**Sustainability and Careers**

**Slide 1**

In this session we are going to look at climate change and sustainability, some of the regions key sectors and how they are adapting to become more sustainable, and review some of the key skills that employers in the region want new entrants to the workforce to have.

Slide 2

Open discussion

Slide 3

Climate Change – The Facts video

**Slide 4**

“The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.” [THE 17 GOALS | Sustainable Development](https://sdgs.un.org/goals)

Read through the goals and provide examples for any of the goals which the students aren’t familiar with.

5 Minute Task – in groups discuss which 3 goals are most important to you and why?  We will discuss as a group, there are no wrong answers, we are interested to know what a priority for you is.

Slide 5

All the United Nations Sustainability Development Goals sit under one of the 3 pillars of sustainability, also known as the triple bottom line. For true sustainability to exist it must work for us the people, the planet and for businesses (Prosperity).

Slide 6 – Construction and Sustainability

Slide 7 – Construction and Sustainability

Employment data sourced: [Report: Projected employment change - North East Evidence Hub](https://evidencehub.northeast-ca.gov.uk/report/projected-employment-change)

For context 893,800 in the North East are in employment: [Report: Employment rate - North East Evidence Hub](https://evidencehub.northeast-ca.gov.uk/report/employment-rate)

It is estimated that the construction sector is responsible for approximately 37% of global emissions [Construction scope 1 emissions rise by over one-third in 30 years](https://bcis.co.uk/news/construction-scope-1-emissions-rise-by-over-one-third-in-30-years/) and is making significant changes to reduce emissions and operate more sustainable.

Question: does anyone recognise any of the imagines on the screen?

Image 1 – Modular build, where buildings are built in a factory setting reducing waste and preventing weather delays, before being transported to a building site and fixed to foundations.

Image 2 – Wall/ roof insulation, enabling homes and buildings to retain heat for longer.

Image 3 -Air source Heat Pump

Image 4 – Bricklaying Robot

Image 5 – Green wall

Slide 8 – Careers in Green Construction

Watch the video while answering the questions on the slide

Slide 9 – Sustainability and Advanced Manufacturing

**Slide 10 – Sustainability and Advanced Manufacturing**

The North East has a long and distinguished manufacturing history, since the 1980s the region has developed specialisms in automotive, pharmaceutical, and offshore energy manufacturing. [Advanced Manufacturing Evidence Base - North East Evidence Hub](https://evidencehub.northeast-ca.gov.uk/advanced-manufacturing-evidence-base)

The manufacturing sector is responsible for approximately 12% of the overall UK emissions (Office for National Statistics) and has such the sector is making significant changes to how they operate and what they produce. Does anyone recognise the imagines on the screen?

Image 1 – Nissan Solar Farm

Image 2 – Nissan Leaf (electric vehicle)

Image 3 – Unipress Factory floor, utilising robots and automation to ensure efficiencies and in turn changing the nature of the jobs available.

Image 4 – Unipress Training Academy, A production line for apprentices, The Unipres Training Academy will roll out the next generation of automotive experts, ensuring a continued, sustainable workforce. [Academy - Unipres](https://unipres.co.uk/academy/)

Slide 11 – North East Energy Innovation

Slide 12 – North East Energy Innovation

Question - Does anyone recognise any of the images on this slide?

As a region, we are pioneering low carbon heat technologies including river source heat networks, geothermal heat from mine workings, hydrogen for heat, and heat pumps.

Northern Gas Networks – Successfully piloted a blend of Hydrogen and Gas over a 10-month period in Winlaton – 21/22, 668 houses, a school and some small businesses received the blend. More recently a similar pilot in Redcar were scrapped in December 2023 due to resident concerns.

Sofia Wind Farm/ Offshore Wind – will discuss shortly

Northumbrian Water is the only wastewater company in the UK to use 100% of its sewage sludge (the left-over material at the end of the wastewater treatment process) and convert it into gas and electricity – so literally producing power from poo!

The ‘Power from poo’ production, more formally known as Thermal Hydrolysis Advanced Anaerobic Digestion (AAD), started in 2009 with the company generating electricity and furthermore, a second plant followed in 2012 where it began to produce electricity. In 2015, the company invested further in a gas cleaning plant to clean the gas from the AAD process and produce high quality gas at one of their site’s, feeding directly into the National Gas Grid so meaning customers were now cooking on poo.

Cragside Northumberland – uses the lakes on the estate to power the building through Hydro- Electricity

NGN – Successfully piloted a blend of Hydrogen and Gas over a 10-month period in Winlaton – 21/22, 668 houses, a school and some small businesses received the blend. More recently a similar pilot in Redcar were scrapped in December 2023 due to resident concerns.

Slide 13 – Dogger Bank Wind Farm

Watch the video while answering the questions on the slide.

Slide 14 – Skills Employers Want

This list has been compiled using the 2 x LSIP reports for the North East Region, Skills 4.0 and Skills Builder and then confirmed by a series of industry representative groups. These skills are key skills sought by industries across the region, skills they would like new entrants into the workplace to have.

Task – students in groups, to work through the questions and feedback to the class.

**Page 17 – NetZero North East Celebration Video**

**18- Final Slide**