

CRC Energy Efficiency Scheme: Strategy for Survival!



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Surviving the CRC

- The recycle payment
- Understanding carbon pricing
- Deciding how much to buy at auction
- Forecasting
- Reduction planning

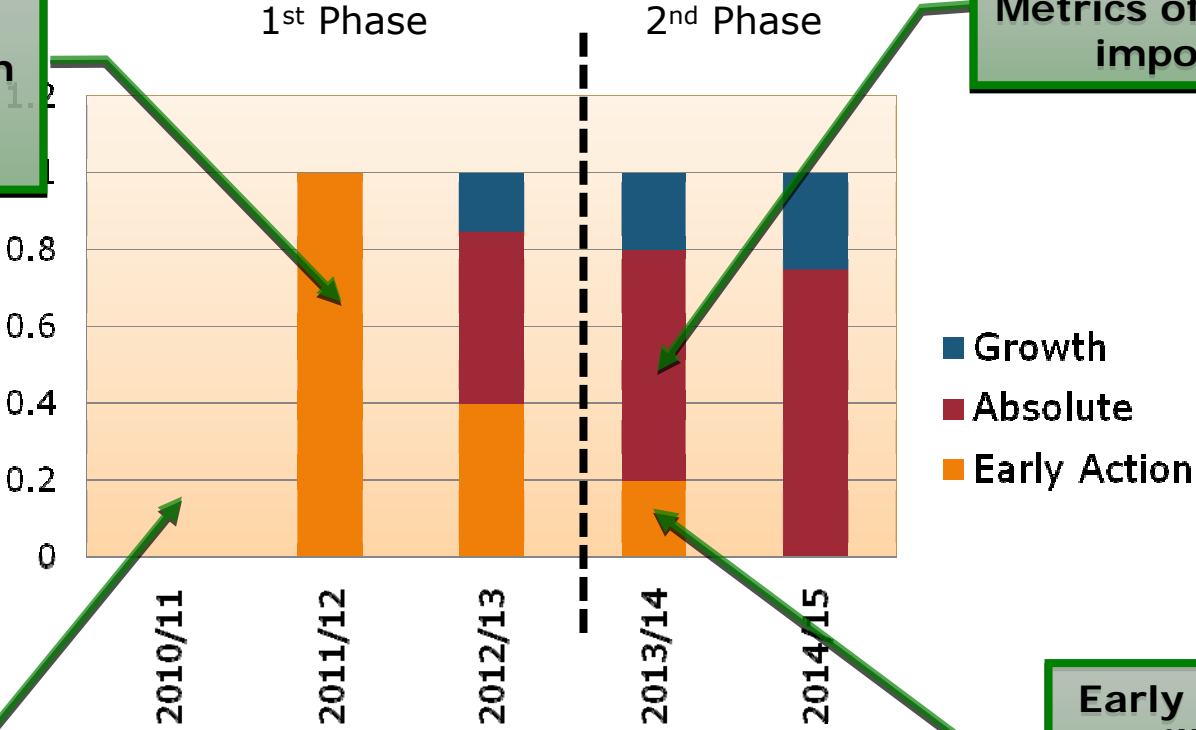
Calculating Recycle Payment

- Recycle payment based on:
 - Total cost of allowances purchased by all participants in that year
 - Position in League Table
 - Ratio of the organisations emissions in 2010/11 to total emissions by all participants in 2010/11
- The recycle payment is not related to the number of allowances that you buy
- If you reduce your consumption you will get a recycle based on your original consumption level giving you an additional £12/tonne of CO₂ saved or more.

Recycle Payments: League Table

2011/12
recycle
dependant on
early action
metrics

Absolute and Growth
Metrics of increasing
importance



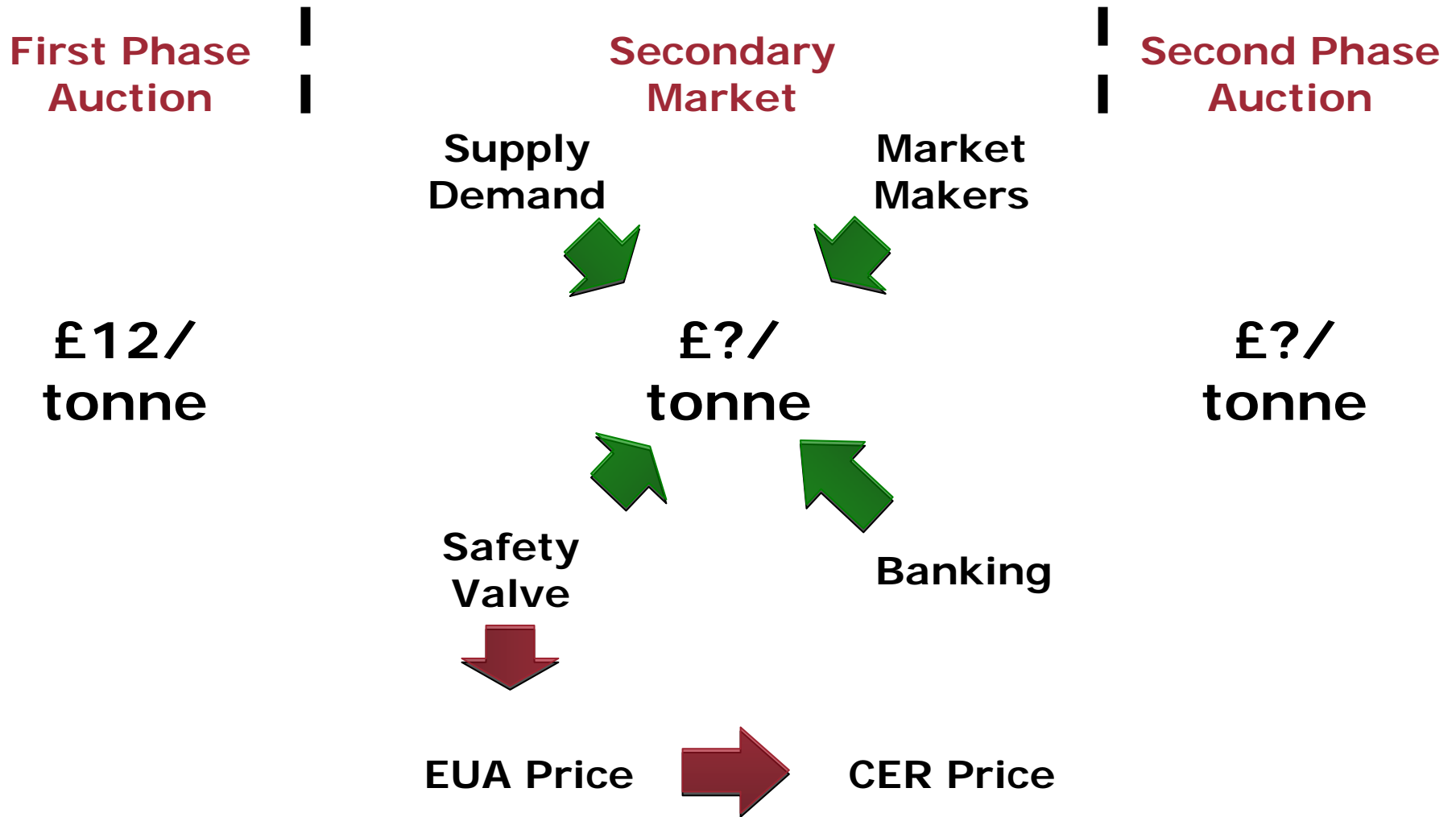
No Auction
in first
year

Early Action Metric
still influences
recycle in 2nd Phase

Early Action Metrics

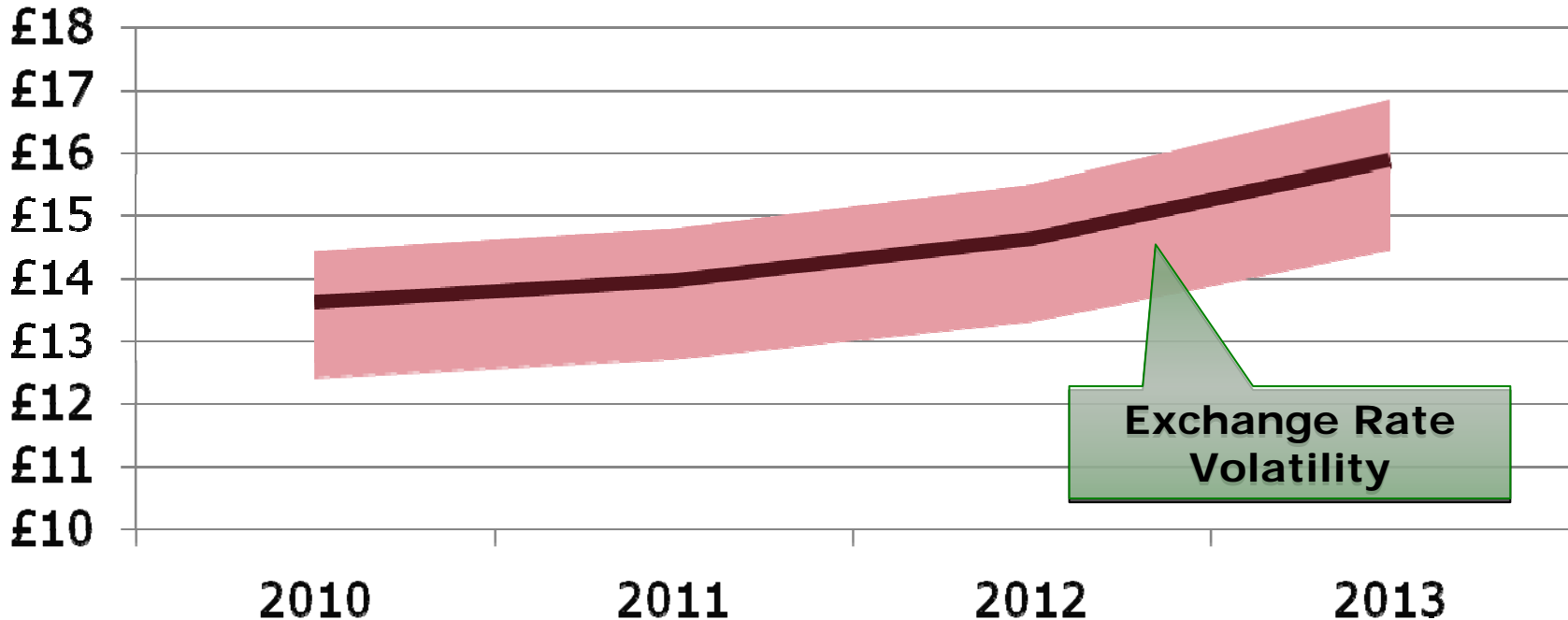
- AMR
 - Installation of automated meter readers on non half hourly read fiscal meters
 - Is based on consumption during year so if installed part way through the year will only receive part of the benefit
 - Demand is high so may take some time to implement
- Carbon Trust Standard
 - Demonstrate ongoing reduction in emissions and good carbon management practices
 - Needs to be in place by 31st March 2011 to obtain full early action metric benefit
 - Need to be prepared to achieve the standard

Influences



EU ETS Carbon

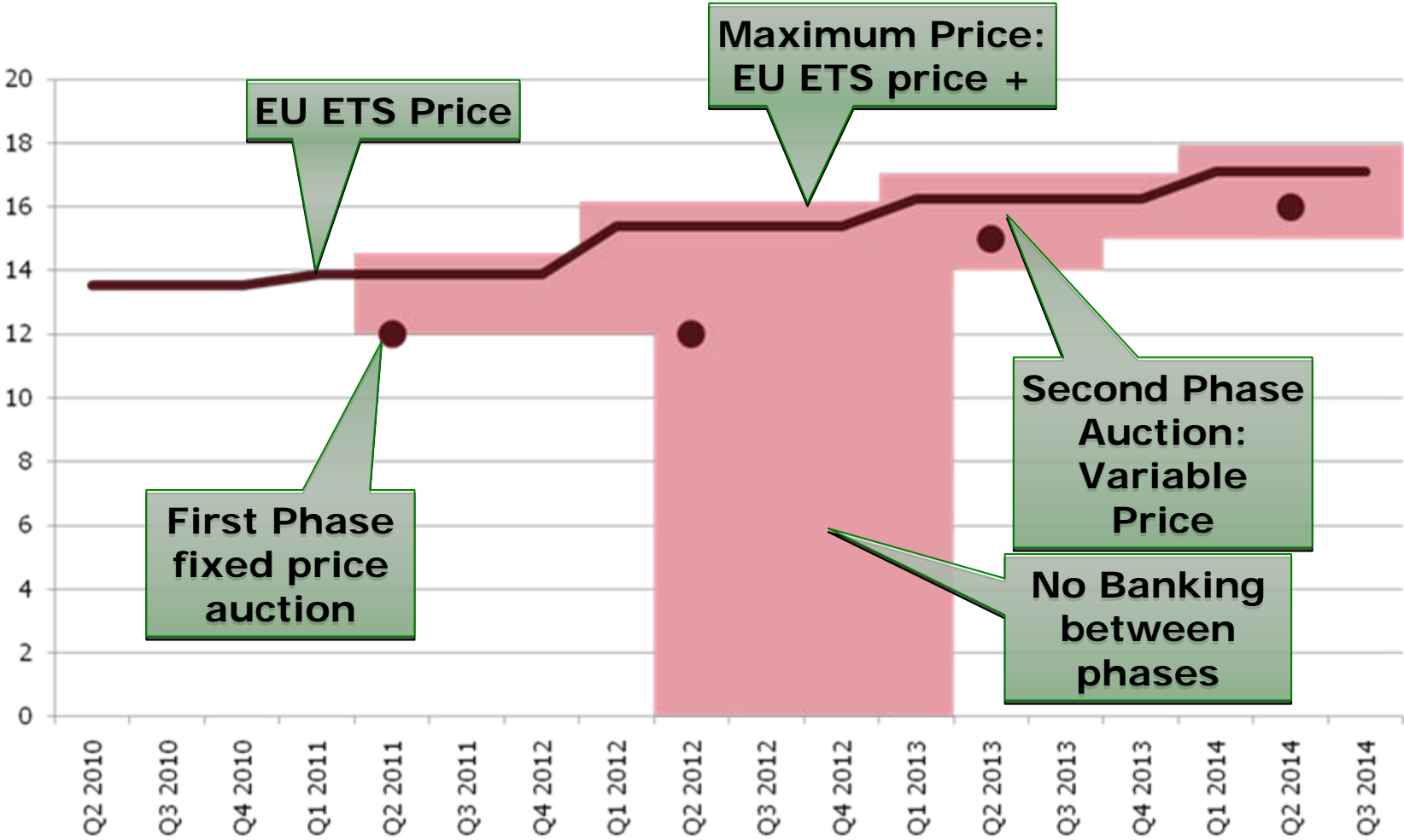
£/tonne CO2e



EU Projected carbon price for Phase 3 of EUETS €40/tonne

Source: EUA Prices from ECX as at 5th May 2010 converted at spot exchange rate

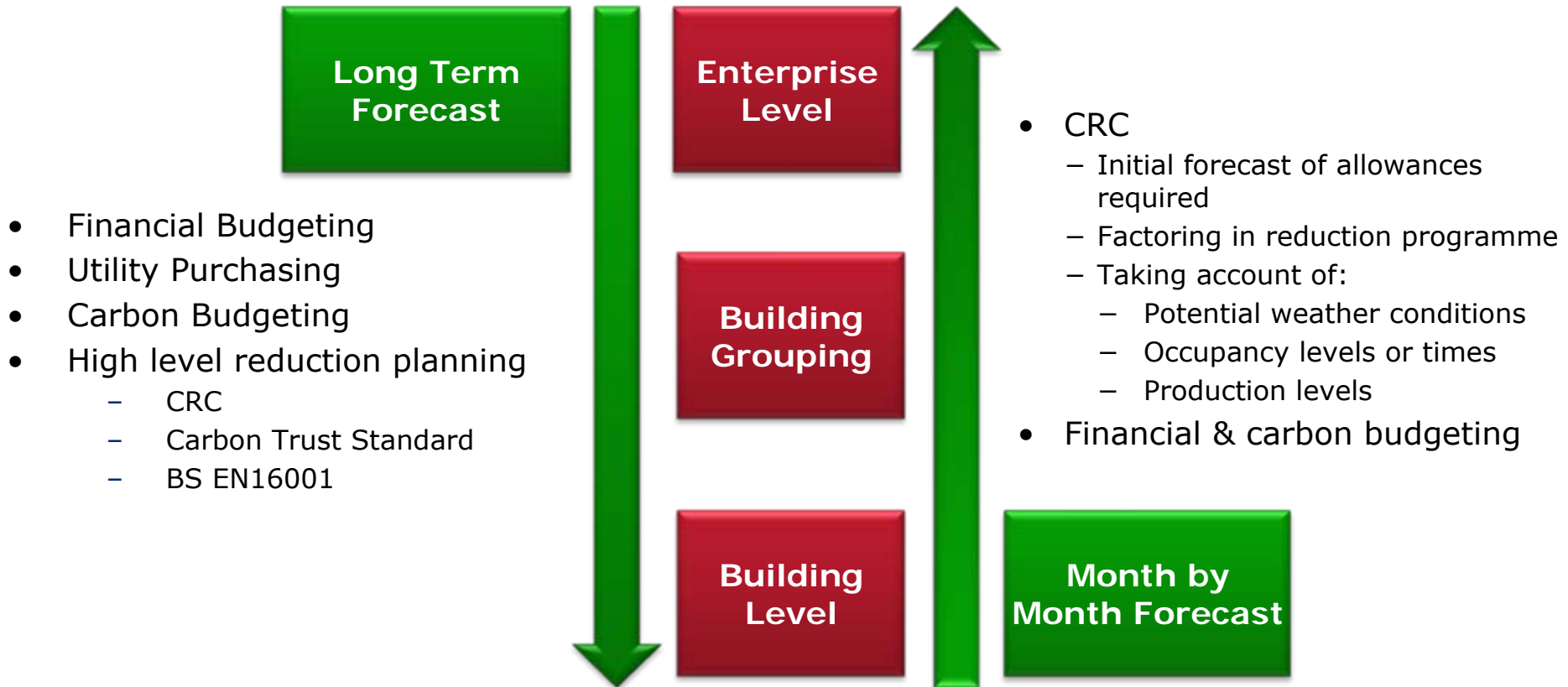
Secondary Market Pricing Scenario



How Much to Buy at Auction

- Forecast Demand: most likely, minimum and maximum
- Decide how much to buy:
 - Buy forecast amount at auction and balance portfolio on secondary market or:
 - Buy minimum likely required number of allowances at auction and leave remainder to secondary market
 - Buy maximum number of allowances at auction and bank any excess or sell them on the secondary market
- In 2nd scheme year (1st auction year) buying too many allowances is low risk as they can be banked for 3rd year – but beware working capital implications
- In 3rd scheme year buying minimum likely number of allowances is lowest risk as no banking is allowed and therefore price could fall drastically

Forecasting: Long Term vs Short Term

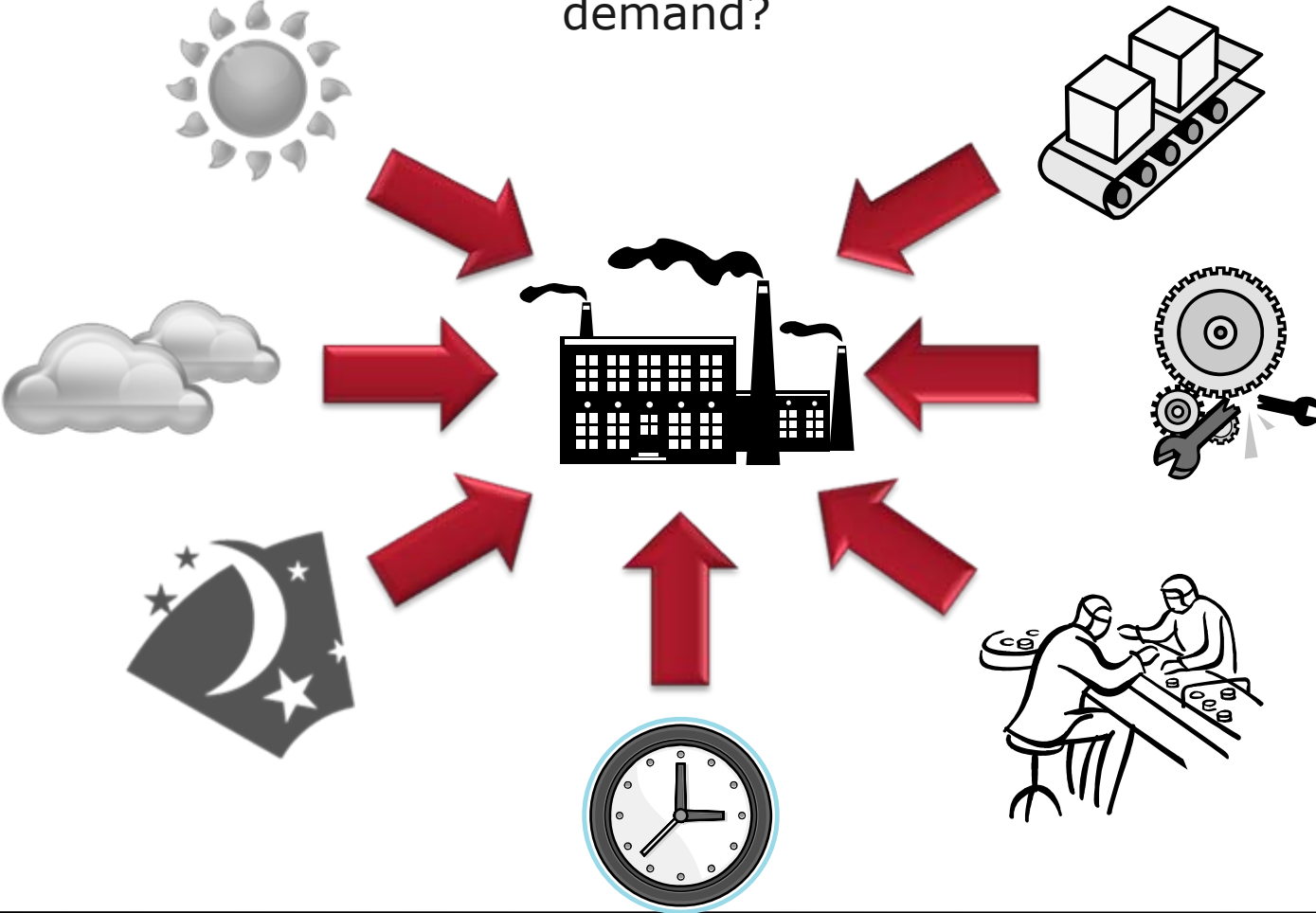


How to Forecast

- Starting from an accurate base
 - Metering and data recording
- Determining drivers
 - The factors that influence the energy demand of each building or site
- Determine building groupings
- Forecasting techniques
 - Analysis of the impact of the drivers on demand

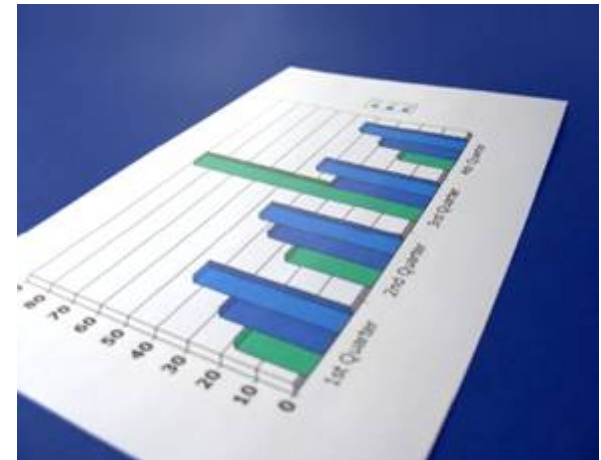
Forecasting: Drivers

What factors influence demand?



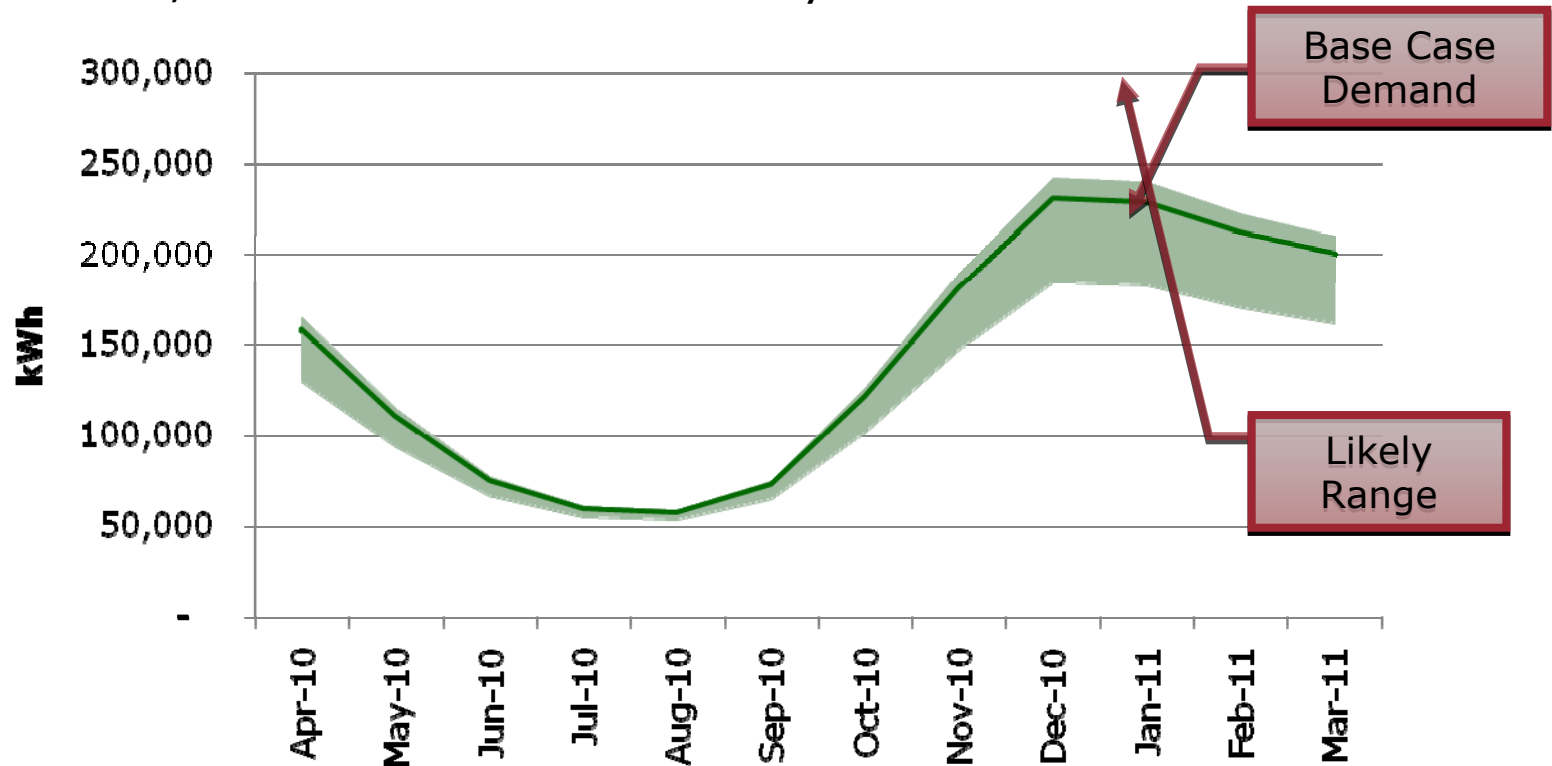
Forecasting: Techniques

- Historical and Trend Analysis
- Benchmarking by building use or type
- Normalisation using degree days and other factors
- Specific Energy Consumption i.e. kWh per m², kWh per occupant etc
- Regression Analysis – correlation factor analysis
- Cusum Analysis

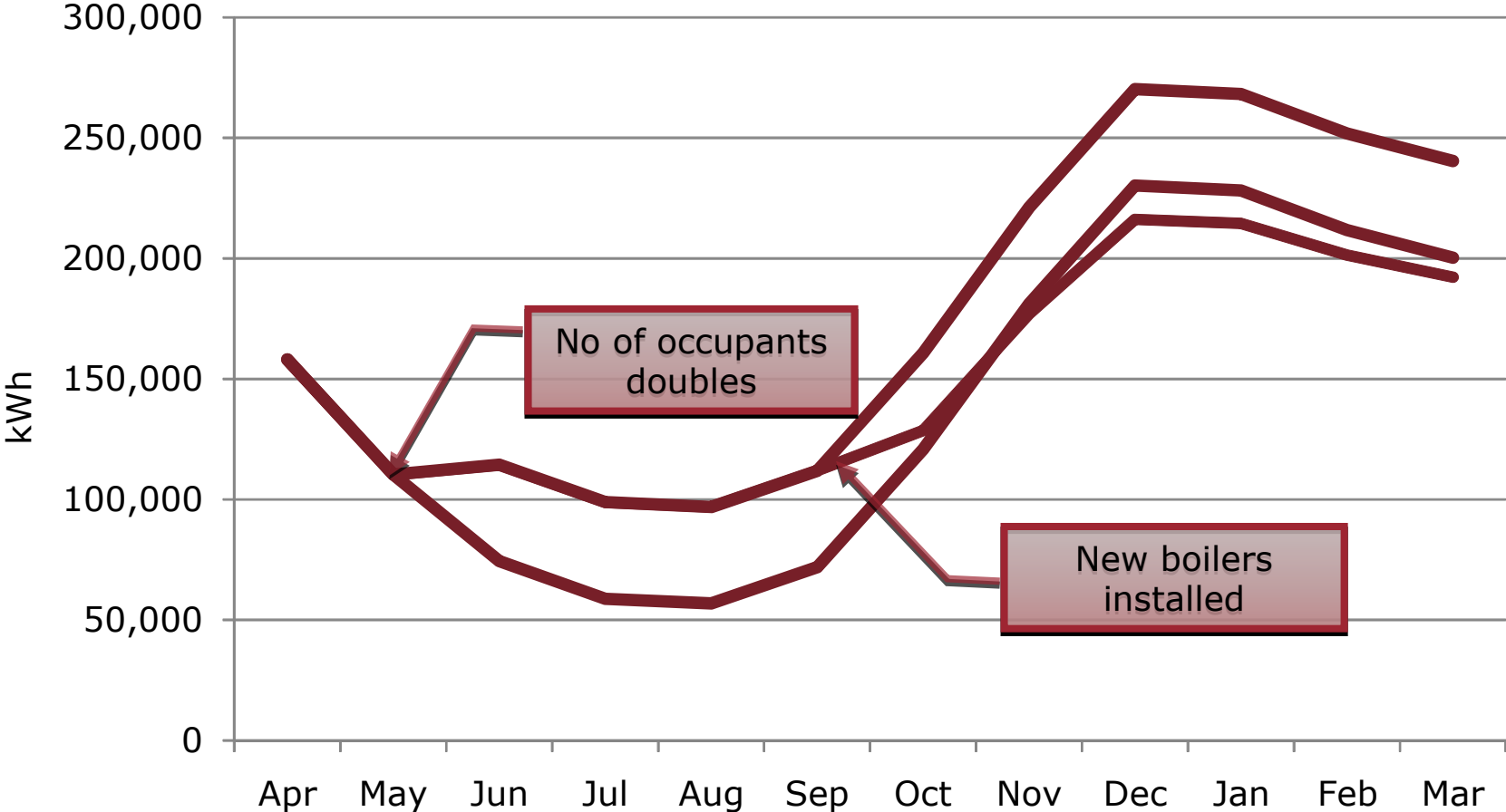


Creating Forecast Scenarios

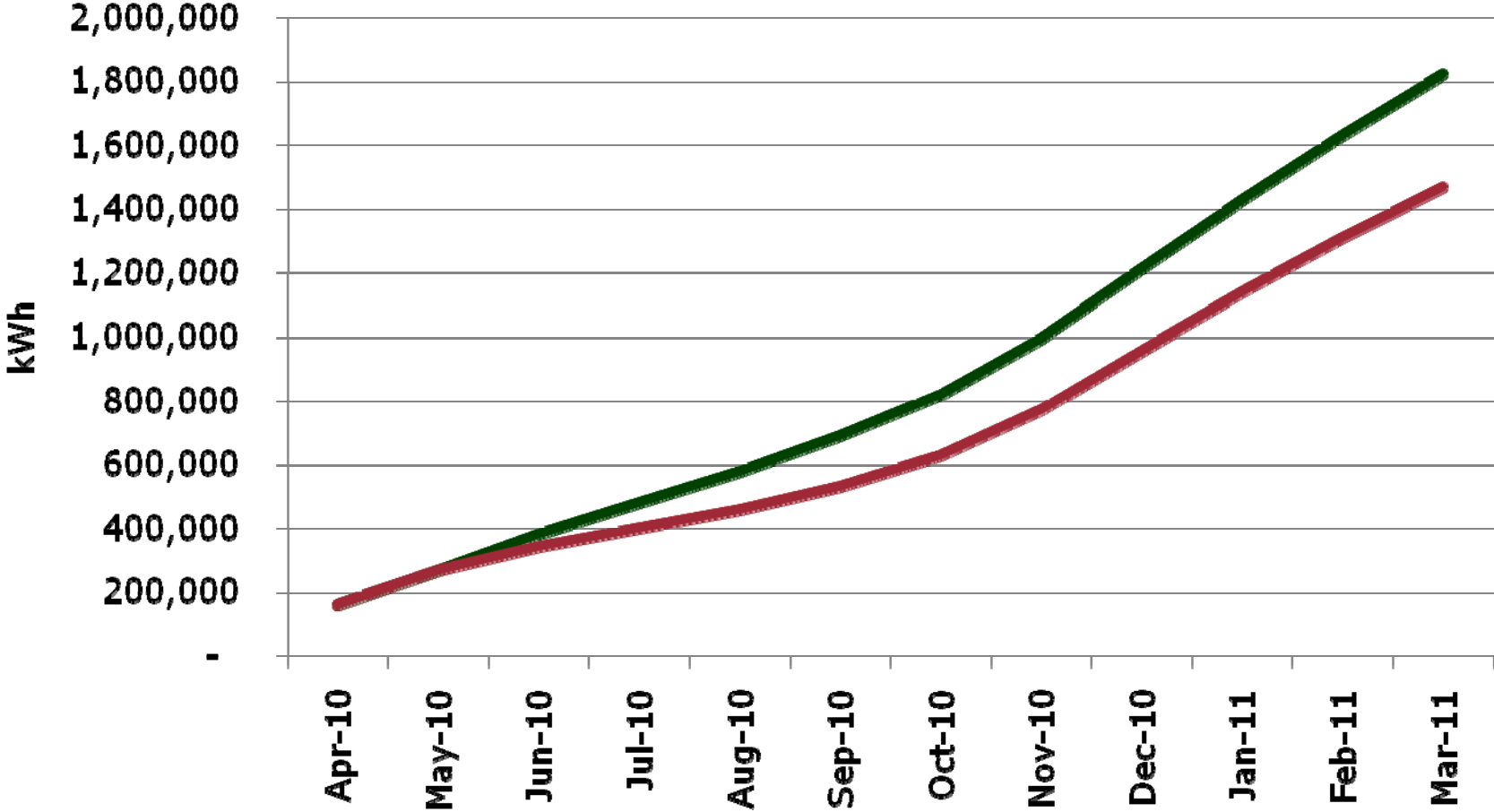
- Estimation of demand split by driver
- Minimum, maximum and most likely forecast for each driver



Forecasting: Factoring in Reductions



Forecasting: Monitor Cumulative Demand



Reduction Planning

- Put in place a carbon reduction plan that:
 - Demonstrates year on year savings
 - Is achievable
 - Has senior management buy in
 - Is properly budgeted for
- Remember that renewable electricity projects will not impact on carbon emissions
- Review projects after implementation to determine success
- Continuous improvement cycle



Project Prioritisation

- Use an operational energy rating or benchmarking for your buildings to highlight those with the most potential for reduction
- Prioritise buildings by level of consumption and rating
- Carried out detailed surveys in worst performing buildings
- When calculating savings factor in the potential cost of the carbon allowances
- Use marginal abatement cost analysis to prioritise your projects identified

Building	Rating
Head Office	C
Sales Office	B
Admin Office	G
Manufacturing Site 1	F
Manufacturing Site 2	D
Warehouse	E

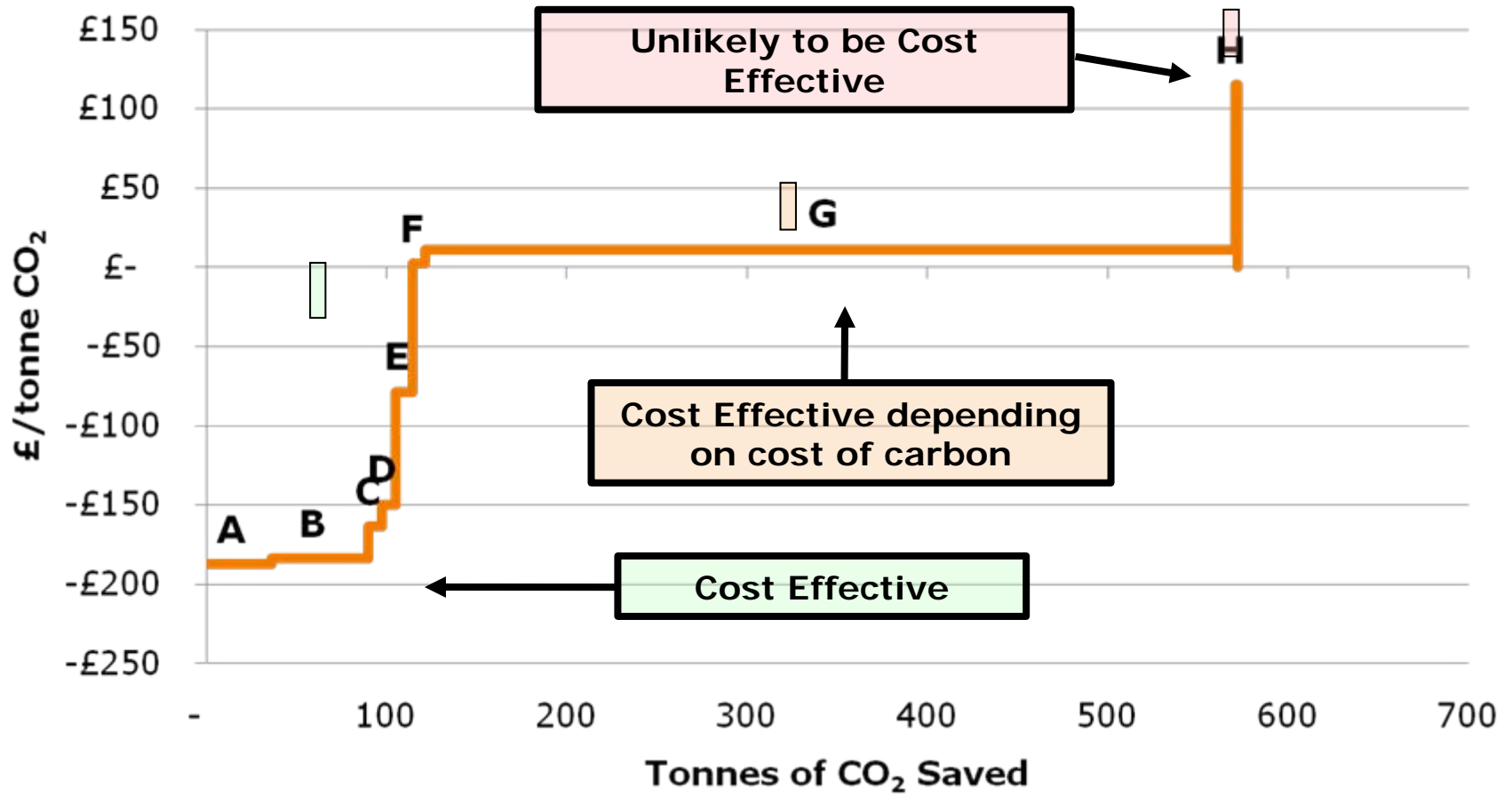
Marginal Abatement Costs

- Prioritisation of projects by carbon and cost saving
- Evaluates the amount of CO₂ saved as set against the cost per tonne of CO₂ saved
- Calculation is simple:
 - Work out the PV of potential projects by evaluating the cost savings over the life of the measure
 - Work out the PV of the carbon savings over the life of the measure
 - Divide one by the other to give the marginal abatement cost
- Where time and resource are limited target large energy consumers with poor performance first

Marginal Abatement Cost Calculation

Project	Description	NPV Savings	NPV CO ₂	£/tonne CO ₂
A	Energy Management and Awareness	-£ 16,730	89.4	-187.1
B	Metering, Monitoring and Targeting	-£ 60,859	331.5	-183.6
C	Heating Control Improvements	-£ 7,581	46.4	-163.5
D	Installation of new DHW system	-£ 8,813	58.9	-149.5
E	Variable Speed Drives	-£ 5,651	72.0	-78.4
F	Solar Gain Reduction	£ 142	53.6	2.6
G	Biomass	£ 38,801	3,416.8	1.4
H	Solar Thermal	£ 1,039	9.0	115.2

Marginal Abatement Curve



Minimising Risk

- Understand your demand
- Put in place a reduction plan that delivers year on year savings
- If the plan is successfully implemented this should put your organisation in the top half of the league table
- Most importantly reducing energy usage will save you money on your energy purchases – this is likely to be significantly more than any money you make from the CRC scheme

Further Information

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