

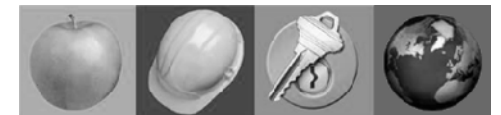


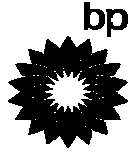
Energy Efficiency in BP

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BP plc

Discussion with the Productivity Commission, Melbourne

October 27th 2004





Discussion Agenda

BP's experiences in promoting energy efficiency with regards to:-

- Defining the strategic imperative
 - why is this important?
- What is energy efficiency?
 - Tell me your strategic imperative first!
- The energy efficiency gap
 - irrational behaviour or just another gap?
- BP's energy efficiency programme
 - Imperfect but working
- Barriers and impediments
 - Is it simply a capability gap?

Context: Defining the Strategic Imperative

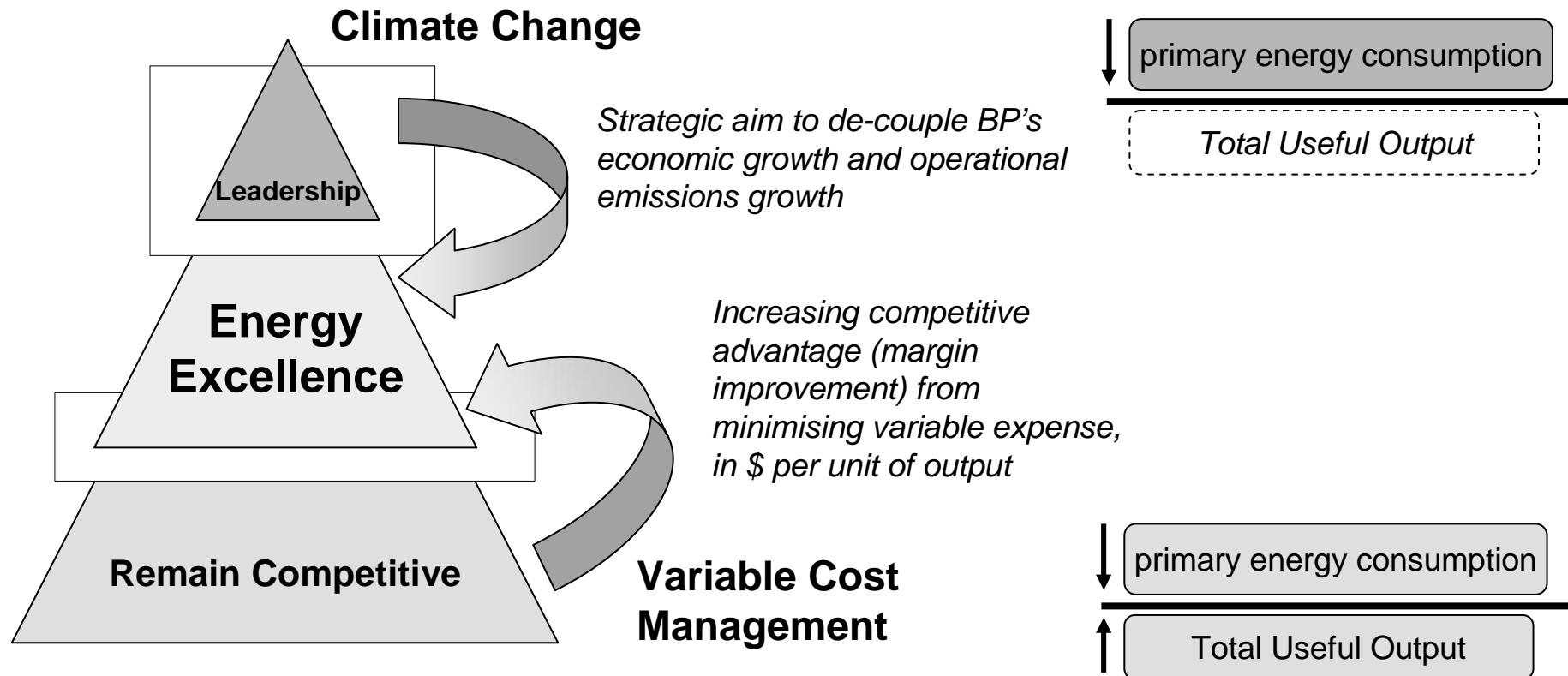
- BP seeks to maximise shareholder value through three types of activities:-
 - **Strategy:** Create and maintain compelling corporate strategy with long term goals
 - **Plan execution:** Provide the business with the people, processes and tools such that they deliver specific targets in support of the corporate goals
 - **Governance:** Ensure all operations are legally compliant and adhere to company policies and standards



- Corporate performance is relative not absolute
- Core activities (priorities) are achieved by aligning the pyramid.
- A great company is one that wisely selects those areas of its business where it chooses to excel in pursuit of competitive advantage
- e.g. In BP, safety became such a priority and performance is now world class
- BP has more value enhancing investment opportunities than available human and capital resources
- Executives are paid to make hard choices and stop activities that dilute employee focus

So given the corporate context, can energy efficiency become a strategic imperative?

What is Energy Efficiency?

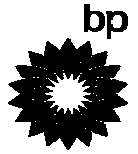


If strategic imperative = productivity gains

- traditional Government policy area with skills support/training/education e.t.c.

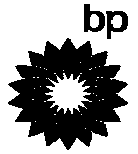
If strategic imperative = climate change

- Governments need to “signal” that carbon emissions need to reduce beyond “business as usual” through saving energy



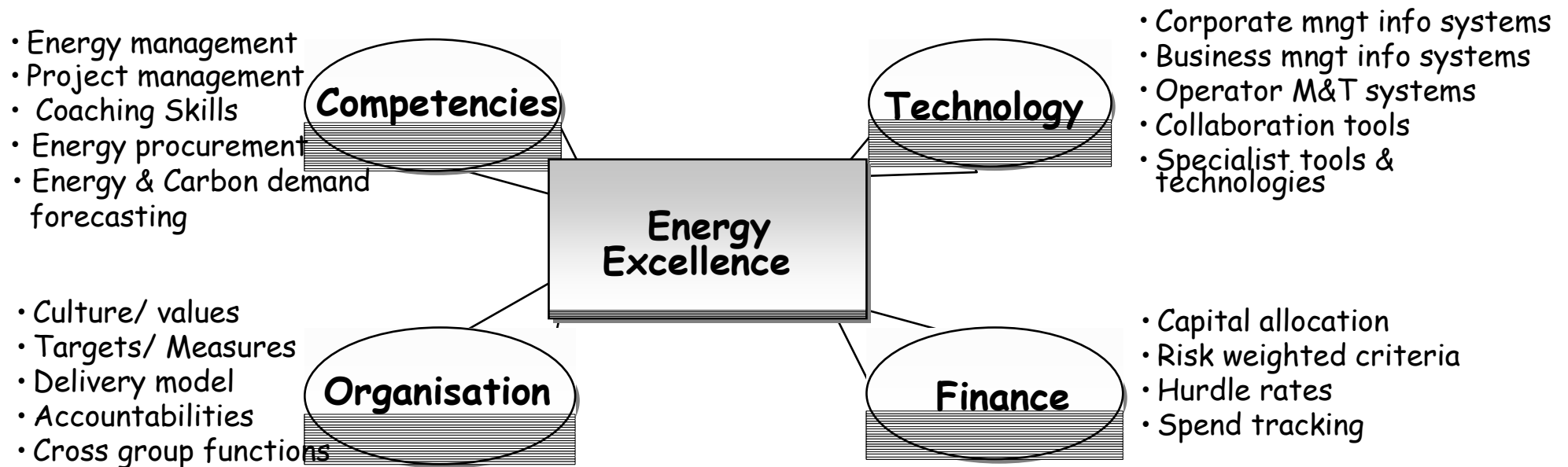
The energy efficiency gap ?

- There is an efficiency gap, perpetuated by the existing strategic imperatives of most businesses
- There is gap to a technical limit
 - due to the technology heritage in OECD
 - continuous technology creep
- The gap to a “cost effective” commercial limit is smaller but still material
- “Net benefit” definition of cost effectiveness is too narrow
 - It is all about opportunity cost, not absolute value
 - people & capital are limited

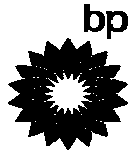


How to achieve Energy Excellence

In order to develop leading practices and reach energy excellence, an industrial player will have to develop four key enablers

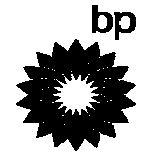


A sustained energy efficiency programme requires competency in all four elements
....but you need to show leadership and start the process at the top....



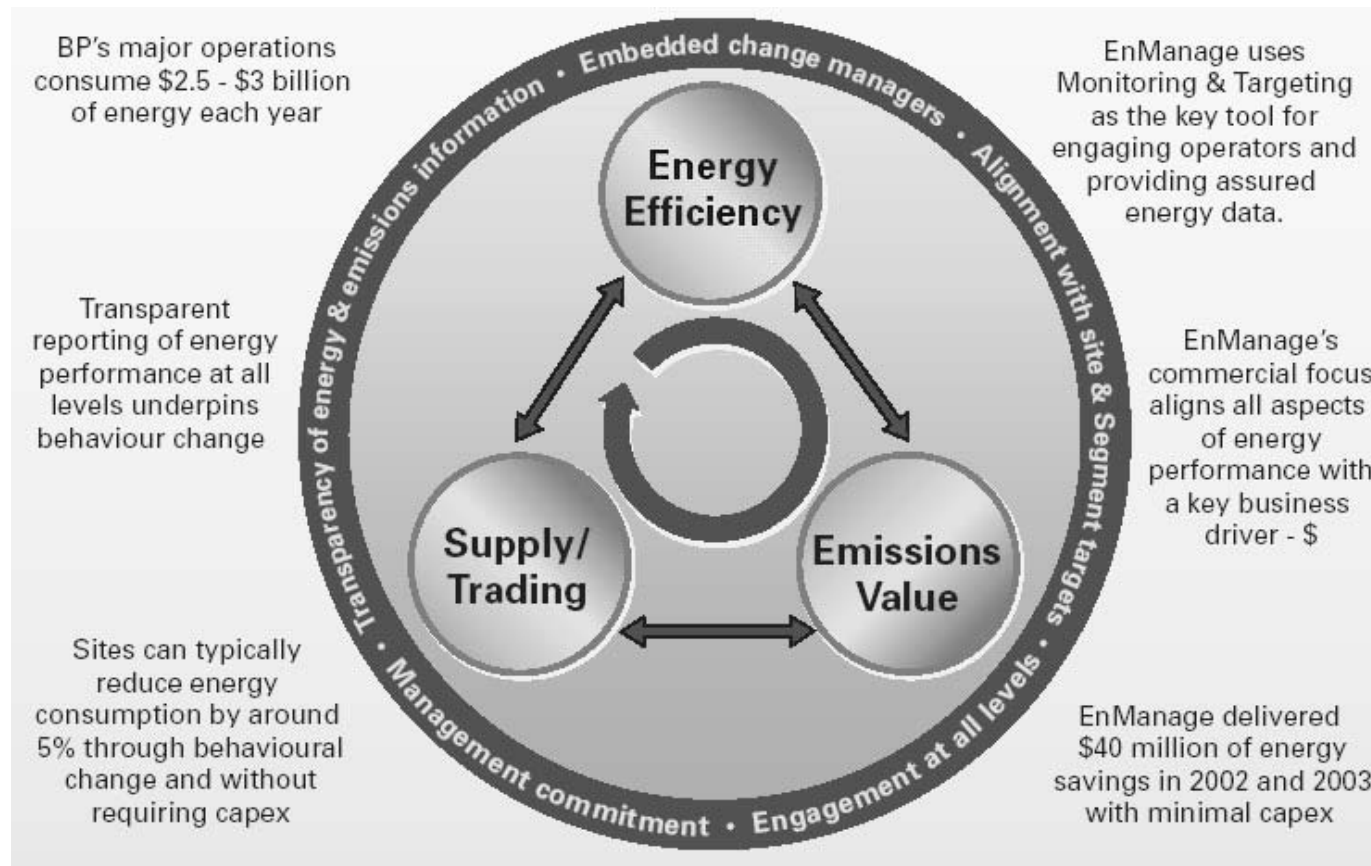
BP's approach to energy efficiency (EE)

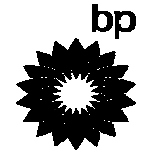
- **Leadership** (*send the signal*)
 - Set a clear carbon related goal (challenge) to mitigate 50% of all emissions growth
 - Estimate the scale of energy efficiency interventions required to deliver the GHG reduction required
 - Commit an incremental US\$350m over a 5 year period above “business as usual” budgets to signal the intent
 - Give the budget to a corporate function to administer and allocate to projects
- **Energy Excellence** (*translate it into business context*)
 - Finance, Skills & Technology
 - From the EE budget, fund a team of in-house energy coaches to co-locate with businesses and drive culture change
 - Corporately fund license for leading energy monitoring & targeting software, enhanced for BP use. Raises awareness and information flow and allows \$ and GHG savings to be tracked and aggregated
 - Transparent allocation of the EE funds through an open access intranet site to the best commercial projects. Set high hurdle rate initially to ensure that only the “best of the best” are funded
 - Ignore GHG metrics, go for \$ – behave like a business
 - Organisation
 - Business left to re-design their local organisation to respond to the “opportunity”
 - Those that “get it” embrace the programme and receive more of the funds



Building Capability - coaching

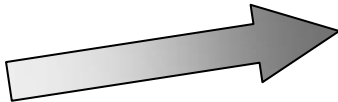
- In-house programme based upon EnManage™ principles offered (not mandated) to BP's large operating Sites
- Aim is to create and then sustain enhanced commercial energy performance
- Seeks to uncover “the energy business within your business”



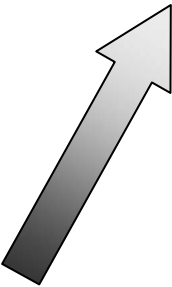


Energy/GHG Database and funding process

Local & business endorsement as do-able
awaiting funding
Annual metrics



Corporately approved programme
“best of the best”
Quarterly tracking



Locally generated project ideas options
Approximate metrics

Energy and GHG Projects Database - Microsoft Internet Explorer provided by BP Group Digital Business

Address: http://eenergydev.testweb.bp.com/ghgprojects/search.asp

bp Energy and GHG Projects Database
Energy Efficiency and Flaring & Venting Investment Tracking

Home | Add New Project | My Projects | All Projects | My Administration | Site Administration

Filter & Export

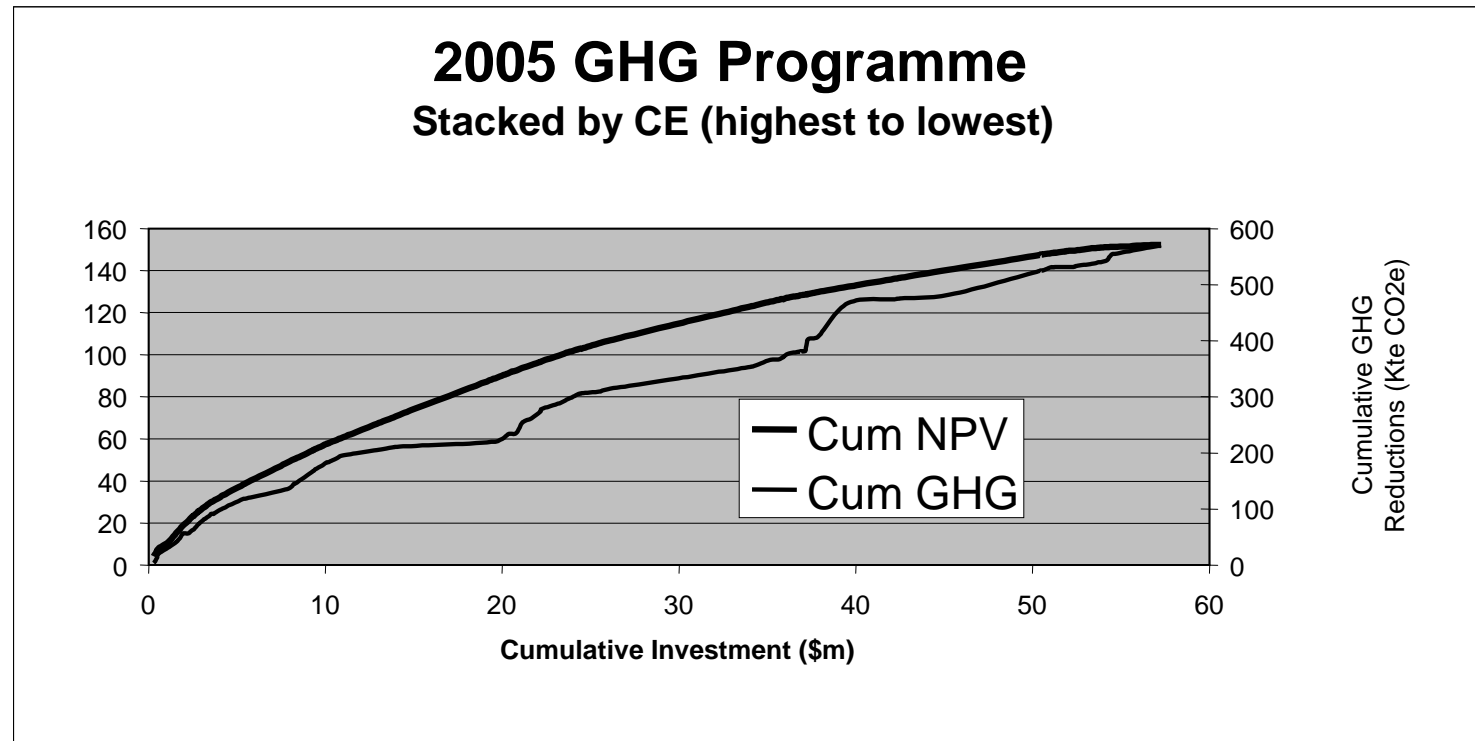
Filter by Segment: ALL Status: Yellow Year: EUETS

Project Name	Segment	Owner	2005 Plan Capex/Revin [\$Million]	2005 Plan Avc [KT C	Petrochemicals R&M [\$Million]	6 Full Year Plan GHG Avoided [KT CO2e]	Project NPV [\$Million]	EUETS Eligibility
Development of 10 year...	R&M	Ibbott, T...			0.05			✓
Flare gas bypass / rec...	R&M	Bouroudia...		1.6	0.15	1.6	0.43	✓
Freeing the dampers on...	R&M	El-Badawi...		20.0	0.25	25.0		✗
installation of fuel q...	R&M	Gilmartin...		4.1	0.25	4.1	0.30	✗
Perform an internal au...	R&M	Ibbott, T...			0.05			✗
Platformer H2-H3 Dampe...	R&M	Bouroudia...		1.0	0.08	1.0	0.27	✓
Rationisation of steam...	R&M	Gilmartin...		1.6	0.10	1.6	0.10	✗
Repair Steam Leaks at ...	R&M	El-Badawi...	1.10	90.0	2.60	100.0	17.50	✗
REVEX PROJECT - Crude ...	R&M	King, Brian			0.07			✗
Start a new Steam trap...	R&M	El-Badawi...		5.0	0.16	5.0		✗
test	Petro...	McDonnell...			1.00		1.00	✗
Utilisation of Refiner...	R&M	Saydah, B...	2.10		2.78	7.0	3.90	✗
Utilisation of Refiner...	R&M	Saydah, B...	3.20		4.38	9.0	7.20	✗
Utilisation of Refinin...	R&M	Saydah, B...	2.10		2.78	7.0	3.90	✗
Utility optimiser Aspe...	R&M	Bouroudia...		3.0	0.18	7.0	1.70	✓
TOTAL			436.0	295	602.2	367	317.8	

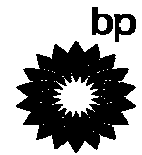
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2005 Programme – low hanging fruit



- Capital efficiency (CE), $NPV \div \text{cost}$, around 1.0 with paybacks averaging less than 2 years
- ~100 projects, average size ~US\$0.5m
- Corporate aggregation creates materiality and awareness of rapid payback
- ...Challenge will be to maintain momentum as paybacks lengthen



Barriers and Impediments – UK view

- UK Gov't funded body to drive innovation towards a lower carbon economy & reduce energy demand
- Carbon Trust assessed Barriers & Impediments by talking to ~70 UK companies

1. Weak drivers for change limits commitment

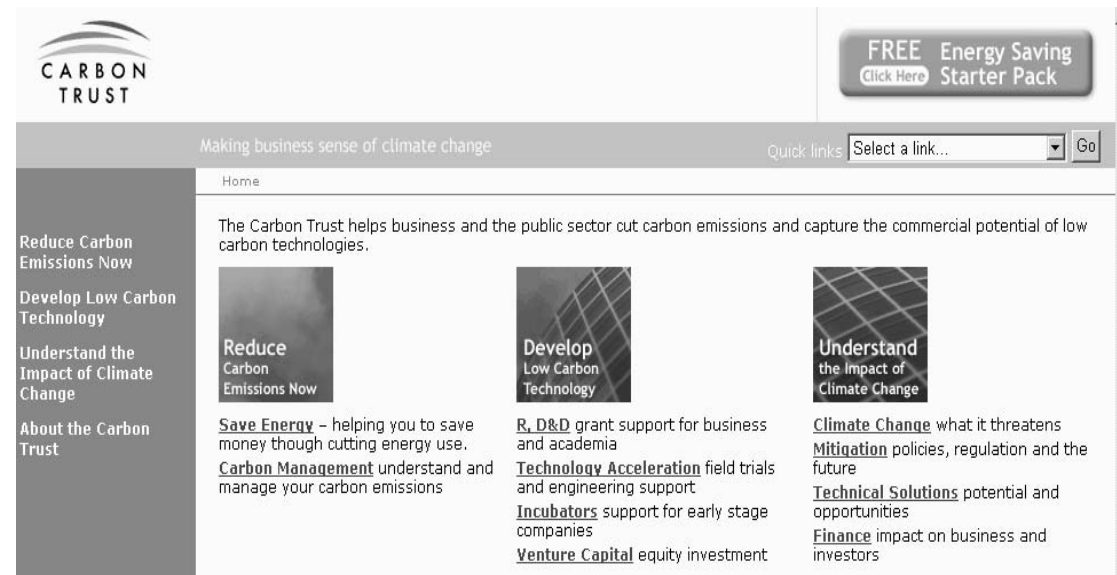
Lack of senior level commitment

Lack of resources focussed on energy management

2. Risk averse to the unfamiliar

Perceived technology risk

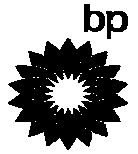
Lack of track record/confidence in business case



~~3. Lack of funding~~

~~Positive net benefits but > 2 year payback fails hurdle~~

3 is a consequence of 1 & 2 and not a root cause



Barriers and Impediments – BP view

- Two fundamental Issues
 - Culture (the norms around here)
 - Capability (core competencies in energy technology and management)
- **Culture**
 - Leadership focus is to grow top line revenues and market share
 - Fixed cost reduction is easier, known prize and benefits delivered < 1 year
 - Variable cost savings lost in the margin and never get through to the P&L
 - Energy/environmental projects are all about compliance and not sexy
 - No track record – we only back winners
- **Capability**
 - Lack of energy competencies “in-house”, career path & professional recognition
 - Lack of ability to risk weight the investment case versus growth projects
 - Lack of info systems (\$, GJ, CO2) to engage operators, inform supervisors and report the “energy business” to leadership