

FROZEN & CHILLED > STORAGE >
DISTRIBUTION > NETWORK



DELIVERING RESILIENCE

SHANE BRENNAN, CHIEF EXECUTIVE

22ND AUGUST 2023

'TWO HATS'



WHAT I WILL COVER

**THE COLD CHAIN
FEDERATION**

**COLD CHAIN
THROUGH CRISIS
2017-2022**

LEGACY

THE CRISES TO COME

WHAT NEXT?

QUESTIONS



THE COLD CHAIN FEDERATION



**COLD CHAIN
FEDERATION**

- 260 COMPANIES REPRESENTED
- 500+ FACILITIES
- >40 MILLION M³ STORAGE
- >40,000 REFRIGERATED TRAILERS
- c.20,000 EMPLOYEES

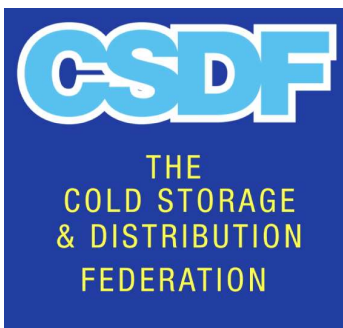
Leading the UK's
Temperature Controlled
Logistics Industry



Long Lane Deliveries
National chilled and frozen distribution and storage

A CLEAR IDENTITY

THE NATIONAL
COLD STORAGE
FEDERATION



1911

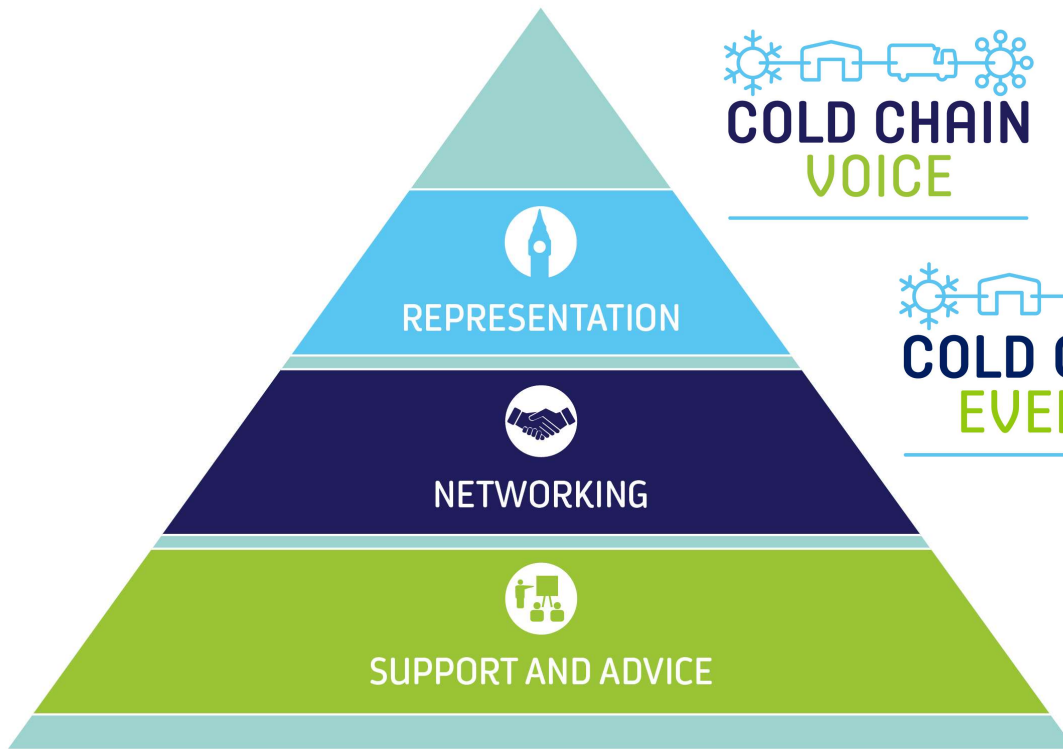
1950s

2000s

2019



WHAT WE DO



COLD CHAIN
VOICE

- DEFENDING MEMBERS INTERESTS
- EFFECTING CHANGE
- KEEPING MEMBERS INFORMED



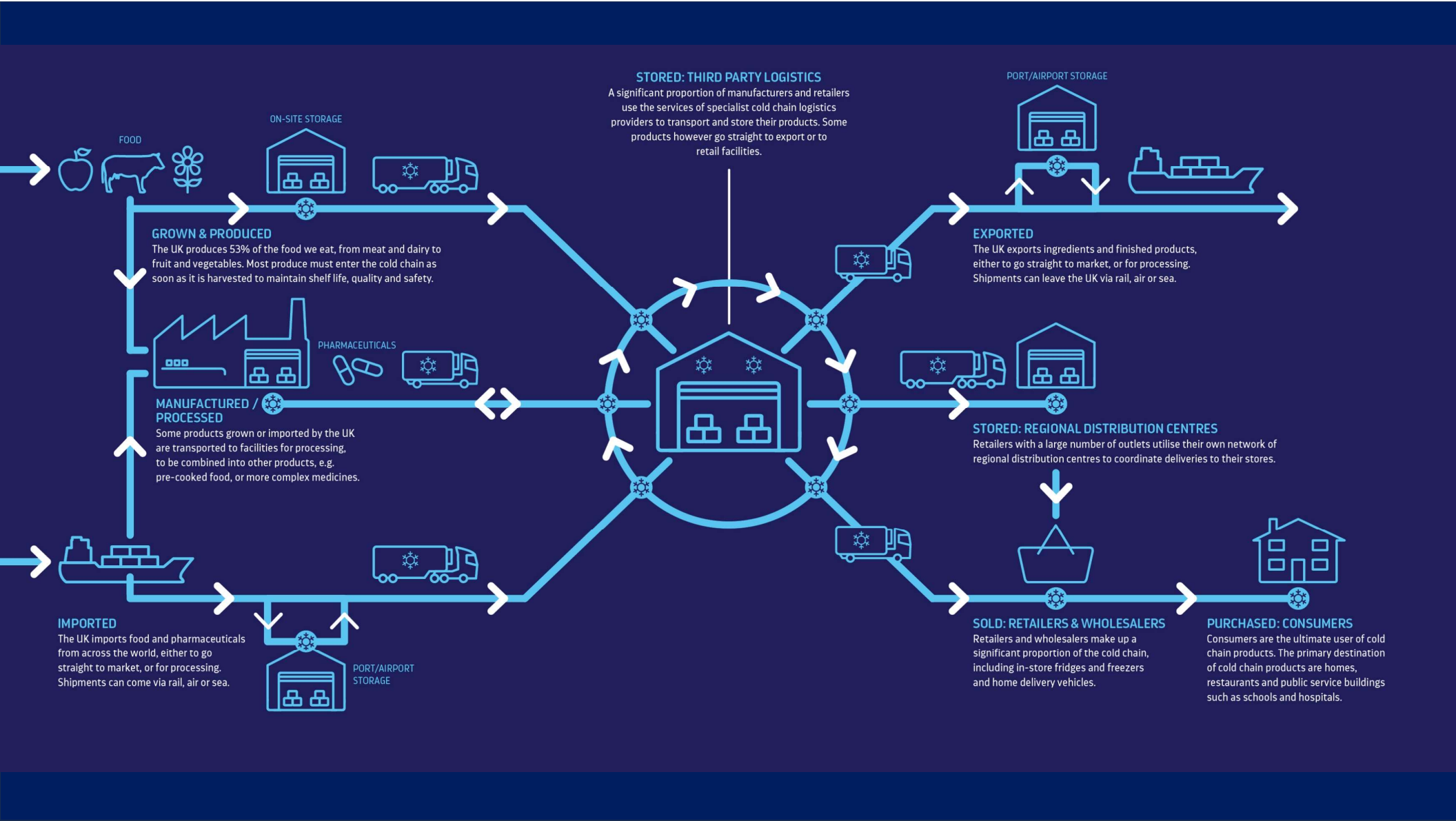
COLD CHAIN
EVENTS

- NEW EVENTS
- EXPERT GROUPS
- REINVIGORATED COMMUNICATIONS



COLD CHAIN
ADVICE

- ASSURED ADVICE
- TERMS AND CONDITIONS
- CLIMATE CHANGE AGREEMENT



STORED: THIRD PARTY LOGISTICS

A significant proportion of manufacturers and retailers use the services of specialist cold chain logistics providers to transport and store their products. Some products however go straight to export or to retail facilities.

PORT/AIRPORT STORAGE

EXPORTED

The UK exports ingredients and finished products, either to go straight to market, or for processing. Shipments can leave the UK via rail, air or sea.

STORED: REGIONAL DISTRIBUTION CENTRES

Retailers with a large number of outlets utilise their own network of regional distribution centres to coordinate deliveries to their stores.

SOLD: RETAILERS & WHOLESALE

Retailers and wholesalers make up a significant proportion of the cold chain, including in-store fridges and freezers and home delivery vehicles.

PURCHASED: CONSUMERS

Consumers are the ultimate user of cold chain products. The primary destination of cold chain products are homes, restaurants and public service buildings such as schools and hospitals.

FOOD

GROWN & PRODUCED

The UK produces 53% of the food we eat, from meat and dairy to fruit and vegetables. Most produce must enter the cold chain as soon as it is harvested to maintain shelf life, quality and safety.

MANUFACTURED / PROCESSED

Some products grown or imported by the UK are transported to facilities for processing, to be combined into other products, e.g. pre-cooked food, or more complex medicines.

IMPORTED

The UK imports food and pharmaceuticals from across the world, either to go straight to market, or for processing. Shipments can come via rail, air or sea.

ON-SITE STORAGE

PHARMACEUTICALS

PORT/AIRPORT STORAGE

RIGHT VOICE, RIGHT TIME



How the cold chain needs to change

Shane Brennan

The way cold food moves is changing, fast. From the modern refrigerated truck and trailer became a chain mainstay in the 1950s to 1960s, it was a technological solution. As the world starts to move toward net zero carbon, it is on the cusp of the next cold chain revolution. Robust, reliable, refrigerated vehicles are vital to the food supply chain. Nonetheless, innovation has

fridge has been somewhat left behind. This innovation lag is about to be corrected and my sense is that the next five years will be a period of dramatic change in temperature-controlled food transport. A key driver of this change, as ever, is cost. From April 2022, refrigerated hauliers will no longer be permitted to use subsidised 'red' diesel. The Cold Chain Federation estimates this will mean a boom a year in direct additional costs for refrigerated hauliers. Ministers have

to non-diesel alternatives like hybrid power, battery electric, and cryogenic fuels. That theory will now be tested. Alongside taxation change, there are also strong pressures for tougher action to regulate refrigeration equipment and restrict movement in urban areas. These pressures require food logistics businesses to consider two complementary responses. The first is to embrace the potential of diesel alternatives. Scepticism is healthy, but innovation in diesel alternatives is

The cost of operating refrigerated vehicles on the road is only going to increase. Finding ways to reduce the volume of vehicles on the road will be as important as investing in equipment. The fridge makes a small contribution to food logistics emissions but it is a knotty problem with far-reaching implications. The way the food supply chain and government work together will be a test of how we go about managing a necessary transition in a way that turns a problem into constructive change.



Can cold chain survive global warming?

The UK's cold chain is vital to our food network: some 70% of our food enters it. But refrigeration is energy-intensive. Can the chain become sustainable?

I developed systems for the UK, so I know the cold chain is vital to our food network. Some 70% of our food enters it. But refrigeration is energy-intensive. Can the chain become sustainable?

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BBC NEWS

Brexit disruption

Parcel company DPD suspends road deliveries to Europe

All arrivals to the UK will soon need to provide a negative Covid test

10:34

SUPPLY CRISIS

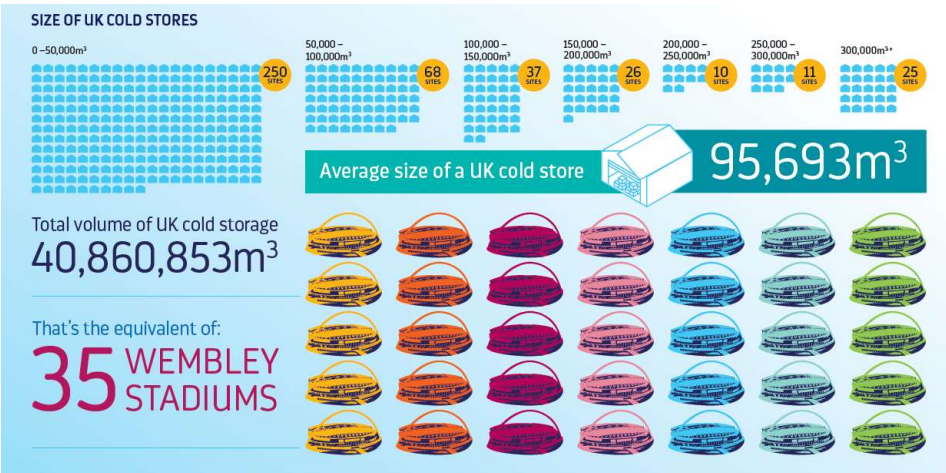
Govt figures show that one in six adults have been unable to buy essential food items in the last two weeks amid concerns over panic buying

sky news.com revealed by a Chinese defector and said it sounds "too fake" **BREAKING NEWS**



UK COLD STORAGE

COLD CHAIN IN THE UK – COLD STORES



Taken from: CCF Cold Chain Report 2023



COLD CHAIN IN NUMBERS /



OVER 450

COLD STORES across England, Scotland, Wales and Northern Ireland covering 244 parliamentary constituencies

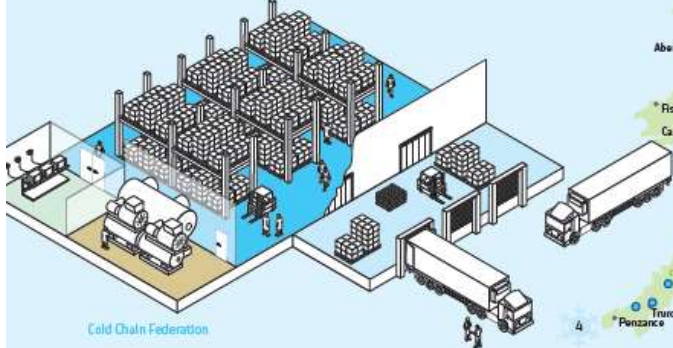
OVER 3.5bn*

CUBIC METRES of storage space



OVER 30,000⁵

REFRIGERATED TRAILERS plus approximately 40,000 insulated vans⁶



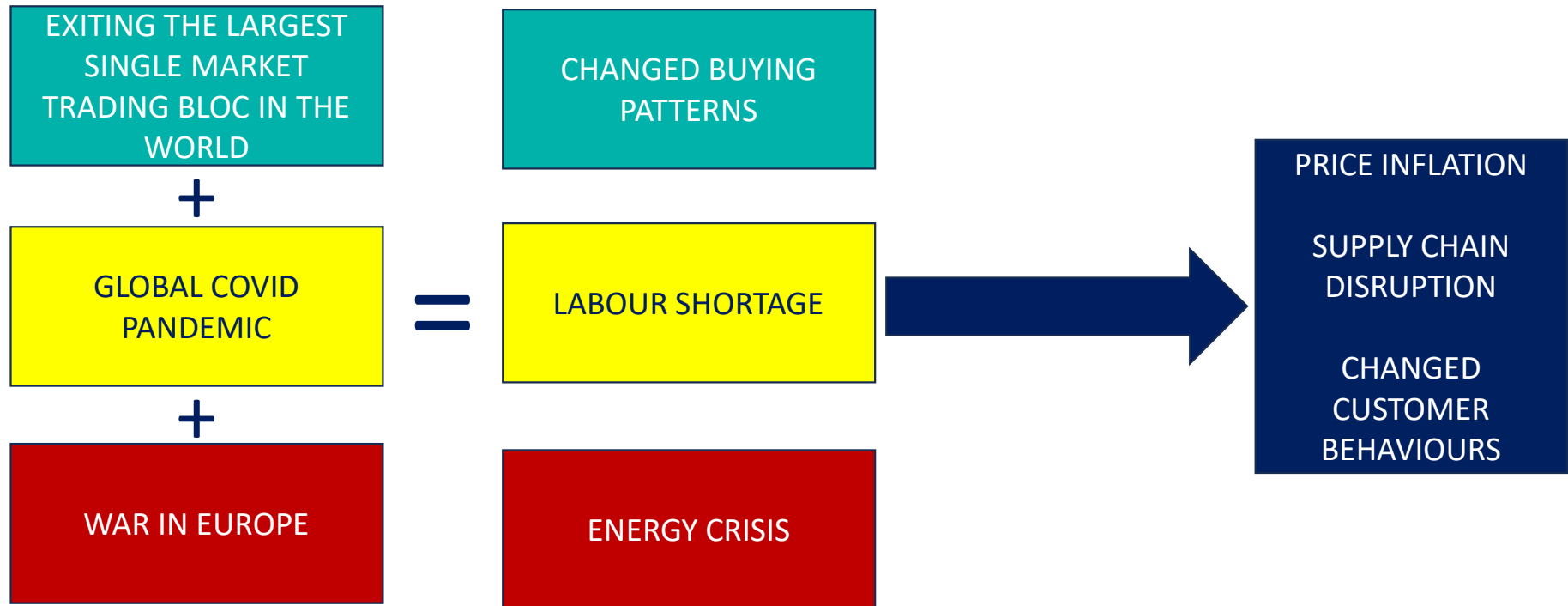
Cold Chain Federation



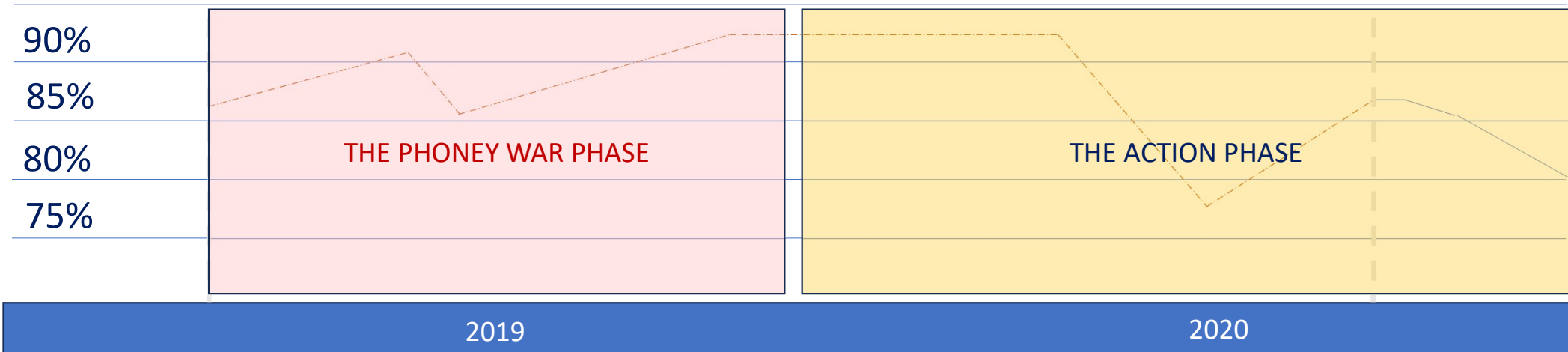
*Cold Chain Federation data. ⁵The Society of Motor Manufacturers & Traders and Cold Chain Federation data

COLD CHAIN THROUGH CRISIS

COMPOUNDING CRISIS



THE CRISIS YEARS – AND FROZEN FOOD STOCKING



March 2017
UK starts formal process of exiting EU

Jan-Mar 2019
UK deadlock over withdrawal agreement take 1

Change of PM

July – Dec 2019
UK deadlock over withdrawal agreement take 2

Dec 2020
Brinkmanship over UK/EU Free Trade Agreement



Jan 2020
Reports coming in about a new coronavirus variant in Wuhan

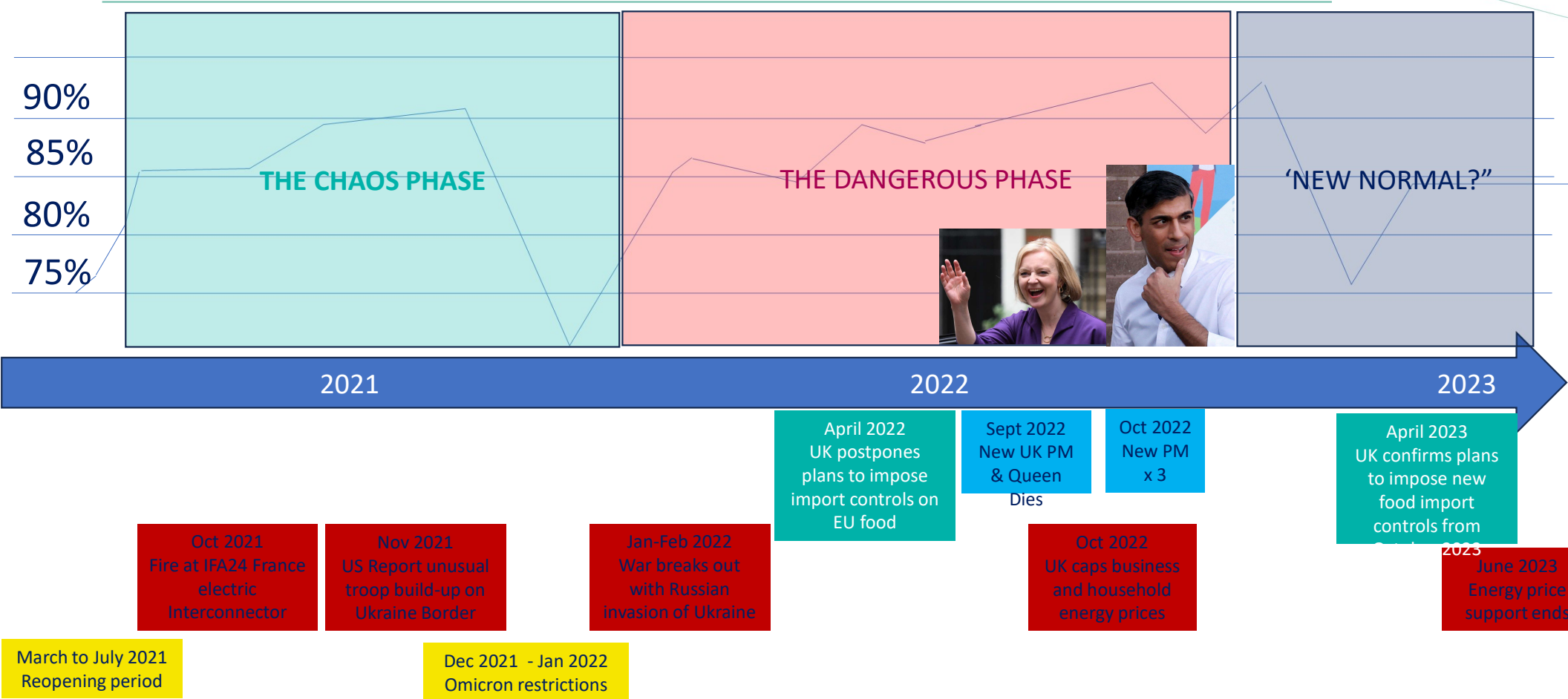
Mar 2020
UK PM announces first ever national

Jul 2020
Partial reopening

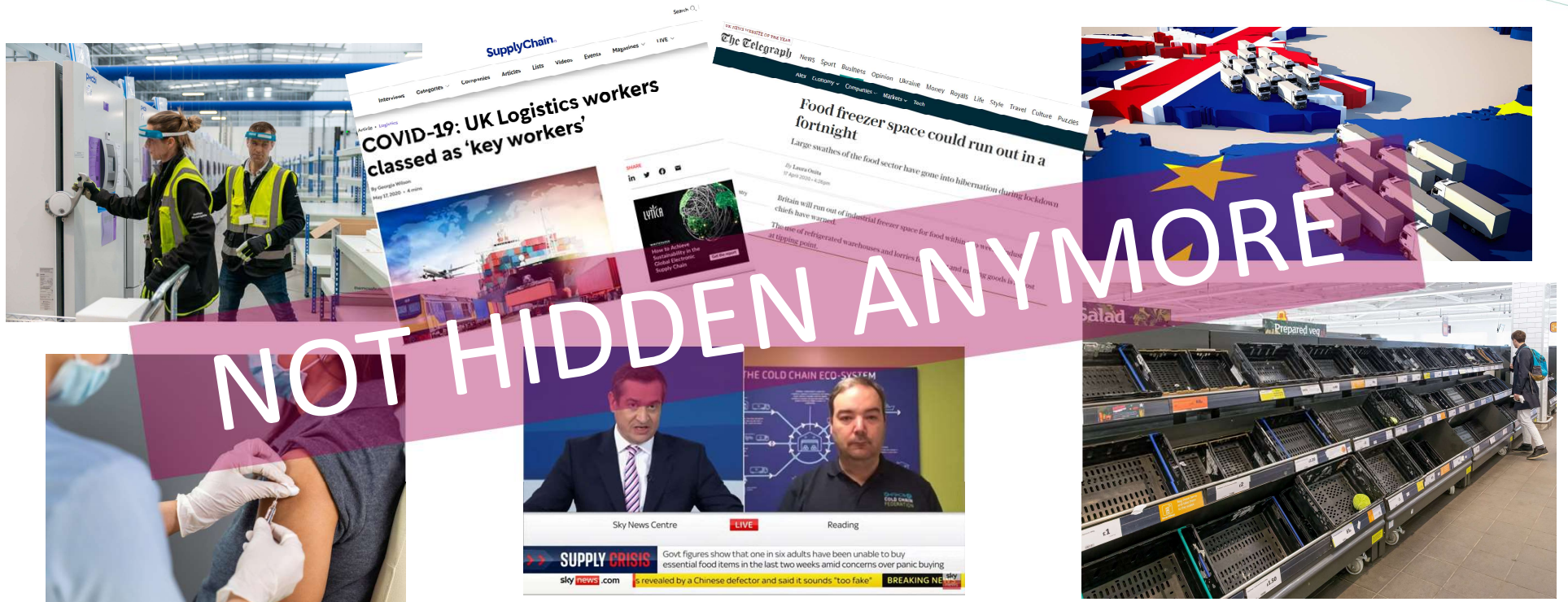
Oct 2020
UK PM announces second national lockdown

Dec 2020
Partial reopening for Christmas

THE CRISIS YEARS – AND FROZEN FOOD STOCKING



COLD CHAIN'S MOMENT



LEGACY

LABOUR

UK labour market 2011-2023

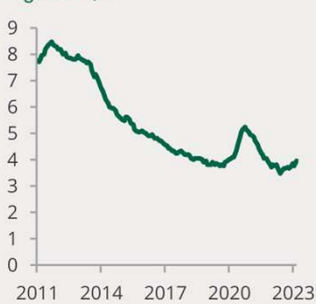
Employment rate

Aged 16-64, %



Unemployment rate

Aged 16+, %

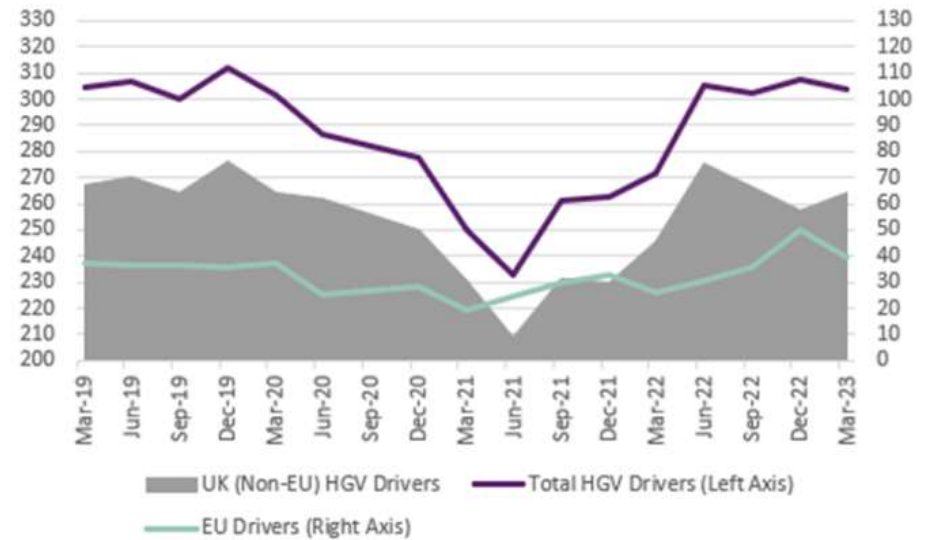


Economic inactivity rate

Aged 16-64 olds, %



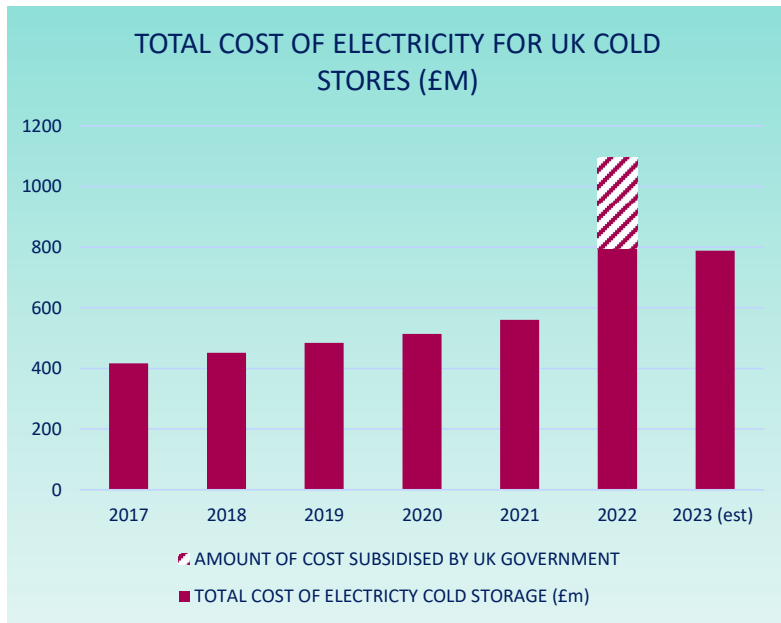
UK HGV Driver Numbers (,000)



OUT OF THE WOODS?



ENERGY



WHOLESALE ENERGY COSTS INCREASED BY 89% BETWEEN 2017 AND 2022



UK GOVERNMENT STEPPED IN IN OCT 2022 TO CAP ENERGY COSTS FOR BUSINESSES AND CONSUMERS

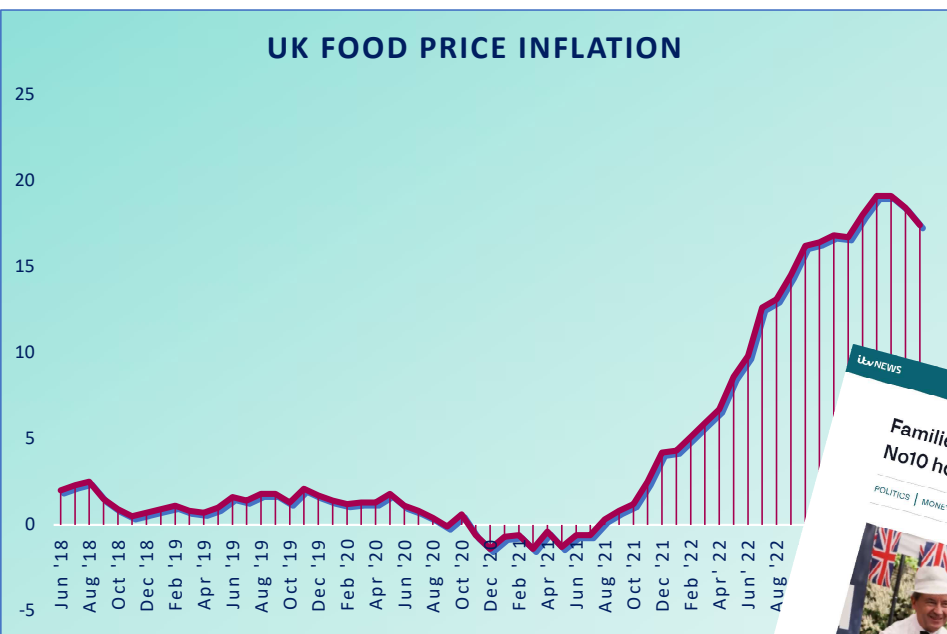
MAJOR STEP IN INVESTMENT IN RENEWABLES (MAINLY SOLAR)



SIGNIFICANT IMPROVEMENT IN ENERGY EFFICIENCY PERFORMANCE



FOOD PRICE INFLATION




10

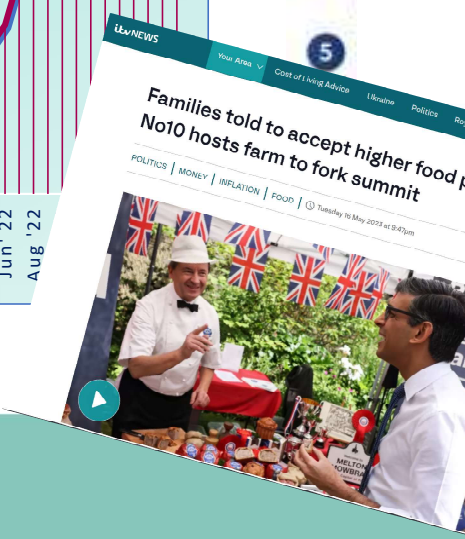
1 **HALVING INFLATION**
Halving inflation this year

2

3

4

5




Families told to accept higher food prices
No10 hosts farm to fork summit

Under proposed rules due to be introduced on October 31, food products coming from the EU to the UK would require export health certificates costing several hundred euros and a sign-off from a vet © Luke MacGregor/Bloomberg



Post-Brexit UK border food checks delayed again on inflation fears

Planned regime already put back several times and now government is delaying it further due to the impact of red tape on prices



PM and Chancellor put pressure on retailers to ease price burden on shoppers

The Bank of England on Thursday announced a shock interest rates hike to 5% as inflation remained steadfast across April and May.

Patrick Day • Thursday 22 June 2023 17:05

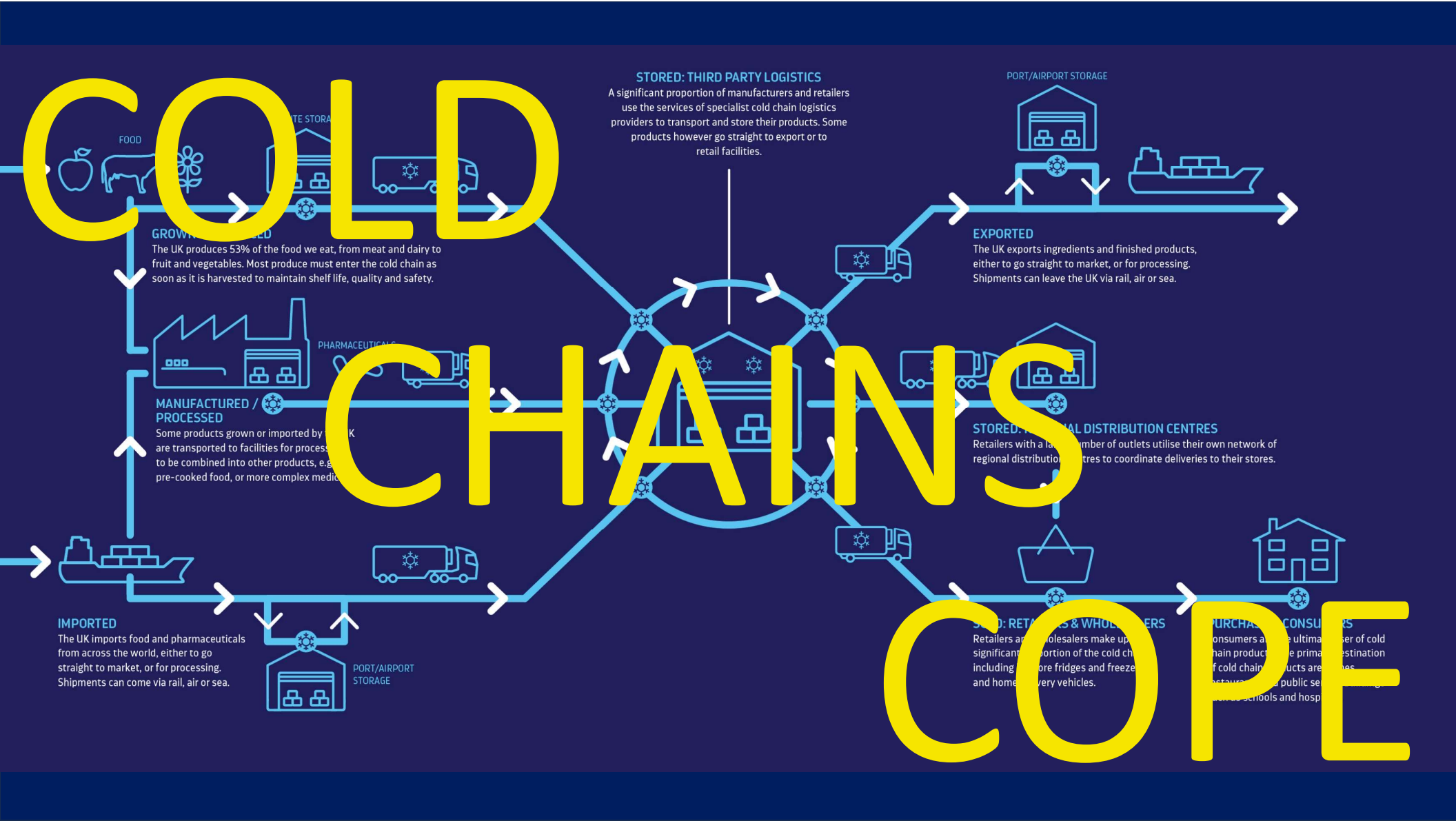


WHAT HAVE WE LEARNT?

COLD

CHAINS

COPE



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PURCHASED: CONSUMERS
 Consumers are the ultimate destination of cold chain products. Products are purchased in a variety of settings, including public sector, schools and hospitals.

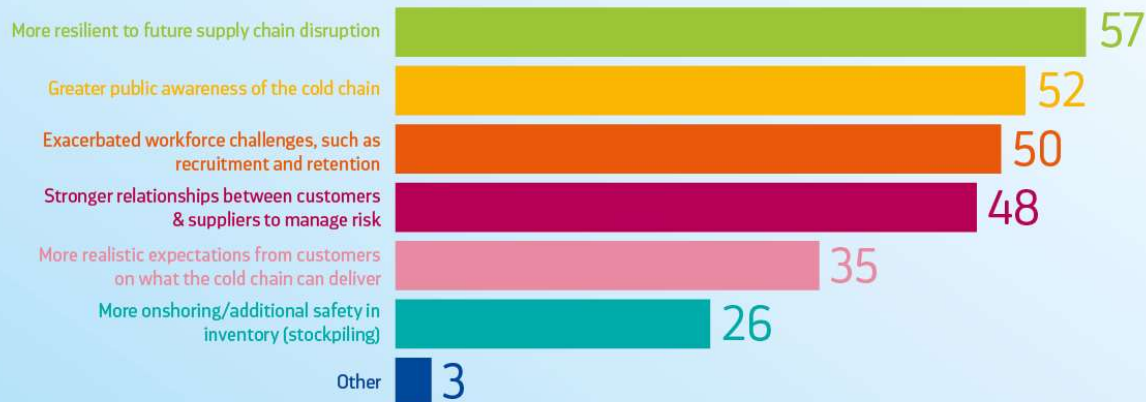
HOW HAVE WE EMERGED FROM THE CRISIS YEARS?

? Has the cold chain emerged from recent supply chain challenges (eg. Brexit, Covid-19, energy crisis) more resilient than it was before?

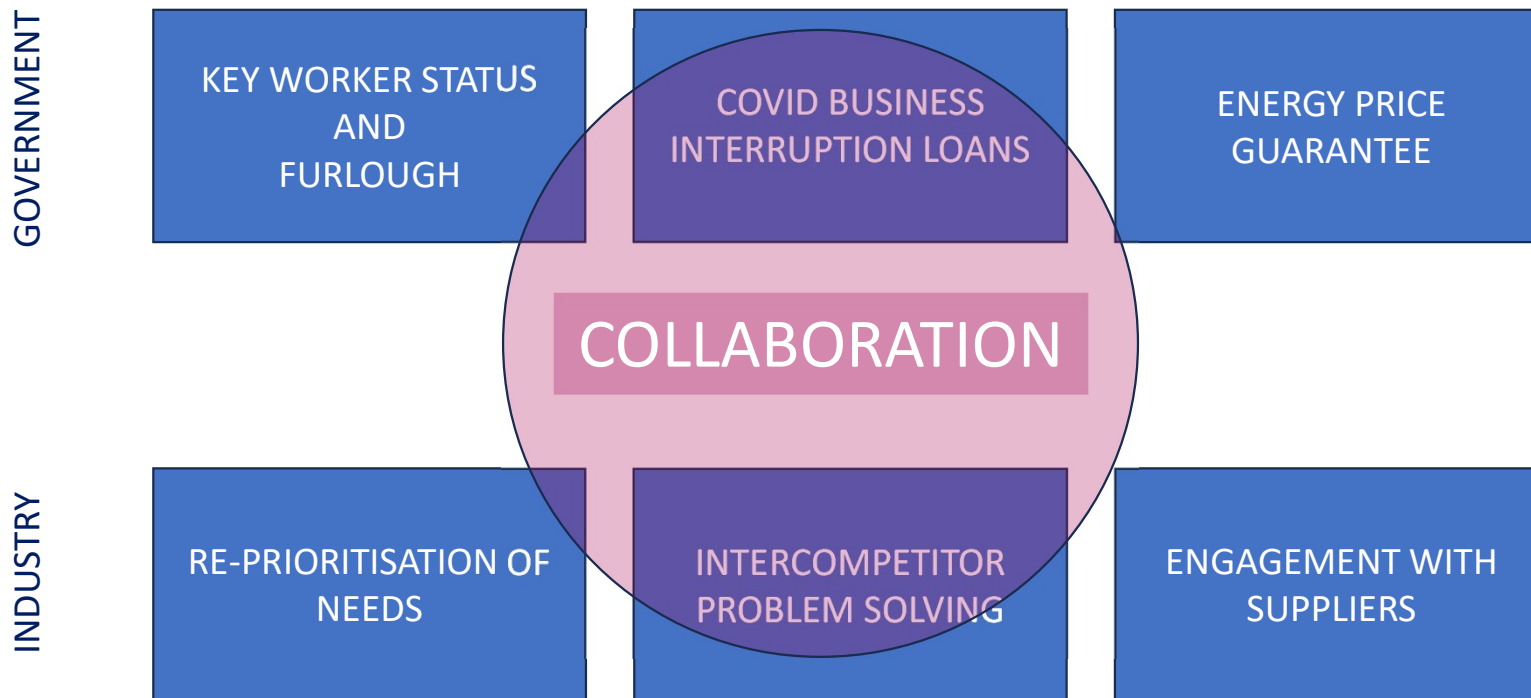
 **YES 74%**

 **NO 26%**

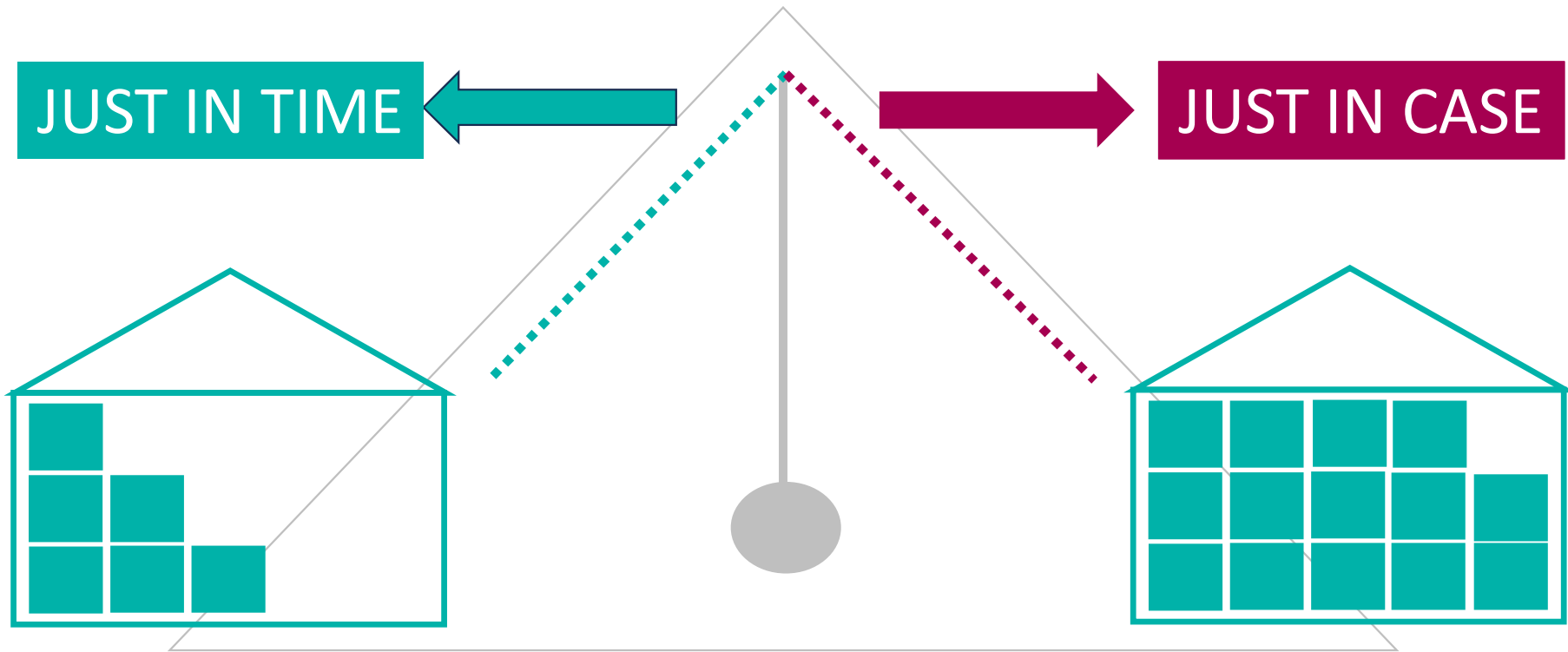
? Long term impacts of Covid









COLLABORATION IS POSSIBLE



STOCKING STRATEGY



LESS CHOICE AND RANGE

											
TOTAL RANGE (average 10.8% decline)											
20135	-22.9%	19652	-6.20%	34103	-8.50%	25171	-14.50%	22558	-6.20%	15653	-6.50%

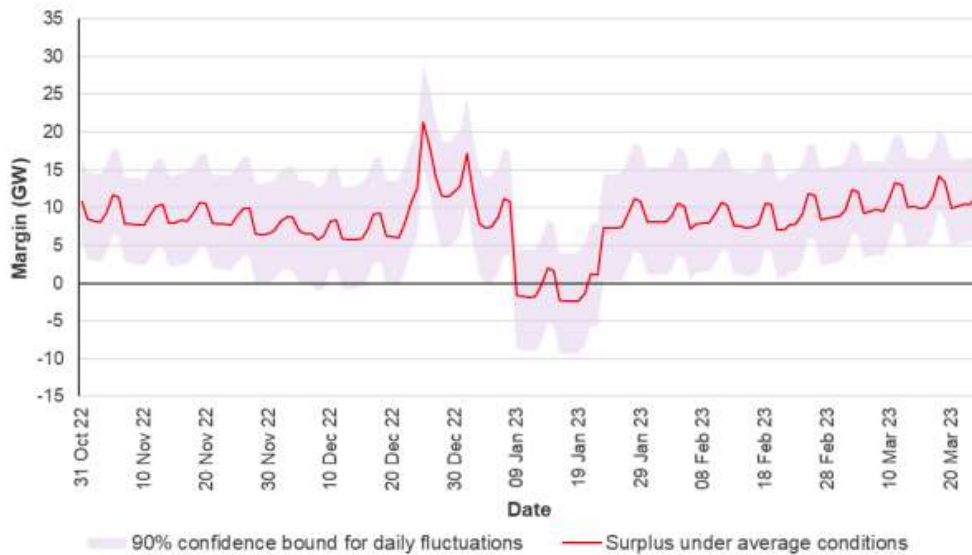
OUR LABOUR MARKET IS FRAGILE



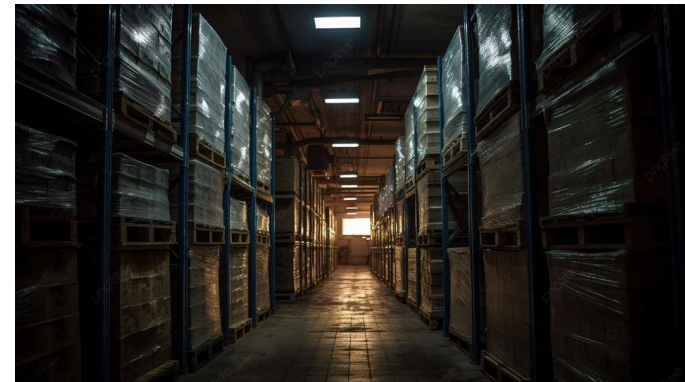
ATTRACT AND INVEST IN
SKILLS AND TALENT

INVEST IN ALTERNATIVES
TO HUMAN LABOUR

THE LIGHTS COULD GO OUT



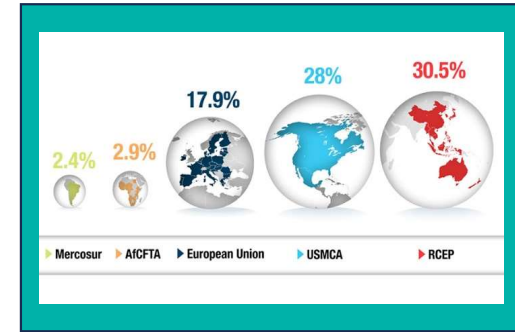
UK national grid worst case scenario prediction for electricity capacity in winter 2022



- warning of rolling 3-hour blackouts
- UK cold stores not considered critical infrastructure
- investment in generators, renewables and batteries

WHAT NEXT?

THE GRAND CHALLENGES



AI and AUTOMATION

- automation for more uses
- 'at a click' traceability
- digital twinning
- changing jobs/new skills

AGEING SOCIETY

- growth of e-commerce for older demographics
- single person households
- people working older

CLEAN GROWTH

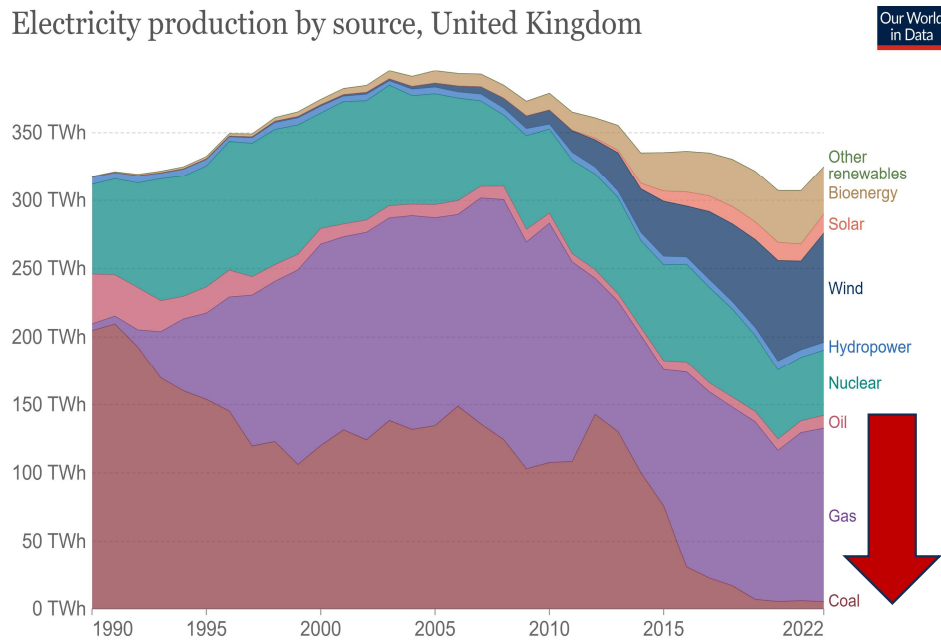
- net-zero ambition
- decarbonisation of energy
- mobility changes
- scrutiny of supply chains / food miles

NEW WORLD ORDER

- UK outside Europe
- Geopolitical Instability
- People Migration
- Resource competition
- Growth opportunities

UK AND EUROPE ON ROAD TO NET ZERO

Electricity production by source, United Kingdom



Source: Ember's Yearly Electricity Data; Ember's European Electricity Review; Energy Institute Statistical Review of World Energy
 Note: 'Other renewables' includes waste, geothermal, wave and tidal.
 OurWorldInData.org/energy • CC BY

HOW DO WE REMOVE
FOSSIL FUELS FROM GRID
WHILST INCREASING OUR
ELECTRICITY DEMAND?



TAKE CONTROL OF THIS AGENDA



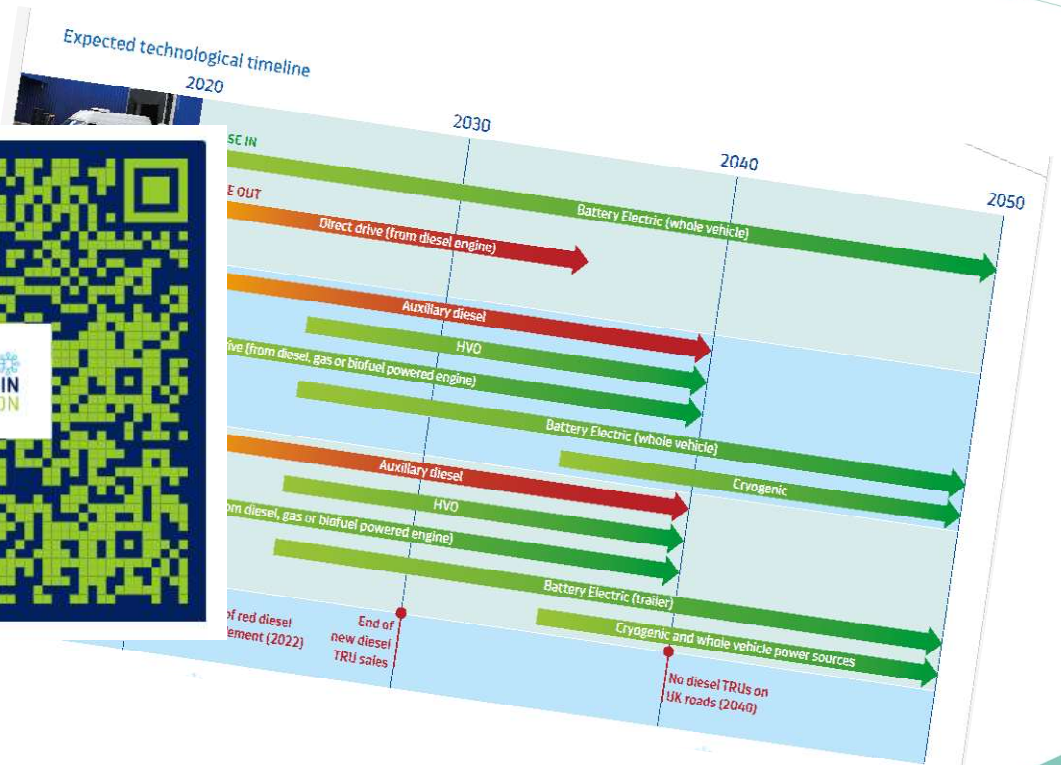
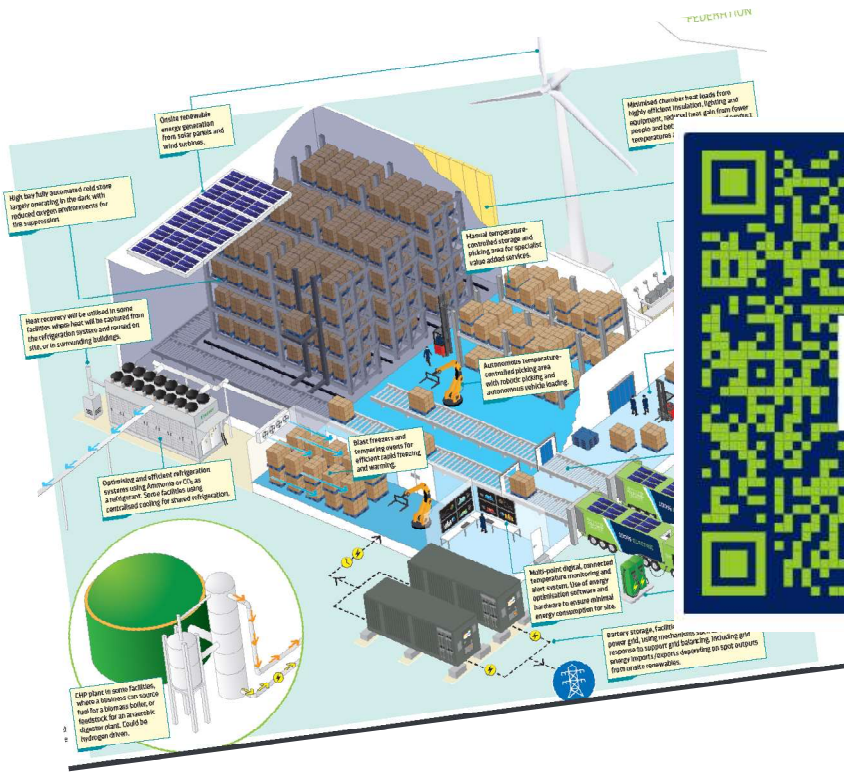
Cold Chain Federation's commitment to support our members to adapt to a low carbon future:

- **Part One:** Shaping the Cold Chain of the Future: The Road to Net Zero (published)
- **Part Two:** Defining a Net Zero Cold Chain (published)
- **Part Three:** The Journey Towards emission free temperature-controlled distribution on road vehicles (published)
- **PART FOUR: THE COLD STORE OF 2050**
- **Part Five:** The Cold Chain Ecosystem (2023): the connecting elements which will make up the cold chain of the future. eg. blockchain, advanced temperature monitoring etc.

<https://www.coldchainfederation.org.uk/cold-chain-net-zero-project/>



FREE TO ACCESS HERE



HOW CAN WE WORK TOGETHER



THE DIGITAL COMMUNITY FOR COLD CHAIN LEADERS

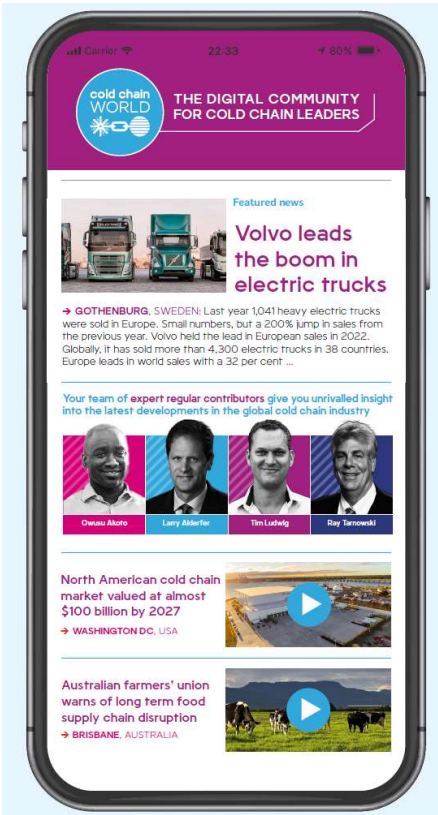
- regular digital events
- social media focused delivery and promotion
- website / portal
- mixed media – video, audio and written content



The screenshot shows the homepage of 'Cold Chain World', described as 'THE DIGITAL COMMUNITY FOR COLD CHAIN LEADERS'. The site features a purple header with navigation links for News, Video, and Podcast, and a search icon. The main content area is divided into several sections:

- Featured news:** A large article titled 'Volvo leads the boom in electric trucks' with a photo of Volvo electric trucks. The text states: '→ GOTHENBURG, SWEDEN: Last year 1,041 heavy electric trucks were sold in Europe. Small numbers, but a 200% jump in sales from the previous year. Volvo held the lead in European sales in 2022. Globally, it has sold more than 4,300 electric trucks in 38 countries. Europe leads in world sales with a 32 per cent ...'
- Subscription banner:** A purple banner with white and yellow text: 'To receive cold chain news as it breaks, direct to your inbox, subscribe FREE now!'.
- Contributors:** A row of four headshots with names: Amanda Brondy, Matt Ott, Lizelle van der Berg, and Adam Thoher.
- Market News:** Two smaller news items: 'North American cold chain market valued at almost \$100 billion by 2027' (Washington DC, USA) and 'Australian farmers' union warns of long term food supply chain disruption' (Brisbane, Australia).
- Podcast and Event:** A 'PODCAST' section for 'EPISODE 21' featuring Greg Lehmkuhl, President & CEO of Lineage Logistics, with the text 'We're working hard to reduce food waste and food insecurity across the world'. Next to it is an 'EXPO 2025' section with the text 'JOIN US IN DUBAI'.

The footer of the website includes the text 'Powered by the Global Cold Chain Alliance' and a copyright notice: '© Global Cold Chain Alliance 2023'.

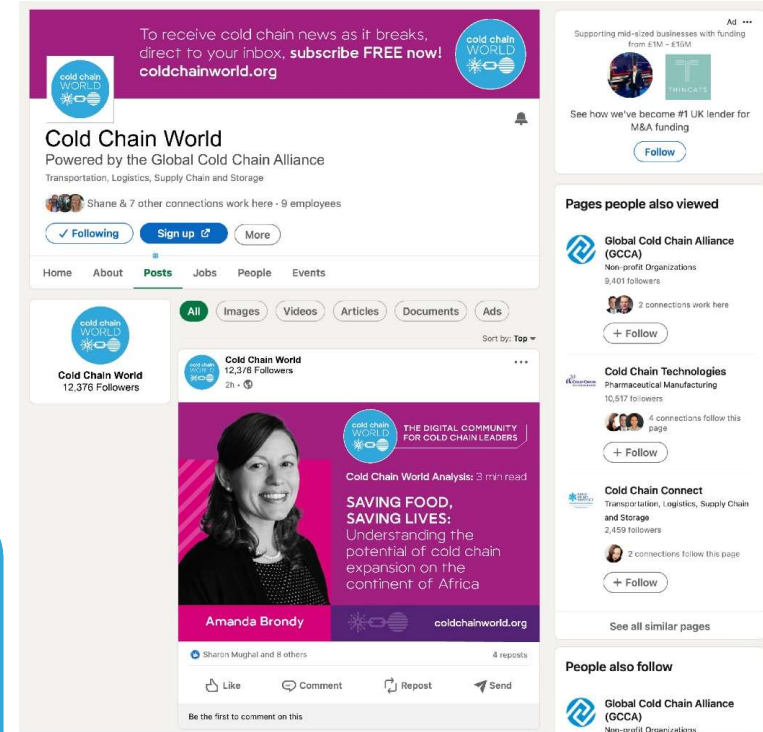


E-News

- Promise is 'first and best news' for (free) subscribers
- Syndicated to be region relevant
- New content and 'best of the rest' aggregation

Social Media

- Focus on capturing new subscribers
- Able to set agenda and capture feedback/ interactivity



SETTING THE AGENDA THE 4 GRAND CHALLENGES

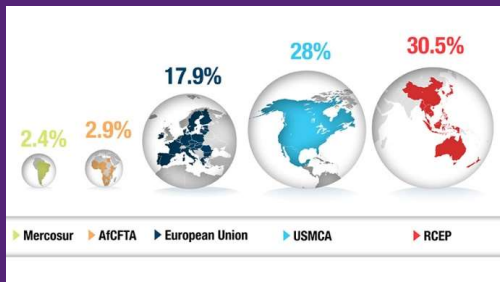
FEEDING PEOPLE



FACING CLIMATE CHANGE



CHANGING WORLD ORDER



HARNESSING TECHNOLOGY REVOLUTION



GLOBAL THEMES → PRACTICAL ISSUES

FEEDING PEOPLE

- cold chain infrastructure
- development programmes
- food waste reduction programmes
- food safety regulations and initiatives
- labour challenges
-

TACKLING CLIMATE CHANGE

- sustainability initiatives
- energy resilience
- transport decarbonisation
- cold store construction
- supply chain efficiencies
- temperature regimes
-

NEW WORLD ORDER

- trade rules and regulations
- digitisation of trade
- ports and infrastructure
- supply chain resilience planning
- international outreach
-

AI REVOLUTION

- Automation
- Digitisation
- New rules and regulations
- Changing skills and people
-

National / regional contexts are different but the themes are universal





ANY QUESTIONS?

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