

# NET ZERO QUIZ

## HPC Inspire

We're Hinkley Point C's Education Programme in Somerset and the wider South West region. And we're here to help young people at school or college learn about the huge opportunities the construction and operation of Hinkley Point C has to offer them.

**Subjects:** This activity supports curriculum learning at Key Stages 3 and 4:

- ▶ Biology / Chemistry / Physics
- ▶ Combined Sciences
- ▶ Geography

**Timings:** Approx. 60 mins for all three parts in the activity

## PART 1: THE NET ZERO QUIZ (45 mins)

This is a quiz all about Net Zero and what it means to achieve Net Zero in practical terms. There are three rounds of multiple choice questions, with time for a discussion at the end of each.

### How to run the quiz

- ▶ You can use the quiz to reinforce what students have *already* learnt about the topic. Or you can use it to *introduce* a curriculum topic.
- ▶ While there are answers to each question – and a scoring system at the end – the objective of the quiz is to provide a starting point for discussions on Net Zero. So students shouldn't be unduly concerned about choosing the 'right' answer.
- ▶ Each round takes about 15 minutes to complete – including a discussion.
- ▶ The quiz is in PowerPoint – see the Notes section on each slide for supporting information if you want to extend the activity or set the context prior or during the activity with some additional reading material.

## Net Zero Quiz

### Round 1

(10 mins quiz; 5 mins discussion)

**1. Use the Net Zero Quiz to work through the four questions.** The answers are on slide 9 – ask students to mark their answers (or with a partner) at the end of each round.

**2. Discussion – use slide 10:**

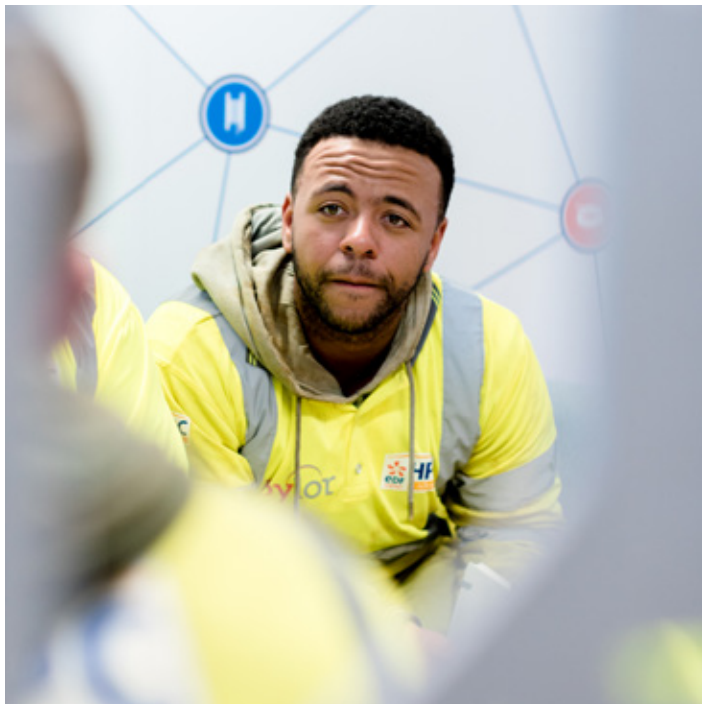
(i) Show students the picture of the beach and invite them to guess the location.

**Answer:** This is Haukland Beach in the Arctic Circle. In June 2020, the Arctic Circle experienced its highest ever temperature of 38°C (in Verhoyansk in Siberia). When it comes to temperatures, we're breaking record after record. The highest ever temperature of 55°C was recorded just recently, in August 2020, in Death Valley, California. If we keep going as we are, temperatures could rise by 3°C and extreme weather events like floods and droughts will happen more often and more intensely.

(ii) Most of us are aware the world is warming up. But have these questions made you realise just how fast it's happening?

(iii) Have you noticed any evidence of climate change in your day-to-day life?

(iv) How do you feel after learning about this? For instance, are you concerned that places near you could be affected by flooding? Has it made you think we need to act now to tackle climate change?



### Round 2

10 mins quiz; 5 mins discussion (allow longer if calculating carbon footprint)

**1. Use the Net Zero Quiz to work through the four questions.** NB: The answers are on slide 16.

**2. Discussion – use slide 17:**

(i) Do you know what your carbon footprint is? If time, you can work it out by visiting [this website](#). You could also use [this article](#) as a discussion point about the disparity between carbon footprints globally.

(ii) In the UK, our average footprint is 13 tonnes – did you know that's enough to heat a house for 13 years? To keep temperature rises to under 1.5°C, we need to get that down to 2 tonnes – it's a big ask, but it's essential.

(iii) Show students the list of things that contribute to the average British person's footprint (on slide 17). You could ask them to think about what percentage each of these contributes to our carbon footprint, and/or to rank them from highest to lowest.

**Answers:**

Food and drink = **25%**

Heating and powering our homes = **16%**

Personal vehicles = **14%**

Personal flights = **9%**

Buying stuff = **11%**

Health, education and public services = **10%**

Other travel, home, waste, water, sewage = **15%**

(iv) Have a discussion about the results. What could students do differently? For instance, emissions from buying stuff could be reduced by buying second hand, buying local, and repairing and recycling more. With food and drink, we reduce emissions if we buy seasonal, locally produced food that hasn't been shipped thousands of miles.

To learn more about these numbers, students could read "How Bad Are Bananas?: The Carbon Footprint of Everything", revised 2020 edition, by Mike Berners-Lee.



**PART 2: BE THE CHANGE!**  
(5 mins)

**Are you a Net Zero Ninja?**

Ask students to add up their final score (out of 12). Do you have any Net Zero Ninjas in your group?

**What do you plan to do differently?**

Ask the group: what's been the standout thing they've learnt from this quiz? Are students inspired to make any changes now? What they should realise is that we're all part of the problem. But that means we can all be part of the solution too.

**Make a pledge**

Encourage everyone to visit the [Count Us In website](#) and pledge to take one or more of the steps on here.

Are you or students interested in take action on climate change locally?  
Take the **Net Zero Challenge**

**Round 3**

(10 mins quiz; 5 mins discussion)

**1. Use the Net Zero Quiz to work through the four questions.** NB: The answers are on slide 23.

**2. Discussion – use slide 24:**

(i) We'll all notice the difference in a Net Zero Britain. How do you think it will feel, look and sound different?

**Prompts:** The streets will be quieter and the air will be cleaner due to less noisy and polluting cars, and more EVs. More of us will cycle and walk to places. We'll be healthier because we'll be eating less meat and moving to plant-based diets. Our surroundings will be greener, with more trees and forests planted and land freed up for recreational use. And new jobs will be created in the green economy, making us more prosperous.

(ii) Do you think Britain has a moral responsibility to lead the way to Net Zero? Why?

**Prompts:** We started the industrial revolution, so we should invest more now to fix the problem we started. Also, as [this blog](#) reveals, those who've contributed least to global warming – and have the smallest carbon footprint – will suffer the most. It's an unfair truth that developing countries will experience more of the negative effects of climate change than developed countries. Read more on this aspect in [this article from Global Citizen](#).



Share your feedback with us at [www.surveymonkey.co.uk/r/HPCInspire](http://www.surveymonkey.co.uk/r/HPCInspire)

## PART 3: CAREERS IN NET ZERO

(10 mins)

Reaching Net Zero isn't just about making lifestyle changes. For some people, helping Britain achieve Net Zero is their job. Take a look at these two factfiles of people working on the Hinkley Point C project to learn more about careers in Net Zero.

*Share these final pages with students on the screen.*

### Net Zero Career: Anna, Civil Engineering Degree Apprentice

#### Q. What was your route into the Hinkley Point C project?

**A.** I studied Maths, Physics and Geography at A Level and engineering came up as a possible career when I started looking at options. I applied to university, as that seemed the most logical step. I'd heard about apprenticeships but never degree apprenticeships – they weren't even mentioned in my Sixth Form.

It was my mum who pointed me in this direction. I looked on sites like **Rate My Apprentice** and came across the EDF civil engineering degree apprenticeship. I applied and, after going through the application process, I was offered the job.

#### Q. What's the difference between a degree apprenticeship and apprenticeship?

**A.** My degree apprenticeship is a five-year course in total, as I study for my degree part-time over five years. I spend 80% of my time working on site and 20% of my time at uni.

#### Q. Do you feel you've missed out on the 'university experience'?

**A.** I weighed up the pros and cons of both. Obviously there's no Freshers' Week or anything like that. But I still have a community – and friends – through the students I'm at uni with. When we're at uni, we go out together in the evenings. And because we're all in the same boat, we regularly swap stories from work or talk about the challenges of juggling work and studying.

I've also moved away from home. I was born and raised in London, so when I started here, I decided to fly the nest and move permanently to Bridgwater. I wasn't too worried about leaving uni with debt – that wouldn't have stopped me going – but it wouldn't have been ideal. So if you were offered the opportunity to get a degree that's paid and debt-free, you'd jump at it, wouldn't you? It's five-year secure employment too – it was a no-brainer to pursue this career route.



**Anna**

#### Q. Did you always want to be a civil engineer?

**A.** I originally wanted to study mechanical engineering – and I did some work experience placements in this field, for instance, at Rolls Royce. But after visiting some of the uni courses for this discipline, I realised it wasn't me – civil engineering was a much better fit.

#### Q. What do you enjoy about civil engineering?

**A.** What most attracted me to this area of engineering was how infrastructure can change people's lives. I could be a person who changed society. It sounds so grand, but that aspiration is still a massive motivator for me every day.

#### Q. What do you feel about climate change and helping Britain achieve Net Zero?

**A.** It's so vital to me. I can't stress it enough. I applied for a few civil engineering apprenticeships but I choose EDF because I want to make a positive change to society. It's important to me that I work for a company that has low carbon technologies and is focused on helping Britain achieve Net Zero.

I grew up with headlines about icecaps melting; I've always been very aware of climate change. But it's only recently when we've heard terms like climate emergency, that you realise this isn't just about using fewer plastic straws. It's about tackling the main issue – which is carbon emissions.

At Hinkley Point C, I'm helping to build a low-carbon energy source, which is really important. I studied Geography at A Level, so I am passionate about environmental engineering and the geotechnical side of civil engineering. Ultimately, this is where I want to position my career.

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### Q. What do you want to do after your apprenticeship?

**A.** I graduate in 2024 with a BEng in Civil Engineering. I'd like to go on and do a Masters, as that's a good first step to getting chartered status.

The great thing I've heard about civil engineering is that it's so adaptable. You can end up in finance. Doing geotechnics or geology. Go into health and safety... or any other area! That's something I'm really excited about.

### Find out more about civil engineering and degree apprenticeships:

- ▶ Take a look at 'What is Civil Engineering?' on the [Institute of Civil Engineering website](#).
- ▶ Find out if civil engineering is for you, salary expectations and what qualifications you need on [Start Profile](#).
- ▶ Learn about apprenticeships at Hinkley Point C and meet Sam, a fellow civil engineering degree apprentice in [this film](#) on YouTube.

## Net Zero Career: Keelan, Project Controls at Hinkley Point C

### Q. What was your route into the Hinkley Point C project?

**A.** I was a Project Controls Apprentice for three years and I'm now moving into a project controls engineering role on the project.

My route to Hinkley Point C wasn't the most straightforward – but then most things in life aren't! I left school for college with the idea that I'd do a sports-focused course because I knew I'd get good grades. So I did a Level 3 extended diploma in sports and exercise science for two years, and came out with a triple distinction. I applied to various universities but when I visited one, I just thought 'this isn't for me'. The prospect of leaving uni with debt didn't appeal to me either.

So I talked with my careers manager at college, who mentioned that EDF was taking on apprentices for Hinkley Point C. I applied and got accepted onto an interview day for the supply chain and commercial apprenticeship.

I had an interview, but unfortunately I didn't get the job. I was really disappointed; I knew I had to wait a year before I could apply again. So in the meantime, I took a job at Hinkley Point A as a nuclear health physicist.

I was working here when the apprenticeships came up again. But this time, I spotted there was also a new project controls apprenticeship. When I read the job description, I thought



Keelan

'this role is way more suited to my skillset', so I applied, took part in the assessment day (again), and, this time, I was accepted onto the programme.

### Q. Did you always want to work in project controls?

**A.** Honestly, I didn't fully understand what project controls was until I started the job! There wasn't a lot to read about it online, as it's quite a niche job and new to the industry.

But the best way to describe project controls is you assist project managers. For instance, you help with monitoring and facilitating budgets and schedules. Or forecasting – so if A happens, what is C going to look like further down the line?

There's not really anything at school to lead you down a project controls career path. But you're drawing on a range of skills. Maths is useful, for instance. And English, as there's a lot of interactions with other people. If you have an engineering background, that could help with the scheduling side of the role too.

Then there's all the softer skills needed for the job – like **teamwork, communication** and presentation. Hinkley Point C is a massive project and you can't properly grasp this until you come onto the construction site. In my role I'm constantly working with other teams, presenting information and communicating with people from different backgrounds.

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**Q. How are you motivated by climate change and helping Britain achieve Net Zero?**

**A.** The historic magnitude of this project is awe-inspiring. Hinkley Point C is the first in a wave of next-generation nuclear power stations... And it's literally on my doorstep! The more I learn about the project, the more impressed I am by it.

**Q. What do you want to do in the future?**

**A.** One day I hope to go into project management – whether at Hinkley Point C or **Sizewell C** (a new nuclear power station being planned by EDF in Suffolk). In the short term, my aim is to get the degree add-on for my apprenticeship. Then, long term, I want to move into project management. And, maybe, one day go into private consultation.

**Q. What's your advice to anyone interested in following your route?**

**A.** Don't worry about having prior knowledge of project controls or a background in construction. EDF isn't looking for someone who knows it all already; they want someone with the right skills for the workplace that they can mould. So don't be shy about applying; I didn't get in the first time, but it didn't stop me from being successful second time round!

**Find out more about project controls:**

- ▶ Find out more about the **project controls apprenticeship** at EDF.
- ▶ Learn about apprenticeships at Hinkley Point C and meet Meghan, a fellow project controls apprentice, in **this film** on YouTube.
- ▶ What is project controls? Hear from a fellow project controls apprentice at Hinkley Point C in **this film** on YouTube.
- ▶ Meet Isak, a project controller at EDF in **this film** on YouTube.
- ▶ Learn what a project manager does on **Start Profile**.

### Next steps:

**More films on jobs and apprenticeships at Hinkley Point C:**

[https://www.youtube.com/playlist?list=PLXeIrBe86r\\_Kg8-XGXzarZelevl3TyCGi](https://www.youtube.com/playlist?list=PLXeIrBe86r_Kg8-XGXzarZelevl3TyCGi)

**Young HPC – our skills development programme for 16-21 year olds:** [www.edfenergy.com/younghpc](http://www.edfenergy.com/younghpc)

**Young HPC toolbox – careers advice and tools:**

<https://www.edfenergy.com/energy/nuclear-new-build-projects/hinkley-point-c/education-and-skills/young-hpc/tool-box>

**Jobs and training at Hinkley Point C:**

<https://www.edfenergy.com/energy/nuclear-new-build-projects/hinkley-point-c/jobs-and-training>

**Take the Net Zero Challenge:** <https://www.edfenergy.com/energy/education/net-zero-challenge>

