**Automotive, Manufacturing and Sustainability – Presenter Notes**

**Slide 1**

**Slide 2 – Session Agenda**

**Slide 3 – Presenter Introduction,** opportunity for you to provide an overview of you, your career journey, your qualifications, please add pictures and any relevant content to the page.

**Slide 4 – Climate Change - Scene setting video**

**Slide 5 – United Nations Sustainability Development Goals.**

**“**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

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.

**Page 6 – 3 Pillars of Sustainability**

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

**Page 7 – North East Energy Innovation**

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.

Class Question – Does anyone recognise any of these pictures? Do you know what they are?

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.

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.

Sofia Wind Farm - The 1.4 gigawatt (GW) Sofia Offshore Wind Farm, sited on the shallow central area of the North Sea known as Dogger Bank, 1.2 million UK homes could be powered by electricity generated by Sofia. Offshore wind

Gateshead Council District Heat Scheme – Launched by Gateshead Council in 2017, the Gateshead District Energy Scheme powers over 300 homes and 20 public and private sector buildings in the town centre with integrated heat and power. This mine water heat network is the largest operating mine water geothermal heat network in the UK.

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

**Slide 8 – Manufacturing**

Questions for the Class

What is Manufacturing?

Have you ever considered a job in manufacturing?

What comes to mind when you here “manufacturing”

What type of Manufacturing is the North East established in?

Can anyone Name any manufacturers currently operating in the North East?

Why is manufacturing so successful in the NE?

**Slide 9 – Video**

**Slide 10 – Jobs in Advanced Manufacturing**

Sliding reveal of some of the jobs in manufacturing, this is not an extensive list but a selection.

**Slide 11 – Electrification**

**Slide 12 – Video and Task**

**Slide 13- Manufacturing – Employment Forecast**

Employment Figures from: [Report: Projected employment change - North East Evidence Hub](https://evidencehub.northeast-ca.gov.uk/report/projected-employment-change#:~:text=According%20to%20labour%20market%20and%20skills%20projections%20released,about%2049%2C000%20combined%20with%20replacement%20demand%20of%20451%2C000.)

Read through the statistics on the slide, does anyone recognise any of the images on the screen and how they link to sustainability?

* Solar Farm = Owned by Nissan and provides energy to their manufacturing plant
* Yello Robot Arms – owned by Unipress, automation has changed the nature of jobs in Advanced Manufacturing but also improved efficiencies and reduces waste.
* Unipress Academy – Trains local people to join their workforce
* Nissan Leaf – Electric Vehicle

**Slide 14 – Automotive Alliance**

Introduction – what is the NEAA

 [The North East Automotive Alliance (NEAA)](https://northeastautomotivealliance.com/)

Since its launch in 2015, the North East Automotive Alliance has been driving innovation and growth in the North East automotive sector. As a collaborative [industry-led cluster](https://www.gov.uk/government/publications/industrial-clusters-in-england), we’re dedicated to fostering a competitive and sustainable environment for businesses. We’re not just a not-for-profit organisation; we’re a cohesive network that thrives on collaboration and trust.

**Slide 15 – What vehicles do we make in the North East?**

Sliding images of the scale of the vehicles build in the NE

**Slide 16 – North East Automotive Sector**

Read through some of the key stats on the screen.

Over past 5 years (2018-2022) NMUK produced 1,497,026 vehicles (27.5%) of all UK passenger vehicles, second to JLR with 1,550,256 vehicles (28.5%)

**Slide 17 – Working at Nissan**

**Slide 18 – Inside the Factory**

Imagines depict what’s involved in building a car:

• Robots/Cobots

• EV

• People working on the line

• AR/VR

• The finished car

**Slide 19- Careers in Advanced Manufacturing**

**Slide 20 – Ali Coley, Envision ASEC**

Video and Task

**Slide 21 – Skills Employers Want**

**Slide 22 – North East Future Skills**

These skills we compiled using the skills listed in the 2 x regional LSIP’s, Skills 4.0 and Skills Builder of the skills employers in the North East want new entrants into the workforce to have, I then sense checked this list with regional employer groups.

Read through the skills, allow the class to discuss in groups the questions on the screen.

**Slide 23 – Final Slide**