



# Siemens Congleton Sustainability Journey



# Location



Factory Footprint 12,000m<sup>2</sup>

Annual Product Volume (FY 2019 – 23)

**480K → 800K**

1.5m including all peripheral products

No of People (FY 2019 – 22)

**389 → 560**

PK /Turnover (FY 2019 - 22)

**£81,847m -  
£125,595m**

Product Variants:

**700 → 25000**

From 2019 to 2022

Product Delivery Target (Factory)

**3 → 1 Day**

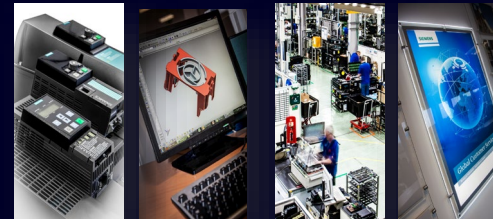
Annual Productivity Target

**5% → 7.5%**

Founded in 1971, Siemens Congleton is located in the heart of Cheshire, England

## Additional Business Particulars

- R&D, Manufacturing and Customer Services on one site



- Part of a global network of Digital Industry factories



UK



Germany



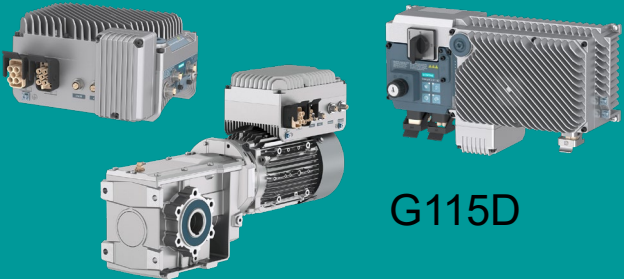
China

## Customer Orientation

- World-wide markets (Congleton: Europe and America)
- Make to Stock (MtS) and Make to Order (MtO)
- Standard and Configured products

# Congleton Products

High Variance, Vertical Market & Make To Order



G115D



G120X

Low Variance, High Volume, General Market



G120C



PM240\_30



IOP/BOP



CU's

Low Variance, Low Volume, Legacy

G110D/G110M/G110/G120D

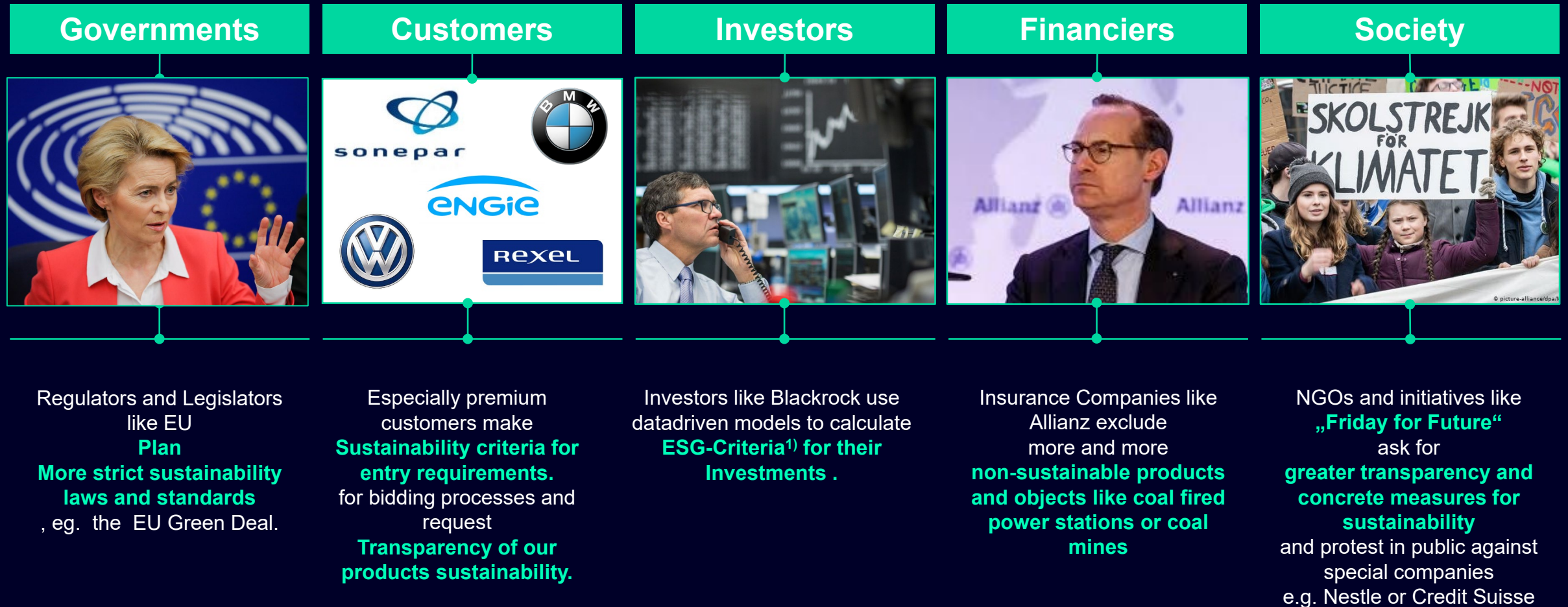


MM4



ET200

# The Relevance for Sustainability for all Business is increasing. Our Stakeholder expect transparency, following rules and measurable measures.



1) ESG = Environmental, social, governance 2) Corporate social responsibility



**“With our innovation and expertise, we offer solutions to our customers all around the world to overcome their sustainability challenges.”**

“We are not only aiming to be carbon neutral in our own operations by 2030. We are also extending our commitment to all the emissions connected to us – from our supply chain to the use phase of our portfolio by our customers.”

Judith Wiese, Chief People and Sustainability Officer and Member of the Managing Board of Siemens AG



# D – Decarbonization

support the 1.5°C target to fight global warming



# E – Ethics

foster a culture of trust, adhere to ethical standards and handle data with care



# G – Governance

apply state-of-the-art systems for effective and responsible business conduct



# R – Resource efficiency

achieve circularity and dematerialization



# E – Equity

foster diversity, inclusion, and community development to create a sense of belonging



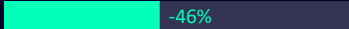

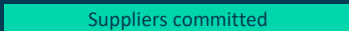
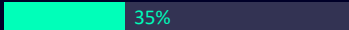


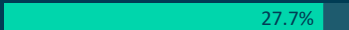

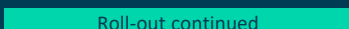
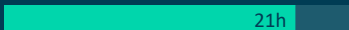


# E – Employability

enable our people to stay resilient and relevant in a permanently changing environment



# Our DEGREE framework

## Ambition increased for Net Zero operations and digital learning hours

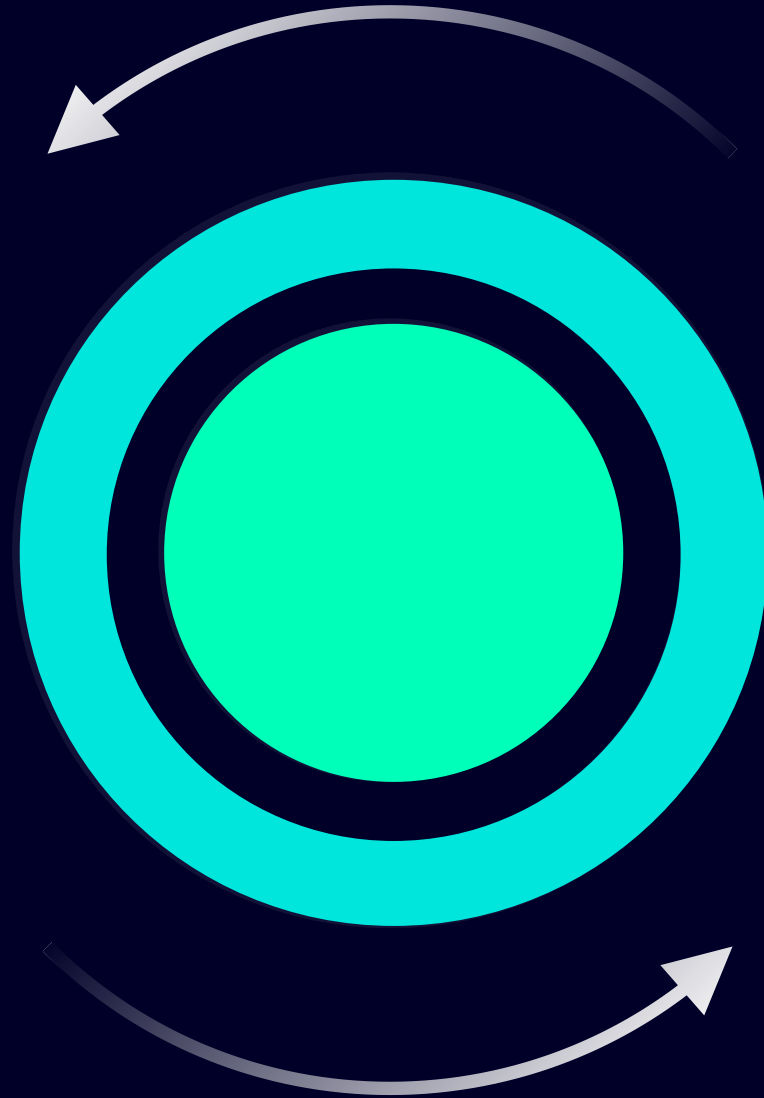
		Baseline	Progress until end of FY22	Ambitions
<b>Decarbonization</b>	1. Net Zero operations with 55% reduction by 2025 and 90% reduction by 2030	FY19: 737 kt CO <sub>2</sub> e	 -46%	-55% by 2025   -90% by 2030
	2. Net zero supply chain by 2050, 20% emissions reduction by 2030	FY20: 8,098 kt CO <sub>2</sub> e	 +2.5%	-20% by 2030   -100% by 2050
<b>Ethics</b>	3. Striving to train 100% of our people on Siemens' Business Conduct Guidelines every three years	From FY20	 99.9%	100% by 2022
<b>Governance</b>	4. ESG-secured supply chain based on supplier commitment to the Supplier Code of Conduct	--	 Suppliers committed	--
	5. Long-term incentives based on ESG criteria <sup>1</sup>	--	 ESG criteria anchored	--
<b>Resource efficiency</b>	6. Next-level robust Ecodesign for 100% of relevant Siemens product families by 2030	FY21: 26%	 35%	100% by 2030
	7. Natural resource decoupling through increased purchase of secondary materials for metals and resins <sup>2</sup>	--	 34% metals   <1% resins	--
	8. Circularity through waste-to-landfill reduction of 50% by 2025 and toward zero landfill waste by 2030	FY21: 0%	 -12%	-50% by 2025   ~ -100% by 2030
<b>Equity</b>	9. 30% female share in top management by 2025	FY20: 22.7%	 27.7%	30% by 2025
	10. Access to employee share plans: maintain high level and expand globally to 100% <sup>3</sup>	FY21: 98%	 99%	100%
	11. Global commitment to the New Normal Working Model <sup>4</sup>	--	 Roll-out continued	--
<b>Employability</b>	12. Increase digital learning hours to "25 by '25"	FY20: 7h	 21h	25h by 2025
	13. Access to employee assistance program: maintain high level and expand globally to 100% by 2025	FY20: 82%	 87%	100% by 2025
	14. 30% improvement in Siemens' globally aggregated LTIFR <sup>5</sup> by 2025	FY20: 0.31	 -19%	-30% by 2025

<sup>1</sup> Assessment based on the Siemens internal ESG/sustainability index, based on customer satisfaction (Net Promoter Score), CO<sub>2</sub> reduction, training hours. <sup>2</sup> Product specifications for the use of secondary plastics are in development. <sup>3</sup> Where legally possible and reasonable. <sup>4</sup> For employees with job profiles that make this possible and reasonable. <sup>5</sup> LTIFR: Lost Time Injury Frequency Rate (Siemens employees and temporary workers).

Note: the DEGREE framework and its targets apply to Siemens excluding SHS



**Sustainability  
in own  
operations**



**Sustainability  
business**



# Sustainability at Siemens

## Congleton Site has a long track record on Sustainability

### Siemens Carbon-neutral pledge



### uPVC Double Glazing across the Factory

### Purchase Bio-Gas Certificates



Site 99.5% Carbon Neutral

### SMT Chillers



### Siemens Launch Sustainability Framework



Site Net Zero Site - 86.5%

Net Zero Target Site - 100% by 2030



### Green Electricity sourced renewable energy.

Site 86.5% Carbon Neutral



### LED Lighting across the Factory



### Congleton Hydro on-line

Site 100% Carbon Neutral

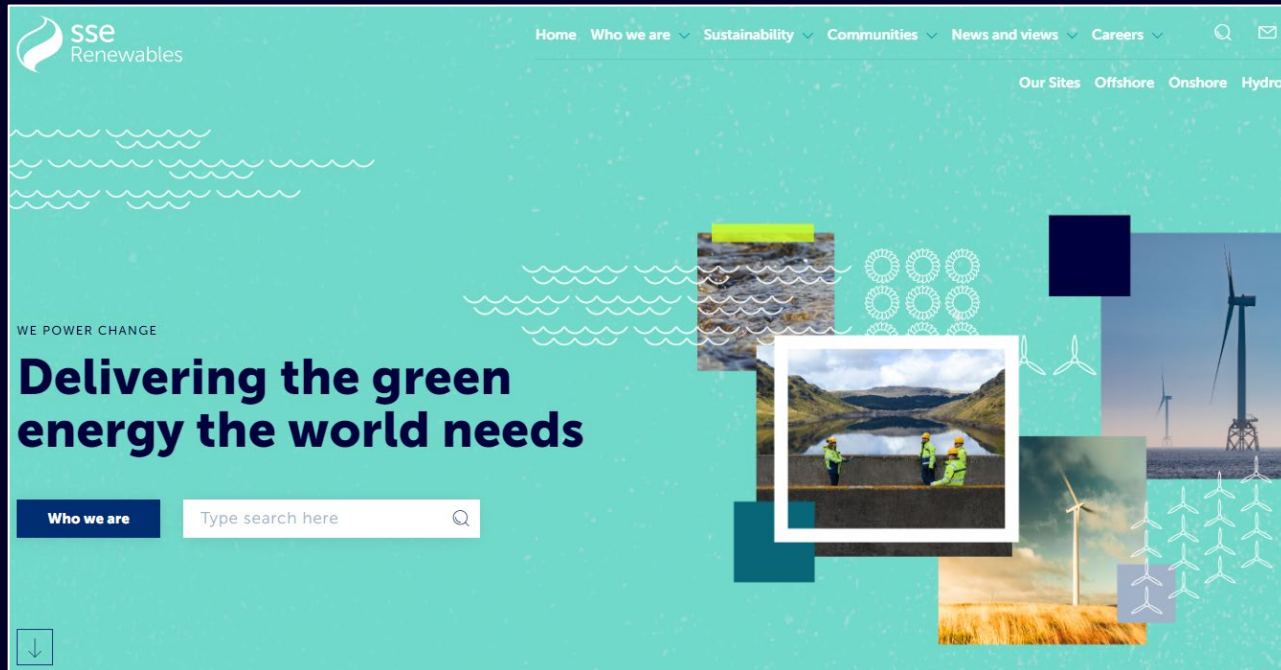


### Electric Vehicle Charging



### EV Shunt Van

# Factory Improvement Measures Renewable Energy & Bio-Gas Engine



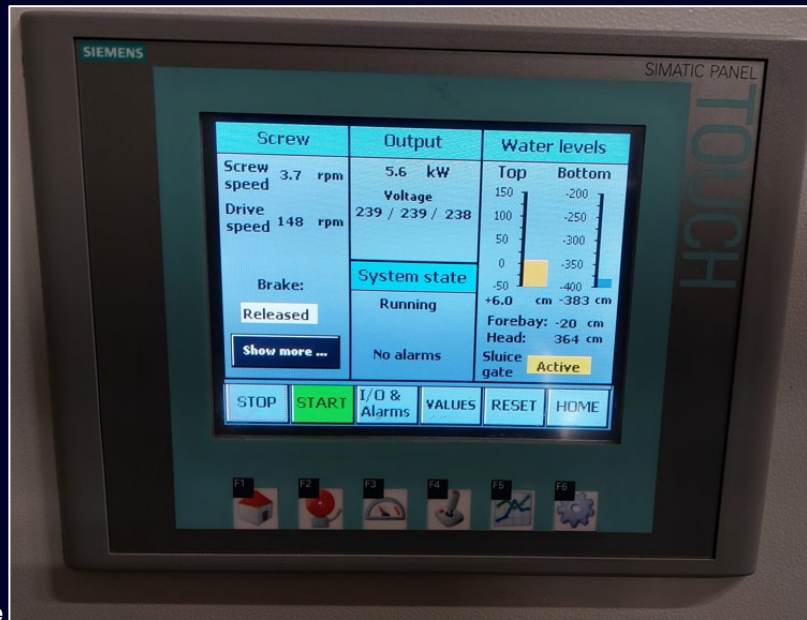
 **LITTLE OAK ENERGY**  
Making sense of the biomethane market



560 kWh

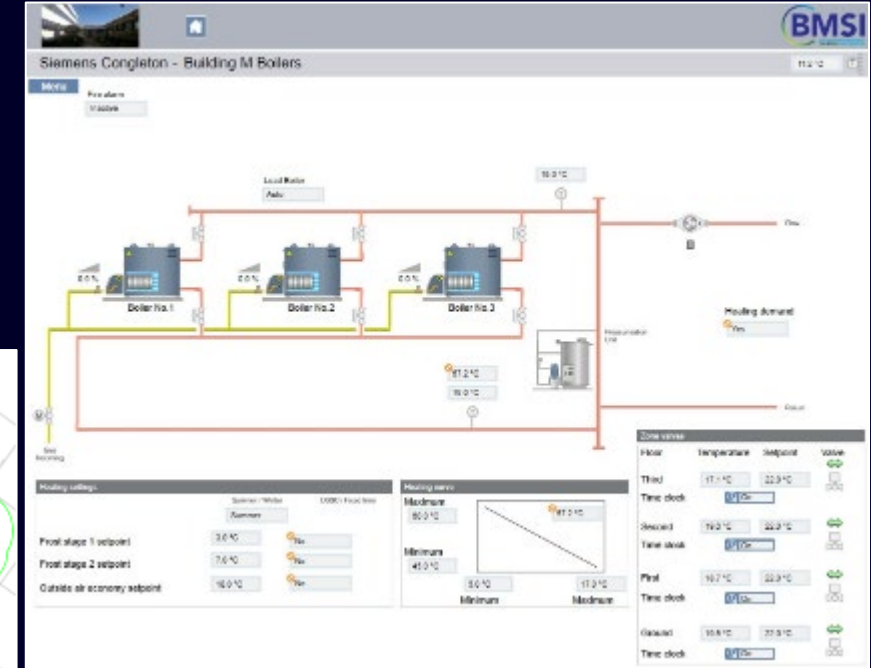
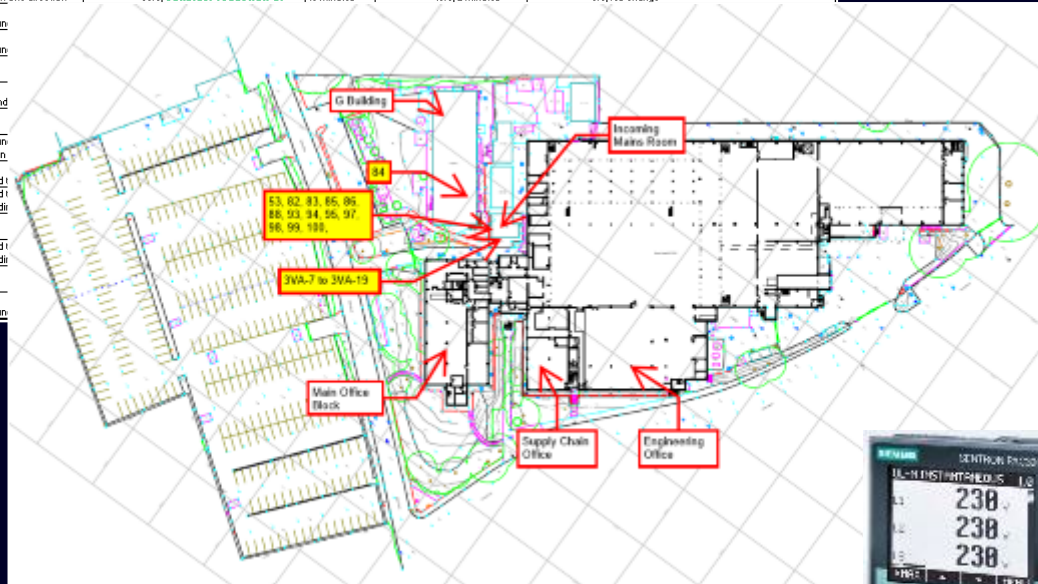
# Congleton Hydro Project

## Havannah Weir Up to 65Kw net Zero supply to site

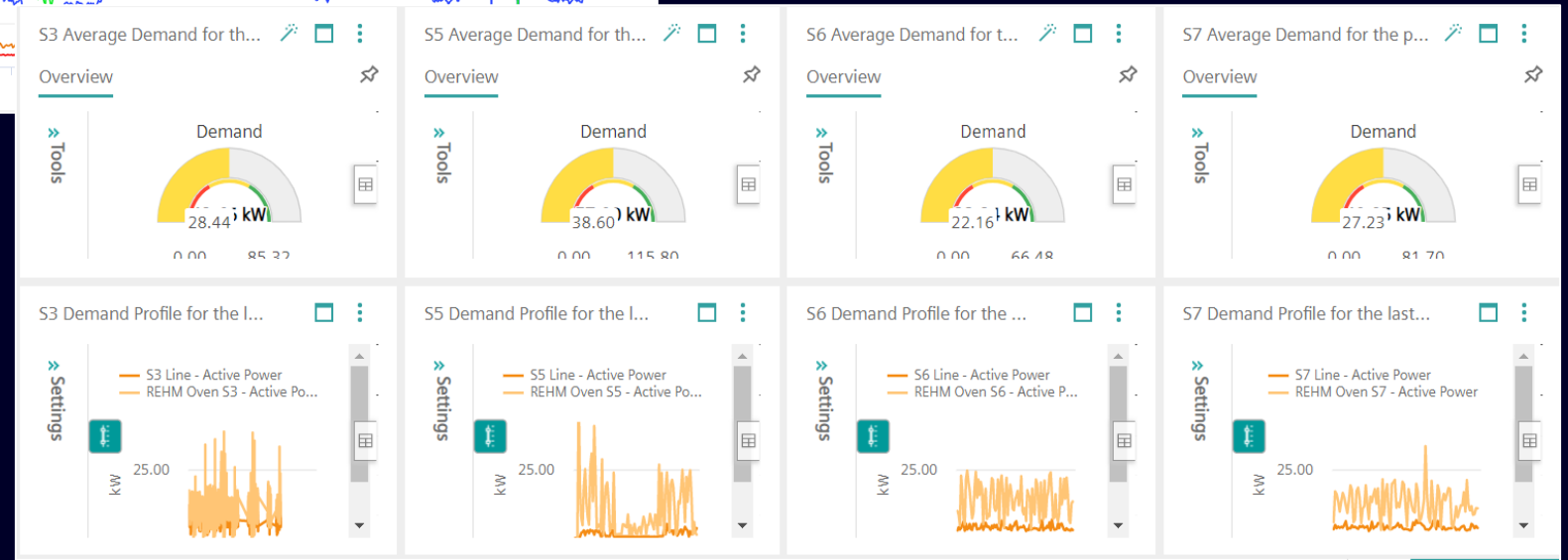


# Factory Improvement Measures Building Management System (BMS)

Zone No.	Zone Name	Sub Zone	Occupancy group	Fittings output when occupied	Lux Level when occupied	Unoccupied delay (stage 1)	Fittings output when unoccupied (stage 1)	Unoccupied delay (stage 2)	Fittings output when unoccupied (stage 2)	Reccomendation
1	Main Shop Floor - Curing and THT	N/A (One large zone)	First circle around triggered fitting	60%	TBC - Once confirmed, consider reduction of	10 minutes	10%	2 minutes	0%	No change
2	Main Shop Floor - SMT	UP (High)	2-3 circle around triggered fitting	60%	TBC - Once confirmed, consider reduction of	10 minutes	10%	2 minutes	0%	Only first circle around triggered fitting
2	Main Shop Floor - SMT	Down (Low)	2-3 circle around triggered fitting	60%	TBC - Once confirmed, consider reduction of	10 minutes	10%	2 minutes	0%	Only first circle around triggered fitting
2	Main Shop Floor - SMT	Corridor	One group	10% low ceiling, 40% high ceiling	TBC - Once confirmed, consider reduction of	10 minutes	10%	2 minutes	0%	No change
3	Main Shop Floor - Back of Mezz	N/A	1-2 forward from triggered fitting	60%	TBC - Once confirmed, consider reduction of	10 minutes	10%	2 minutes	0%	No change
4	Air Freight (Next to Dispatch)	N/A	1-2 circle around triggered fitting	70%	TBC - Once confirmed, consider reduction of	0.5 minute	10%	0.5 minute	0%	No change
5	G120X Deck View	N/A	All in one group (small area)	60%	TBC - Once confirmed, consider reduction of	10 minutes	10%	2 minutes	0%	No change
6	Main shop floor Deck View	N/A	All in one group (small area)	60%	TBC - Once confirmed, consider reduction of	10 minutes	10%	2 minutes	0%	No change
7	G120X	N/A	1-2 circle around triggered fitting	60%	TBC - Once confirmed, consider reduction of	10 minutes	10%	2 minutes	0%	No change (Keep 2nd circle, as occupants complained peripheral darkness)
8	G Building - Upper floor mezz	N/A	2-3 circle around triggered fitting	60%	TBC - Once confirmed, consider reduction of	10 minutes	10%	2 minutes	0%	Only first circle around triggered fitting
9	Basement - Main Area	N/A	First circle around triggered fitting, but only in one direction	60%	TBC - Once confirmed, consider reduction of	10 minutes	10%	2 minutes	0%	No change
10	Back of mezz (Load Testers)	N/A	First circle around							
11	Over mezz (Load Testers)	N/A	First circle around							
12	Basement Showers corridor	N/A	One group							
13	Dispatch High Level	N/A	2-3 circle around							
17	Dispatch Low Level	N/A	One group							
18	Dispatch under Mezz Walkway	N/A	First circle around fitting, but only in							
19	Above Mezz Corridor (from H&S off)	N/A	1-2 circle around							
20	Basement lift lobby area	N/A	1-2 circle around							
21	Logistics (under mezz)	N/A	One group							
22	Logistics	N/A	1-2 circle around but only in one di							
33	Mezz to Congleton Room	N/A	One group							
44	Shop floor adjacent to Logistics (High Ceiling)	N/A	First circle around							



# Factory Improvement Measures Siemens Navigator

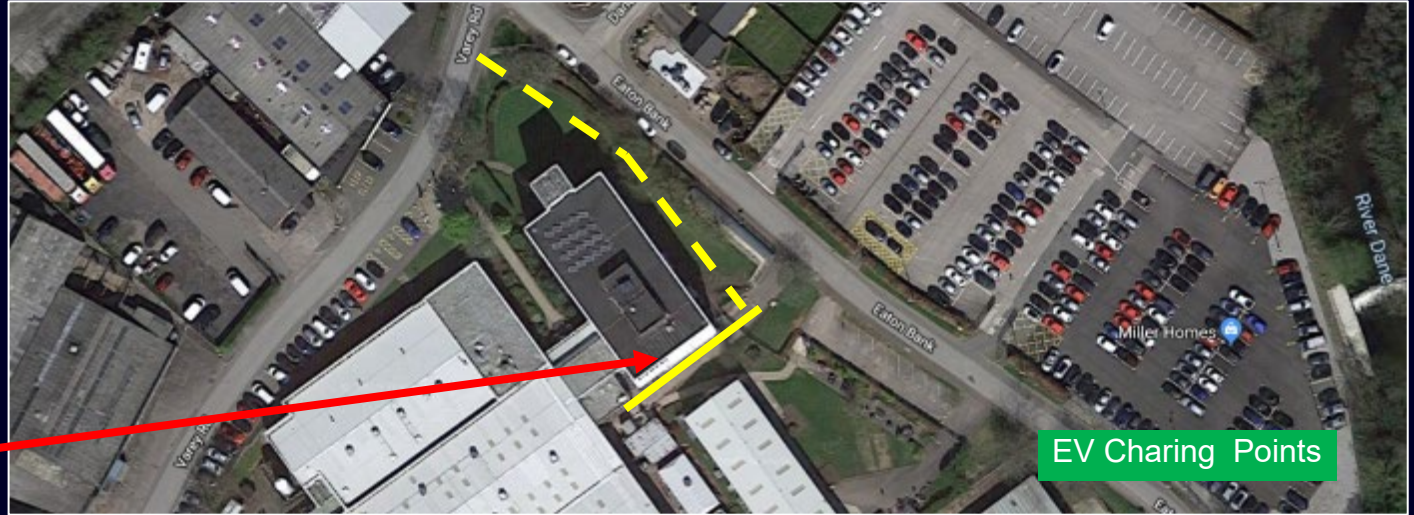


# Factory Improvement Measures

## Site Efficiency Improvements - Produce the same with 23% less energy



# Factory Improvements Measures Electric Vehicle Charging



**Siemens Future Grid**  
5 x Dual 3.75 kW – 2.2 kW  
Electric Vehicle Chargers



## Reduce Fleet emissions

Systematically utilizing potential of low emission cars in fleet, including E-car potential

# Future Improvements Siemens Congleton



EPD Creation

2023



Recycling Demonstrator

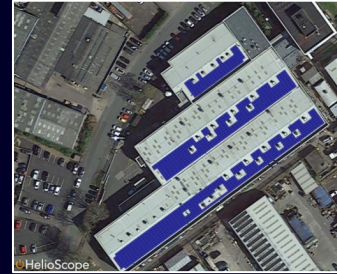
Eco Design  
Secondary  
Plastic



Supplier  
Carbon Web  
Assessment



2024



Site PV  
(Solar Panels)

2025



Internal Logistics  
EV

2030

Net Zero  
Target  
Site - 100% by  
2030

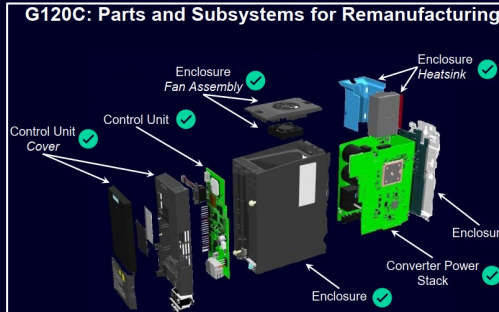


Reduce  
Supplier use  
of plastic

Site SRE Gas  
migration Plan



G120C  
Remanufacturing



SVP Electric Vehicle  
Fleet



# Future Improvements

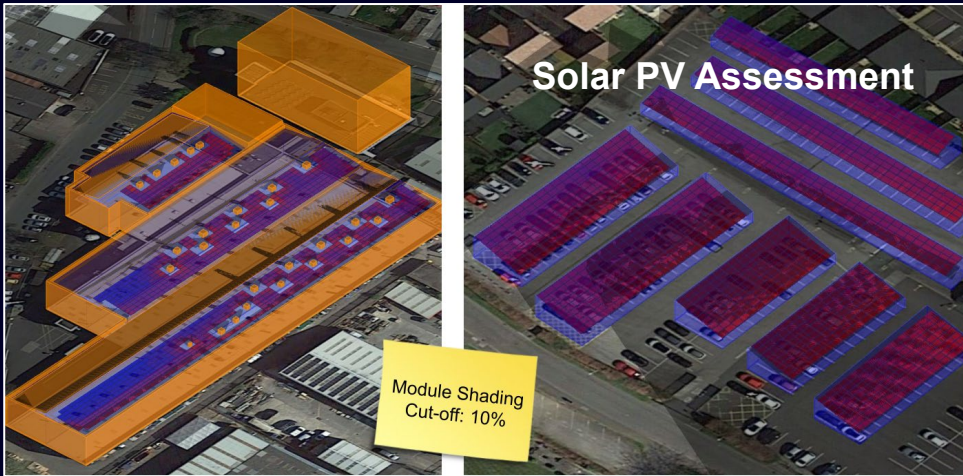
## Site Improvements



Space Heaters to Heat Pumps



Gas to Electric



Solar PV Assessment

Module Shading  
Cut-off: 10%



Electric Vehicle Fleet

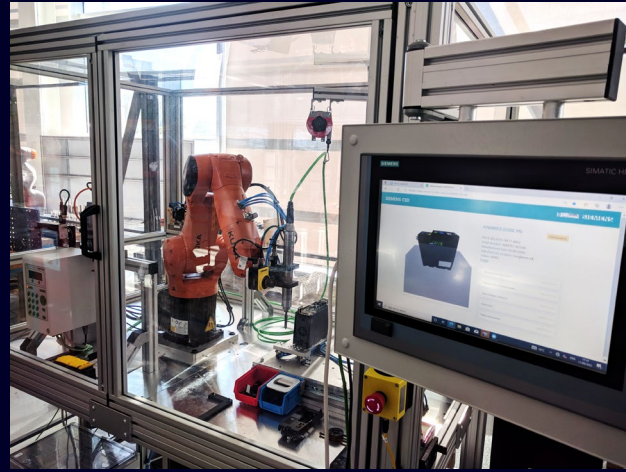


SVP Electric Vehicle Fleet

# Technology With Purpose: Robust Eco-Design

## Automated Disassembly Demonstrator

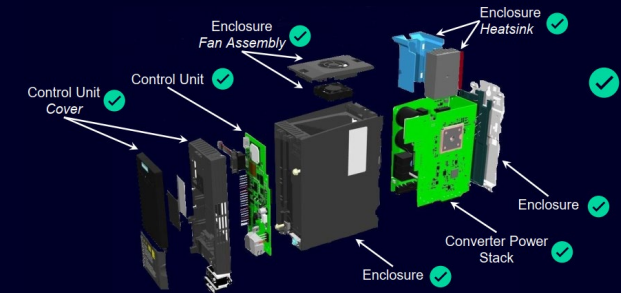
- Automated disassembly systems for re-use, repair and remanufacture of products
- Improve product designs for circularity
- Technology demonstrator in the UK



## Remanufacturing Inverters

- Business opportunity for reconditioned inverters
- Upgrade and resell as reconditioned
- HQ Project using Congleton as a trial

G120C: Parts and Subsystems for Remanufacturing



## Material cluster groups & eco-friendly solution opportunities - Discovery

- Identify material & component groups
- Map technologies & eco-system partners to the groups



## Use of recycled plastics – Technology assessment

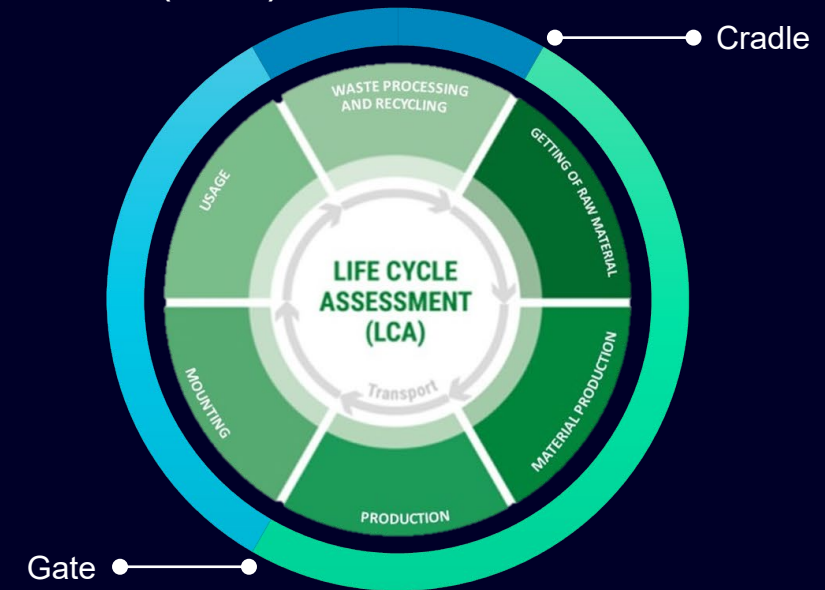
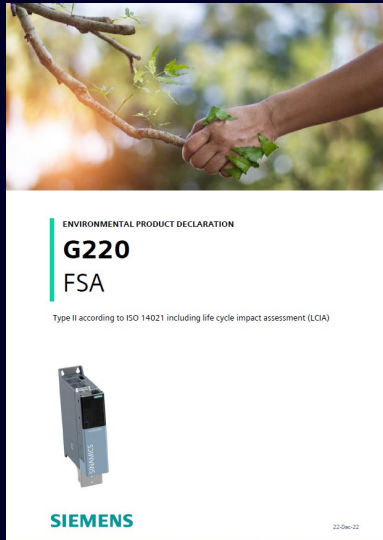
- Understand MC plastics use & impact
- Assess alternative plastics
- Develop a sustainable plastics community



# Creating Transparency for Our Customers

## A Closer Look at an Environmental Product Declaration (EPD)

A simple document for summarising the results of a product Life Cycle Assessment (LCA)



### 1 Manufacturing

- Calculating the CO<sub>2</sub> (and other equivalent) costs of the production of our products
- Suppliers data integration based on assumptions (future implementation: using SiGreen and direct data)
- Relatively complex calculation

### 2 Operations

- Calculate energy loss during use phase
- Usage of standards where possible (no industry standard available yet)

### 3 End of life

- Use of material information to calculate recycling costs

# | Contact

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