TEACHER GUIDE

POWER UP CAREER EXPLORATION CHALLENGE

CHALLENGE OVERVIEW

Power Up: Career Exploration Challenge is a dynamic 1-hour workshop for students aged 16-18. It introduces renewable energy careers, including non-STEM roles such as communications and project management. Students work in teams taking on different job roles to determine the best renewable energy source for their local community using information provided.

The challenge is designed to be run flexibly, either:

- As one full session
- In smaller sessions
- As an individual task to enhance other renewable energy or STEM careers sessions

CURRICULUM RELEVANCE

This challenge supports key educational priorities and initiatives:

- **Target 2030" A movement for people, planet and prosperity Scotland's Learning for Sustainability Action Plan 2023-2030**
- **Developing the Young Workforce Career Education Standard 3-18**
- **Skills Development Scotland Meta-Skills Progression Framework**

CURRICULUM FOR EXCELLENCE LINKS

Sciences (4th level)

Planet Earth – I can express an informed view on the risks and benefits of different energy sources

LEARNING OBJECTIVES

STUDENTS WILL:

- Discover key facts about the renewable energy sector
- Explore different types of renewable energy
- Participate in the in the Power Up Career Exploration Challenge
- Learn about the range of career opportunities available within Field and the wider renewable energy sector
- Identify and reflect on the specific skills applied during the energy challenge

RESOURCES:

- Power Up Career Exploration Student PowerPoint
- Infographics: Application Guide and Power Up Career Guide (provide these digitally if possible)
- Copies of the Briefing Pack – either digitally or printed
- Certificates

FIELD

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LESSON OUTLINE

Please note that the timings below provide a guide on how long each section of the workshop should take. These timings can be modified to suit your classroom and timetable. The workshop can be delivered across multiple sessions, for example, by splitting steps 1-4 up until the challenge, and then continuing with steps 5 onward to allow students to present, reflect and learn about roles and pathways at Field.

1 10 MINS	**GETTING STARTED (SLIDES 1-16)** Introduce the basics of renewable energy storage and highlight the climate emergency to students. Next, discuss key terms and definitions to set the scene.
2 10 MINS	**INSIGHTS AND STATISTICS (SLIDES 17-36)** Create a 'true' and 'false' space at opposite ends of the room. Students move to the area they think corresponds with each statement. Then share the slides on the renewable energy sector.
3 10 MINS	**GETTING STARTED (SLIDES 37-45)** Put students into teams of five and hand out the Challenge Briefing Pack. Explain that as part of the challenge, students will work for Field and must choose the best renewable energy source (battery, hydropower, solar or wind) for their assigned community. Use the team roles and responsibilities slides and the Challenge Briefing Pack to assign roles and review site information.
4 15 MINS	**COMPLETING THE CHALLENGE (SLIDES 46-52)** Using the 'Helpful Questions' slide, students determine the best renewable energy option and record their findings in the Briefing Document. Optional: upload the document to the whiteboard to fill in digitally. **Optional:** Five minutes into the challenge, introduce a curveball using the information on slide 50. Provide prompts from slide 51 if needed. Please note, you can skip this step if needed.
5 15 MINS	**PRESENTATION AND REFLECTION (SLIDES 53-75)** Encourage students to regroup and prepare for their presentation ensuring they are clear on the elements of the challenge they'll need to present. Project Managers present their findings, followed by an open class discussion. Reflect on the statement 'The transition to Net Zero will happen' to wrap up the challenge. Take some time to explore some of the other roles and pathways at Field, encouraging students to reflect on their own skills and how they used these as part of the challenge.
6	**TAKEAWAY/REFLECTION SHEET (SLIDE 76)** Hand out the **takeaway/reflection sheet** on the final slide or talk through this and ask students to again think about what they learned and the skills they used in the challenge. Use the infographics to help with this task. These infographics then form a takeaway pack for students.

CAREERS INFORMATION

The renewable energy sector is a growing industry, particularly in Scotland. Careers in this sector offer a range of opportunities that extend beyond the traditional STEM based roles. There are key positions in policy making, project management, marketing, finance and education. It is essential that young people are aware of the opportunities available, and the skills needed in this rapidly growing sector.

Skills in project management, finance, law, and policy are critical for navigating regulatory landscapes and securing funding for large-scale projects. Communication and community engagement are also vital, as businesses aim to foster public support and understanding of renewable initiatives. Consequently, the industry demands a wide variety of talents, including expertise in data analysis, marketing and environmental science, ensuring a comprehensive approach to sustainable development.

INDUSTRY OVERVIEW

The renewable energy industry is a key component of the UK's strategy to combat climate change and transition to a low-carbon economy. Green jobs, which focus on roles that contribute to environmental preservation and restoration, are central to this transformation. These positions span various sectors, including wind, solar, biomass, and hydropower, each offering unique opportunities for innovation and growth. Energy storage is a critical aspect of this ecosystem, addressing the intermittency of renewable sources and ensuring grid stability. Energy storage technologies are essential for maximizing the efficiency and reliability of renewable energy systems. As the demand for renewable energy increases, so does the need for skilled professionals to advance energy storage technologies, making it a dynamic and promising field within the green jobs market.