



The Crown Estate Sustainability Initiative

Wind farm stakeholders lesson

Teacher guide

1

OVERVIEW

Thank you for downloading these resources to use with your students. By equipping your students with the knowledge and skills to understand biodiversity, nature recovery, and sustainability, you are empowering them with the tools to take positive action in their own communities, now and in their futures.

This lesson links to the Design Area of the Offshore Wind Power Challenge. Students will:

- Consider the stakeholders in a proposed offshore wind farm.
- Develop their understanding of empathy and compromise.
- Use cooperative learning to develop ideas in teams and debate the proposed wind farm.
- Review their understanding of compromise.

Throughout the lesson, you will find background information on each topic. **There is also a glossary of key terms at the end.**

To find out more about how to use these resources, watch our teacher video on the website.



OUTCOMES

Pupils will be able to consider and debate different perspectives on a proposed offshore wind farm.



SKILLS

Teamwork, communication, empathy, citizenship



VOCATIONS

Engineer, Turbine expert, Energy strategist, Conservation expert



RESOURCES

- Presentation slides
- Paper or whiteboards
- Stakeholder information cards

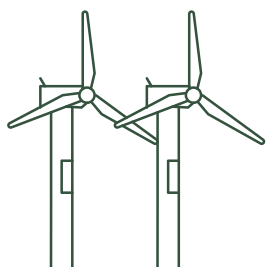


TIMINGS

We have included activities for your class that develop themes from the Minecraft worlds. They are sequenced to build on each other, but we encourage you to pick and choose the ones that will work best for your class and the time available. We have included approximate timings as a guide, but you may wish to spend longer on certain sections.

CONTENTS	TIME	PAGE
Introduction and gameplay	25 minutes	2
Starter activity – Stakeholders	5 minutes	3
Main activity – Considering different perspectives on a wind farm	15 minutes	3-4
Debate activity – Debating the proposed wind farm	20 minutes	5
Reflection	5 minutes	5
Optional extension activity		5
Real world action		6
Glossary		7

Stats quoted in these lesson packs refer to the UK.



The Crown Estate Sustainability Initiative

Wind farm stakeholders lesson

2

Introduction

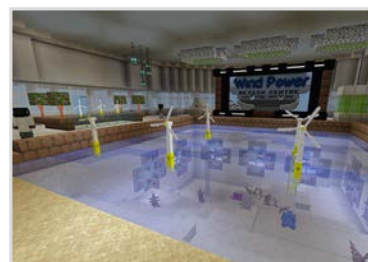
 (2 minutes)

- Introduce students to the Offshore Wind Power Challenge world that they are about to explore. Explain that this world will highlight sustainability, renewable energy, and the design process used in green careers.
- In this world, students will plan, design and develop an offshore wind farm, keeping in mind factors like wind strength and sea habitats.

Minecraft gameplay

 (25 minutes)

- When they launch the world, students will be greeted and then follow a seagull to the Wind Power Design Centre where they can explore the museum. If they have already completed this part of the world, students can speak to the receptionist and then head straight through to the Design Area.
- Consider sharing the reflection questions below with your students before they explore the world, so that they can keep them in mind throughout and ahead of class discussion.

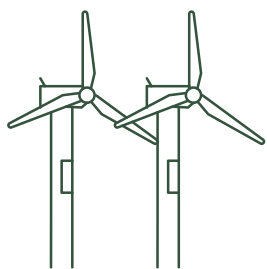


Reflecting on gameplay (Slide 2)

 (5 minutes)

- Facilitate a class discussion about the part of the world they have just explored, encouraging students to reflect on new knowledge gained, anything they found challenging, easy or interesting.
- To steer discussion, you could ask them:
 - Where is the activity based?
 - What has happened so far?
 - Who did you meet? What were their jobs?
 - What did you learn about wind turbines?
 - What can you tell me about renewable energy?





The Crown Estate Sustainability Initiative

Wind farm stakeholders lesson

3

Starter activity – Stakeholders (Slide 3)

 (5 minutes)

This starter activity will help students engage with the idea of stakeholders and begin thinking about the stakeholders in your school.

- Show **slide 3**. Ask students to work in pairs to identify who the stakeholders are for your school.
- After one minute, ask the pairs to take turns feeding back to the class for a few minutes.
- Check their understanding of stakeholders, and encourage them to think of any others they may have missed.



BACKGROUND INFORMATION

Developing empathy

Empathy is an important skill for school children to develop because it allows them to understand and connect with others on a deeper level.

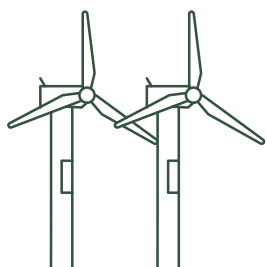
- Develops social skills
- Reduces bullying
- Improves academic performance
- Enhances emotional intelligence

Main activity – Considering different perspectives on a wind farm (slides 4-6) (15 minutes)

In this activity, students will work in teams to develop their understanding of the different stakeholders and perspectives on offshore wind farms.

- Put students into teams of 3-5.
- Show **slide 4**. Tell them they will be working individually, then in their teams, to identify the stakeholders (interested people) of a new, offshore wind farm that is being developed.
- Individually, ask them to think about and write down their own thoughts for one minute (there are hints in the slide if students need help).
- After they have written notes, tell students to rotate them around the team and give them 1 minute to read each other's notes.
- Ask one student from each team to feedback to the class. To steer discussion you could ask:
 - How might local people feel about the development?
 - Who could benefit financially?
 - What might a conservation expert feel?
 - Why would the development interest a local politician?





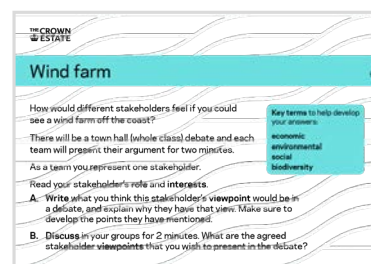
The Crown Estate Sustainability Initiative

Wind farm stakeholders lesson

4

Main activity – Considering different perspectives on a wind farm (slides 4-6) ⌚ (15 minutes)

- Show **slide 5** and explain the word empathy, “the ability to understand and share the feelings of another”.
- Next, show **slide 6** and tell students that each team will consider a different perspective on a new fictional offshore wind farm planned for a local town, in preparation for **a whole class debate**.
- Give each team a **stakeholder information card** which introduces the stakeholder, their role and their interests.
- Ask one student from each team to read the name and role of their stakeholder out to the class, so everyone is aware of the stakeholders involved in this scenario.
- Tell the teams to read their stakeholder’s role and interests together, then write on their whiteboards/paper what they think their viewpoint or perspective might be and why. Encourage them to use key terms: social, environmental, economic, biodiversity.
- Instruct pupils to discuss ideas within their team and plan how they will make sure their stakeholder’s viewpoint is heard in the debate.



BACKGROUND INFORMATION

Stakeholders in a wind farm

Project developers and investors: They are the ones who initiate the wind farm project and provide the necessary funding to build and operate the farm.

Landowners/managers of the seabed: They provide the land/marine area where the wind turbines are installed and receive compensation in return.

Turbine manufacturers: They design, manufacture, and install the wind turbines.

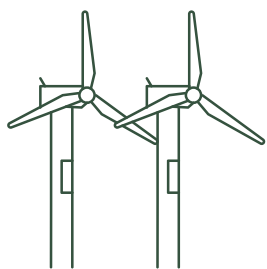
Maintenance and service providers: They provide ongoing maintenance and repair services to keep the wind turbines operating smoothly.

Grid operators: They connect the wind farm to the electricity grid and manage the flow of electricity.

Local communities: They can be impacted by the wind farm’s construction and operation and may have a stake in its success or failure.

Environmental organisations: They may have an interest in the impact of the wind farm on the local environment and wildlife.

Government agencies: They regulate the development and operation of wind farms and may provide incentives or subsidies to support renewable energy projects.



The Crown Estate Sustainability Initiative

Wind farm stakeholders lesson

5

Debate activity - Debating the proposed wind farm (slide 7)


 (20 minutes)

In this activity, students will build on the thinking they have done about different stakeholders' perspectives by representing their stakeholder in a debate to build oracy skills.

- Show **slide 7** and tell students that they will all be contributing to the debate which will improve their oracy, building confidence and communication skills.
- Allow each team to debate the development of the offshore wind farm from the different perspectives they have prepared (the order in which the 'stakeholders' speak doesn't matter).
- Encourage all students to contribute (try to bring in different students from each team).
- To encourage active listening, ask the rest of the students in the group to write down 2 questions to ask the stakeholder and tell them they might be called on to ask their questions.
- After each presentation, choose 2 students to pose a question to the stakeholder.
- After all teams have shared, mention any highlight statements you have heard as the discussions have been going on.
- Hold a 'yes' or 'no' class vote on if the wind farm should be developed or not and declare the result.
- Remind pupils that wind energy can help to reduce our reliance on fossil fuel.



Reflection (Slide 20)

 (5 minutes)

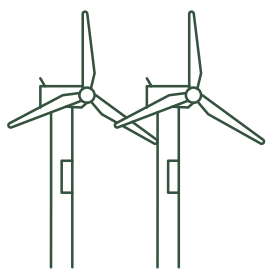
Before finishing the lesson, encourage your students to reflect on their learning.

- Display **slide 8** and ask your students to use the following sentence starters to reflect:
 - A fact / new definition I learned today about wind technology is...
 - One way I compromised during this lesson is...
 - Something I found challenging was...
- We have put some starter reflection questions below, but this is a good opportunity to continue the discussion with your class on the topics that they engaged with most.



Optional extension

If you and your students have some more time, we'd encourage you to let the students engage in some free play in the world. They'll get to explore more of the Design Area at their own pace and can redesign their offshore wind farm again if they wish.



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Wind farm stakeholders lesson

6

Real world action

Building student agency with real world action

By taking part in this lesson, students have developed their:

- knowledge of a key sustainability topic
- understanding of why it is important
- practical toolkit, and articulation, of their own green skills

These are the ingredients that enhance students' agency and power to take real world action.

There are a number of ways you can support them to take their learning forward and continue this process beyond the classroom:

- Research project on the Climate Assembly UK (representative group of citizens who are randomly selected from the population to learn about, deliberate upon, and make recommendations in relation to a particular issue or set of issues)
- Research project on British marine biodiversity
- School trip to the nearest coast to investigate marine ecosystems

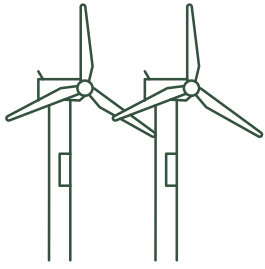


Building on these lessons - Taking action toolkit

For more ideas on safe and manageable ways to harness the enthusiasm your students may have for this or other biodiversity topics, we have created a **Taking Action Toolkit**.

It features accessible principles to empower students to identify key issues that they care about, affecting their school/local community, and begin creating meaningful solutions for nature recovery with their peers.





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Wind farm stakeholders lesson

7

Glossary

- **Stakeholder:** An individual, group, or organisation that has an interest or stake in a particular project, decision, or outcome.
- **Conservation:** The act of preserving or protecting natural resources, such as plants, animals, water, and air, through responsible use and management.
- **Ecosystem:** A community of living organisms and their physical environment, which interact and depend on each other to survive.
- **Environmental impact:** The effect that human activities have on the environment, including changes to natural resources, habitats, and climate patterns.
- **Empathy:** The ability to understand and share the feelings of others, often described as “putting yourself in someone else’s shoes.”
- **Citizen assembly:** A group of citizens, typically selected at random or through a representative process, who come together to deliberate on an issue or make recommendations to policymakers.

