

Lighting Efficiency Solutions
Proven. Profitable. Sustainable



YOU DONT GET
MORE EFFICIENT
THAN OFF



Proactive Energy Management System TM



5th Energy



- Part of the Electro Sense Group of Companies
- Founders of Occupancy Sensor Technology in South Africa
- Over 3, 5 Million m² of space under sensors
- 9 years of sensor technology experience
- Installed over 65 000 occupancy sensors
- Performed over 90 000 lighting retrofits
- Only company to have sensor projects approved by Eskom
- Offices in:
 - London | Johannesburg | Sydney | Boston





a member of the
Electro Sense
group of companies

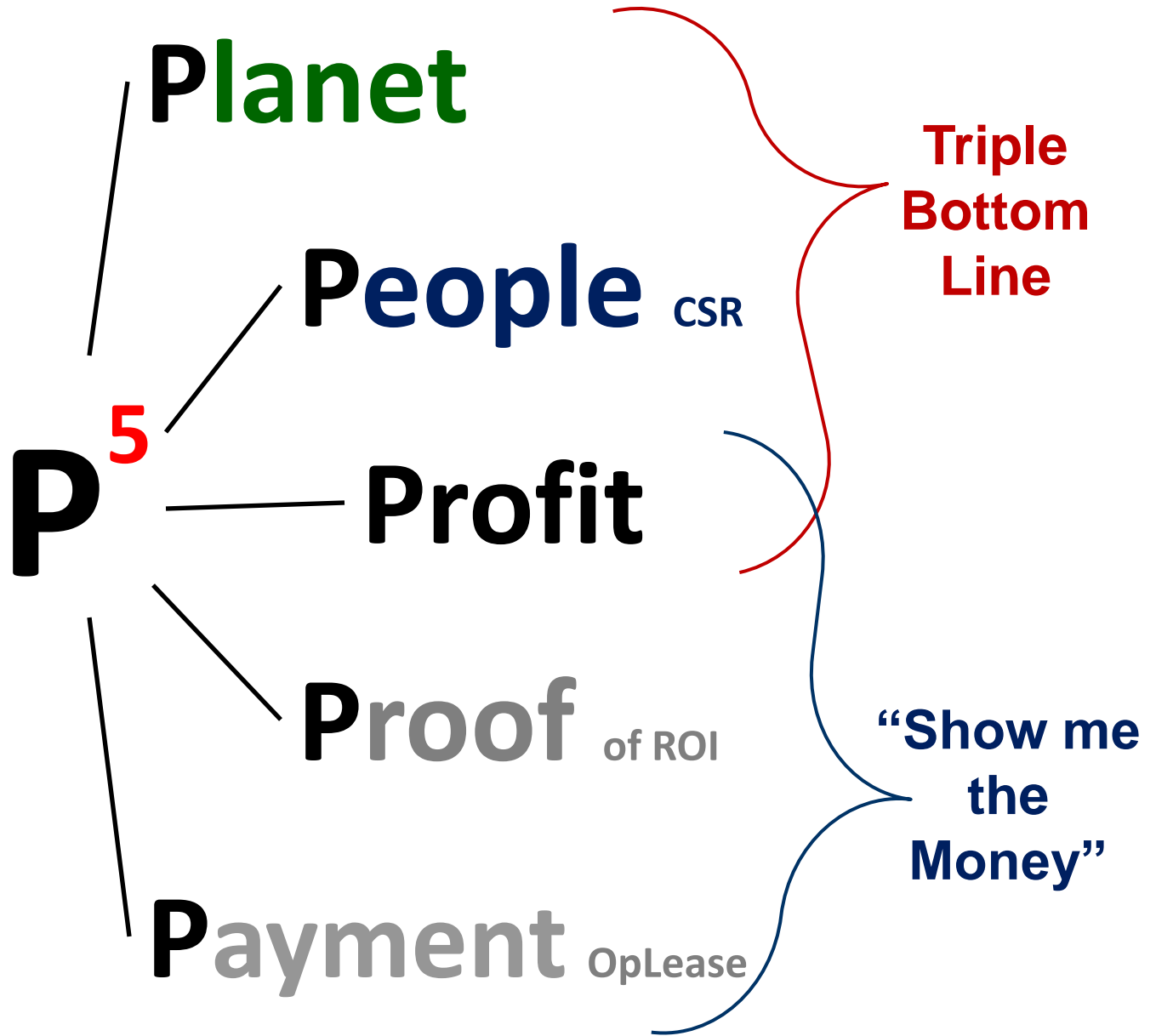
GROUP AWARDS

- **Energy Company of the year 2006**
 - from the Southern African Association for Energy Efficiency (SAEE)
- **2006 & 2007 eta Awards – Electro Sense**
 - For Energy Efficiency Commercial Category
 - Endorsed by the Department of Minerals and Energy & Eskom
- **2008 eta Awards – Magnet**
 - A Business Partner selling our system
- **2009 eta Awards – RMB**
 - A client using our system

OUR CLIENTS INCLUDE

- accenture
- ABN-Amro
- Anglo American
- KPMG
- Sasol
- RMB
- FNB
- Investec
- Deutsche Bank
- Deloitte
- Dimension Data
- Tiber
- Nestle
- EDS



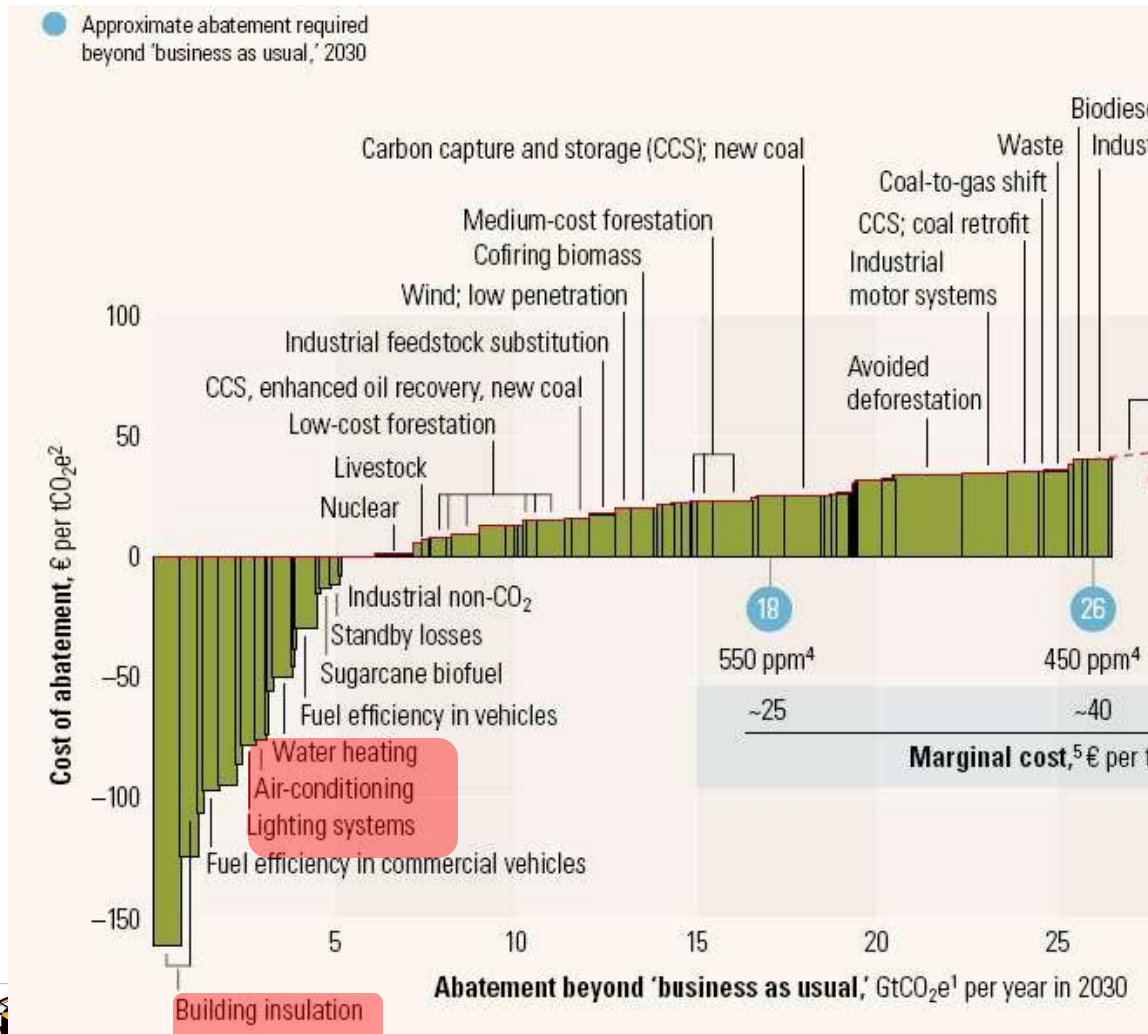


Market Background



- CRC Energy Efficiency Scheme – April 2010
 - Impacts anyone who has used more than 6000 MWh per annum
- For the introductory phase:
 - .the qualification period is the calendar year 2008
 - .the registration period is April-September 2010
 - .the footprint year is April 2010-March 2011, and
 - .the first compliance year is also April 2010-March 2011.
- Does the CRC affect your organisation?
 - ≥ 6000 MWh (Half Hour Metering) = Yes
 - Between 3000 – 6000 = Register and log info
 - Less than 3000 – Tick form online to say no.
- Next Steps. See timeline on next page (Registration and then bed in year is 2010 – 2011.
- Credits can and will be sold @£12 per 1 Allowance (1 Allowance can be surrendered per each 1 Tonne of Co2 per allowance year)

Building Energy Efficiency = Low Hanging Fruit



Source: McKinsey

- Building professionals tend to **underestimate** (by half) the contribution of buildings' energy to climate and **overestimate** (300%) the cost of saving energy

Source: EE in Buildings – WBCSD

- **50 % of UK CO₂ emissions caused by buildings**
- 20% of total emissions from Commercial, Industrial and Public Buildings
- Need to improve from Average E to C by 2030, and A by 2050.
- Britain aiming to cut emissions by 80% from 1990 levels by 2050.
- Energy savings could produce a net benefit of £4B by 2020

Source: WBCSD (World Business Council for Sustainable Development)

Sustainability Results Achieved



Dimension Data Campus – South Africa

Annual Environmental impact	Saved
Water (litres)	9,367,000
Coal (kg)	3,614,000
Ash Produced (kg)	978,000
Sulphur Dioxide Emissions (kg)	56,000
Nitrous Oxide Emissions (kg)	26,000
Carbon Dioxide Emissions (kg)	6,564,000



Equivalent to:
2,590 cars removed from the roads

How do we do this?



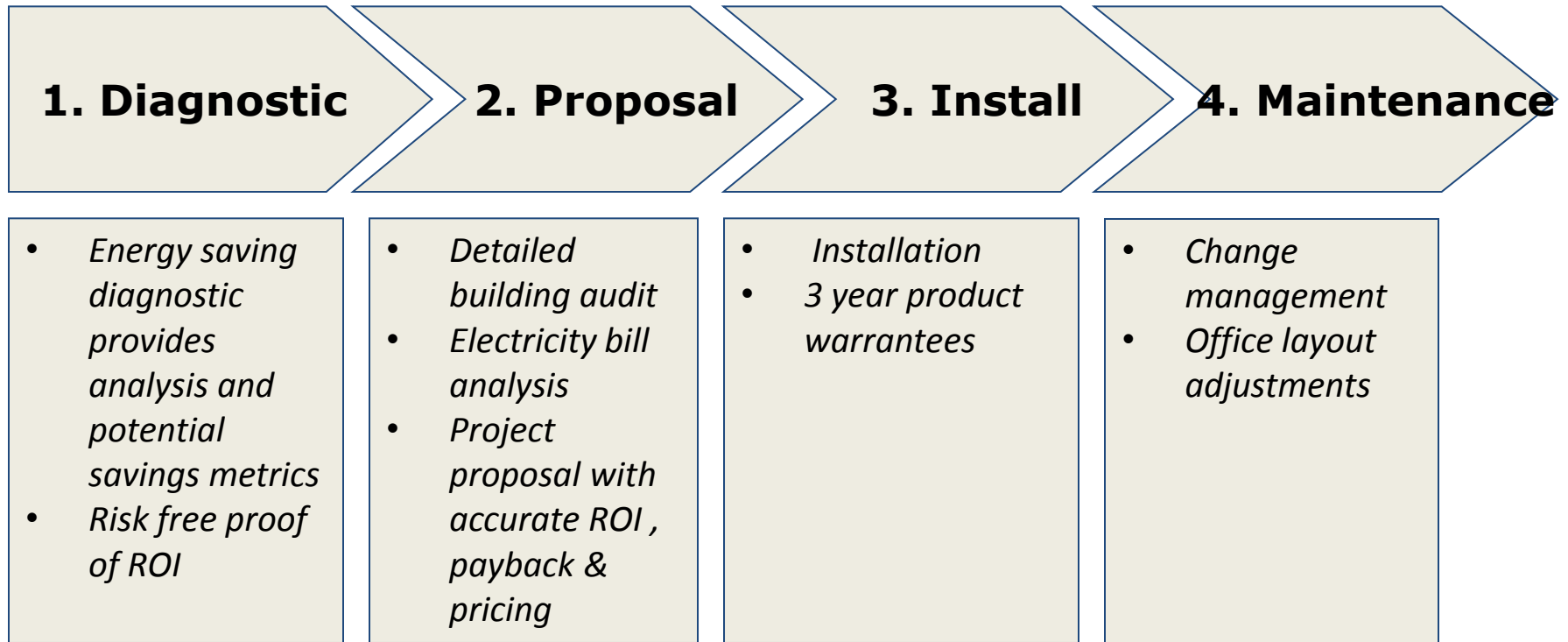
- Compatible with any sustainability strategy
- Low hanging fruit - best ROI/IRR
- Delivers Immediate results
- Option to structure as Operational Lease



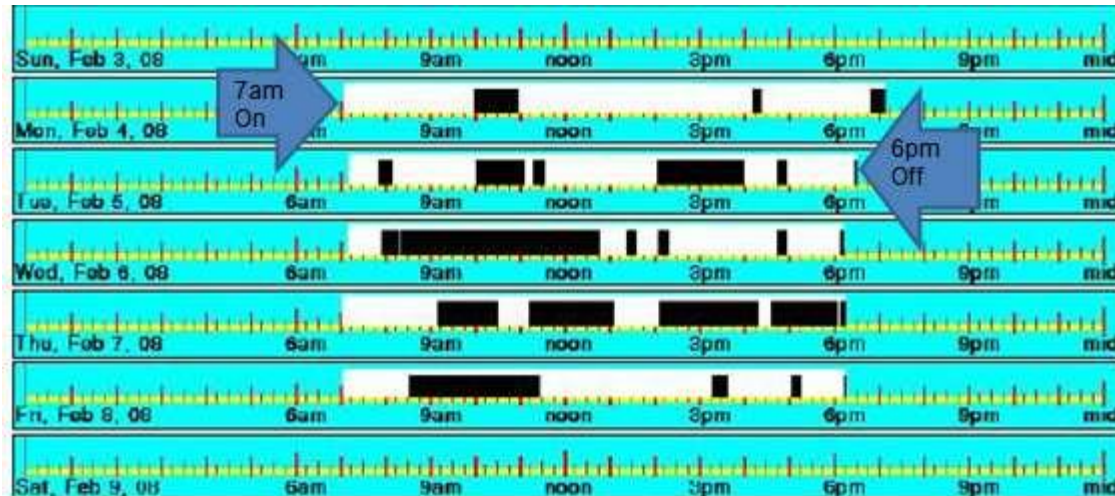
1. Install sensors (occupancy, day-lighting)
2. Upgrade Lamps
3. Upgrade Control gear



Four Stage Engagement Process



Stage 1 - Savings Diagnostic



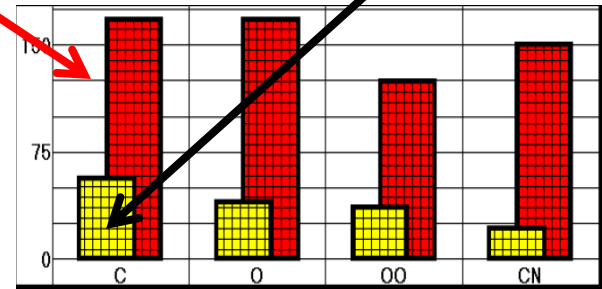
Savings Diagnostic - Risk Free Analysis

Area Type Averages				Normalized Weekly Lights On				Normalized Weekly Occupied				% sav	
Area Type	Qty	Watts	Peak	Off	Shldr 1	Shldr 2	Total	Peak	Off	Shldr 1	Shldr 2		Total
Copy Rm	C	1	972	167.74	0.00	0.00	167.74	56.54	0.00	0.00	0.00	56.54	66.29%
Office	O	2	486	167.86	0.00	0.00	167.86	40.16	0.00	0.00	0.00	40.16	76.08%
Open Office	OO	3	792	124.00	0.00	0.00	124.00	36.27	0.00	0.00	0.00	36.27	70.75%
Conference	CN	2	700	150.46	0.00	0.00	150.46	21.84	0.00	0.00	0.00	21.84	85.48%
Building Average			5720	145.36			145.36	36.84				36.84	74.66%

Measure potential saving for each area

Current Use

Potential Use



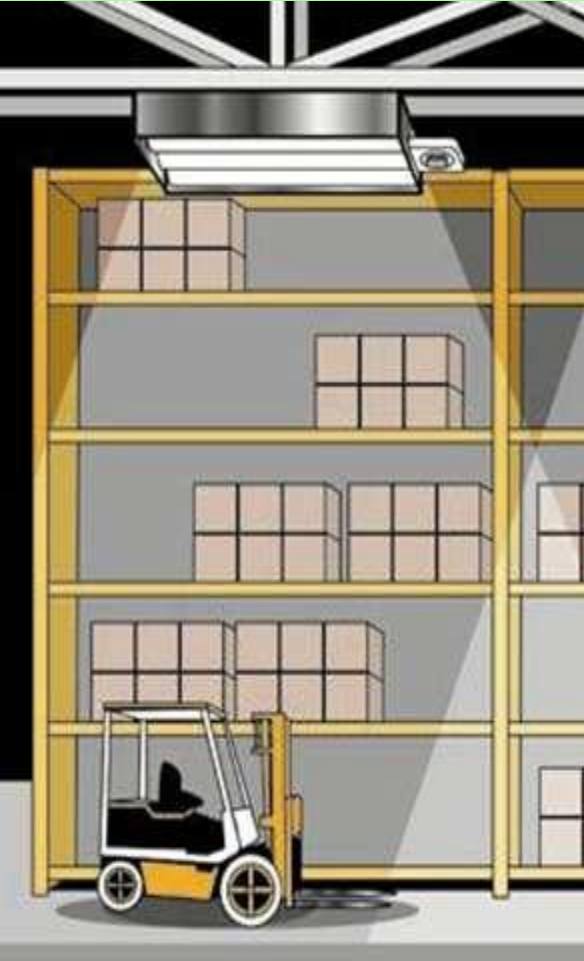
- Easy ROI, IRR, payback calcs
- Aligning stakeholders
- De-risking decision

Abatement

Monthly Environmental Abatement

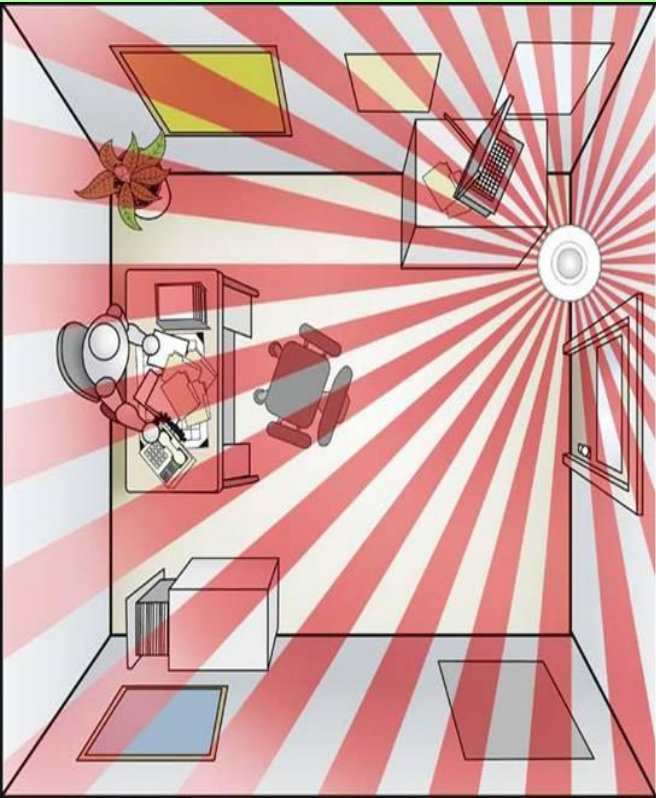
Saved kWh	14,285
Saved kWh per year	171,425
Water usage (l)	18,143
Coal usage (kg)	7,000
Ash produced (kg)	1,895
Ash emitted (kg)	4
Sulphur Dioxide SO ₂ emissions (kg) / Acid Rain	108
Nitric Oxide NO _x emissions (kg) / Acid Rain	51
Carbon Economics	
CO ₂ emissions (kg)	15,297
CO ₂ emissions (kg per year)	183,562
Approximate Carbon Credits / year	183

Diverse Applications



- Commercial & Govt Offices
- Schools & Universities
- Car Parks (average 45% saving)
- Hotels
 - back office areas, passage ways kitchens, store rooms
 - Rooms (if not negative perception)
- Warehouses & Industrial areas
 - (in some cases HiBay lighting needs T-bay refit)
- Retail
 - Currently piloting control of part of the lights
 - Warehouse, back office, store rooms

Super Sensor Technology



- Best of breed sensors from Global manufacturers
- Multiple suppliers (over 100 sensor types)
- Occupancy detection
 - 360°
 - Fine finger movement
 - Range up to 20 meters
- Daylight Harvesting
- Heat, Sound and movement triggers
- Small, aesthetically pleasing or invisible
- Low business interruption during installation
- No behaviour change required. Employee buy-in easy. We provide change management communication. Solution serves as a constant reminder of sustainability actions and responsibility.



Why 5th Energy ?

- Focus. Specialisation. Expertise.
- Entire process responsibility. Guaranteed Results.
- UNIQUE - Auditing actual office data = accurate projections:
 - removes ROI guess work
 - makes internal buy in a “no-brainer”
- Best of Breed Global suppliers (+100 sensors - optimise value)
- Accelerated retrofit innovations
- Change management – staff communication
- You can take sensors with you if you move
- We can reconfigure sensors if office layout changes



Profitable Sustainability Results



**5TH
ENERGY**

There's another, untapped resource: **efficiency**

Kingsley Hull • Managing Director

kingsley.hull@5thenergy.co.uk

+44 (0) 7511 423 958

www.5thenergy.co.uk



member of the
Electro Sense
group of companies

5th Energy Ltd | 20 Bearfield Road | Kingston Upon Thames | KT2 5ET | UK



**5TH
ENERGY**