

SUSTAINABILITY IN SUPERMARKETS:

OPPORTUNITIES AND CHALLENGES



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Format Today

- What we are doing at Tesco
 - Our commitments and strategy
 - Our footprint and minimising our impact
 - Our key technologies and measures
- Environmental Format Stores
- Store Case Study
- Looking after the estate: technologies
 - Refrigeration
 - Biofuel Combined Heat Power

Our Commitment

“Climate change remains the major strategic challenge of our age. I fundamentally believe that business has a crucial role to play in tackling climate change, setting an example, guiding consumers towards more sustainable forms of consumption, making them affordable and providing the information on which to make informed green choices.”

Sir Terry Leahy, CEO, May 2009



What the commitment means

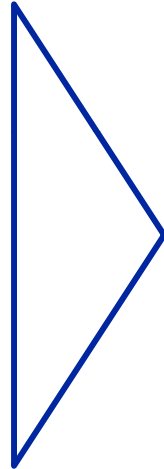


Our 3-Part Climate Change Strategy

Work with suppliers
& partners

Lead by example:
Reduce our direct footprint

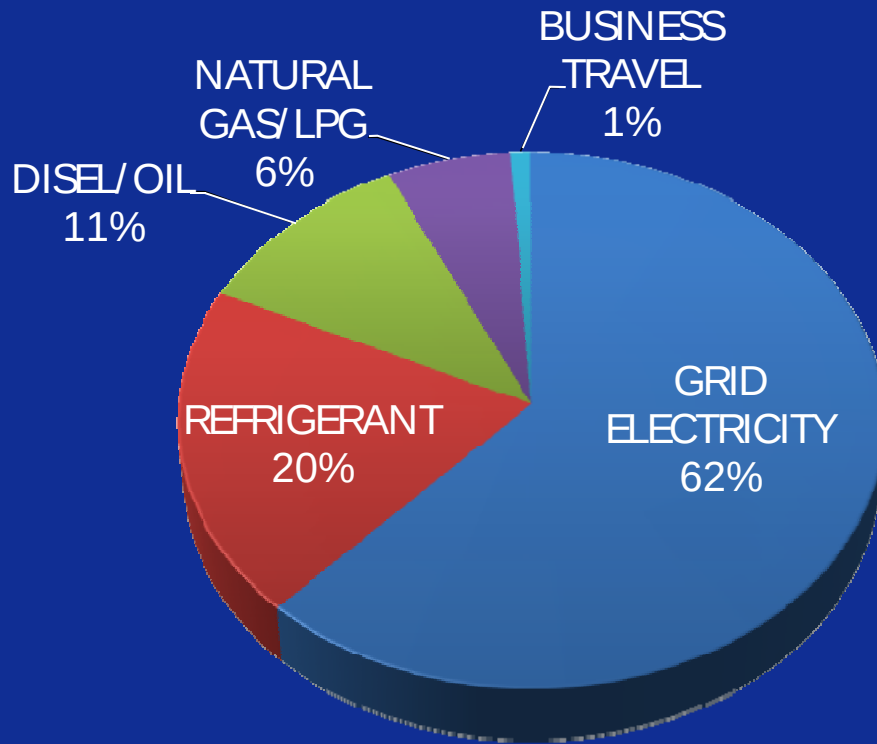
Lead a revolution in
green consumption:
Empower our customers



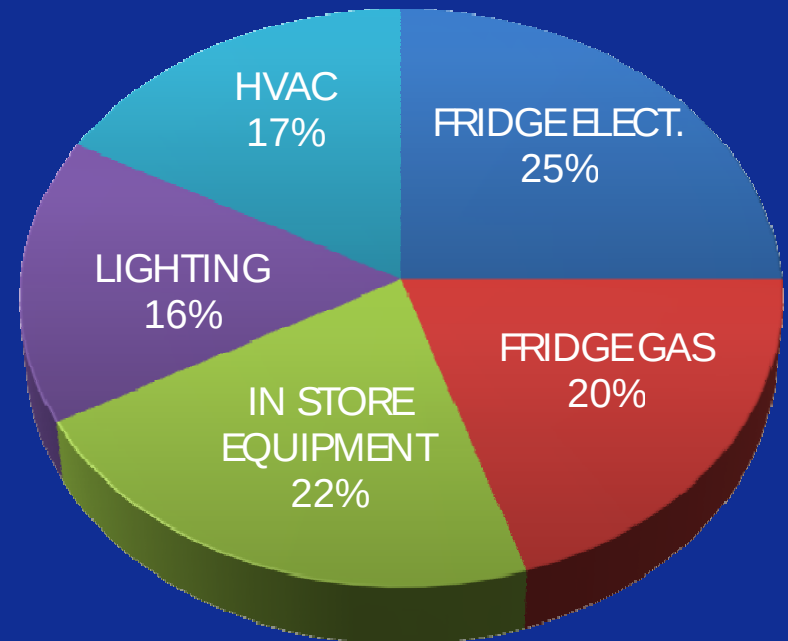
Commitment:

- Reduce CO₂ emissions from existing buildings by at least 50% by 2020
- Reduce CO₂ emissions from new buildings by 50% by 2020
- Cut emissions per case of goods delivered by 50% by 2012
- Target to recycle 80% of store waste by 2010 – achieved early:
all UK store waste is now diverted from landfill

Group Emissions - Measured Footprint



Typical Store Emissions



Our footprint

Looking after the estate

Who looks after the estate?

Engineering Maintenance Services

- ❑ Established in January 2007
- ❑ Previously outsourced service
- ❑ 1 000 staff, countrywide coverage
- ❑ Maintain nearly 32 million square feet of Tesco estate
- ❑ 700 football pitches, 1 900 stores
- ❑ Maintain 80,000+ refrigerated cases
- ❑ Maintain 1 80,000+ pieces of HVAC equipment

ENVIRONMENTAL FORMAT STORES

Our journey and a case study

Our journey



2006



2008

December 2005
1st
environmental
store opens in
Diss

April 2006
2nd environmental
store opens in
Swansea

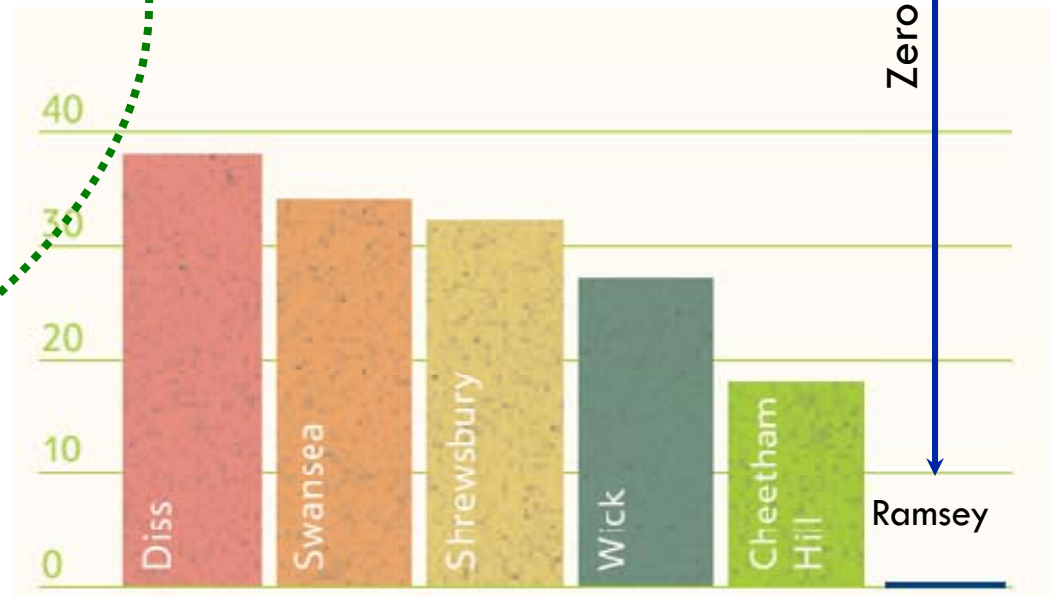
November
2006 3rd
environmental
store opens in
Wick

April 2007
4th
environmental
store opens in
Shrewsbury

June 2008
Green Express
store in Hinckley
opens

January 2009
Cheetham Hill
opens

Nov/December
2009
Ramsey
Scheduled!



A global approach

Hungary



Korea



Thailand



Slovakia



Turkey



USA



Case Study

Cheetham Hill, Manchester

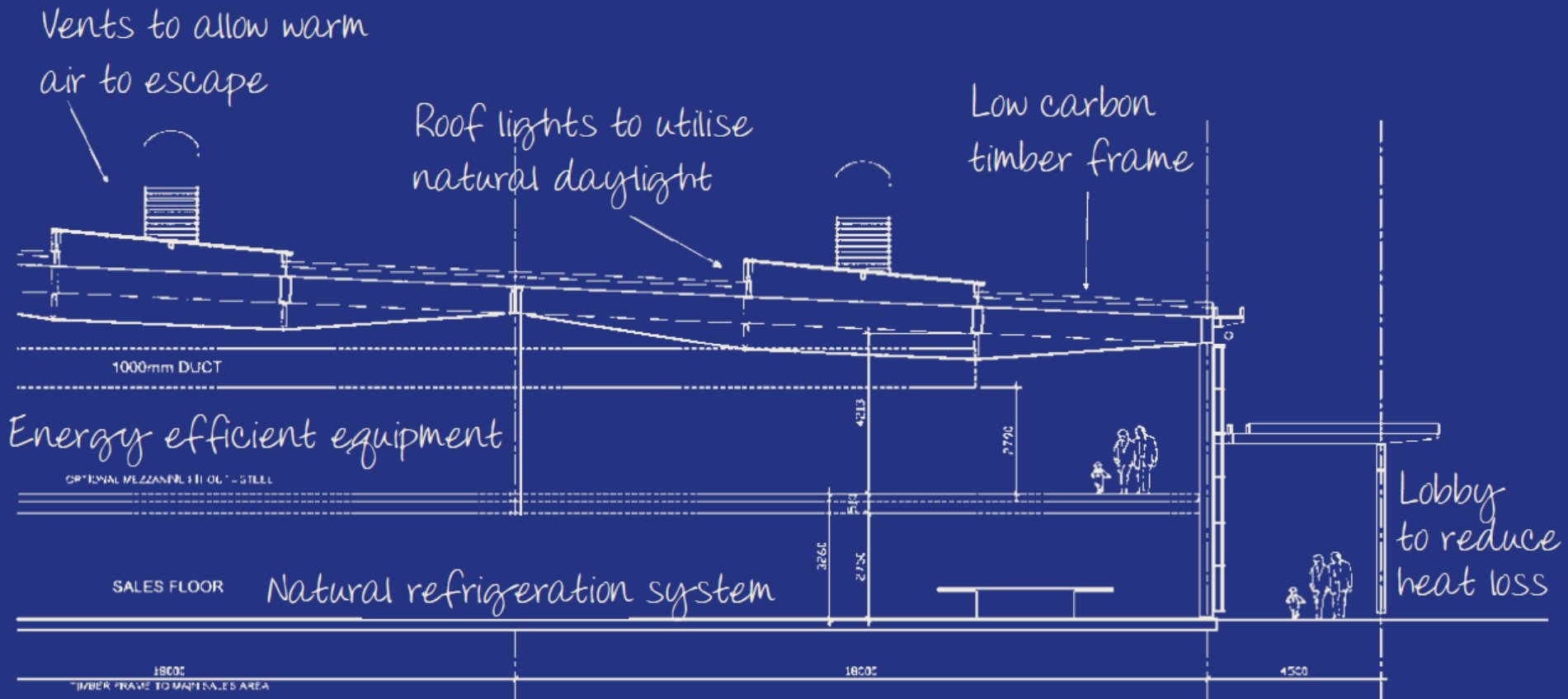


Cheetham Hill

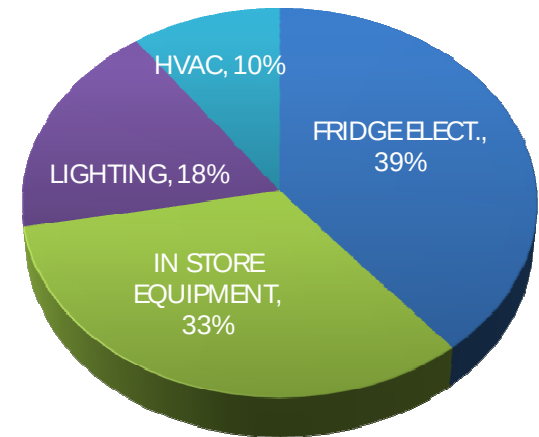
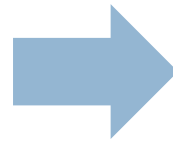
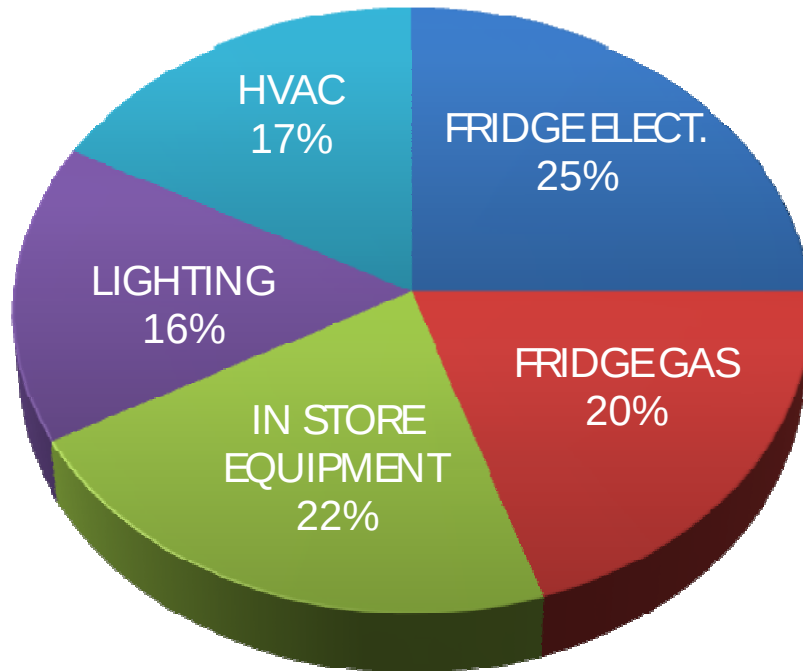
- ❑ Carbon footprint 70% smaller
- ❑ Energy bills 48% lower
- ❑ Elements can be incorporated in all stores



Reducing the footprint...

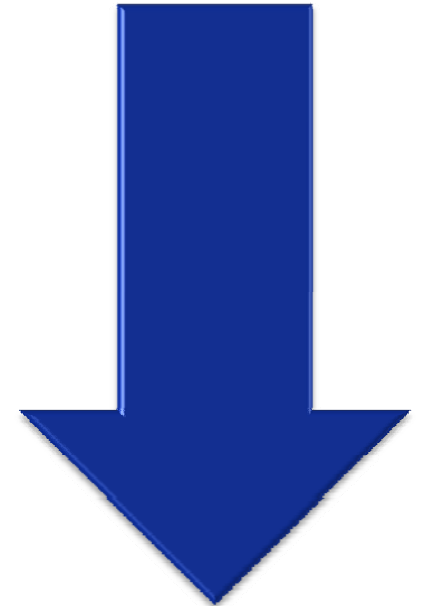
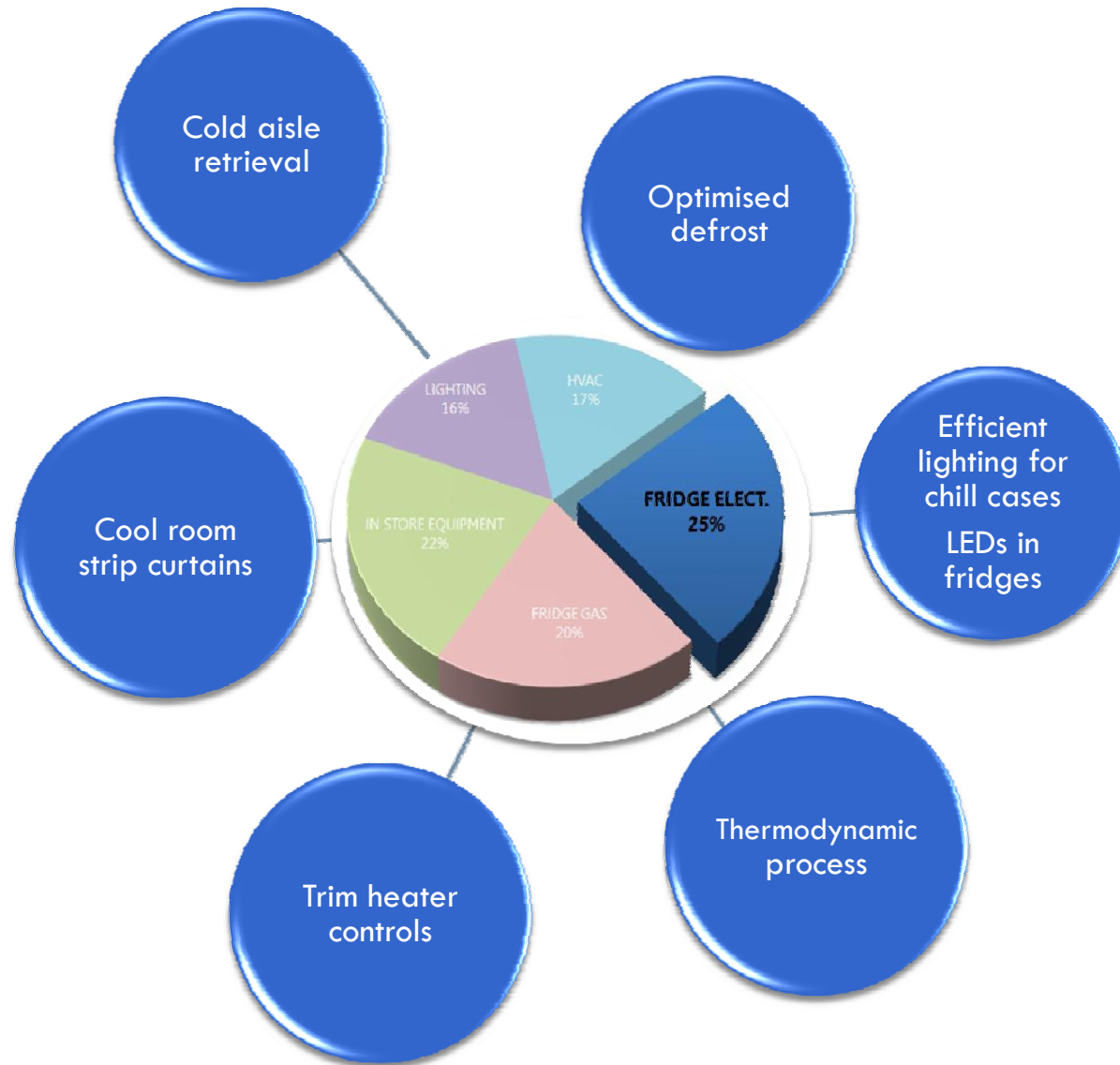


Reducing the footprint...



Up to
70%
reduction

Reducing the footprint...



Up to

58%

reduction



Desserts

Detergents
Cat Food
Dog Food

3

Batteries

Ice Cream Tubs

Ice Lollies

Ice Lollies

Ice Lollies

Ice Lollies

Ice Lollies

Ice Lollies

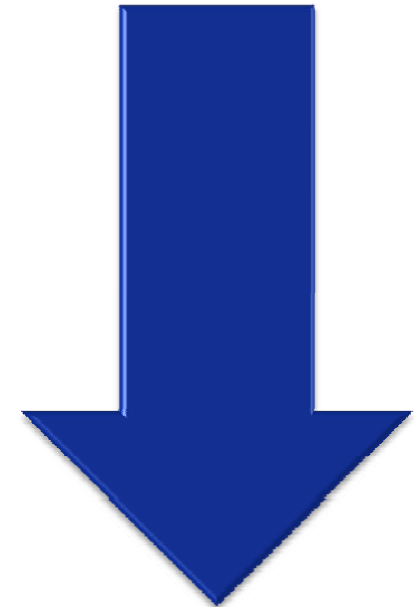
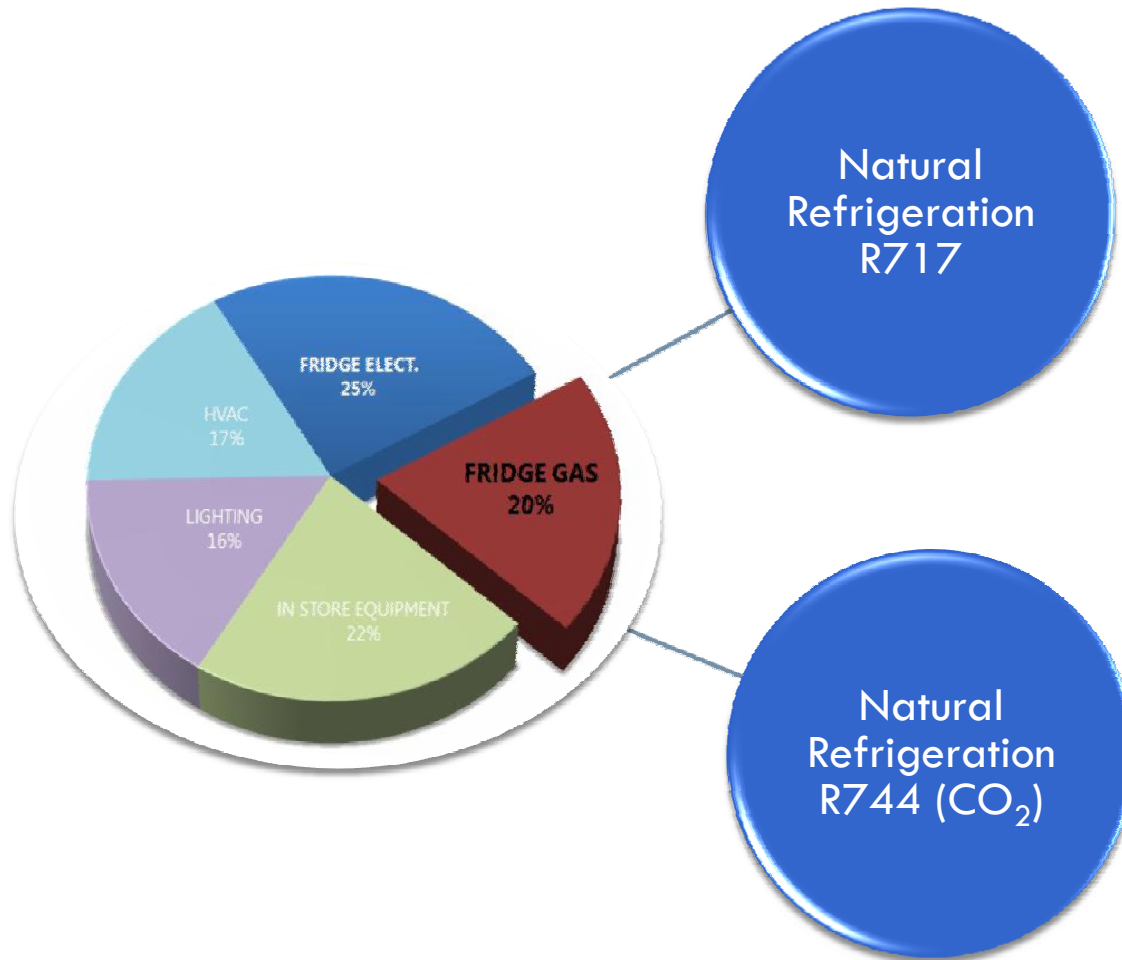
Ice Lollies

Ice Lollies

Ice Lollies

Ice Lollies

Reducing the footprint...



100%
reduction



TESCO

L.T TEST RIG

TESCO

L.T TEST RIG

STAR

STAR

"We will ensure that all new stores we build between now and 2020 emit on average at least 50% less carbon than an equivalent store in 2006."
Sir Terry Leahy 2007



largest benefit).

Rainwater is used to flush the toilets in the



The diagram on the left illustrates a cross-section of a paper-based packaging structure. It consists of a top layer labeled 'Paper board fluting', a middle layer labeled 'Thickened pulp (made from recycled paper)', and a bottom layer labeled 'Paper board fluting'. A note at the bottom states 'A finished side wall reinforcement'.

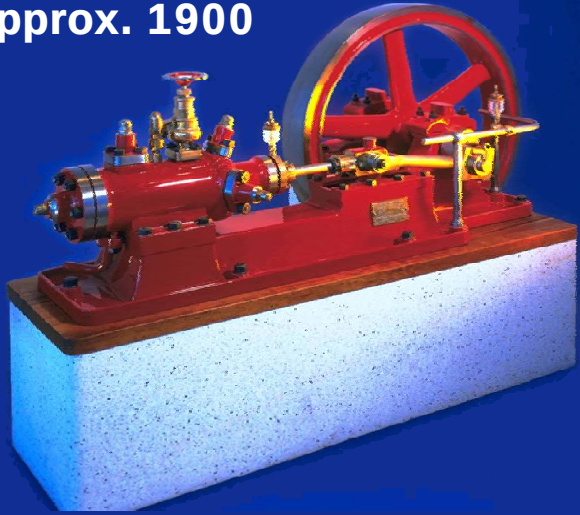
The photograph on the right shows a product box for 'Kitchen Towels, Washing Powders, Fabric Conditioners'. The box is white with a large red number '4' on the side. The background of the photograph is a blue sky with clouds.

Community plan signage focuses on the environment, community, local services and values.

Refrigeration

Natural refrigeration – what is it?

CO₂ Compressor
Approx. 1900

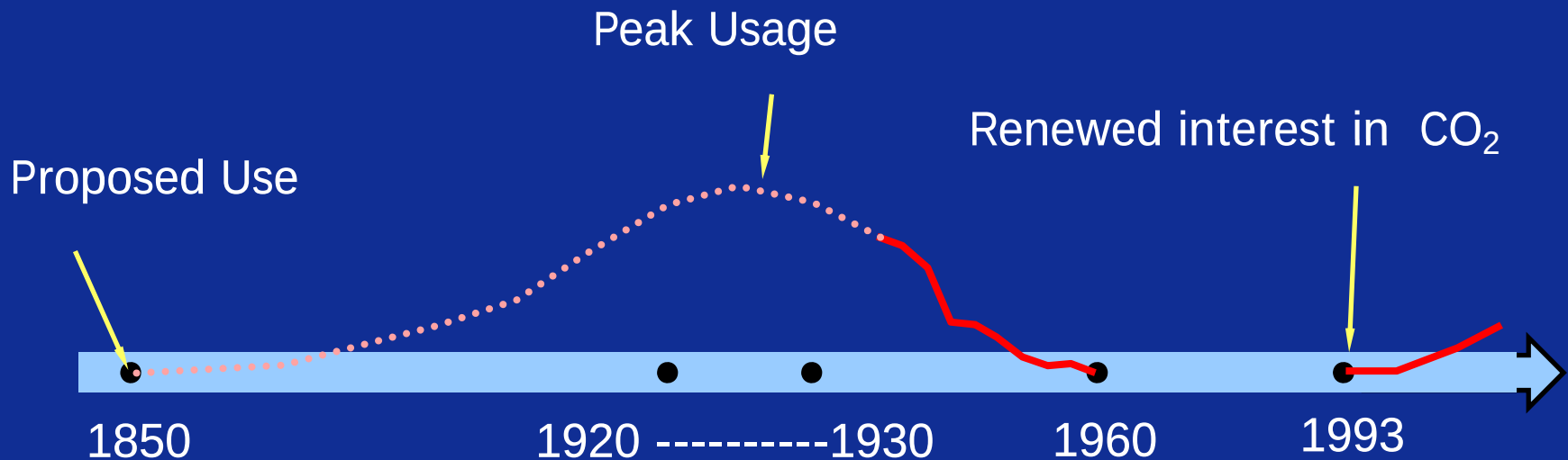


CO₂ Refrigeration (R744):

- Ozone Depletion potential = 0
- Global warming potential = 1

Ammonia (R717):

- Ozone Depletion potential = 0
- Global warming potential = 0



The natural refrigerant journey so far

- Pilot system to store install
- A national first.....
- All distribution centres – R717 (Ammonia)
 - ▣ ZERO ozone depletion, ZERO global warming potential
- Store installs – R744 (CO₂)
 - ZERO ozone depletion, ONE global warming potential
 - ▣ Hinckley
 - ▣ Swansea
 - ▣ Shrewsbury
 - ▣ Wick
 - ▣ Dumfries
 - ▣ Cheetham Hill
 - ▣ Thailand
 - ▣ Korea
 - ▣ Hungary
 - ▣ Turkey – planned trials
 - ▣ USA – planned trials

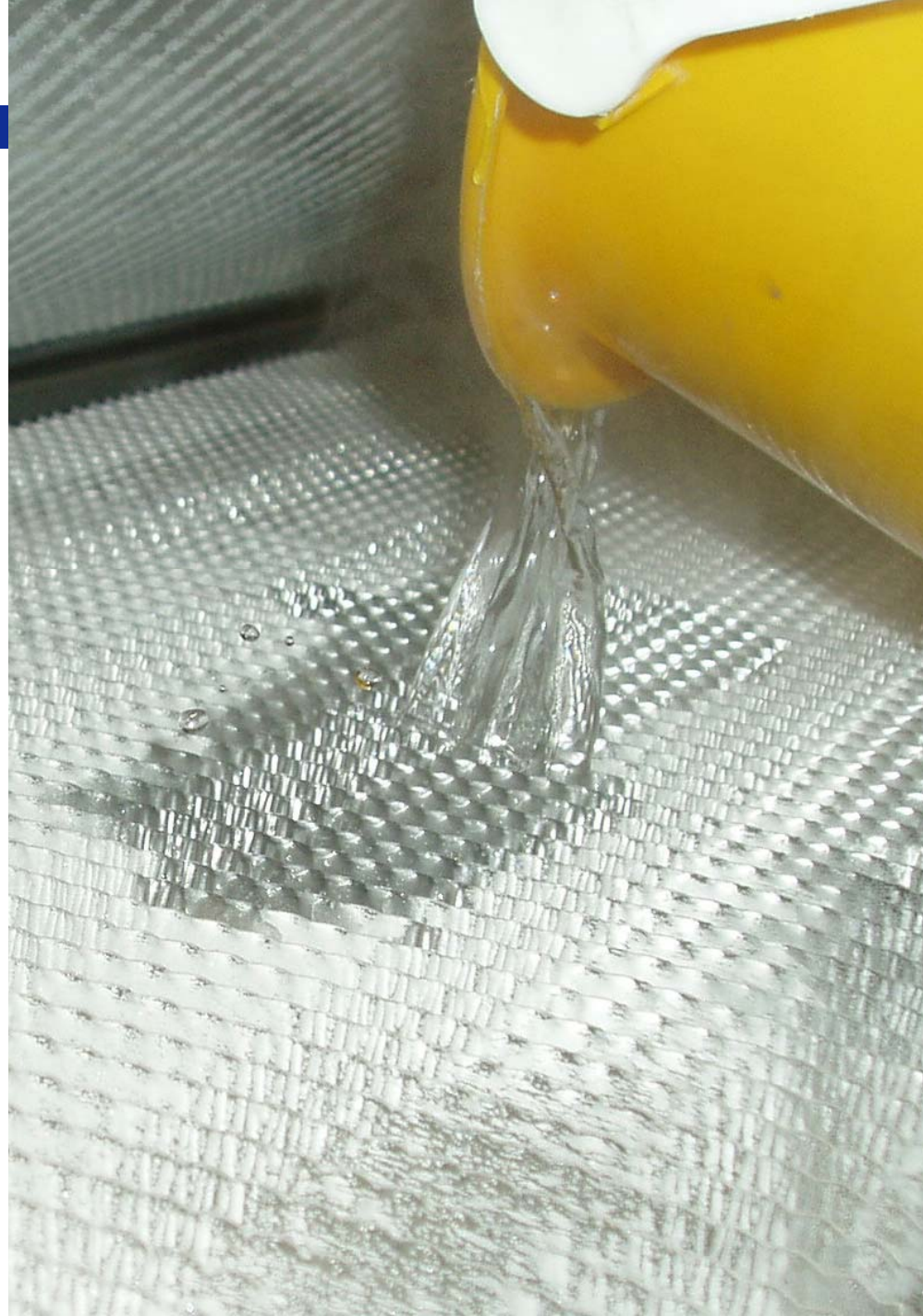
A look at refrigeration

Makes life easier.....

- Regulation free!
 - ▣ No F-gas
- Longer life lighting
 - ▣ Less call outs
- Condensation
 - ▣ Optimised with HVAC
- CO₂ is non toxic
 - ▣ Environmentally benign
- Case cleaning is possible
- Energy efficient
 - ▣ Better budgets management

A bit of a challenge

- Cost
- Support framework
- Like for like replacements
 - ▣ E.g. freezer lights, fan motors
- Doors on cases
 - ▣ loss of aisles, productivity in maintenance
- CO₂ has higher operating pressure
- Training
 - ▣ recognised scheme for designers, installers and service mechanics



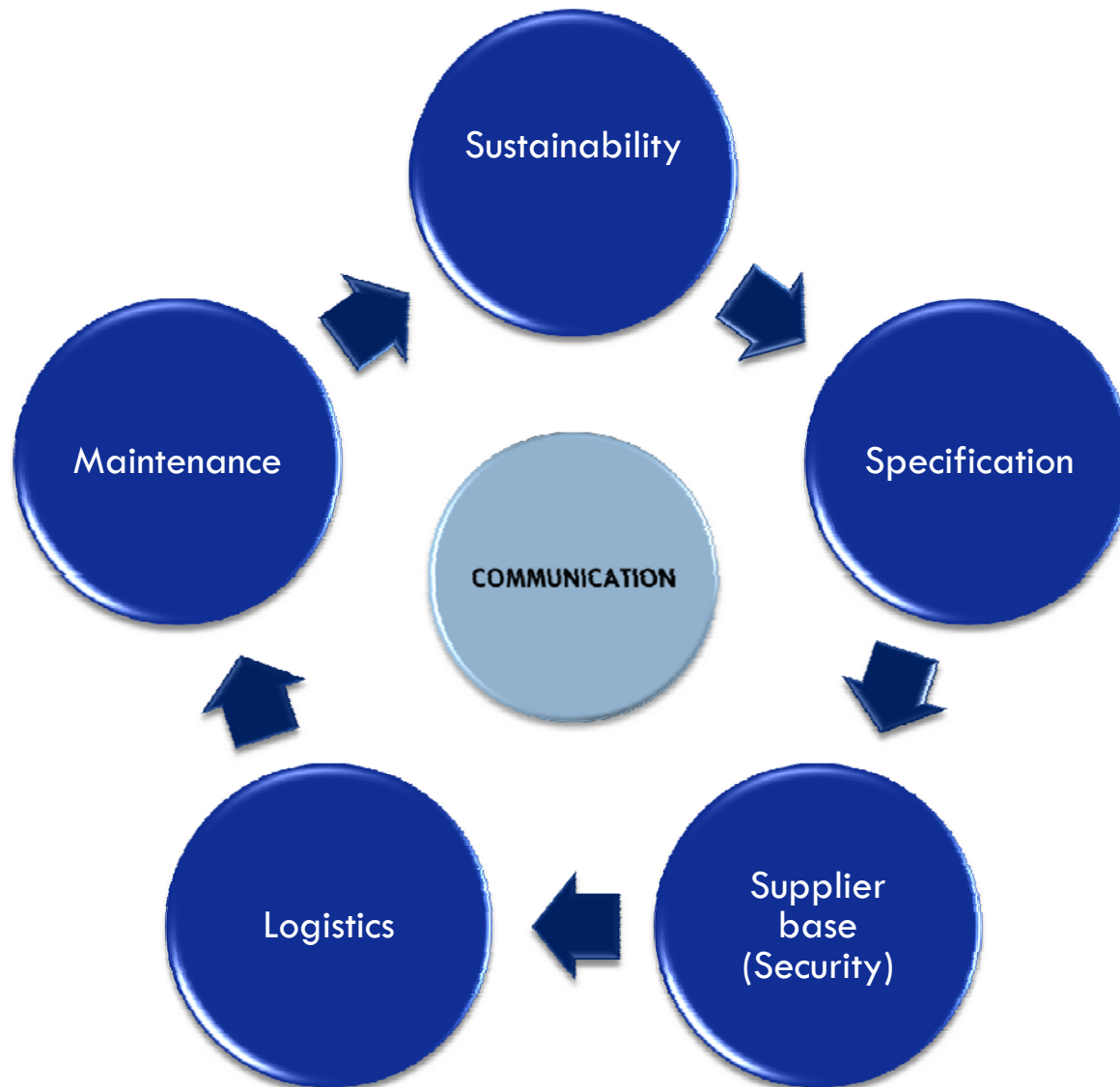
Renewable technology

A case study

Biofuel CHP



Key issues



Key issues

- Specification
 - ▣ Fuel specification and testing
 - ▣ Ofgem approval – Renewable Obligations Certification (ROC accreditation)
 - ▣ ROC accreditation is case by case
- Supplier base
- Different suppliers = accreditation each time
- Sustainability
 - ▣ True footprint of fuel
 - ▣ Consistent with WWF
 - ▣ EU rules on suitable biofuels, Articles 17, 18
- Logistics
 - ▣ Remote sites
- Security of supply
- Maintenance
 - ▣ Bacteria can thrive
 - ▣ Rigorous maintenance programme

A look at biofuel/biodiesel

Makes life easier.....

- Great CO₂ reductions
- Planning dialogue

A bit of a challenge

- Few suppliers that can respond to need
- Risk to installations
- 'Cold-start' requirements = nightmare for estate managers
- Link to other systems and backup is crucial
- ROC accreditation is a challenge for estate managers

What next

- Store blueprint – Ramsey
- Refrigeration – Copenhagen?
- Renewables
 - ▣ Merton Rule
 - ▣ Centralised Planning Framework?
 - ▣ Government support

Good design & planning = Robust estate

