his career, **David Attenborough** has witnessed the effects of human behaviour and climate change on our planet
 - Loss of habitats
 - Melting sea ice
 - Plastic pollution
 - David Attenborough is in his 90s, why do you think it is so important to him to make **the message about climate change** clear?





The future

- In 2018 **Greta Thunberg** felt she had to take action to draw attention to climate change
 - She began the movement '**School strike for the climate**' on her own
 - She has spoken publicly and has **called governments out** for not taking action
 - Why do you think Greta is so **passionate** and is angry at the lack of action?





We can make a difference





Good news

- It can be scary to hear people talk like this but the **good news** is that **we can make a difference**
 - Visionaries are leading the way with community projects like **Westmill**
 - Action can start with **small changes** that grow and ultimately make a **big difference**
 - What **positive actions** can you take in your day to day life to work towards combatting climate change?





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- The first one has been done as an example...

- Choose low energy lightbulbs





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- Carshare
- Use public transport
- Go by bike
- Walk
- Move to electric vehicles





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- Reuse where possible
- Reduce packaging
- Don't buy so much
- Recycle
- Reduce waste
- Repair





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- Follow a plant based diet
- Don't waste food
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- Don't waste food
- Think about 'food miles'

- Don't take unnecessary flights
- Consider train travel
- Use skype or facetime instead of meeting in person





Operation sustainability!





What is a co-operative?

- A **Co-operative** is a business owned by its individual **members**
 - These members will usually have a **shared vision** and **common goals**
 - Members are known as **stakeholders**
 - No matter the stakeholders role in the business, they have a **voice** and a **vote**
 - How is this structure different from non co-operative businesses?





Benefits of membership

- Co-operatives are a **fairer** and more **sustainable** way of running a business
 - They **empower** members who are able to share their **ideas** and **views**
 - What methods do you think co-ops use to enable members **have their say**?
 - They receive a **share of the profits**
 - Can you think an example of a co-operative local to you?





The Midcounties Co-operative

The **Midcounties**
Co-operative

- The Midcounties Co-operative is an name you may recognise
 - The Co-op is built around a set of clear **ethical values**
 - **Profits** go back into the business, are shared with **stakeholders** and are invested in **local community projects**
 - How do you **become a member** of the Midcounties Co-op and what **other benefits** are available to members?





Co-operative schools





The Westmill co-operatives

- The Westmill **wind** and **solar** co-operatives have **renewable energy** at their hearts
 - They have enabled **local people** to own part of a renewable energy project
 - They have boosted the local economy and **raised the profile** of the local area
 - How do you think the wind and solar co-ops **encourage visitors** who want to learn about **renewable energy (RE)**?





Airforce and Army

- Between 1940 and 1972, the site at Westmill was an **airfield**
 - RAF airmen received navigation training and **windy conditions** made it an ideal place for practicing landings
 - Why was this type of training necessary in the UK the early **1940s**?
 - From 1950 the site was used by the Army for training paratroopers





Down to earth

- In contrast to its military use, in **1975** the site hosted the **People's Free Festival**
 - By 1975 there was already growing concern about the issue of **man-made climate change**
 - How do you think local people felt about the festival?
 - 1976 the site was returned to **agriculture**





Adam Twine

- In 1992 landowner and farmer **Adam Twine** made his **first application** to build a wind farm at the Westmill site
 - The project took **16 years** to deliver
 - He wanted to create a **community based** renewable energy project for a more **sustainable** future
 - What **challenges** do you think Adam may have had to **overcome** on his journey?





The Story of Westmill





Westmill wind

- In **2008**, construction of the **5 wind turbines** finally started
 - The turbines were manufactured by Siemens in **Denmark**
 - In only 8 days **2 cranes** successfully erected the 5 turbines
 - The first electricity was generated on **19th February 2008**
 - Why do you think the turbines were delivered to the site in **sections**?





The Westmill turbines

- The five wind turbines are placed a set distance apart and run **east to west**
 - Turbines are about **81 meters** tall to the highest tip
 - They each have **3 blades**, each blade is **30 meters** long
 - Each turbine weighs **130 tonnes**
 - How do you think the turbines are kept **securely in position**?





Westmill solar

- In 2011 over 20,000 solar panels were set up next to the turbines
- It was the **UK's first** community owned solar array
 - What does the word '**array**' mean?
 - Panels manufactured in Taiwan and were **shipped to the UK**
 - Like the wind farm, it is run and owned by a **co-operative** of people from the local area





The Westmill solar array

- The solar array at **Westmill** consists of 21,620 panels mounted in 32 rows
 - They sit on a site of **12 hectares** (30 acres)
 - Each solar panel faces **south**, why do you think this is?
 - Panels are mounted at an angle of **30 degrees** to the horizontal
 - What are the advantages of solar farms like the one at Westmill?





People power

- The wind and solar co-ops at Westmill shows that we do not have to rely on large companies to **make positive things happen**
 - Generating **affordable, renewable** energy for the **local community**
 - **Empowering** and **involving** local people
 - How do you think that **people power** and **community action** can be spread



Community

- In 2018 Wind and Solar at Westmill contributed **£86,000** to **community projects** including
 - £5,000 to install solar panels at Watchfield Village Hall
 - £21,895 towards educational visits
 - £2,500 to the Osney Lock Hydro project
 - Why do you think involvement with the local community is so important?





Wildlife

- Since the installation of the **turbines** and **panels** there has been an increase in **biodiversity**
 - Hares and other mammals are frequently spotted on site
 - Skylarks and lapwings nest and successfully breed on the site
 - In summertime, a wildflower meadow surrounds the solar array, what type of wildlife will this attract?





WeSet

- Westmill Sustainable Energy Trust or **WeSET** was set up to **promote sustainable energy**
 - We have hosted **thousands** of visitors including adults and school children
 - Why do you think we are keen for school groups to visit us at Westmill?
 - If you haven't already visited, **we hope to welcome you too very soon!**





Task 2: Before your visit

- Using the words in the list below, **fill in the gaps** in the following sentences

30	solar panels	50 metres	Westmill	8	30 metres	acres
Denmark	wind turbines	cranes	rows	south	blades	

- In 2008, 5 _____ were constructed at the _____ site. The turbines were made in _____ and delivered to the site in sections.
- It took _____ days and 2 _____ to install the turbines. Each turbine is approximately _____ tall. Each one has 3 _____ and each of these is _____ long.
- There are over 20,000 _____ at Westmill. The panels are mounted in 32 _____ and sit on a site of 30 _____. Each solar panel is mounted at an angle of _____ degrees faces _____.





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- It took _ days and 2 _____ to install the turbines. Each turbine is approximately _____ tall. Each one has 3 _____ and each of these is _____ long.
- There are over 20,000 _____ at Westmill. The panels are mounted in 32 _____ and sit on a site of 30 _____. Each solar panel is mounted at an angle of _____ degrees faces _____.





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- It took _ days and 2 _____ to install the turbines. Each turbine is approximately _____ tall. Each one has 3 _____ and each of these is _____ long.
- There are over 20,000 _____ at Westmill. The panels are mounted in 32 _____ and sit on a site of 30 _____. Each solar panel is mounted at an angle of _____ degrees faces _____.





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- It took 8 days and 2 _____ to install the turbines. Each turbine is approximately _____ tall. Each one has 3 _____ and each of these is _____ long.
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- There are over 20,000 _____ at Westmill. The panels are mounted in 32 _____ and sit on a site of 30 _____. Each solar panel is mounted at an angle of _____ degrees faces _____.





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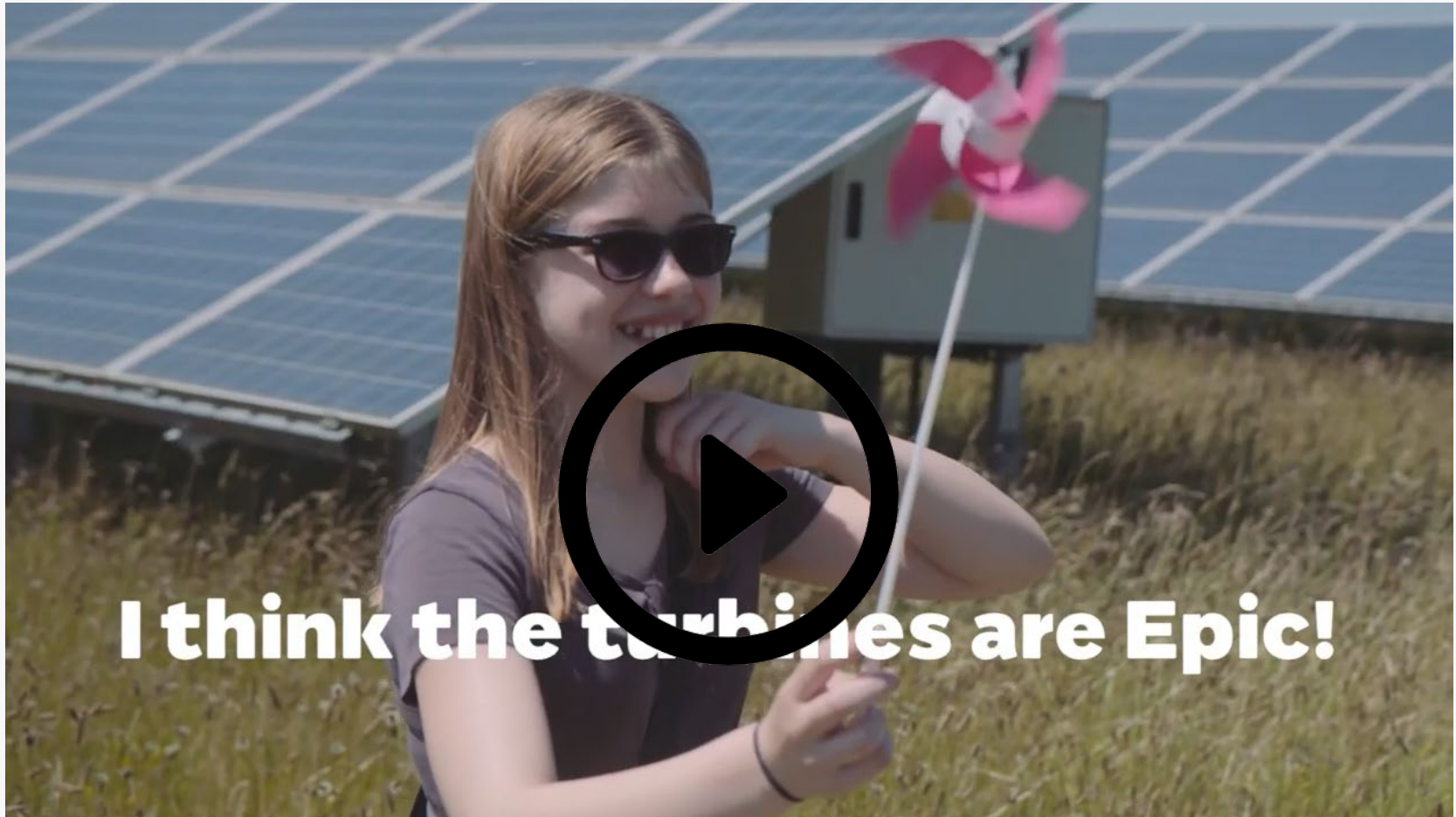
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Come and visit us





What have you learnt?





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- A **co-operative** is a business owned by whom?





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- What is the **name** of the landowner and farmer who decided to **build a wind farm** at Westmill?
- How many **wind turbines** are at Westmill?
- What word is used to describe **many solar panels** grouped together?



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