

# **FDF Work on Energy Reduction**

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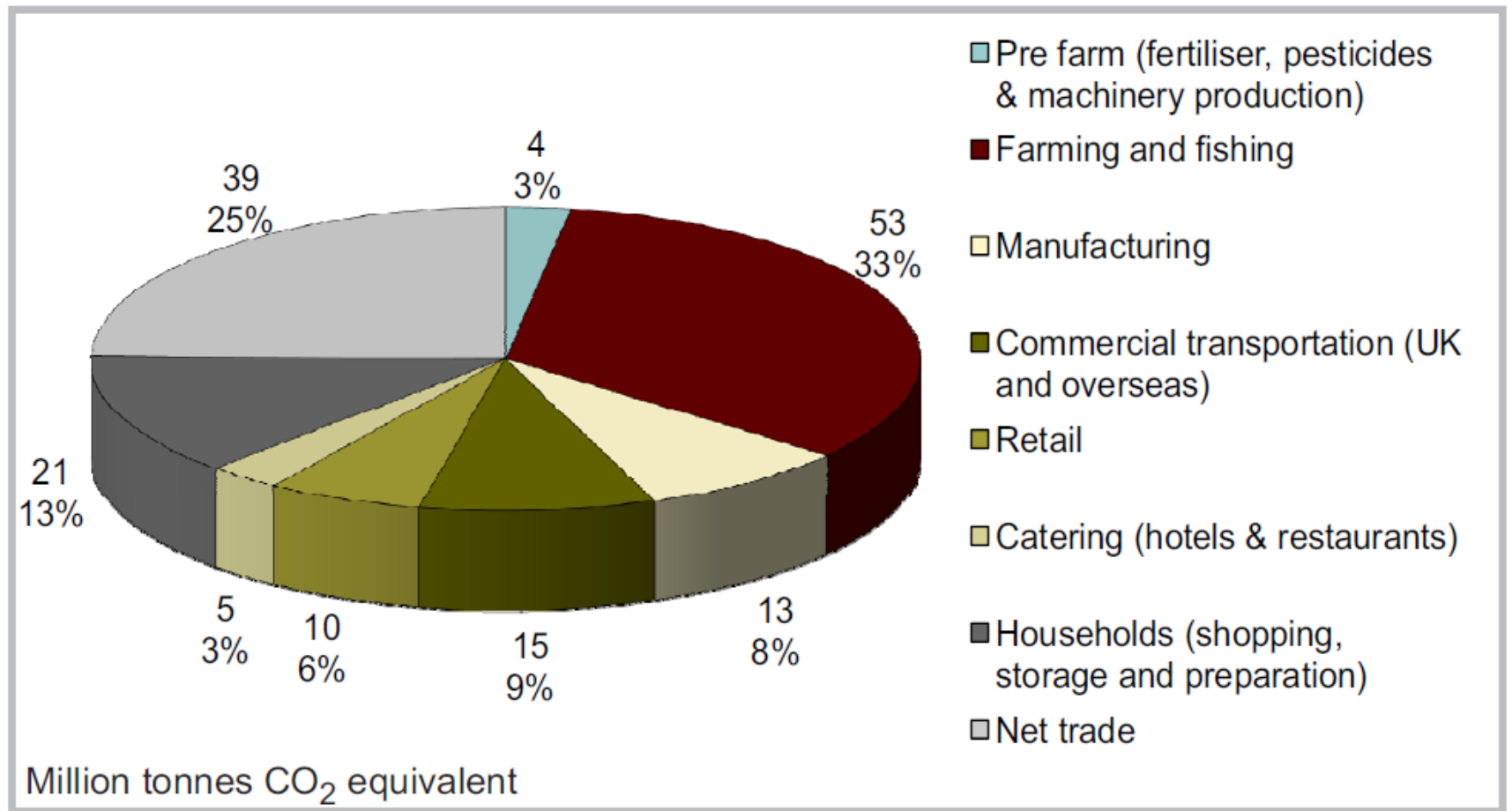
**Food and Drink Federation**

- **Food Chain and Manufacturing Sector Energy use**
- **Carbon Management**
- **FDF Five-fold Environmental Ambition**
- **Energy Efficiency – Low Carbon Technology Projects**

# Our industry

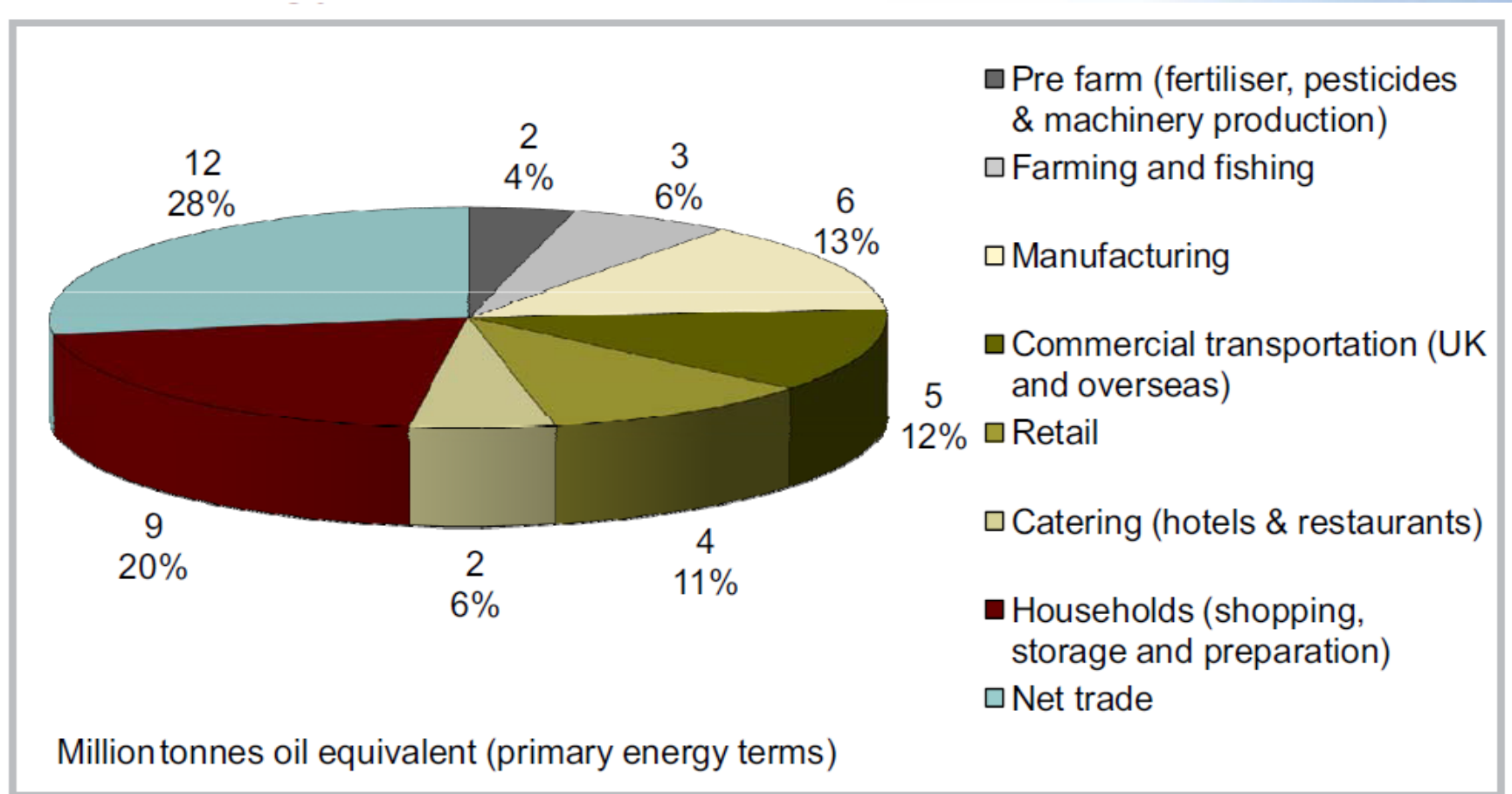
- **15% of the UK's total manufacturing sector**
- **Europe's 4th largest food and drink manufacturing industry**
- **440,000 directly employed. Indirectly a further 1.2 million jobs in the food chain**
- **7,000 businesses, generating £72.8bn of turnover**
- **£9bn worth of food and non-alcoholic beverages exported every year**
- **A key partner for UK farmers**
- **Innovative – spending £350m on R&D and launching 8,000 new products every year**

## Greenhouse gas (GHG) emissions from the UK food chain (2006)



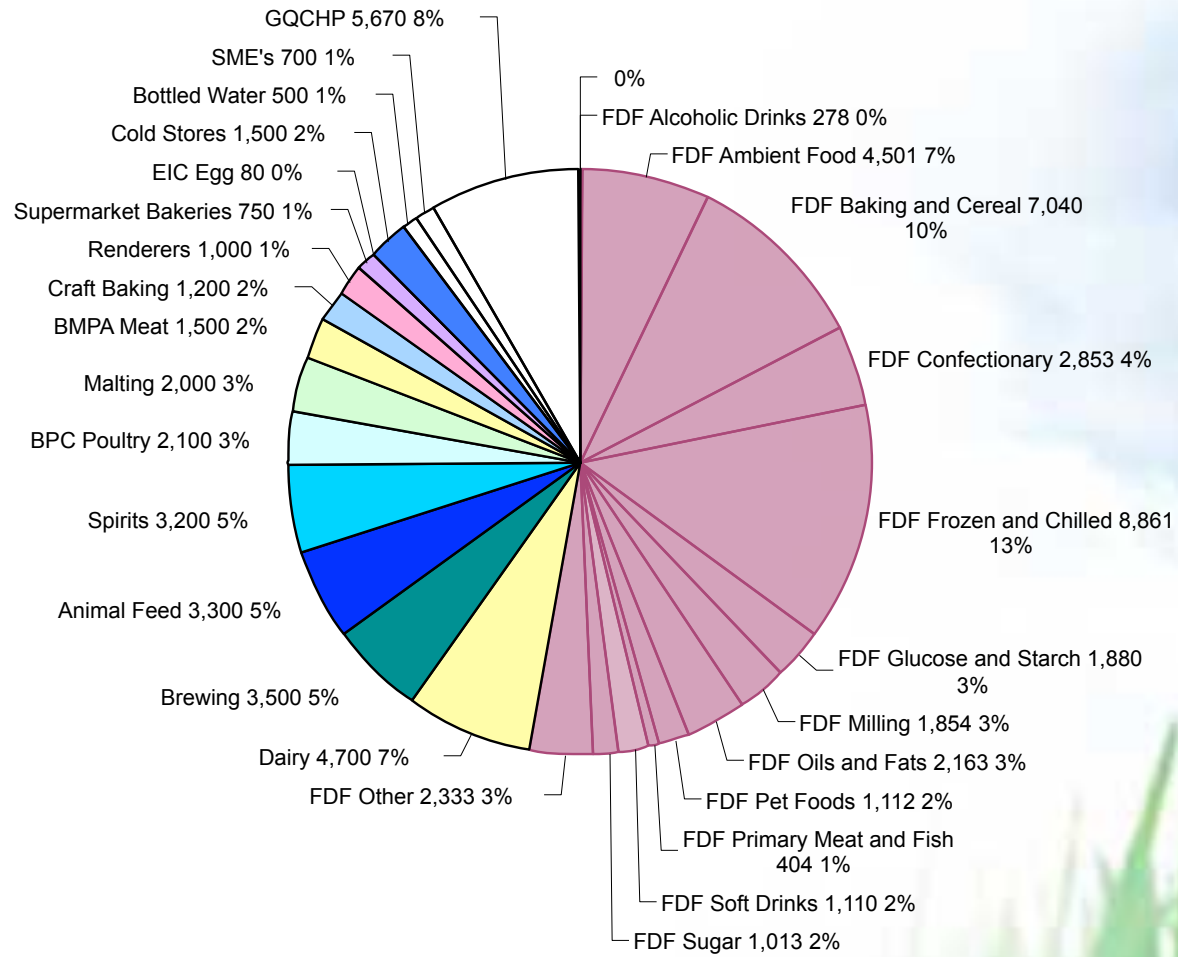
Source: Defra Food Statistics Pocketbook 2009

## Energy use in the UK food chain (2006)

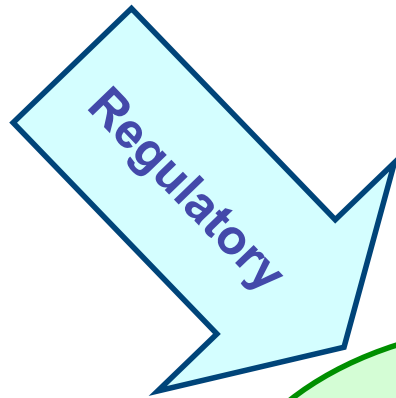


Source: Defra Food Statistics Pocketbook 2009

# Energy Use by Sub Sector – CCA data



- EU ETS
- CCAs
- CRC



# Carbon Management

- Energy costs
- Carbon Costs
- ROI, Payback



- Consumers/Customers
- Shareholders/Investors
- Employees
- NGOs
- Government

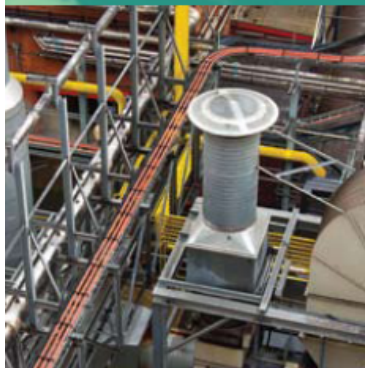
# Policy Framework and Regulatory Drivers

- UK Carbon Budgets – 34% 2010 – 1990 baseline
- Climate Change Agreements
- Carbon Reduction Commitment
- EU Emissions Reduction Schemes
- Ozone Depletion Regulations
- F Gas Regulations
- Feed-in Tariffs
- Renewable Heat Incentive



Progress  
report  
2009

# Our Five-fold Environmental Ambition



Food and Drink  
Federation



Making a real difference

# Five-fold Environmental Ambition

- **FDF is being bold about making a real difference for the environment**
- **Our members have good environmental records individually**
- **FDF members are collectively committing to make a significant contribution to improving the environment**
- **Structured approach focusing on areas where we can make the biggest difference**
- **First food and drink trade body had taken this collective approach**



# Delivering our Five-fold Environmental Ambition

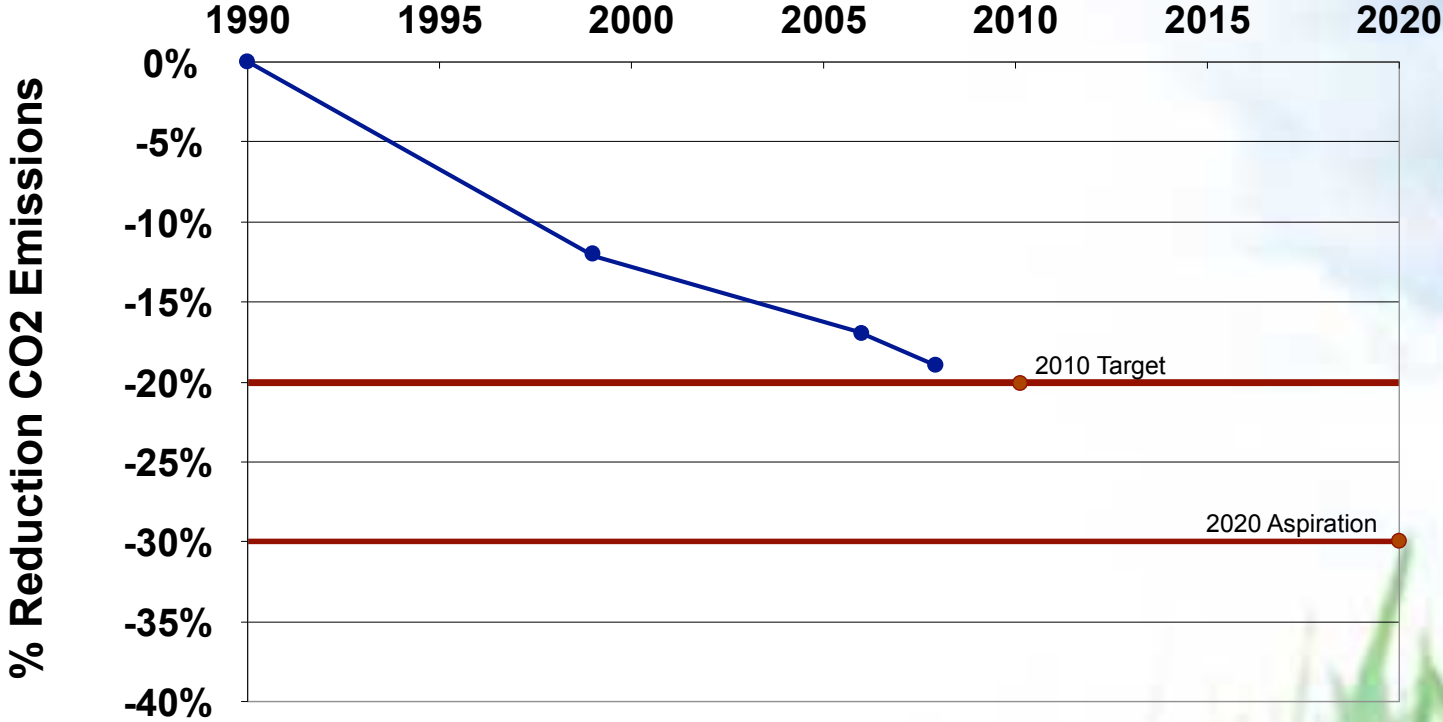
- Significantly reducing CO<sub>2</sub> emissions
- Zero food and packaging waste to landfill
- Cutting the packaging reaching households
- Reducing the amount of water used in factories
- Fewer, and friendlier, food transport miles

# Significantly Reducing CO<sub>2</sub> Emissions

## The 1<sup>st</sup> part of our five-fold ambition is:

- to achieve a **20%** absolute reduction in CO<sub>2</sub> emissions by 2010 compared to 1990
- to show leadership nationally and internationally by aspiring to a **30%** reduction by 2020

# CO2 Emissions Reduction



# Energy Efficiency and Low Carbon Technology Projects

- Carbon Management Guide
- Climate Change and Energy Tool Kit – Policy and Regulation
- Carbon Trust – Industrial Energy Efficiency Accelerator Programme
  - Sugar Confectionary
  - Industrial Bakeries
- FDF/Carbon Trust – Heat Saving Strategy
- Refrigeration Energy Efficiency Initiative



Supported by

Making business sense  
of climate change



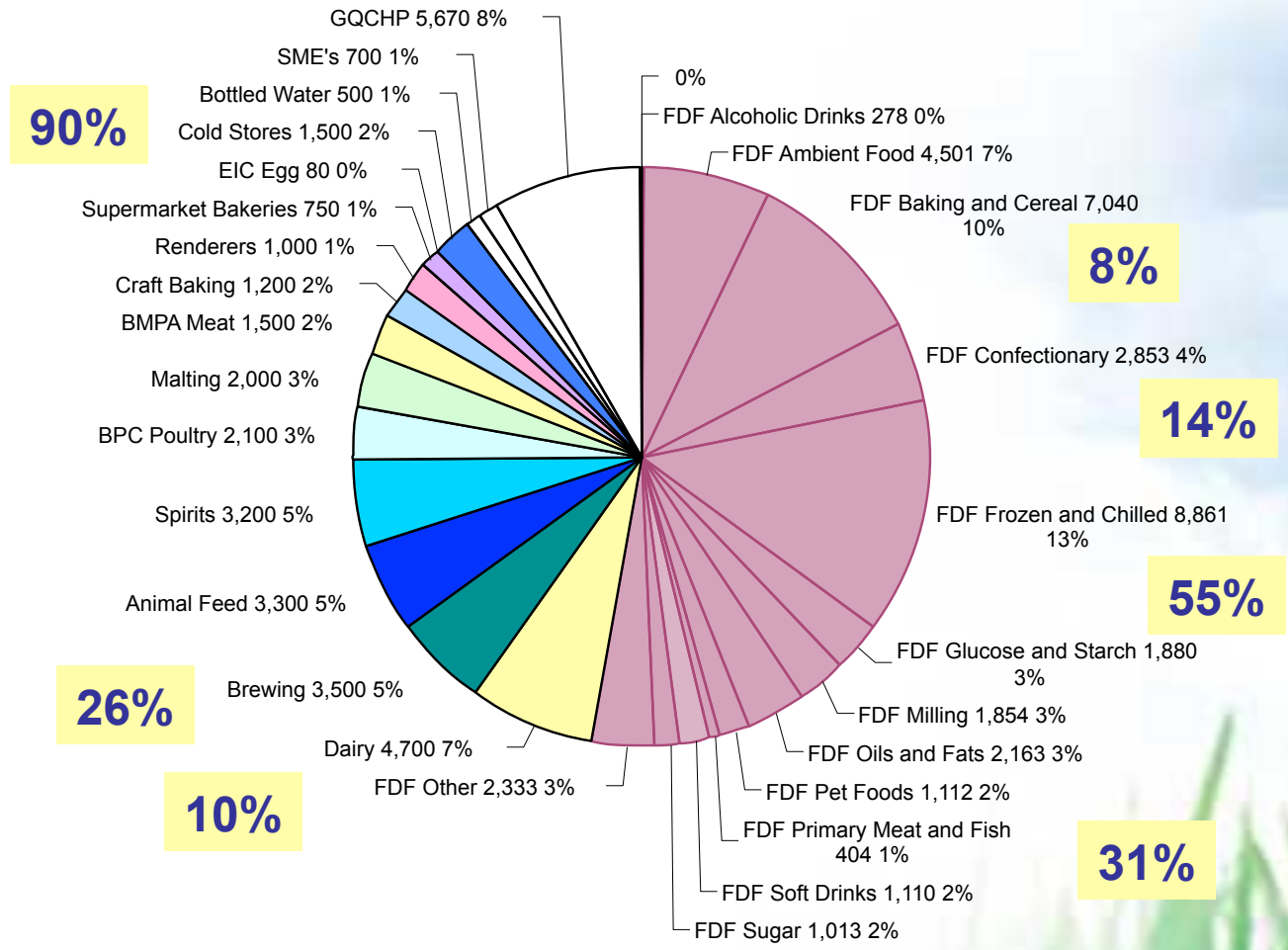
Making a real difference

# Food and Drink Industry Refrigeration Energy Efficiency Initiative

## Food and Drink Manufacturing Energy Efficiency - Technology Focus

Technology	TWh	CO <sub>2</sub> (primary)	£m	Saving Potential			
	(Delivered)	kTe		%	CO2 kTe	% Split	£m
Boilers	24.3	4770	850	15	720	49%	130
Direct Heating - Fuels	9.4	1860	330	15	280	19%	50
Motors	5.5	2310	510	7	160	11%	35
Direct Heating - Elec	2.7	1150	250	15	170	12%	40
Refrigeration	2.1	880	190	14	120	8%	30
Compressed Air	0.7	280	60	8	20	1%	5
<b>Total</b>	<b>44.7</b>	<b>11250</b>	<b>2190</b>	<b>13</b>	<b>1470</b>	<b>100%</b>	<b>290</b>





# Refrigeration Energy - Drivers



# Site Investigation Work

- Reducing heat loads
- Avoiding high head pressure
- Improving part load performance
- Reducing fan and pump power

## Carbon Management Guide

[https://www.fdf.org.uk/publicgeneral/carbon\\_management\\_guidance\\_2008.pdf](https://www.fdf.org.uk/publicgeneral/carbon_management_guidance_2008.pdf)

## Refrigeration Guides

<http://www.cclevy.com/page/106/Food-and-Drink-Industry-Refrigeration-Efficiency-Initiative.htm>

