

Helping Business to Reduce Energy Costs and Improve Profitability

Brian Scannell MSc Eng

SEAI Energy Advisor

- Energy Management
- Key Strategies
- Understanding your Energy Bills
- SEAI Services

Energy Management

Drivers for Energy Management

- Competitiveness
- Environment
- Security of Supply

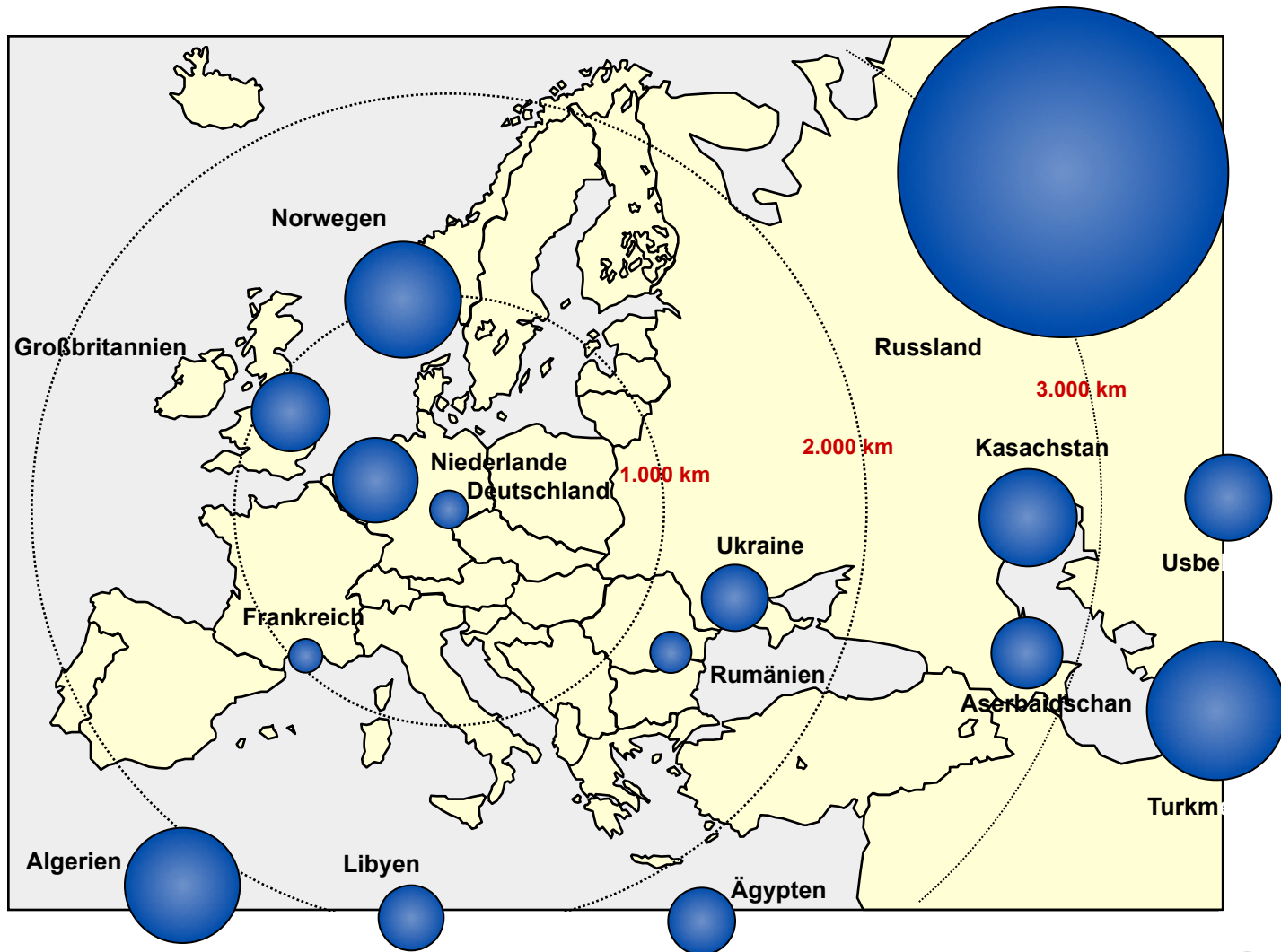
Irish Targets (2020):

40% renewable electricity

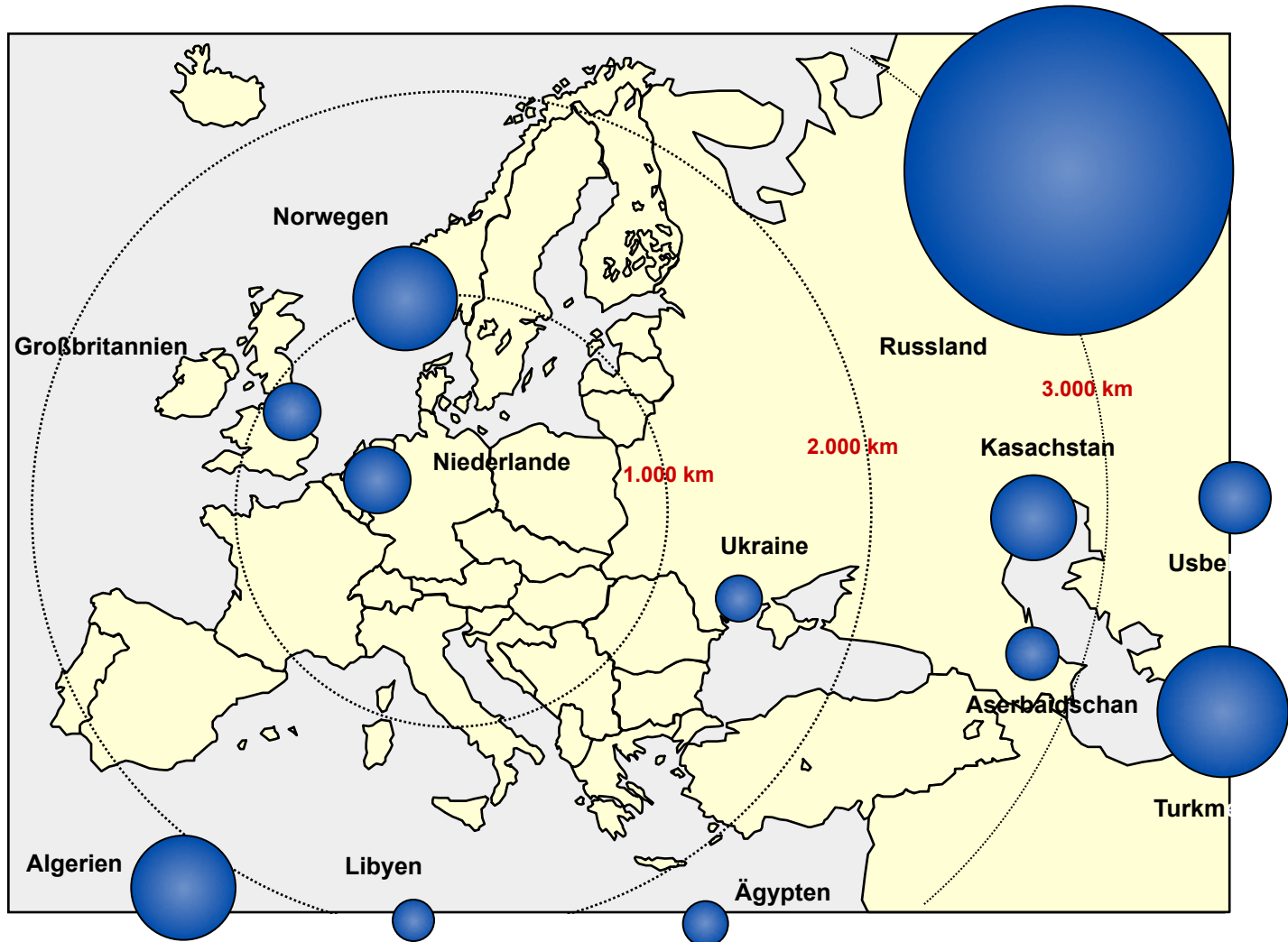
20% GHG reduction

20% energy efficiency (33% in public sector)

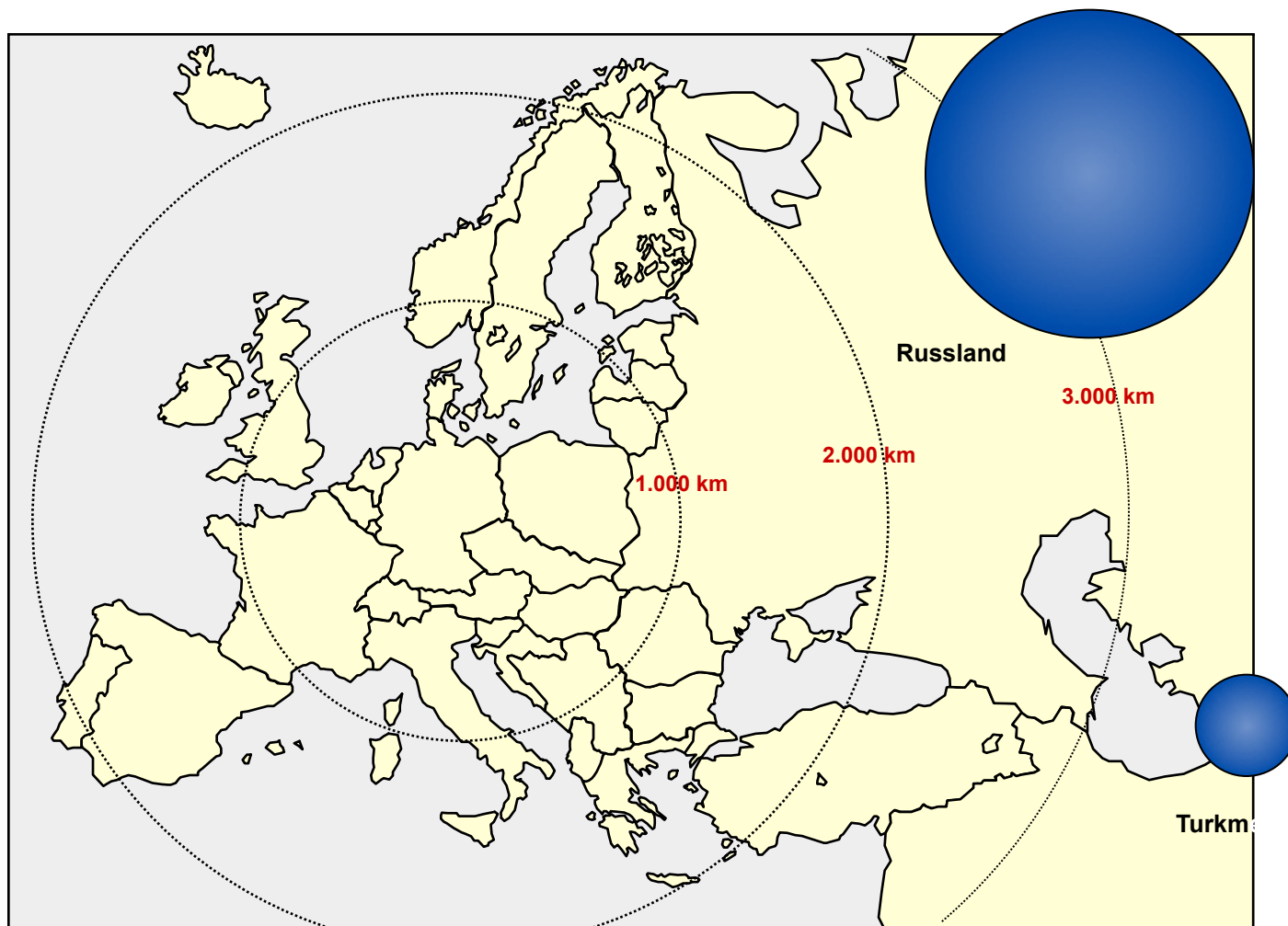
1999



2010



2030

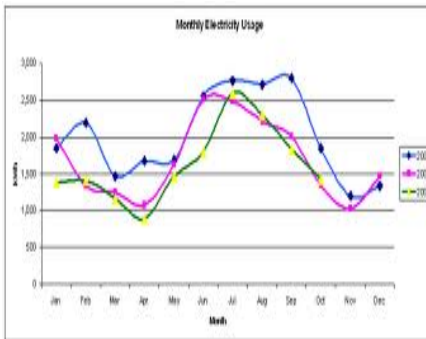


Business Case for Energy Management

Retail Example: €100,000 p/a

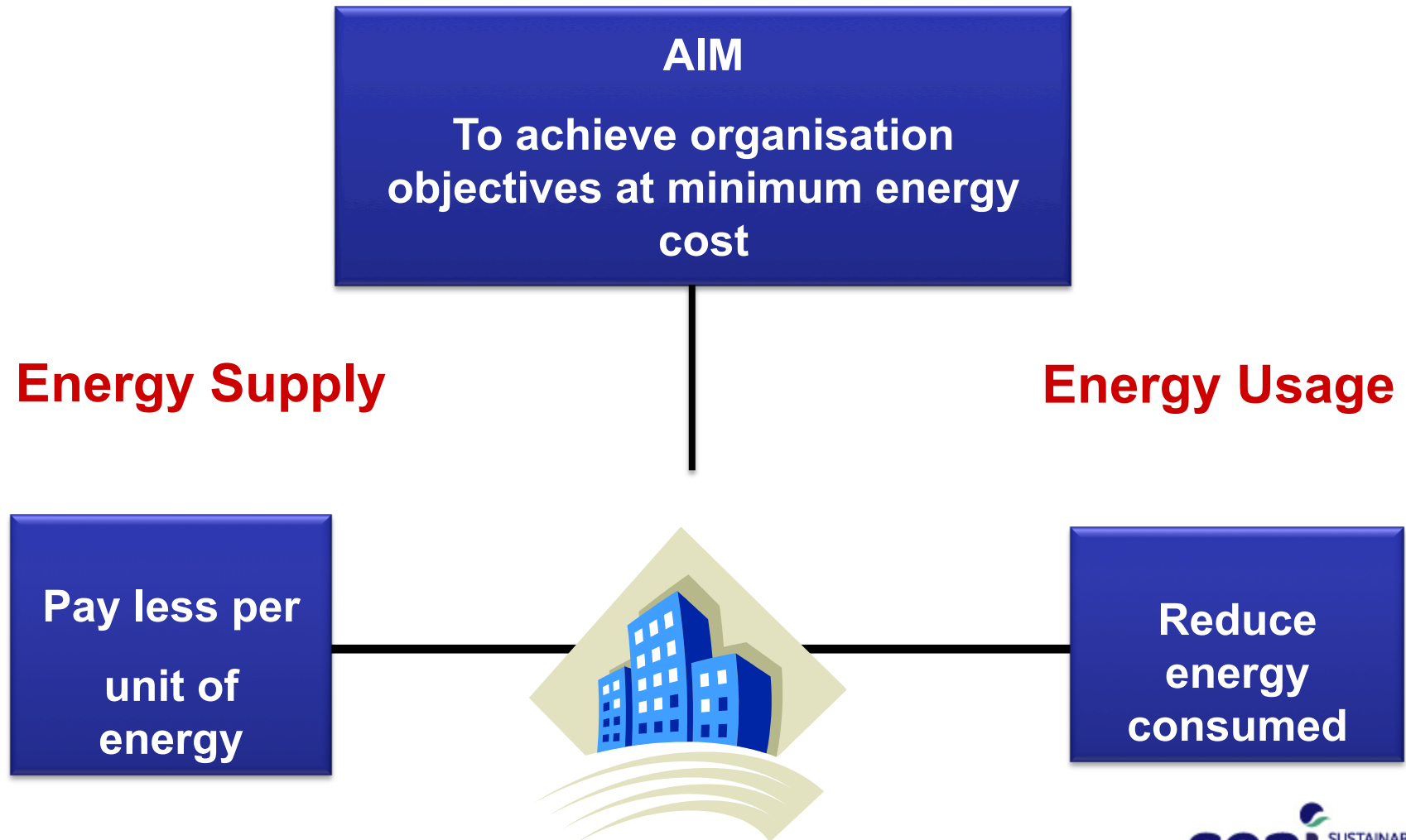
- If you make 5% energy savings (~€5,000), where does that 5% / €5,000 go?
- How many retail items would you need to sell to make €5,000 in profit? - Could be worth an extra week of trade?

Energy Management

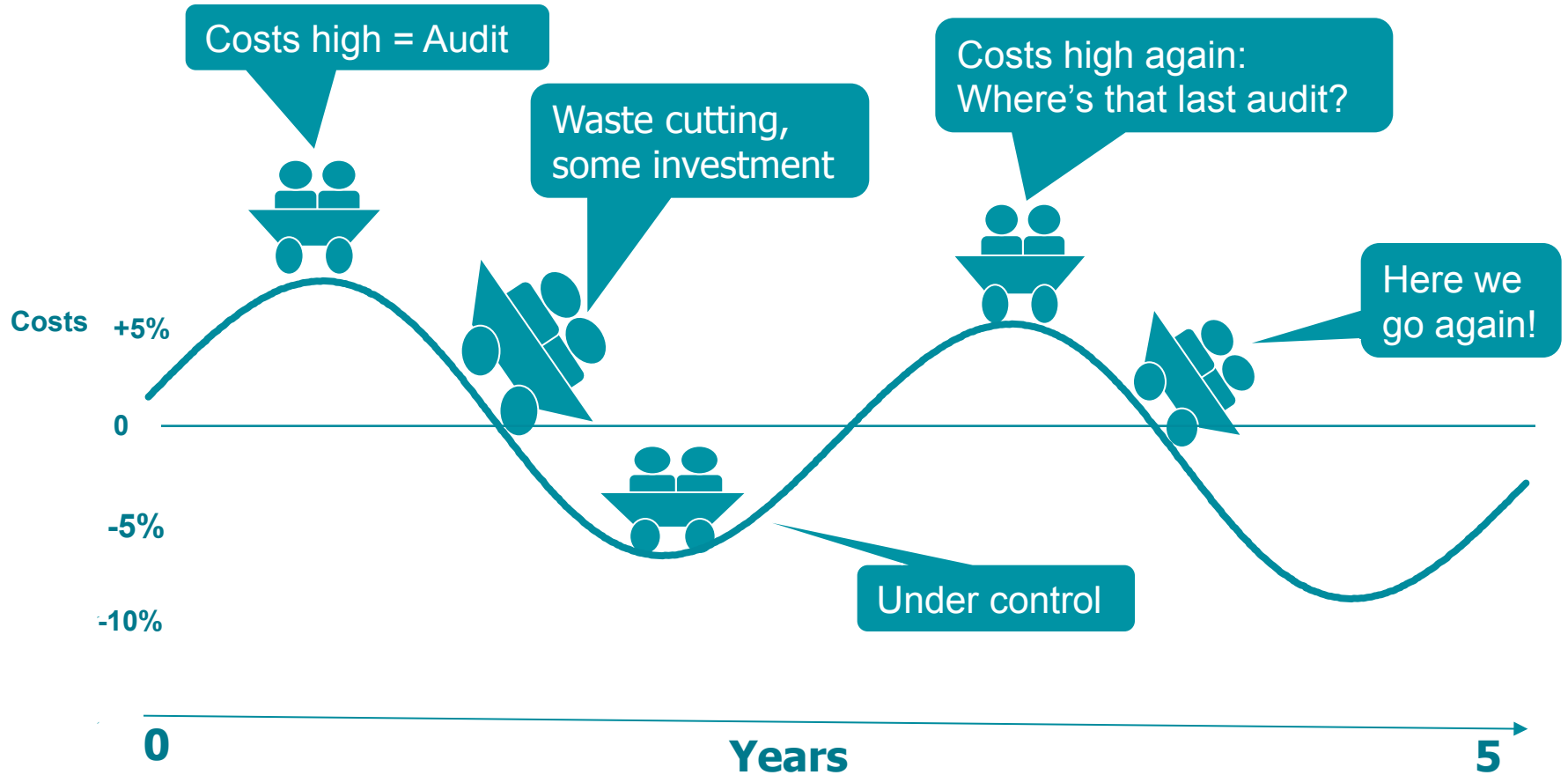


Are you paying too much for Energy?

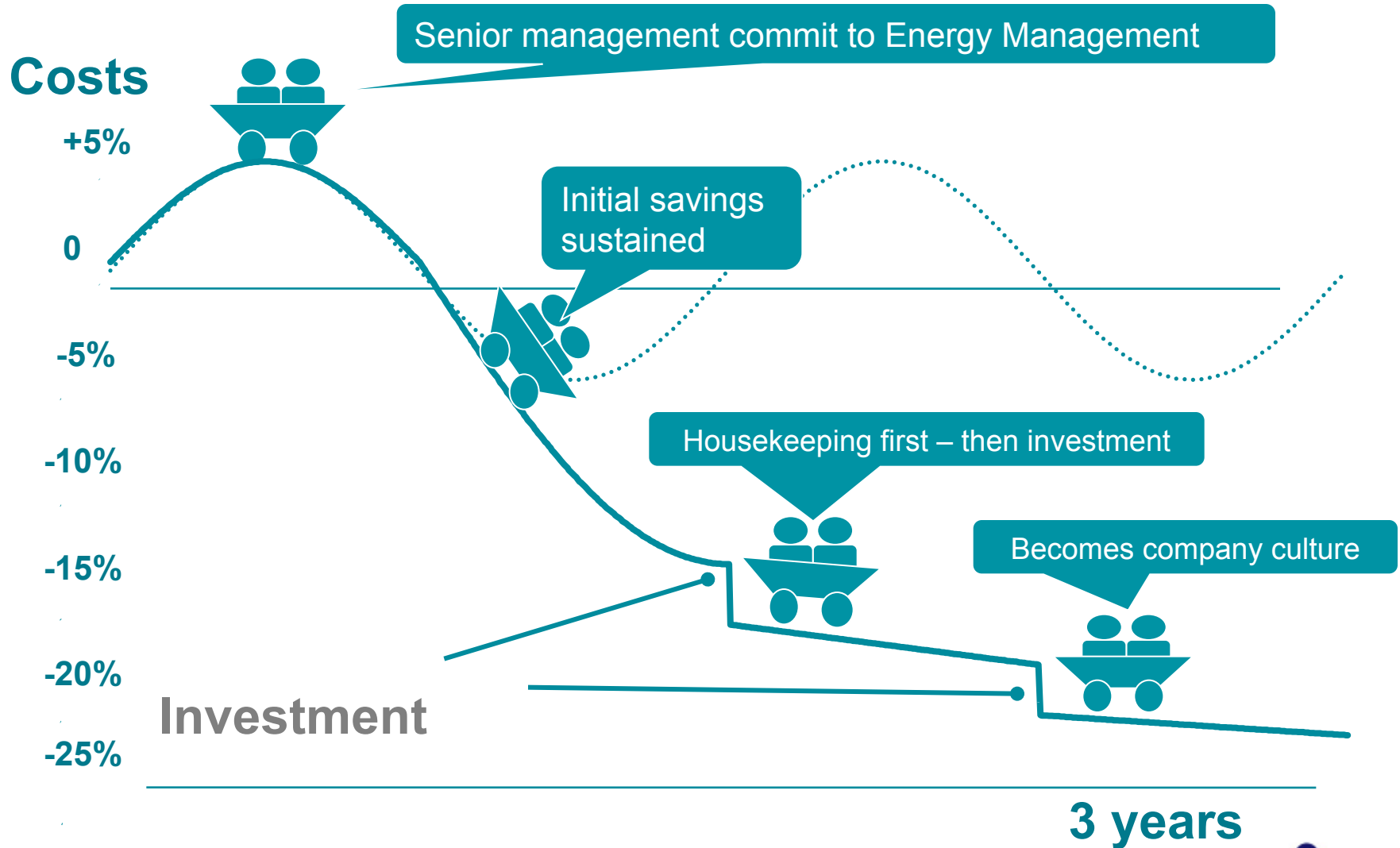
What can you do to ?



Why an Energy Management Focus?



Structured Approach

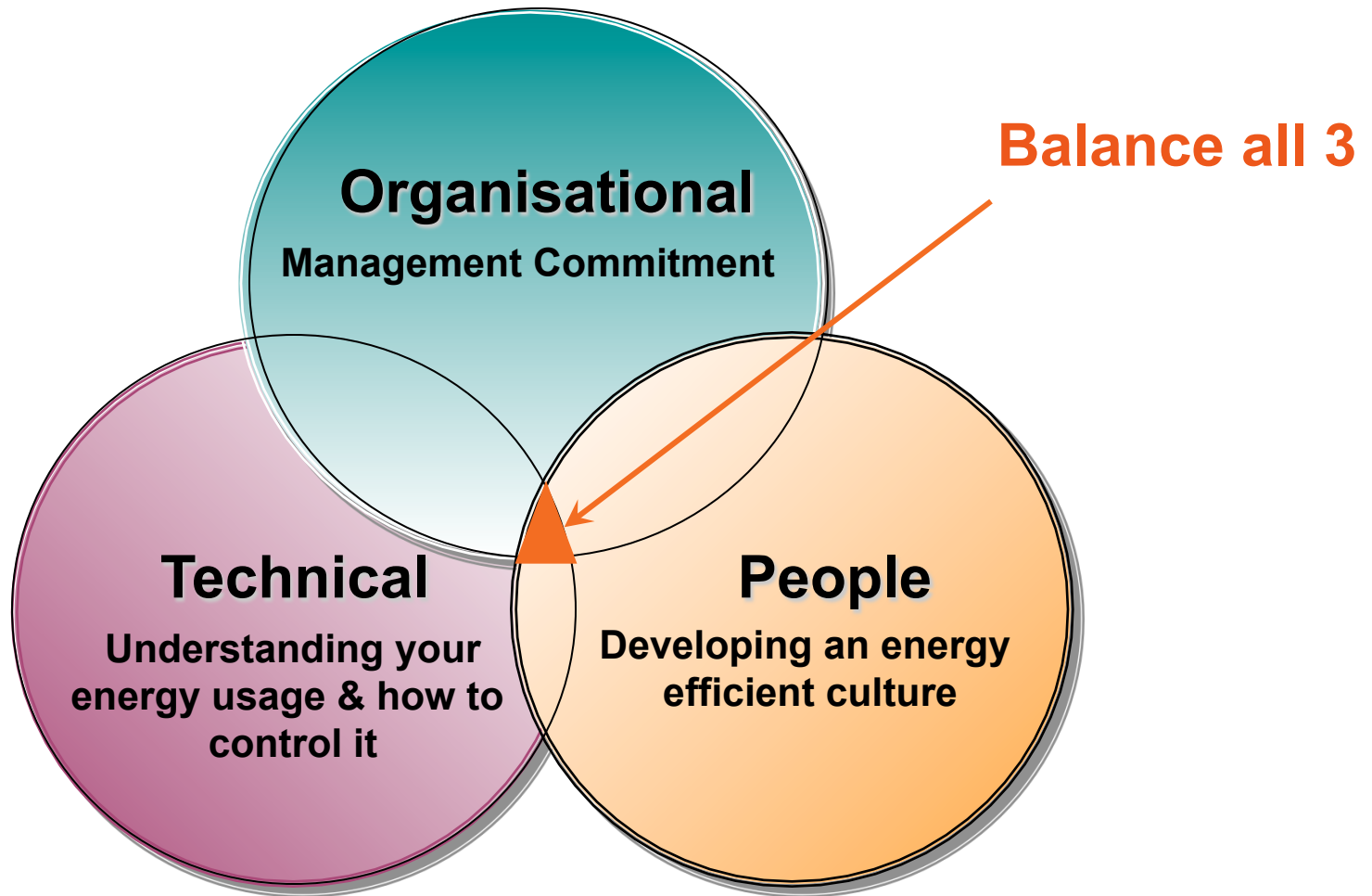


Key Strategies

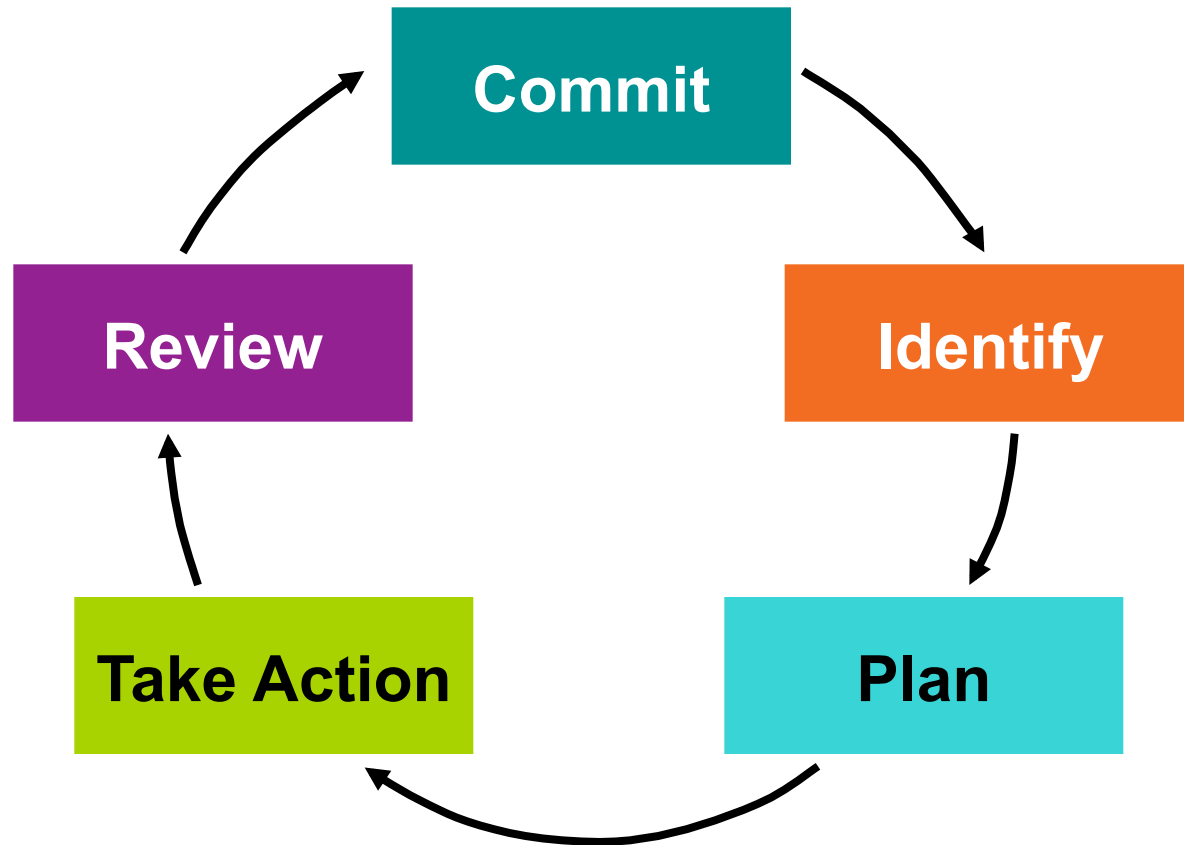
Key Strategies



Structured Energy Management



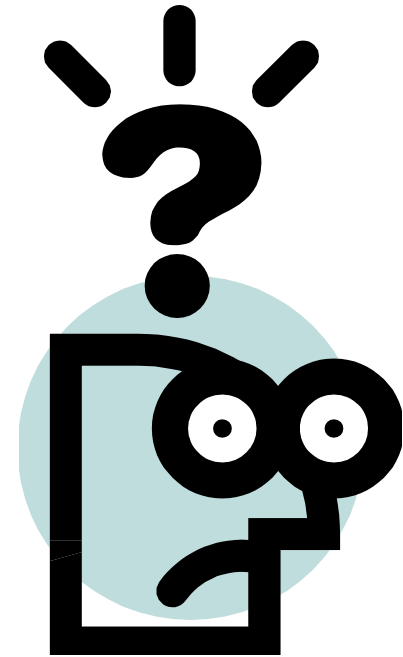
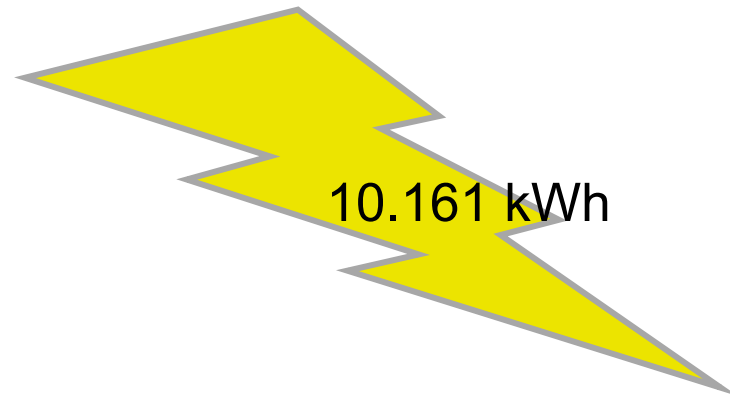
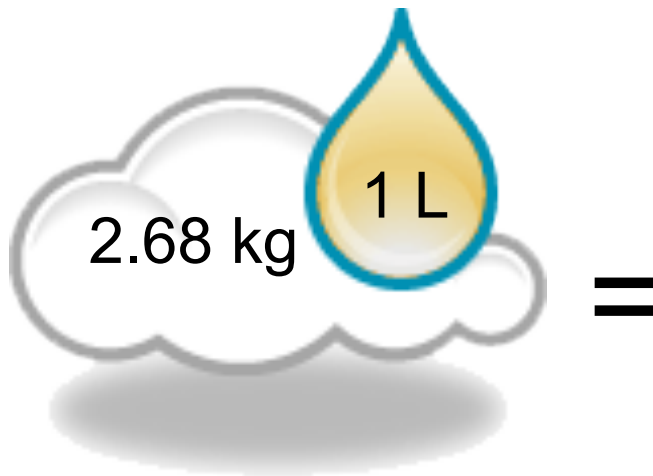
5 Pillars of Energy Management



Understanding your Energy Bills

Understanding your Energy Bills

- Power: kilowatt (kW)
- Energy: kilowatt hour (kWh)
- 1 kilowatt = 1,000 watts



Understanding your Energy Bills

- A 100W light bulb = 100W
- Ten 100W light bulbs = 1000W or 1kW
- kW multiplied by hours = Units of energy (kWh)
- 1kW x 8670hrs = 8670kWh p/a
- @ 16c/kWh = €1400 p/a

Understanding your Energy Bills

- Simple
- Cheap
- Awareness



Understanding your Energy Bills

- We always start with the energy bills
- When you go back to your office dig out some electricity bills.....

Historical Electricity Tariffs

- General Purpose If night use <10%
- General Purpose NightSaver If night use >10%
- Low Voltage Maximum Demand If MIC > 50kVA
- Medium Voltage Maximum Demand If MIC > 450kVA
- High Voltage Maximum Demand

Alternative Electricity Tariffs

- Bundled
- Unbundled
- STOD
- Gas Tracker
- Managed
- Variable
- Fixed
- Etc.

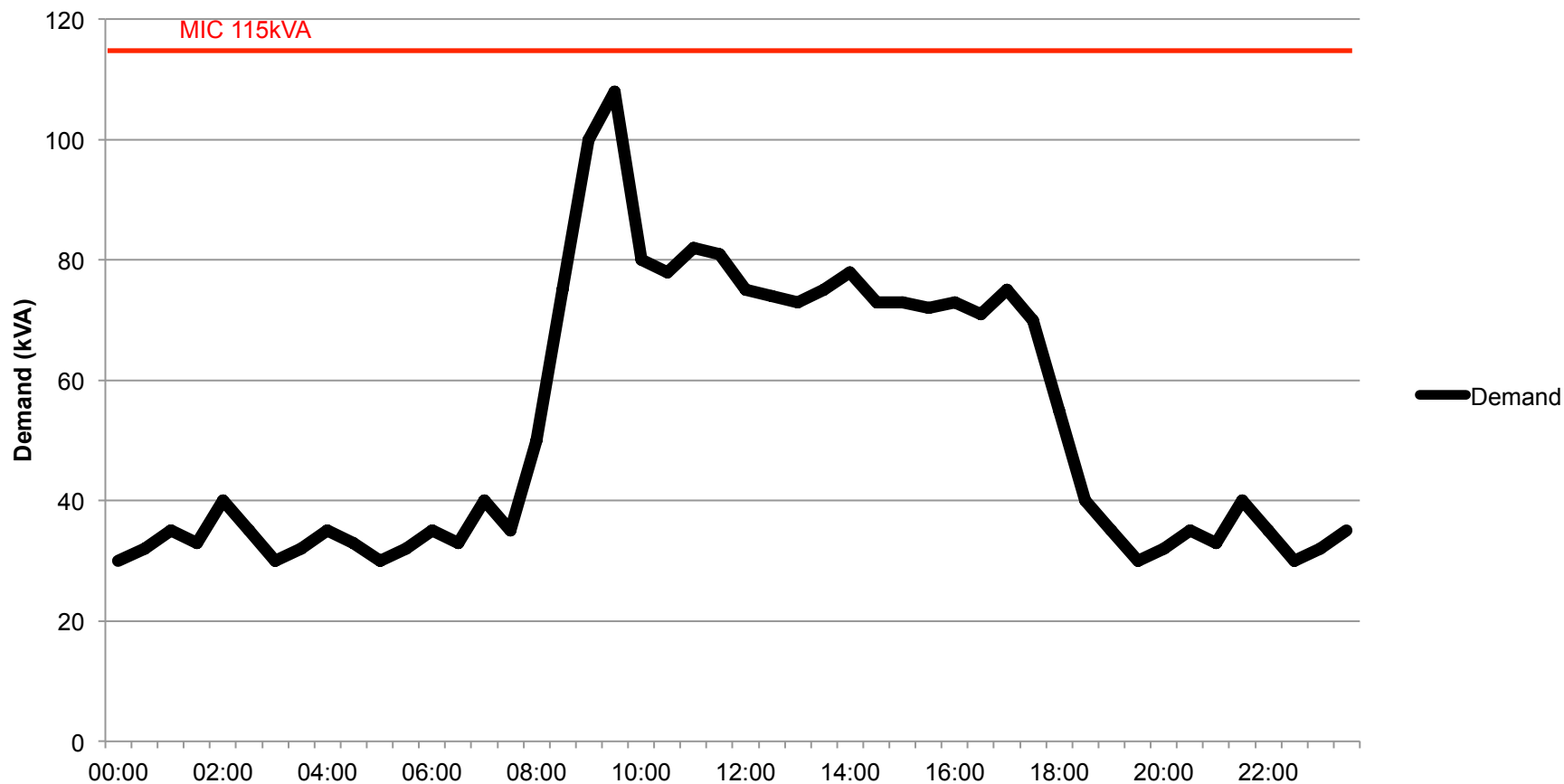
Maximum Import Capacity (MIC)

- Maximum Import Capacity (MIC)



Maximum Import Capacity (MIC)

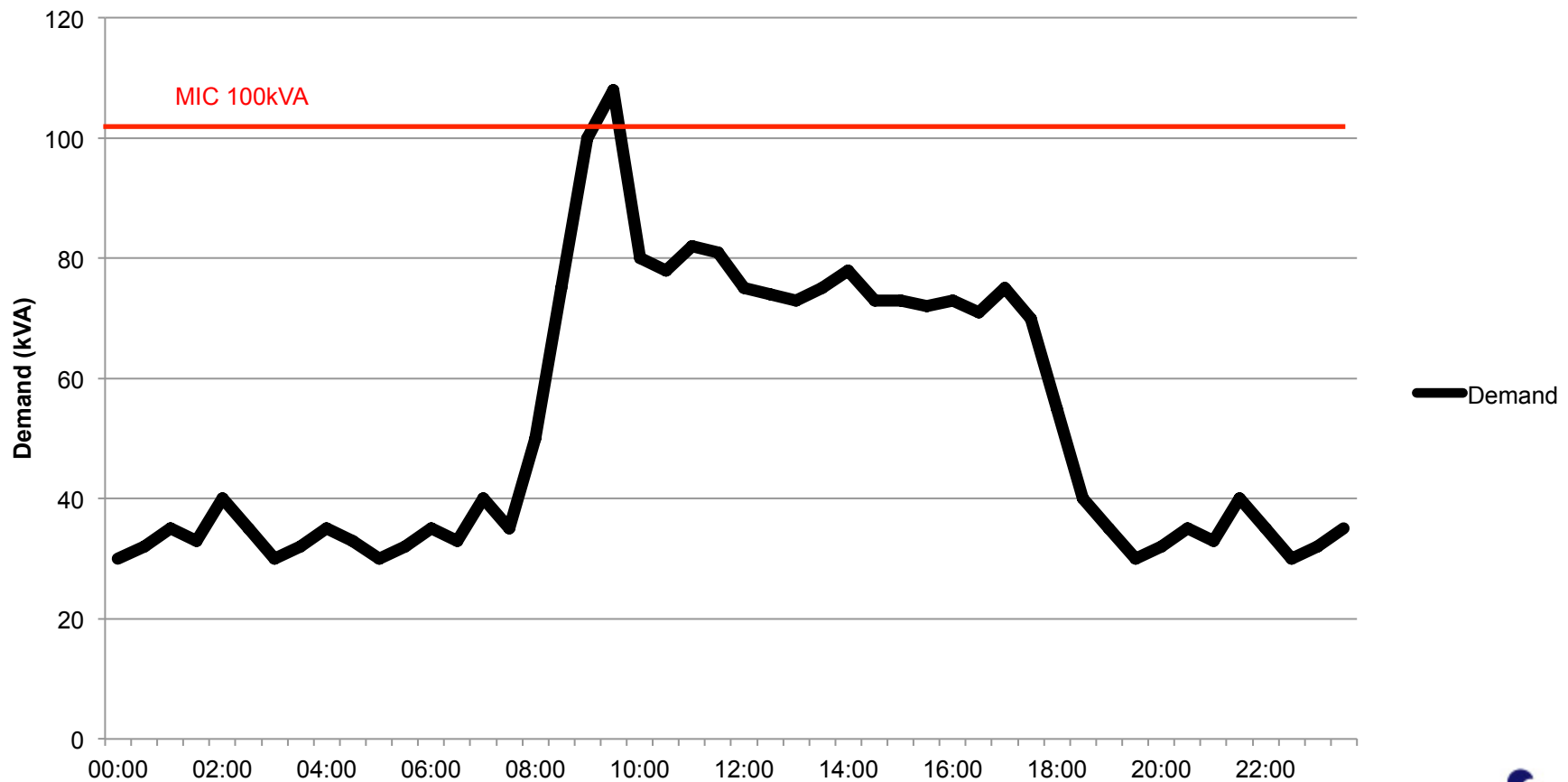
Electrical Demand Profile



Maximum Import Capacity (MIC)

Excess Capacity Charge

Electrical Demand Profile



Maximum Import Capacity

Excess Capacity Charge

ACCOUNT INFORMATION

Bill No:

Account Number

Accounting Period

1 Feb 2009 to 28 Feb 2009

DETAILS OF CHARGES

TARIFF: Low Voltage Max Demand (Online Meter)

Billing Period: 1 Feb to 28 Feb

Standing Charge				€84.56
Day units	28,043	KWH @	€0.0000	€0.0000
Night units	7,050	KWH @	€0.0000	€0.0000
LVMD Maximum Demand Charge Winter	81	@	€2.532	€213.19
Service Capacity Charge (KVA)	100.0000	KVA @	€2.02	€202.00
Excess Capacity Charge	8	KVA @	€10.95	€87.60
Low Power Factor Surcharge	7,749	kVArh @	€0.00692	€53.62
PSO Related Rebate 100.0000 KVA @ €0.96-				€96.00 CR
VAT @ 13.5% on €0.0000.60				€0.0000.73
Total Charges For This Period				€0.0000.33

Excess MIC Penalties

- MIC -  **Networks**
 - HEAVILY PENALISED for the excess
 - ONCE for 15 minutes in a month.
 - Measured in kVA

Example of Excess MIC Penalties

- This is an EXTREME example !!!

Tariff charged PES NQH LVMD (01 Jul 10 to 31 Aug 10)

Description	Units	Rate	Amount
Standing Charge	62 days	3.02 €/day	€187.24
Summer MD unit rate	130 kW	0.00 cent/kW	€0.00
Maximum Demand Summer	62 Days	0.00 €/Day	€0.00
Maximum Demand Winter	0 Days	0.00 €/Day	€0.00
Service Capacity Charge	150 KVA Days	€4.5520 /KVA	€682.80
Day Units	1,100 kWh	12.540 cent/kWh	€137.94
Night Unit Rate	100 kWh	6.730 cent/kWh	€6.73
Non Chargeable Wattless	400 kVARh	0.000 cent/kVARh	€0.00
Chargeable Wattless	6,650 kVARh	0.740 cent/kVARh	€49.21
Excess MIC	615 kVA	€13.4000 /KVA	€8,241.00

Excess MIC ? What should you do ?

- If possible reduce peak demand
- If not - seek an Increase in MIC from ESB Networks
 - Possible capital cost
 - Payback varies
 - Increase in capacity charge
 - TALK to ESB Networks, NOT your supplier !



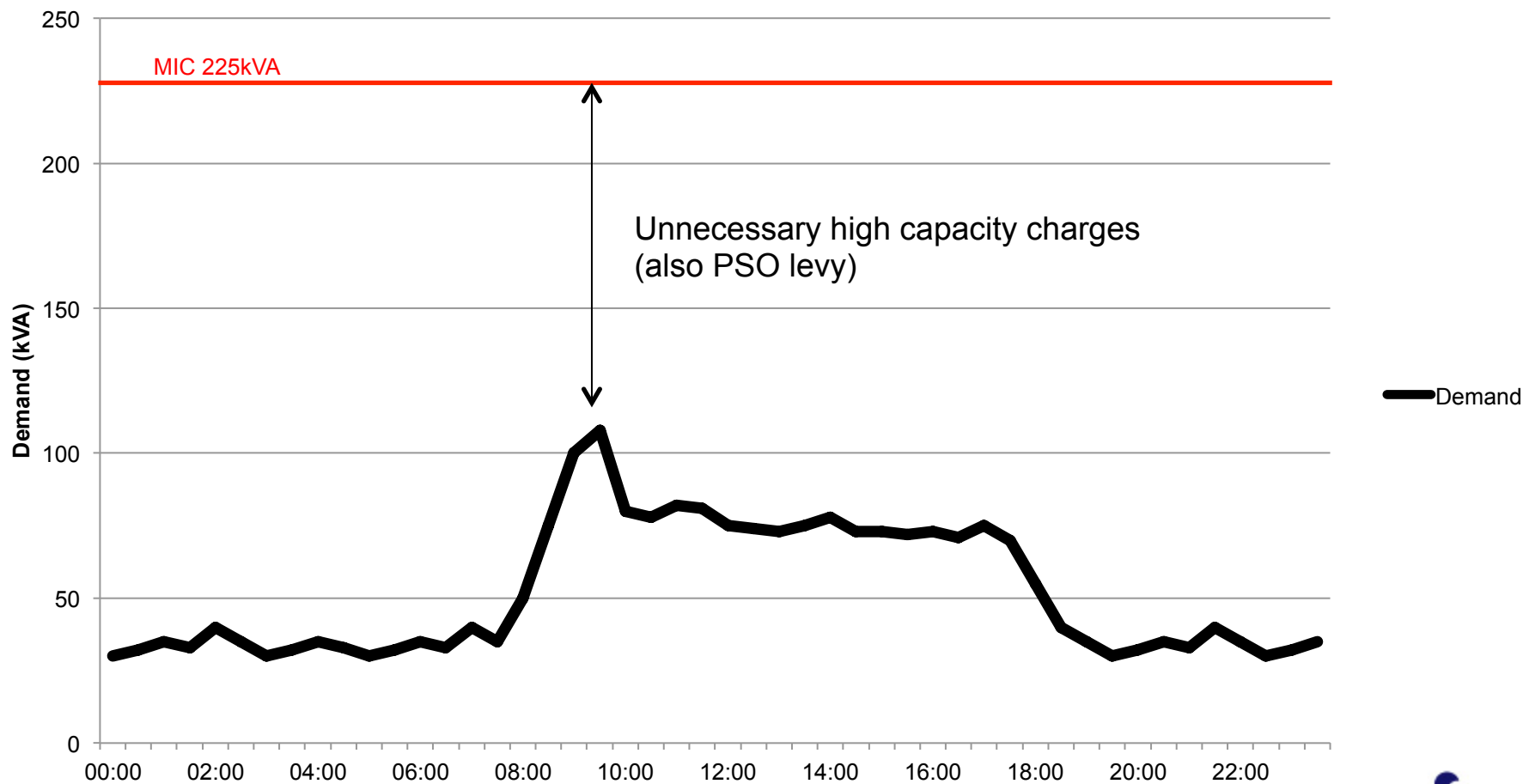
What if my MIC is too High ?

- MICs too high will attract additional ‘ Fixed ‘ Charges !
- You could be paying for capacity you will never use ..
- Capacity Charge & PSO levy is based on your MIC level



Maximum Import Capacity

Electrical Demand Profile



Max Demand Tariffs

- Other Unnecessary Charges:
 - Excess Wattless
 - Low Power Factor Surcharge
 - Excess Reactive Units

Excess Wattless /Low Power Factor

- Have you Low Power Factor Surcharge on your Bill ?

DETAILS OF CHARGES		TARIFF: Low Voltage Max Demand	
		Billing Period: 1 Oct to 31 Oct	
Standing Charge			€184.22
Day units	41,300 KWH @	€0.1241	€5,125.33
Night units	16,650 KWH @	€0.0666	€1,108.89
Service Capacity Charge (KVA)	150 kVA @	€4.48	€672.00
Low Power Factor Surcharge	17,883 kVarh @	€0.0074	€132.33

Excess Wattless /Low Power Factor

- Here it is called Chargeable Wattless

Tariff charged PES NQH LVMD (01 Jul 10 to 31 Aug 10)

Description	Units	Rate	Amount
Standing Charge	62 days	3.02 €/day	€187.24
Summer MD unit rate	130 kW	0.00 cent/kW	€0.00
Maximum Demand Summer	62 Days	0.00 €/Day	€0.00
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Excess Wattless /Low Power Factor

Low Power Factor Surcharge

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VAT @ 13.5% on €0.0000.60				€0.0000.73
Total Charges For This Period				€0.0000.33

Excess Wattless /Low Power Factor

- Here it is called Excess Wattless !

Meter readings		Quantity and price		Description of charges	Amount €
Present	Previous				CR = Credit
TARIFF: GENERAL PURPOSE - NIGHTSAVER					
22541C	219608C	6033	X €0.1649	DAY UNITS	994.84
721C	73191C	830	X €0.0764	NIGHT UNITS	63.41
268123C	262991C	2288	X €0.00000	WATTLess UNITS	0.00
		2844	X €0.00810	EXCESS WATTLess	23.04
		62 DAYS @ €0.4560/DAY STANDING CHARGE			28.27
		PUBLIC SERVICE OBLIGATIONS LEVY NOV,DEC			0.00
		VAT @ 13.5% ON 1109.56			149.79

What should you do ?

- What should you do to eliminate these penalties ?
- Ask your Electrician 3 Questions:
 - Do we have a Power Factor Correction installed?
 - If we have one, is it working?
 - If it is working , is it big enough?
- Ask yourself one final question : Is it on a regular Checklist ?

Natural Gas Tariffs

- Small Business User <73,000kWh/yr Standing Charge
kWh Charge
- Medium Business User >73,000kWh/yr As above and
Capacity Charge
- Large Business User Fuel Variation Tariff
Swing/Non Swing
Predictable/Flexible
Etc.

SEAI Services

Start by logging on to www.seai/business

Your Home Your Building **Your Business** Renewables Your School Grants Publications News & Events Your Community

You are here > Home > Your Business

- > Public Sector Programme
- > Large Energy Users
- > SEAI's services for SMEs
- > Quick Wins
- > Energy Technologies
- > Resources
- > Financial Incentives
- > Sustainable Energy Awards
- > Inside the Smart Economy
- > Triple E Product Register

Join Our Mailing List 

Accelerated Capital Allowance

Welcome to the Business Support Centre

Here you will find information on how saving energy can help cut your business costs and details on resources and financial assistance to help you make savings.



- » Public Sector Support
- » Large Energy Users Support
- » SME Support
- » Quick Wins 
- » Technology 
- » Resources 

If you are a LARGE Energy User

Spending ca. 1 million euro p.a. on Energy

Large Energy Users

For an overview of SEAI programmes for Large Energy Users, click here...

Energy Agreements Programme »

The programme centres on a commitment to adopt the EN16001 energy management system. Click here for further details

Large Industry Energy Network (LIEN) »

The LIEN is a voluntary network of companies working to maintain strong energy management practices. Click here for further details..

Energy Management Standard EN16001 »

EN 16001 represents energy management best practice, which is crucial for your success.

[Click here](#)

Information Resources »

including Case Studies and Energy Agreements Programme Success Stories DVD

To view or download, [Click here](#).

Special Initiatives »

Special initiatives are planned each year to focus on significant energy usage.

[Click here](#)

If you are an SME

SME Support Centre

For an overview of SEAI programmes for SMEs, click here...

CUT 20% OFF
YOUR ENERGY USE



[Why get started with Energy Management?](#)



[Hear from SMEs that have saved energy](#)

Advice and Mentoring

Register for an SEAI energy assessment today and start saving energy and money. Click here for further details

Tools and Resources

Easy to use materials that support a successful and profitable energy saving campaign. Click here for further details

Energy Management Training

Practical training on how to develop an effective energy management programme. Click here for further details

Financial Assistance

Quick Wins for SMEs

Success Stories

How can SEAI help ?

< 30k Euro

— Telephone consultation with an energy advisor

> 30k Euro

— Site Visit followed by Report and 3 months telephone mentoring

The screenshot shows the SEAI (Sustainable Energy Authority of Ireland) website. The header includes the SEAI logo and the tagline 'Playing a leading role in transforming Ireland into a society based on sustainable energy structures, technologies and practices.' Below the header is a navigation bar with links: 'Your Home', 'Your Building', 'Your Business', 'Renewables', 'Your School', 'Grants', 'Publications', 'News & Events', and 'Your Community'. A breadcrumb trail indicates the user is in 'Home > Your Business'. On the left, a sidebar menu lists various services: 'Public Sector Programme', 'Large Energy Users', 'SEAI's services for SMEs', 'Quick Wins', 'Energy Technologies', 'Resources', 'Financial Incentives', 'Sustainable Energy Awards', 'Inside the Smart Economy', and 'Triple E Product Register'. A 'Join Our Mailing List' button is also present. The main content area is titled 'Registration for Energy Advice and Mentoring'. It includes a note that fields marked with an asterisk (*) are mandatory and provides a contact number: 01-8082087. The form fields are: 'Organisation name*', 'Organisation address*' (with two input lines), 'County*' (a dropdown menu), 'Number of employees*' (a text input), and 'Business Sector*' (a list of radio buttons for various sectors: Industry, Hotel / Catering / Tourism, Retail, Services / office based, Educational institutions, Health, Transport, Food production / Agriculture, and Other). At the bottom, there is a 'Type of Organisation*' field with a text input area.

seai SUSTAINABLE ENERGY AUTHORITY OF IRELAND

Playing a leading role in transforming Ireland into a society based on sustainable energy structures, technologies and practices.

Your Home Your Building Your Business Renewables Your School Grants Publications News & Events Your Community

You are here > Home > Your Business

- > Public Sector Programme
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- > SEAI's services for SMEs
- > Quick Wins
- > Energy Technologies
- > Resources
- > Financial Incentives
- > Sustainable Energy Awards
- > Inside the Smart Economy
- > Triple E Product Register

Join Our Mailing List

Registration for Energy Advice and Mentoring

Fields marked with an asterisk(*) are mandatory.
If you do not hear from us within 2 weeks, please contact us directly on tel: 01-8082087

Organisation Details

Organisation name*:

Organisation address*:

County*:

Number of employees*:

Business Sector*: ☐ Industry (all forms of manufacturing)
☐ Hotel / Catering / Tourism (Hotels, Guesthouses, Spas, Large Restaurants, Leisure Centres)
☐ Retail (Large stores, shopping centres, Supermarkets)
☐ Services / office based (Commercial and non commercial office buildings)
☐ Educational institutions
☐ Health (Hospitals, Clinics, Care Homes)
☐ Transport (logistics, public transport, private hire vehicles)
☐ Food production / Agriculture
☐ Other

Type of Organisation*: (This should describe your key activity, max.600 chars)

Energy Management Training

Energy Spend < 100 k per annum Small Business Training 3 X half days

Energy Spend > 100 k per annum Energy MAP Training 3 x full days

Training



***Energy costs are one of the single biggest cost concerns to SME businesses in Ireland.
Systemic and continuous control of energy usage can significantly increase your profits.***
SEAI provides a range of Applied Training Courses suited to your business needs:

- › Businesses interested in training should first contact their trade representation body, that body should [contact SEAI](#).
- › Businesses without a trade representative body, or individuals should [register their interest using this registration form](#)

[Small business training](#), if your total energy spend is less than
€100,000 per year.

[EnergyMAP training](#), for businesses spending more than
€100,000 per year on energy

[IS393](#) for businesses spending more than €1,500,000 per annum
on energy. [IS393 training](#) is delivered directly by SEI to
[Large Industrial users](#)

To calculate your business energy spend, total electricity, gas, heating cost. Don't forget to include petrol and diesel from your company car or commercial vehicle fleet.

Register your
Interest



Energy Management Training

- Implement an Energy Management Programme
- Embed Energy Management into the **culture** in your business

What's achievable

SME's fully registered 2012

AMA Service - 2100

Energy Map & Small Business training - 181

Identifying and implementing measures that result in an
average saving of 11% of their annual energy costs
within 1 year

Total projected savings amount to

€50.6M

Are there financial incentives available?

The BEW Grants are finished
BEC Grants closing on 31st May
Accelerated Capital Allowances
National Energy Efficiency Fund



Welcome to the
Accelerated Capital Allowance (ACA)

Product Providers

Login Here 

The ACA is a tax incentive for companies paying corporation tax and aims to encourage investment in energy efficient equipment. The ACA offers an attractive incentive whereby it allows companies to write off 100% of the purchase value of qualifying energy efficient equipment against their profit in the year of purchase.

The ACA now includes 52 technologies. Submissions are being currently invited from Manufacturers and Suppliers. To view the technology criteria please click [here](#)

What is the ACA?

- It's a tax incentive (not a grant!)
- Write-off 100% of eligible purchases against profit in the first year (normally over 8 years!).
- Must be a company, paying corporation tax.
- Normal Capital Expenditure write-off rules apply (but term is “accelerated” to one year)

How the ACA works

Consider the example where a company has **€100,000 profit** at the end of their accounting period, on which they must pay 12.5 % corporation tax. The same company has during that period, purchased capital **equipment that cost €20,000**.

	Without Capital Allowances	Standard Capital Allowances	ACA
Proportion of deductible Capital Equipment costs	NA	1/8 (12.5%)	8/8 (100%)
Deductable Capital Equipment costs	NA	€2,500	€20,000
Taxable Profit: (minus deductions)	€100,000	€97,500	€80,000
Tax payable on profit @ 12.5%:	€12,500	€12,188	€10,000
Tax saved with deductions	NA	€313	€2,500

National Energy Efficiency Fund

- Nov 12 – National ESCO Action Group established by DCENR
 - Dept. Public Expenditure & Reform
 - Dept. Of Finance
 - New Era (division of NTMA)
 - State Solicitors Office
 - Energy Suppliers
 - ESCOs
 - Consultants
 - SEAI
- Objectives
 - Remove barriers to development of EPCs and LESCOs
 - Help meet 2020 EE targets
- €35m seed Funding announced in December budget
- 2013: Dedicated Pilot Working group
 - Limited to organisations committed to developing and procuring EPCs in 2013

Energy in Industry

- Electricity Use – some examples
 - Lighting
 - Motors
 - Fans
 - Pumps
 - Refrigeration
 - Compressed Air
- Thermal Energy
 - Degree Days
 - Boilers

Lighting Projects

- Energy Efficient Lamp Replacement
- Controls
 - PIR
 - Dimming
 - Switching
- Switch Off Campaign

Electric Motors

- Energy efficient replacement – 10%
- Variable Speed Drives 12 to 50% Saving
- Cleaning 1-2%
- Switch off when not needed



Refrigeration

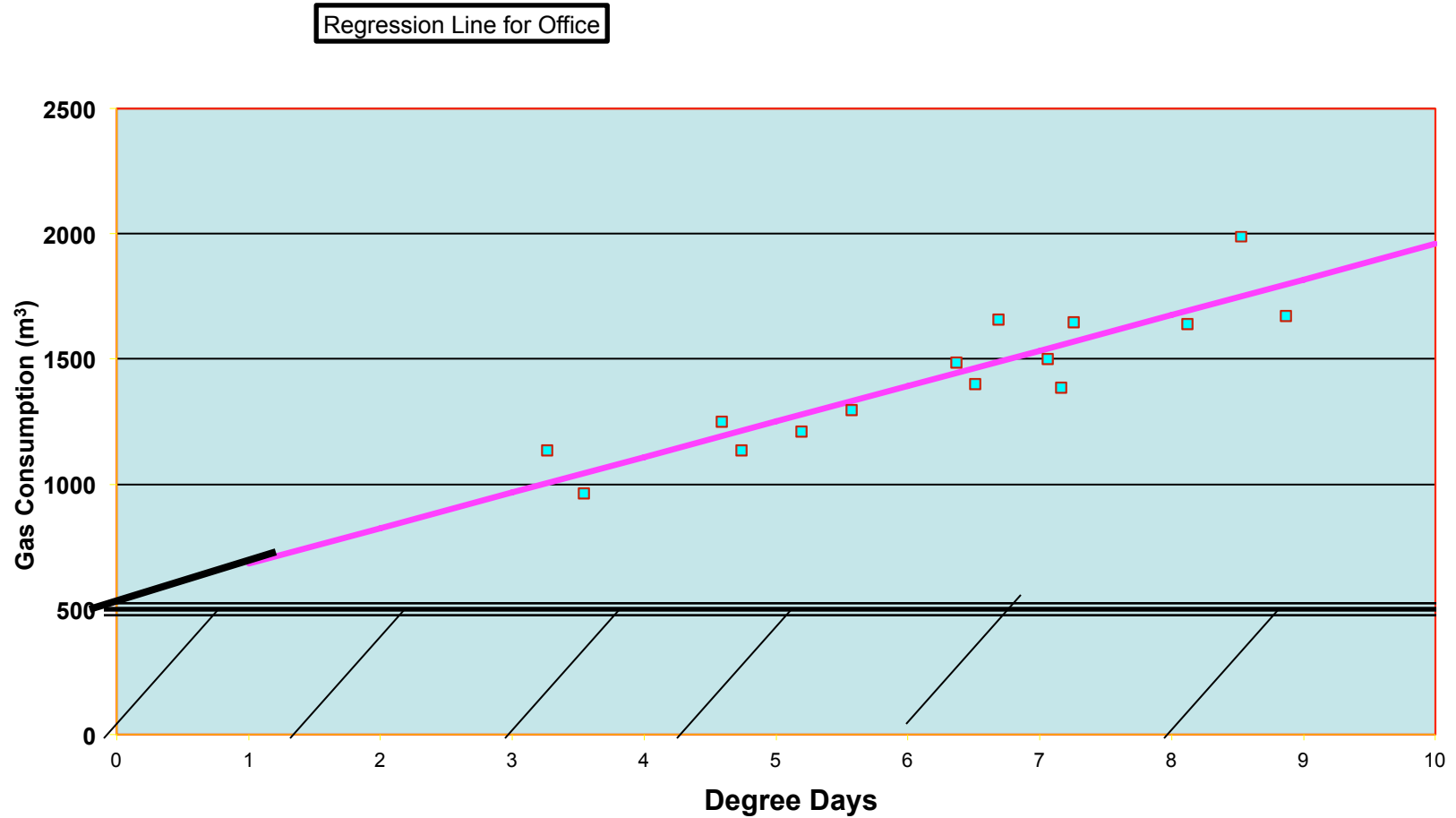
- Free air cooling
- VSD on Pumps
- Recycle warm exhaust air
 - Water heating
 - Space heating
- Draft sealing on fridge doors
- Defrost cycles
- Lighting

Compressed Air

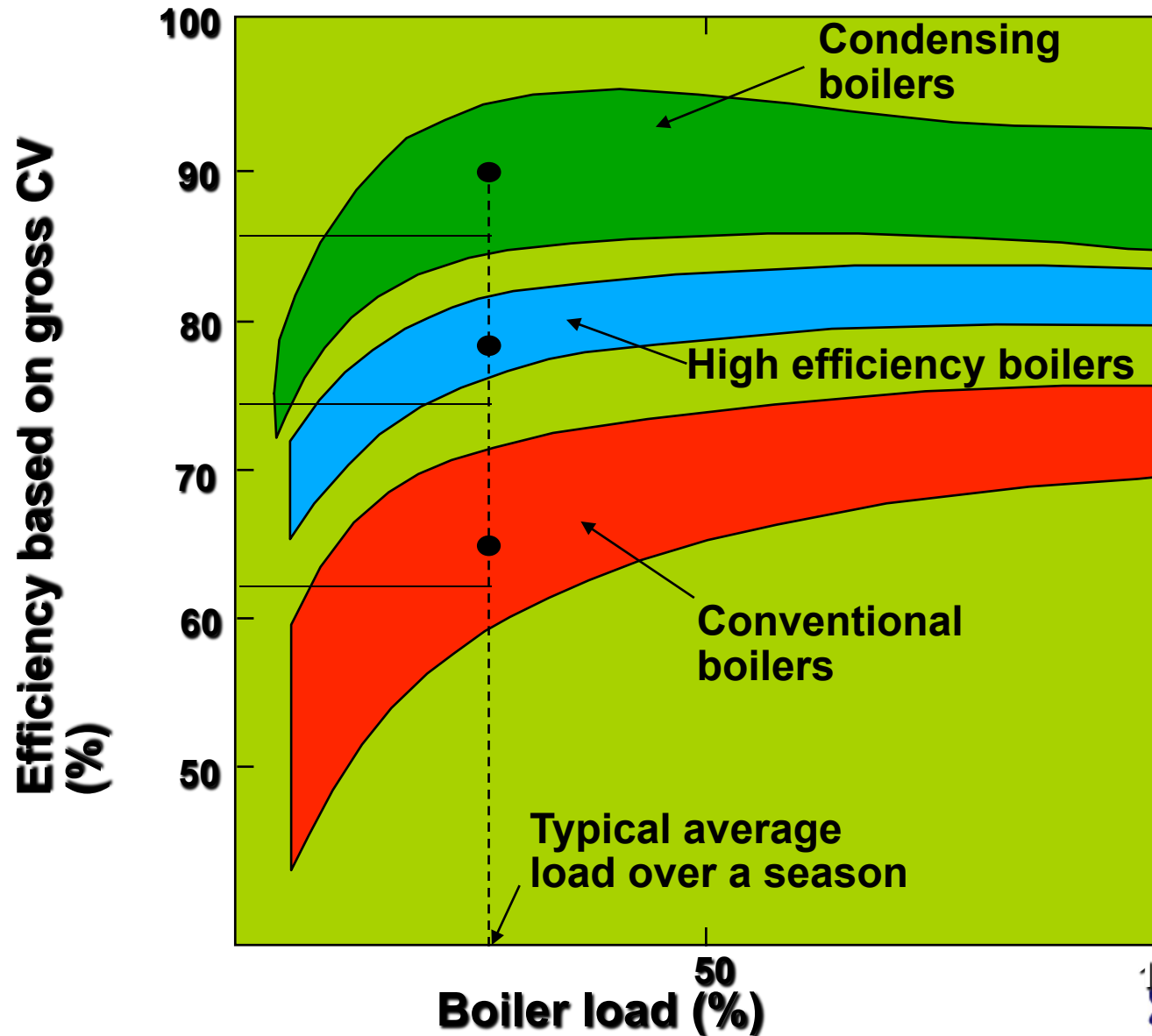
- Air Intake temperature
- Leaks
- Pressure Required
- Receiver
- Heat recovery
- Design
- Maintenance



Thermal Energy



Small Boiler Efficiencies



- Smaller boilers for space heating
 - Time clock
 - Optimum stop/start
 - Weather compensated
 - Zone Control allows areas of building be separately controlled

Can you do something straight away ?

Quick Wins

Choose your sector for a top ten list of quick wins which are easy to implement and will start to save you money straight away



Quick Wins by Sector

- » Manufacturing
- » Retail
- » Hospitality & Tourism
- » Education
- » Healthcare
- » Sports & Culture
- » Transport
- » Offices

Quick Wins by Technology

- » Quick Wins for Lighting
- » Quick Wins for Motors & Drives
- » Quick Wins for Compressed Air
- » Quick Wins for Refrigeration
- » Quick Wins for Heating
- » Quick Wins for Building Management Systems
- » Quick Wins for Variable Speed Drives

more »

What others have achieved.....

There are a huge number of success stories on the website..... Here is a selection
Have a look and see if there is something similar to your situation !

Case Studies for SMEs

[Monitoring and Targeting - e3 Energy Management Bureau \(PDF, 700KB\)](#)

[Monitoring and Targeting - Jurys Energy Management Bureau \(PDF, 1.13MB\)](#)

[Transport - Collins Travel \(Web\)](#)

[Transport - Louth Ecodrive \(Web\)](#)

[Transport - Matthews Coach Hire \(Web\)](#)

[Building Energy Management Systems -BMS at UCD \(PDF, 195KB\)](#)

[Building Energy Management Systems - BMS at Stratus Computers \(PDF, 280KB\)](#)

[Building Energy Management Systems - BMS at Google \(PDF, 230KB\)](#)

[Building Energy Management Systems - BMS at the Mater Private Hospital \(PDF, 240KB\)](#)

[Combined Heat and Power -CHP ESCO Model at Goodbody \(PDF, 180KB\)](#)

[Combined Heat and Power - MicroCHP at St. Dymphna's Hospital \(PDF, 250KB\)](#)

[Combined Heat and Power -CHP at Jurys Hotel and Towers \(PDF, 260KB\)](#)

[Variable Speed Drives - VSDs at Ascent International \(PDF, 200KB\)](#)

- Register today for BeGreen REA
- Register today for SEAI Energy MAP Training
- Check your bills for penalties...

***Remember the energy you don't use is the
cheapest energy of all***

Questions?

