

Retail Food Refrigeration

- The Retail Sector
- The Sector Network
- The Supermarket

CARR LSBU 2007

World Food Retailers

1. Wal-Mart: Largest US Chain with 33% of market.
2. Carrefour: European Chain.
3. Home Depot: US Chain.
4. Tesco: UK based chain, 60% of space overseas.

The UK Retail Sector

By Market Share: (according to TNS)

Tesco:	31.3%
Asda:	16.6%
Sainsbury's:	15.9%
Morrison's:	11.1%
Covering	73.9% of market

The UK Sector Network: 1

Chain Standard Store Area (>1000m²)

- Tesco 2 200 000m²
- Asda 930 00m²
- Sainsbury's 1 470 000m²
- Morrison's 1 100 000m²

The UK Sector Network : 2

• Chain	Large SM	Standard SM
• Tesco	147	433
• Asda	21	243
• Sainsbury's		455
• Morrison's		369

The Supermarket

- Broadly 4 types/sizes:
- Largest: Tesco Extra, Asda SuperCentre, each upwards of 6 300m². The US Wal-Mart normal large store is 9 000m².
- Standard: Tesco SuperStore, Asda Neighbourhood Centre, about 2 900m².
- Smaller: Tesco Metro, Express, 200m²-1 100m², only 12% of chain area but 900 stores.

Supermarket Refrigerated Display

A typical supermarket has:

- About 200 linear m of multi-deck chilled display.
- About 30 linear m of serve-over chilled display.
- About 80 linear m of frozen display, partly chest, partly multi-deck with doors, partly combined.
- A Central Plant capacity of c150kW

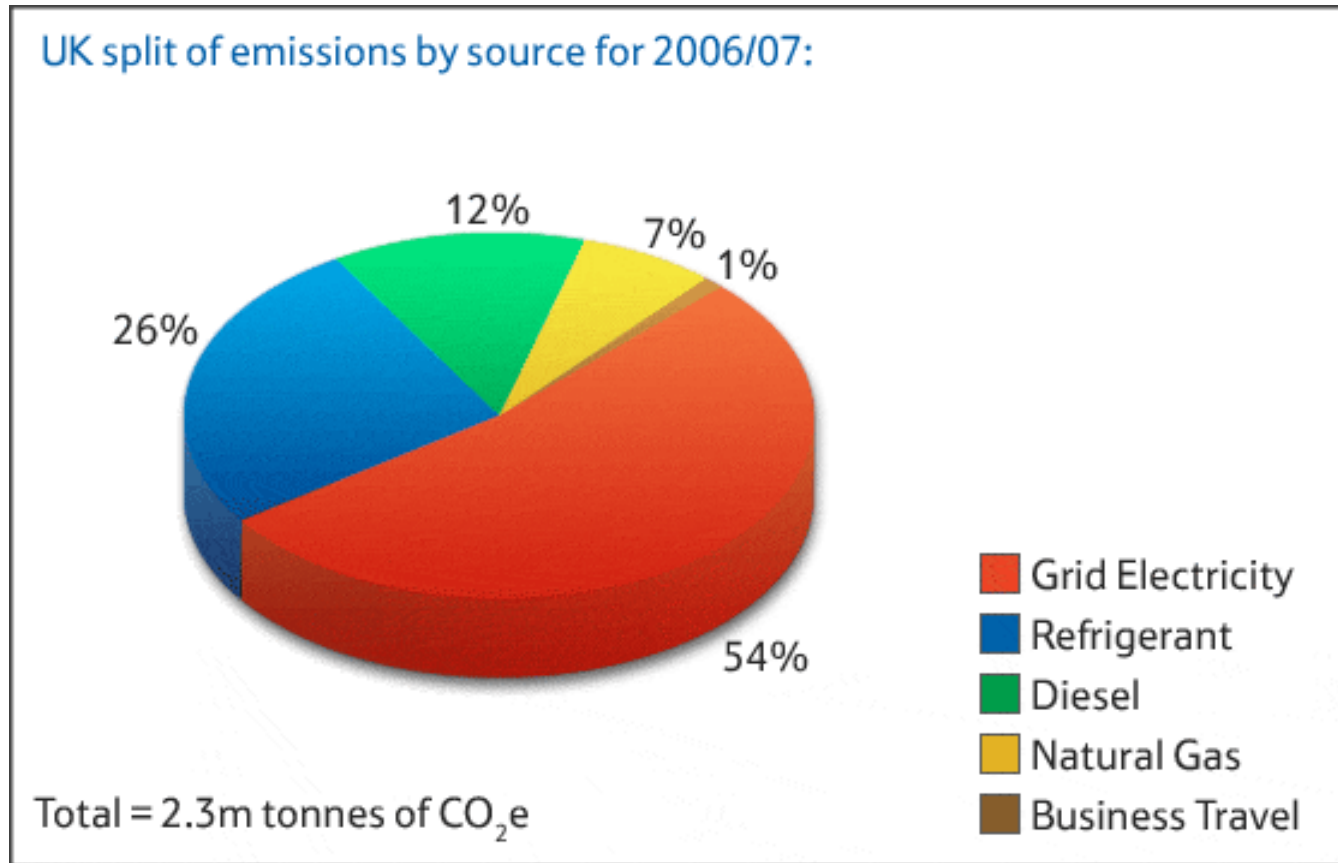
Supermarket Energy and Carbon

Board level interest in this area shown in respective corporate websites:

Tesco: MD's speech of January 2007

- Halve energy use by 2010 (vs2000)
- £100M renewables fund
- Improve transport efficiency and biofuels
- Efficient lighting

Tesco UK Emissions (tesco.com)



Sainsbury's (website sainsburys.co.uk)

Trialling CO2

20% drop over decade

Reduced packaging in Easter eggs by 40%

Recycled 100M plastic bags

Electric vehicles

90% of electricity use by group

in supermarkets, c50% in refrigeration.

Conclusions

- The big four have 5 700 000m², of space, 75% of market.
- Pro-rata for Tesco, this emits 6Mt CO₂ equivalent, 1 t/m²
- Half of electricity is used for cooling
- No consistent recording of store data
- No strategic concentration on the critical path