

# The Future of Business Energy: Today

## How Energy Prices are Impacting the Food & Drink Sector

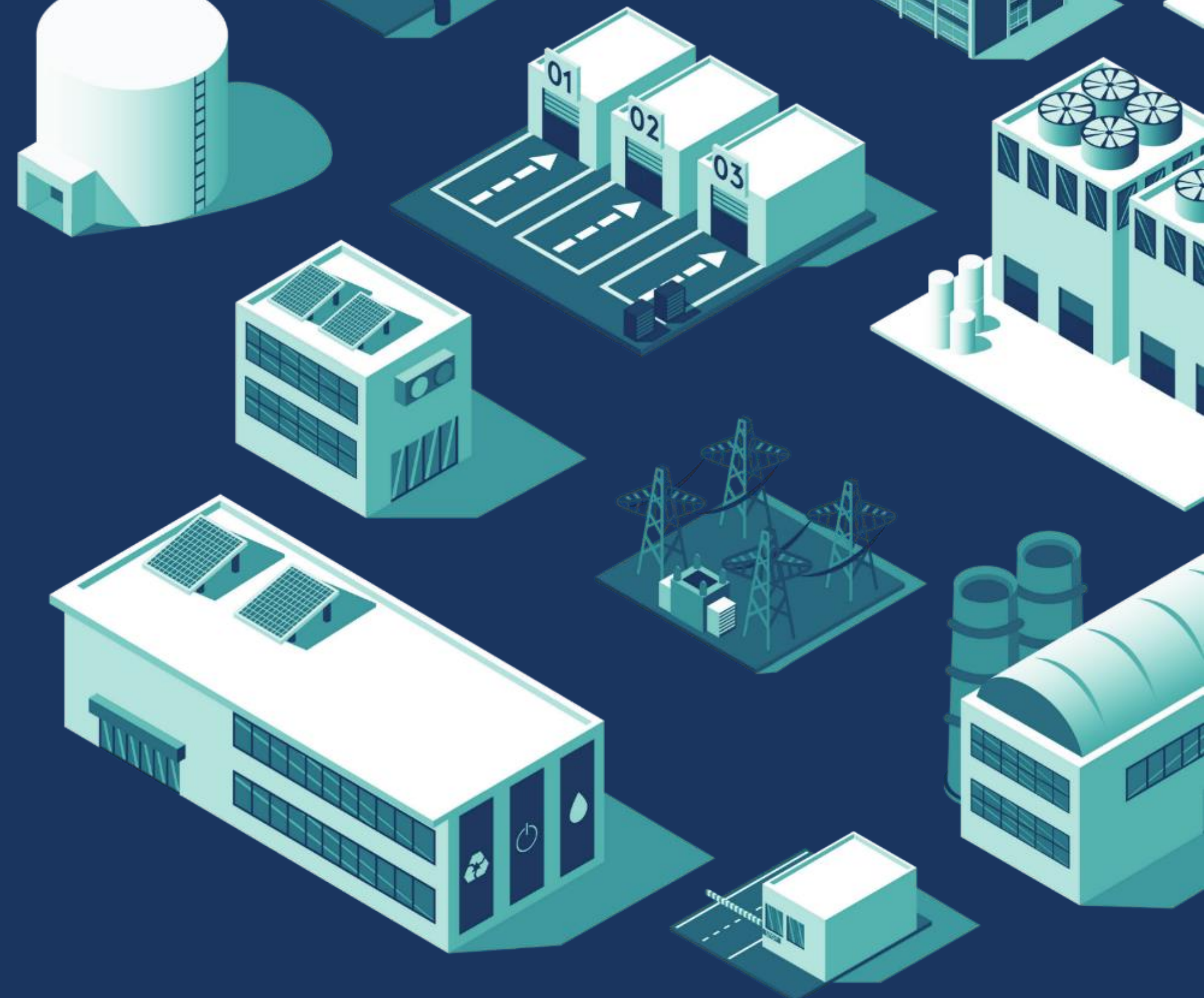
27<sup>th</sup> January  
2022

# Agenda

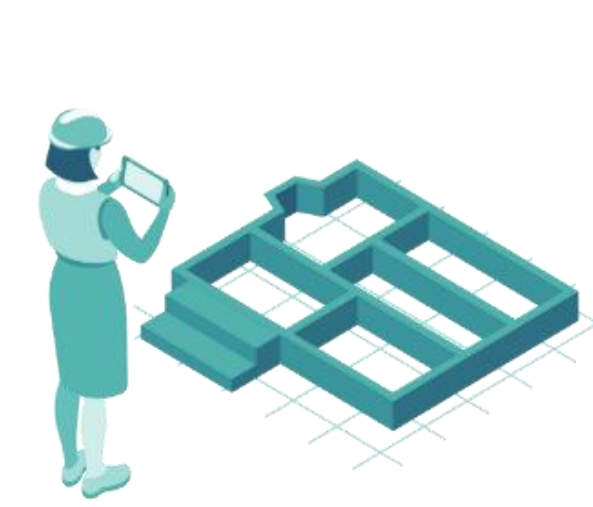
- **Introducing Ylem Energy**
- **Energy Prices – The impact on Food & Drink Sector**
- **How do you mitigate cost increases?**
- **Case Study**
- **Summary & Next Steps**

# Introducing Ylem Energy

Martyn Sheridan



# About Us



UK-based: international capacity

- **Specialists** in state-of-the-art generation and energy storage systems that fully integrate with the sites they serve
- **Risk-free solutions:** we provide the investment that lets you access the latest energy technologies
- **Industry-leading experts:** our world-class support and unrivalled experience gives complete peace of mind
- **On the path to 'Net Zero':** help you transition to 'Net Zero' with carbon off-setting or renewable energy generation and storage





# End Users (already working with):

**DIAGEO**





A nighttime photograph of a city skyline reflected in a body of water. The sky is a deep blue with scattered clouds. Several modern buildings are illuminated with warm yellow and white lights, while one prominent building in the foreground is lit with bright blue light. The lights from the buildings and streetlights create shimmering reflections on the water's surface. A bridge is visible on the left side of the frame.

**'Net Zero'**

# **The Impact on I&C Businesses**

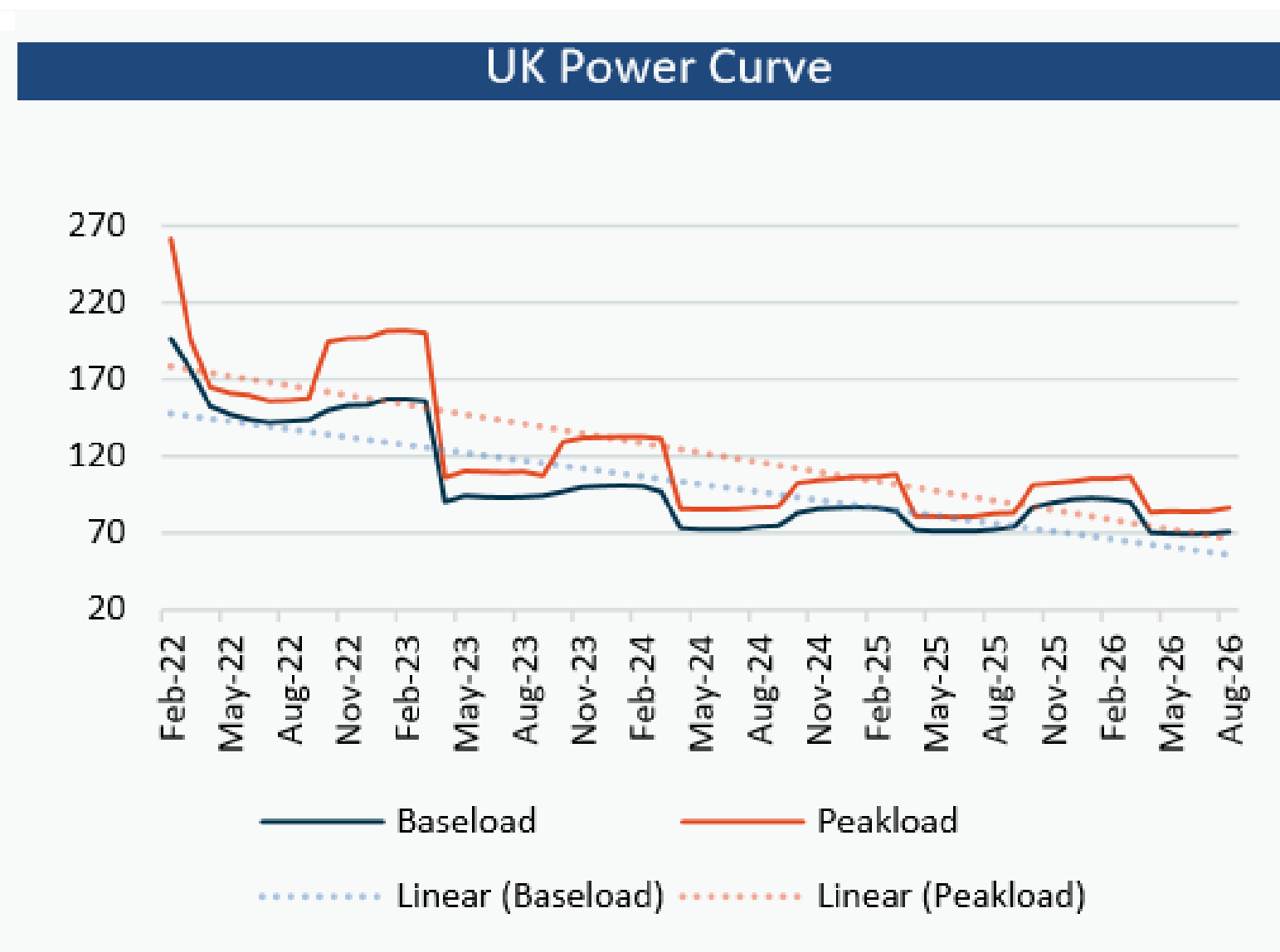
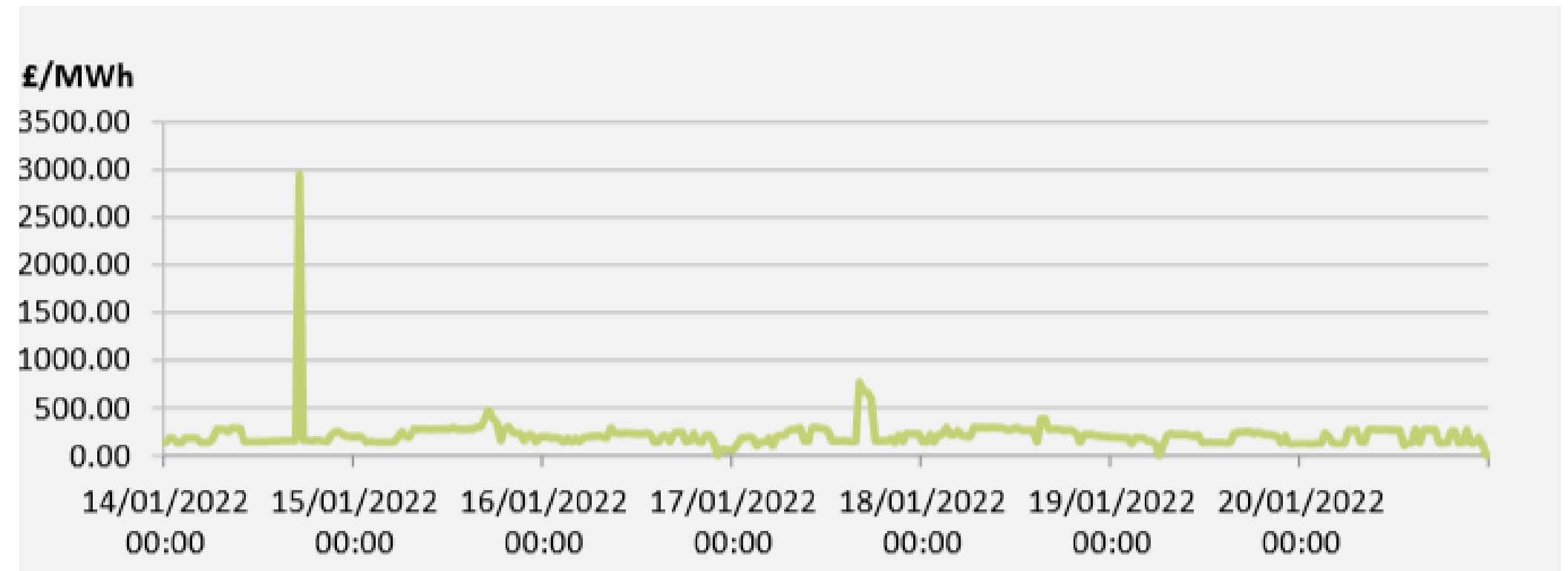
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# Net Zero – Wholesale Market Volatility

- **Increased Market Volatility**

2021 and 2022 seen severe pressure on both short-term and mid-term power prices



- **The New Normal?**

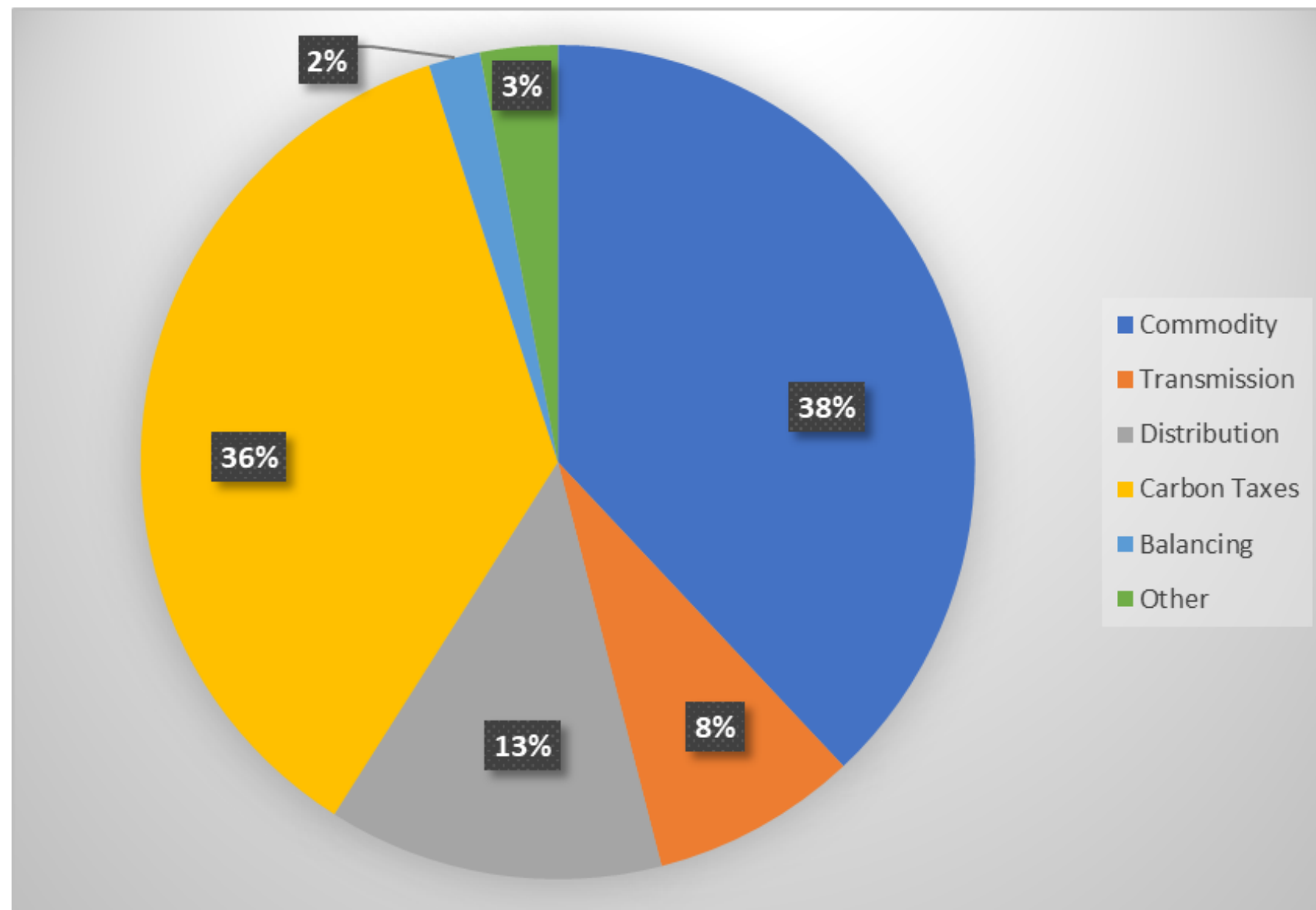
More renewables, EV charging, heat pumps, green Hydrogen etc. means more pressure on UK infrastructure

- **Plan Ahead**

Companies need to factor wholesale market volatility into future planning.

# 2022 – What's Coming?

2021 breakdown of electricity costs (UK average)

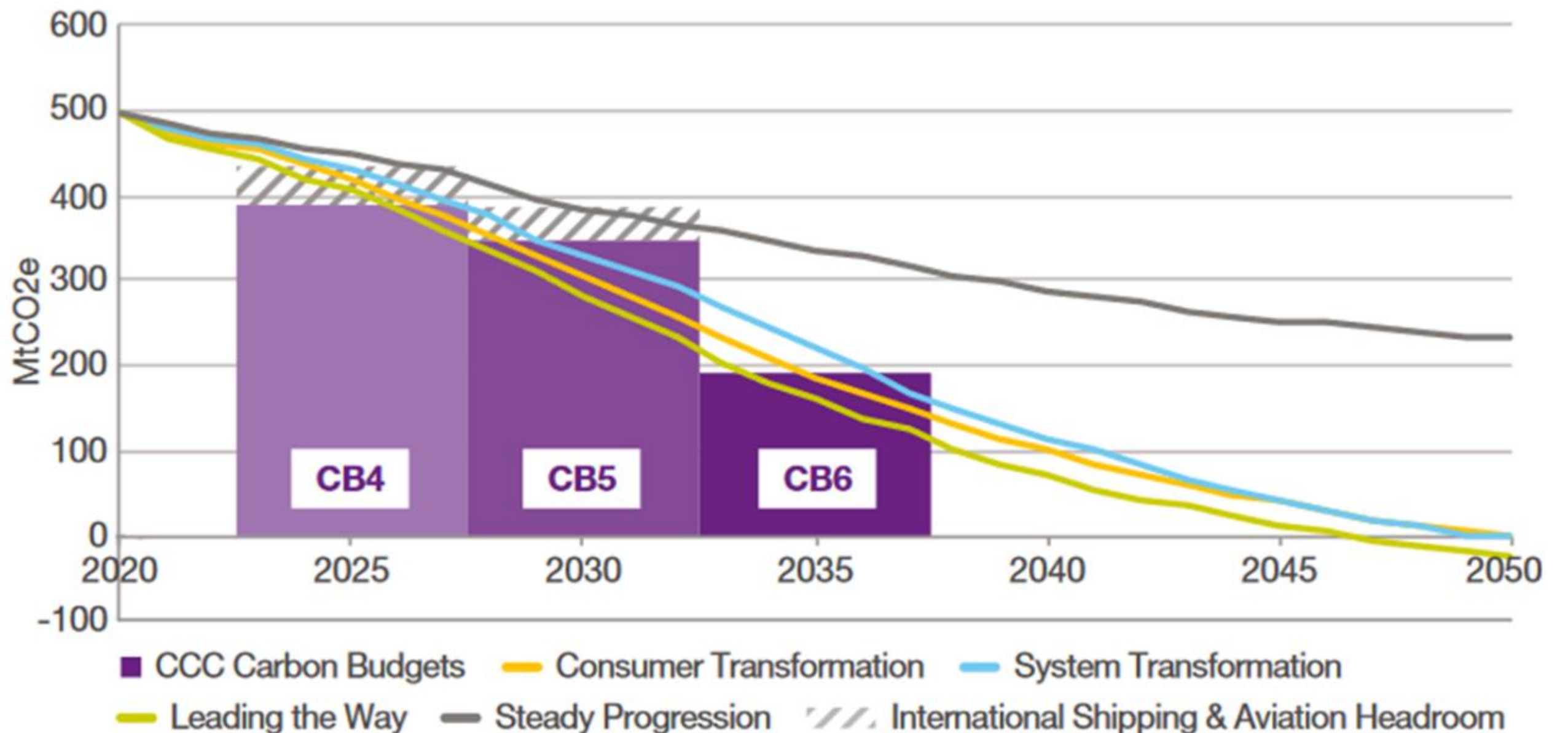


- **BSUoS – increase in costs**
- **Triads – Last winter of avoiding costs**
- **DUoS Charging – Moved to fixed costs**
- **Continued market volatility**



# Net Zero – Impact on Infrastructure

- **Future Energy Scenarios (FES)**  
National Grid has created several scenarios on how UK reaches net zero
- **Significant Changes Required**  
All scenarios that meet net zero by 2050 requires significant reductions in carbon
- **I&C Business Impact**  
Net Zero won't happen without UK businesses leading the way.



# Net Zero – Impact on Infrastructure

	2020	2030				2050				
<b>Emissions</b>		CT	ST	LW	SP	CT	ST	LW	SP	<b>Emissions</b>
Annual average carbon intensity of electricity (g CO <sub>2</sub> /kWh)	155	20	22	6	42	-54	-55	-43	14	Annual average carbon intensity of electricity (g CO <sub>2</sub> /kWh)
<b>Electricity</b>										
Annual demand (TWh) <sup>1</sup>	294	333	309	340	324	702	559	686	459	Annual demand (TWh) <sup>1</sup>
Peak demand (GW) <sup>2</sup>	58	69	65	67	68	113	99	95	92	Peak demand (GW) <sup>2</sup>
Total installed capacity (GW) <sup>3</sup>	104	182	168	200	158	374	313	339	242	Total installed capacity (GW) <sup>3</sup>
Wind and solar capacity (GW)	36	100	87	113	70	236	183	216	132	Wind and solar capacity (GW)
Interconnector capacity (GW)	5	19	16	22	16	27	20	28	17	Interconnector capacity (GW)
Total storage capacity (GW)	4	14	9	18	8	58	36	63	24	Total storage capacity (GW)
Total vehicle-to-grid capacity (GW) <sup>4</sup>	0	2	0	3	0	34	16	39	8	Total vehicle-to-grid capacity (GW) <sup>4</sup>
<b>Natural Gas</b>										
Annual demand (TWh) <sup>5</sup>	891	633	714	545	789	66	512	19	752	Annual demand (TWh) <sup>5</sup>
1-in-20 peak demand (GWh/day)	5,832	4,138	4,688	3,197	5,221	431	2,375	156	4,910	1-in-20 peak demand (GWh/day)
Residential demand (TWh) <sup>6</sup>	334	255	297	196	313	3	1	5	255	Residential demand (TWh) <sup>6</sup>
Import dependency (%)	57%	73%	68%	64%	63%	95%	98%	46%	69%	Import dependency (%)

Every scenario has significant impact on corporate power sector by 2030 – impact can not be ignored by any company.

# Net Zero – Carbon Reduction

- **Net Zero Strategy**

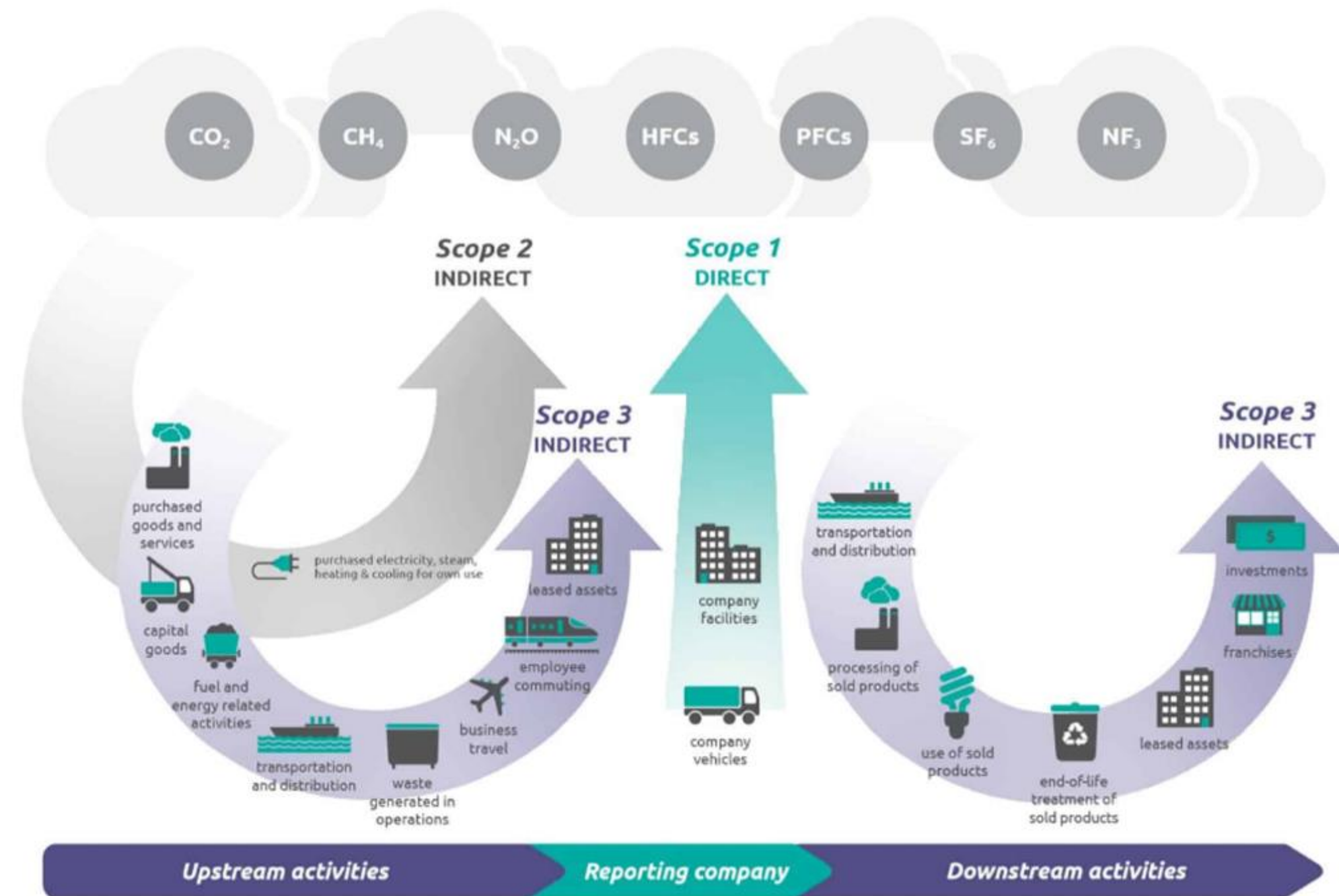
Majority of I&C businesses now have Net Zero targets and strategy

- **Increased focus on Scope 2 and 3**

Can no longer focus on Scope 1 and requirements for holistic Net Zero plan

- **On site generation**

Generating own energy will play a big part in majority of businesses Net Zero plans



Source: [GHG Protocol](#)



# How do you mitigate cost increases?

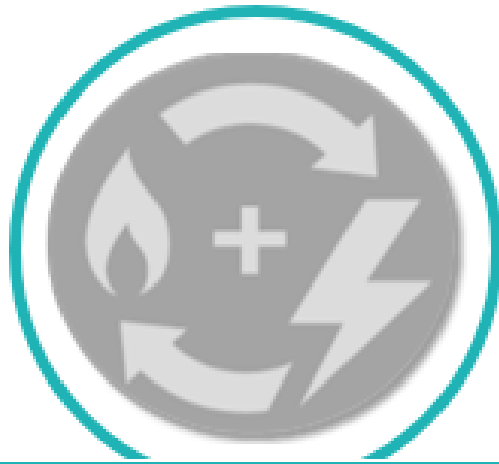
## - Technologies

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# ONSITE GENERATION: A tailored solution for your business



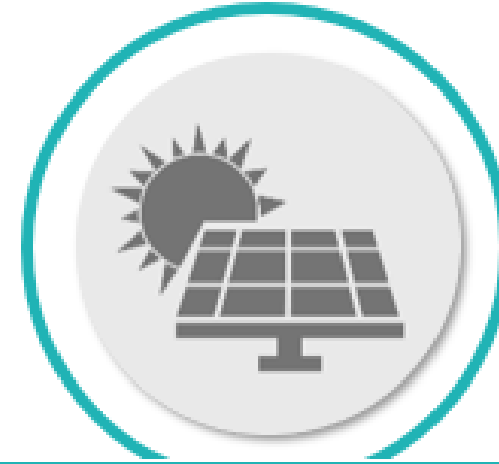
## ONSITE GAS GENERATION SYSTEMS

- Generating electricity efficiently onsite using (hydrogen-ready) gas generation system
- Can harvest the heat generated to off-set energy used to produce heating or cooling within your facility.
- Improved business resilience as you generate electricity at your premises and the grid becomes your primary backup.



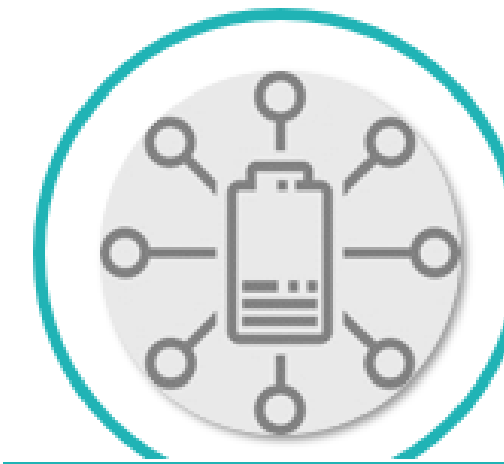
## ADVANCED BATTERY STORAGE

- Storage technologies capture surplus or cheaper energy and release it when needed.
- Can help reduce exposure to peak tariff rates or in smoothing the operation of other technologies.
- Battery storage can also enhance resilience against grid issues such as voltage and frequency fluctuations.



## RENEWABLE ENERGY GENERATION

- Access to leading renewable energy technology including solar PV
- Cost of solar PV has fallen significantly and can provide a meaningful contribution towards off-setting grid demand - at much less than grid costs.



## HYBRID GENERATION & STORAGE

- Where it is appropriate to leverage more than one technology for energy generation (especially with renewables which can have inherent variability) to integrate in batteries onsite
- This can help to smooth power output and ensure consistency in supply



## PROACTIVE ENERGY MANAGEMENT

- Using dynamic data to manage complexities in supply and demand of energy and to optimize efficiencies in the assets and technology in place
- We provide a customer portal to access transparent data and insight on generation and consumption of energy
- We respond promptly to issues to ensure maximum efficiency in asset utilisation

# Operation & Maintenance of Existing Assets

- **Increased availability and efficiency**
  - Good maintenance will allow equipment to perform at original design levels for longer
  - No need to de-rate
  - Minimise costly downtime
- **Value Engineering**
  - Alternative parts available with equivalent, or better, 'MTBF' rates as branded OEM spares.
- **Condition monitoring**
  - Plant can tell you when maintenance required
  - Tailor service levels for the plant, site and application
- **Extended lifespan**
  - Core equipment can operate for multiple 'lifetimes' if given specialist support





# Case study

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# The Customer: 24/7 Plastics Company – Supply chain for large drinks manufacturer

- Non-disposable products
- No requirement for hot water/steam
- Own their property and land

- Substantial roof & green space on site
- Adjacent farmland
- Just north of the M25

- Export capability
- Good gas connection
- Expects production to stabilise

- Currently paying 1.9p/KwH for gas and 14.65p/kwh for power
- High baseload power requirement
- High peak demand 3am to 6pm



# The Challenge

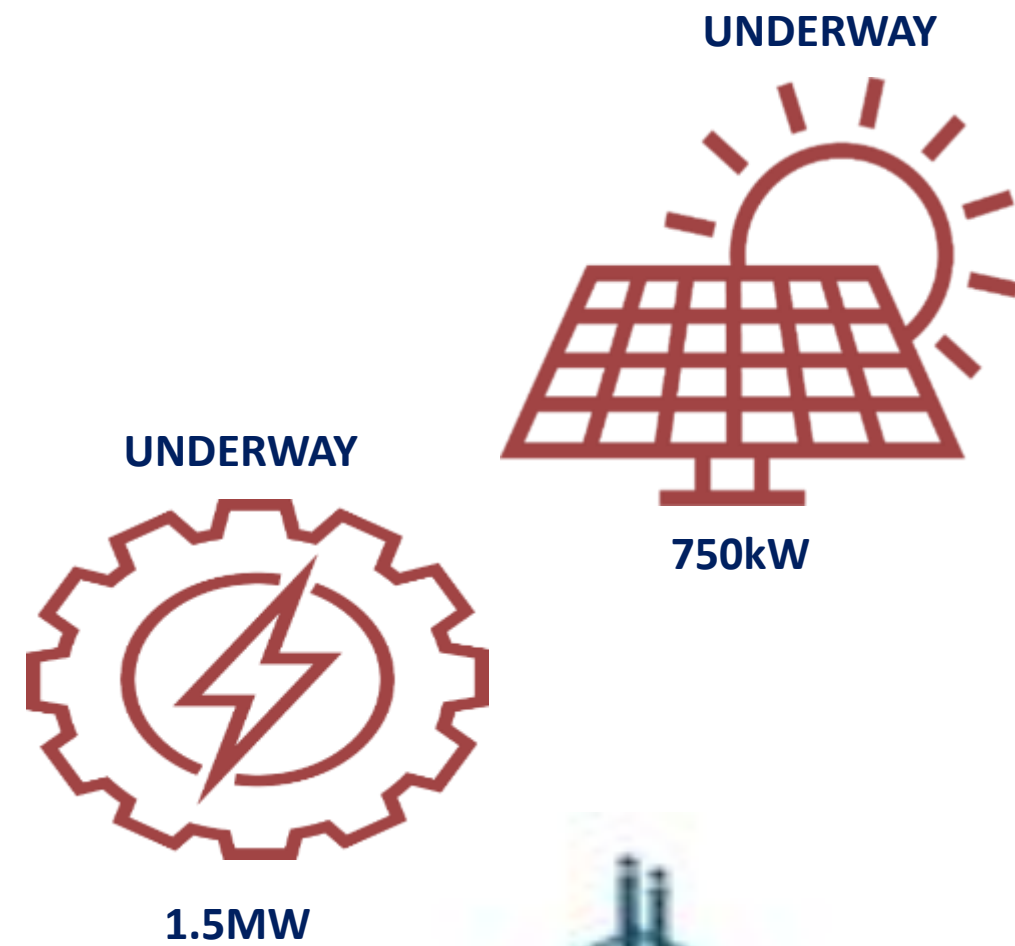
- High demand and large increase in cost forecast
- Product competitiveness is sensitive to their site costs including labour, materials & energy costs
- Pressure to develop a more substantial net zero carbon plan and timeframe delivery
- No in-house energy procurement and supply expertise
- Board wants to invest in modern manufacturing machinery, not energy infrastructure.



# The Approach

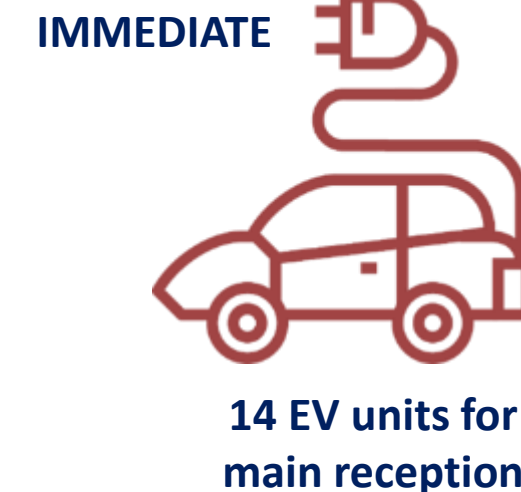
- Acquired 24 months of HH data
- Acquired last 12 months' power and gas bills
- Reviewed the customer's demand profile
- Understood their site through site drawings, google maps and site visits
- Understood current and future strategy and got to know their business and risk profile
- Provided assurance regarding a 10-20 year partnership and contractual commitments
- Modelled various technologies based on site specifics, current/future strategy and demand profile to maximise commercial returns.

# The Suggested & accepted project



- Fully funded by Ylem Energy
- Fully designed, installed, maintained & operated
- Energy consumed on site – minimal export
- Guaranteed p/kwh for up to 20 years\*
- Financial savings circa £450k per year
- Carbon reduction by 2,000 tonnes per annum.

\*Inflation Linked



# Why fund projects through a Power Purchase Agreement?



You don't want to spend your cash reserve or go into debt



You want to maintain a cash buffer to invest or use as spare working capital



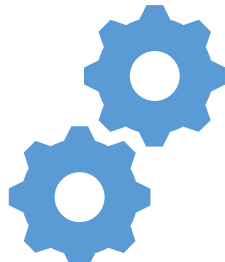
There are constraints on your CAPEX budgets



There is pressure to yield investment returns in 2-3 years



You are unsure of future energy needs which may expand



You want to keep up-to-date with the most effective and efficient technology over the medium term



You understand that the specialist assets and complex management requires external specialists



You want responsive support from a partner with a vested interest in fully functioning equipment



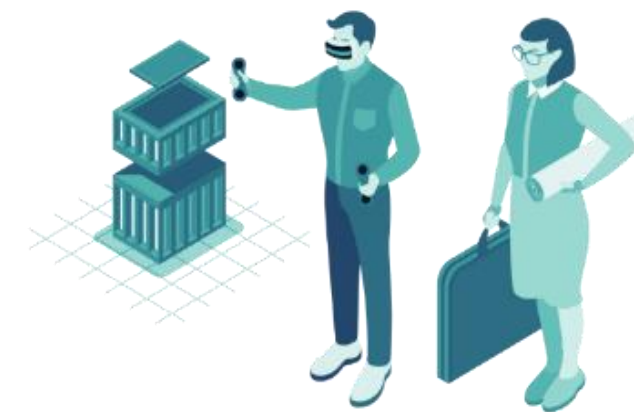
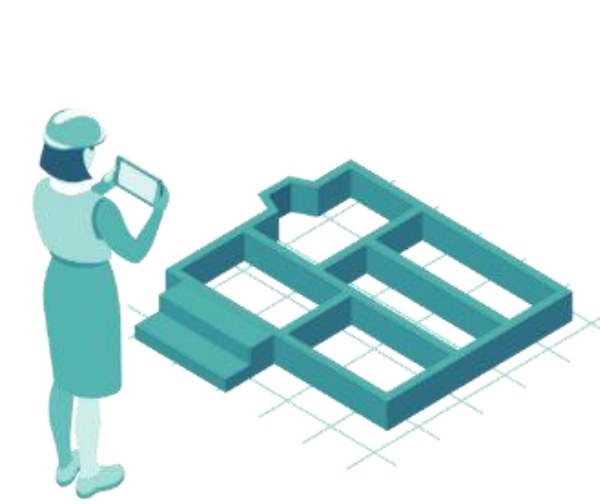


# Summary & Next Steps



# Summary

- **Established** 35 years of experience in the Energy Generation industry both BtM and FtM
- **Specialists** in state-of-the-art generation and energy storage systems that fully integrate with the sites we work with
- **Risk-free solutions:** we provide the investment that lets you access the latest energy technologies
- **Industry-leading experts:** our world-class support and unrivalled experience give you complete peace of mind
- **On the path to Net Zero:** we help you transition to Net Zero with carbon off-setting



# Next Steps

- **Initial Consultation**

An initial 15 minute conversation with one of our experienced energy experts

- **Listen**

Understand your site(s) requirements and what your main issues and objectives are

- **Analyse**

Look at some basic data that you can easily provide to have an initial assessment that can deliver value to your business

- **Partnership**

If there is an opportunity to progress a project then we look to establish a long-term partnership to ensure the projects that we deliver on support your business for years to come







# Q & A

Presented by: Martyn Sheridan | Sales Director  
Simon Mitchell | Head of Business Development - Flexibility



# Thank You

## Contact info

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