

Pulse

Comes to You 2009



Managing the World's Infrastructure

Generating IT Operational Efficiencies through Environmentally Sustainable Strategies

Ian Salvage

Tuesday 19th May 2009

Agenda

- The current 'climate'
- Environmental challenges and levels of awareness
- The IBM Energy and Environment Framework
- Linking IT service management to the Framework
- Where do I start?
- Case studies



The news is currently beset with acute and pressing issues that affect organisations



Suddenly, one August day shook the world, turning an Edwardian summer of prosperity into a grim financial crisis

guardian.co.uk, 2008

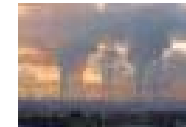


European car sales fell by 17% in the first quarter of 2009

guardian.co.uk, 2009

More than 19,000 people declared bankrupt in Q1, a 23% increase on the same period last year

guardian.co.uk, 2009



Climate chaos predicted by CO2 study
World will have exceeded 2050 safe carbon emissions limit by 2020, scientists say

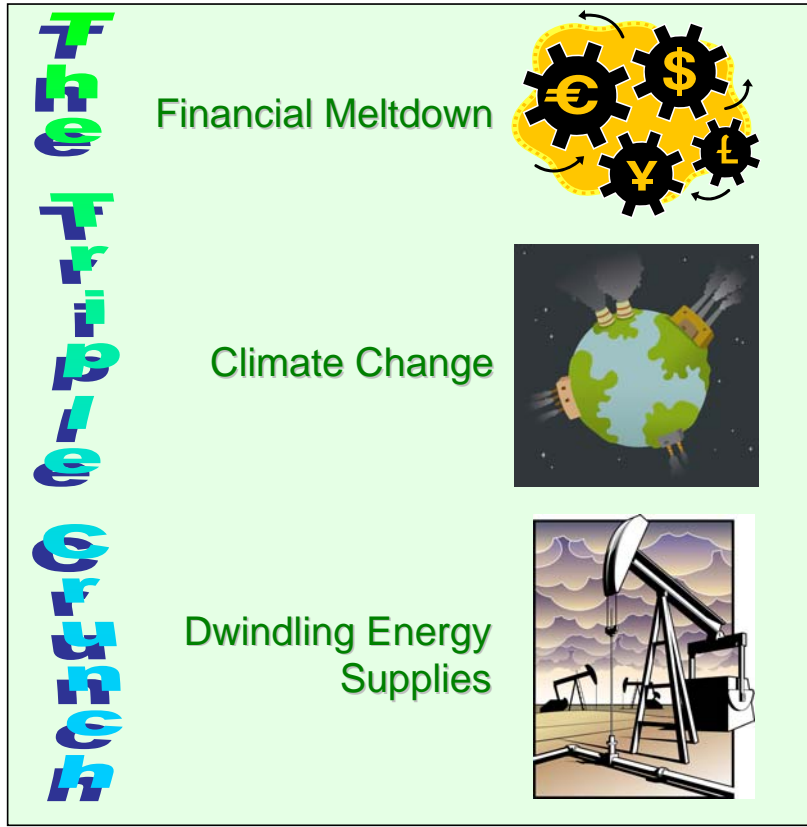
independent.co.uk, 2009

Water scarcity 'now bigger threat than financial crisis'. By 2030, more than half the world's population will live in high-risk areas

independent.co.uk, 2009



Many environmental commentators are now talking of a 'triple crunch' that we need to address



- There can be no sustainable new world order that does not tackle these [triple crunch] threats together, since they are all inter-connected. (Meacher, 2009)
- The answer to many of these problems is investing in a massive environmental transformation programme amounting to a green new deal. It is a comprehensive programme designed to stabilise the economy, create jobs, tackle poverty and inequality and help protect us from the vulnerable supply lines of the global food and energy markets. (Simms, 2008)
- LDV could be at the forefront of that green new deal if the takeover can be agreed. Put simply, there is a new market unfolding here, and LDV effectively said to the government: "put your money where your mouth is" when you talk about a low carbon future. (Bailey, 2009)



The effects of the 'triple crunch' impact organisations and drive new strategies

Regulations & Standards

Governmental regulations and laws designed to reduce emissions of greenhouse gases, protect natural resources and limit further damage

Stakeholder Expectations

From investors to market analysts, from employees to consumers and NGO's, the demand for consideration of environmental and economic consequences of activities is growing

Brand

Develop greener products, technologies, and services to capture emerging market opportunities while balancing environmental impact.

Costs and Availability

Rising costs and uncertain availability of energy, waste disposal, water and raw materials; risks for physical assets due to climate change / global warming.



IBM's vision of a smarter planet incorporates the opportunity for organisations to open up meaningful new possibilities for progress



Smarter Planet is IBM's vision to bring a new level of smart to how the world works—how every person, business, organization, government, natural system, and man-made system interacts.

Each interaction represents a chance to do something better, more efficiently, more productively.

But more than that, as the systems of the planet become smarter; we have a chance to open up meaningful new possibilities for progress.



Our Energy & Environment Framework provides the holistic approach needed to deliver greatest benefit

Strategy

Align the Corporate Social Responsibility strategy and overall Business strategy.

People

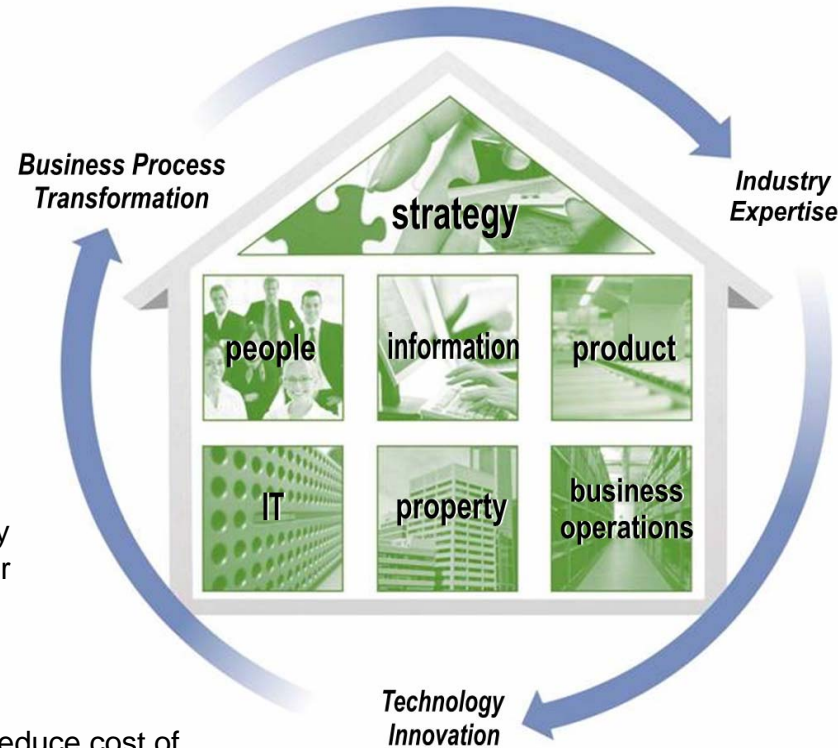
Reduce travel, real-estate and office costs without impact to productivity.
Attract top talent.

IT

Evaluate and extend existing IT, deploy more efficient future IT –both with lower cost and impact.

Property

Monitor and control assets and reduce cost of property management for water, energy and waste



Information

Reduce data growth while optimizing data retention and compliance readiness.

Product

Find and exploit new market opportunities related to green.

Business operations

Reduce cost of operations and environmental impact while optimizing business processes



IT may inhabit only one room of the framework, but it can contribute significantly across all of it

Not only

IT directly accounts for 2% of global CO₂ emissions
That's as much as the airline industry

But also

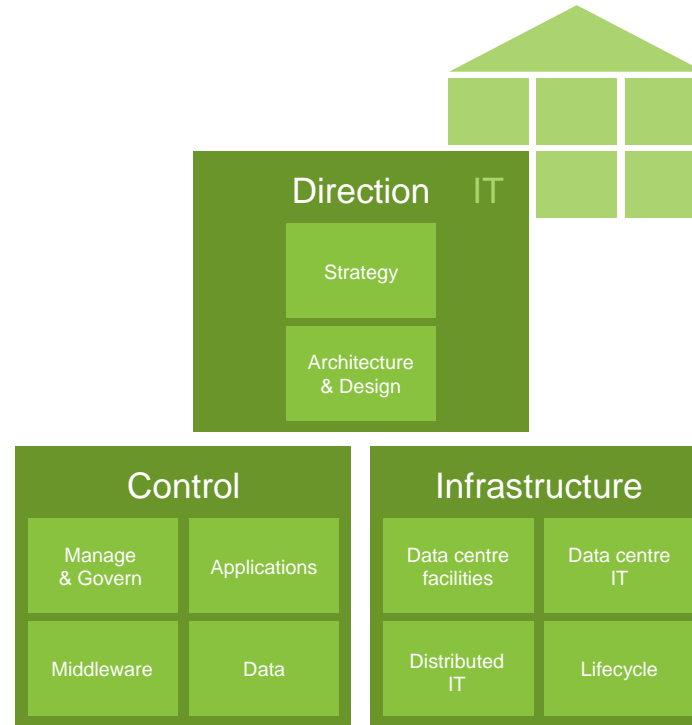
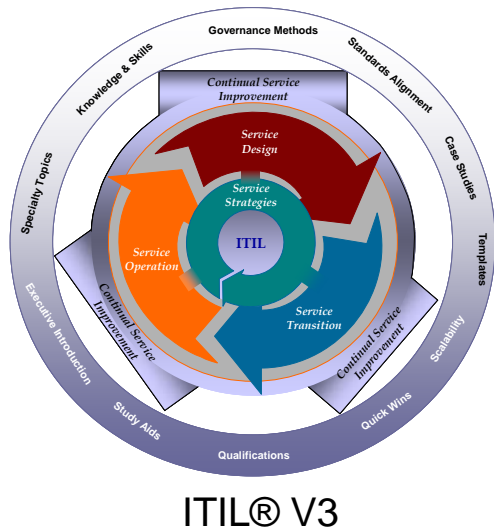
IT can significantly contribute to control and reduce the other 98% of CO₂ emissions

Latest analysis from IBM UK's Sustainable Development Unit indicates that the direct average global contribution from IT could be as high as 4.5%

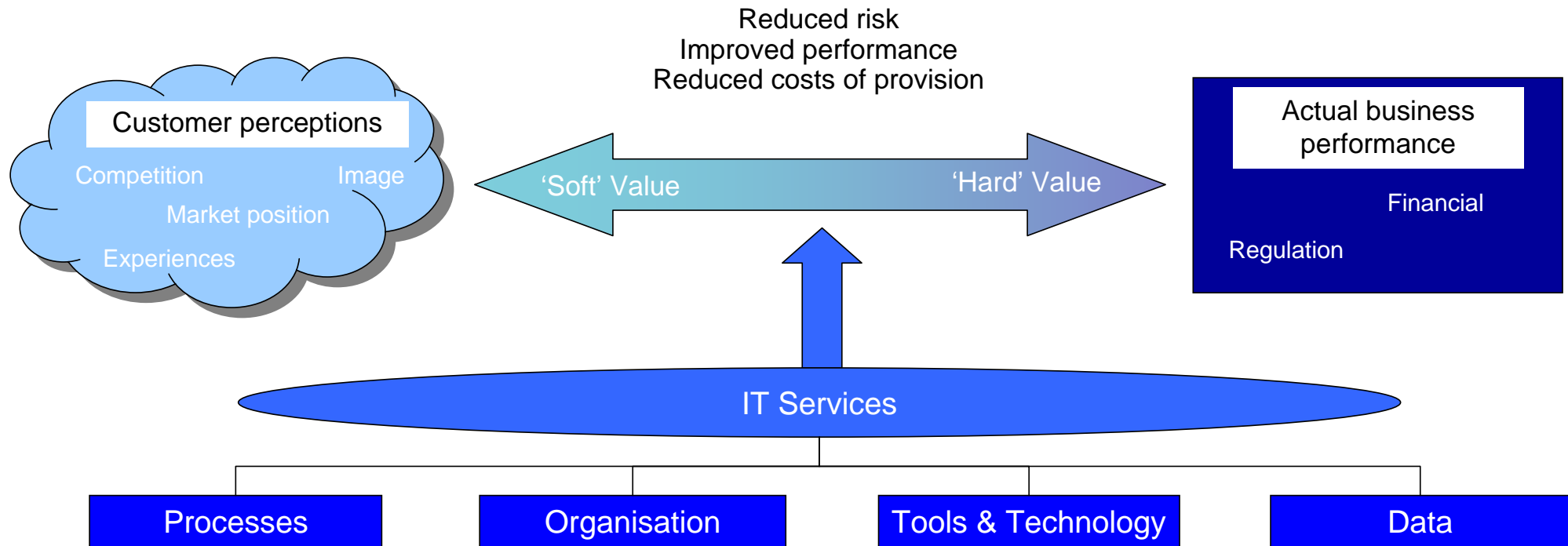
IBM UK (2008) Baseline Quantification of Carbon Dioxide Emissions using ISO 14064, IBM UK, Strategy and Evidence Group, Sustainable Development Unit, Page 54, March 25, 2008



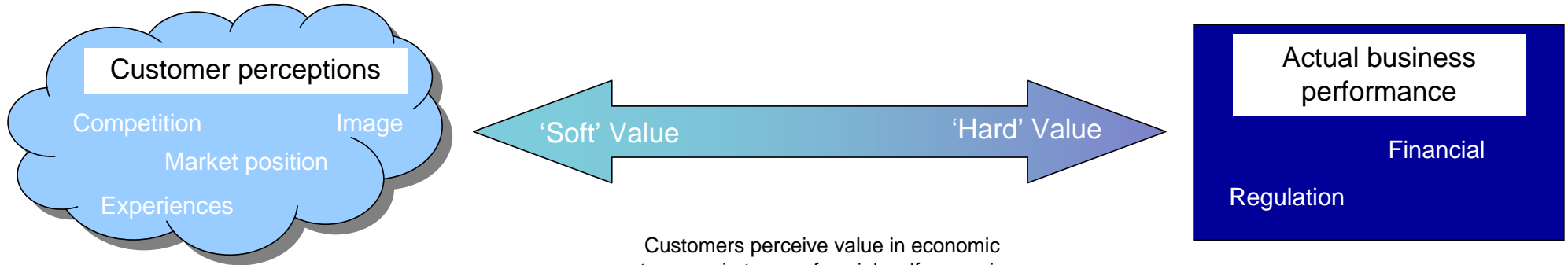
Within the IT Room of the framework, service management is a critical enabler for all the other elements



The crux of IT service management is to give value to its customers through the IT services provided

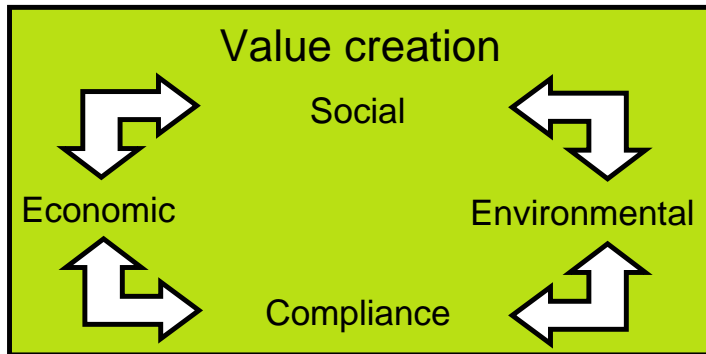


Environmental challenges influence customer perspectives on what represents value from IT

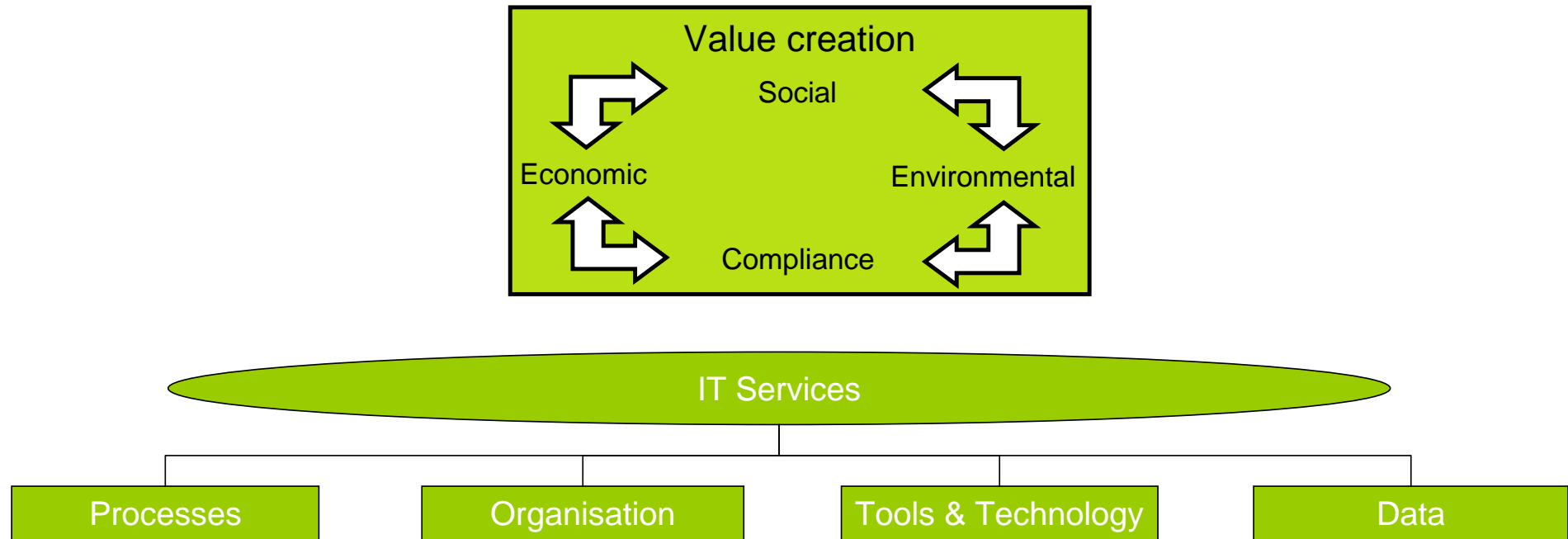


Customers perceive value in economic terms or in terms of social welfare, as is the case with pure public services offered by government agencies, or both.

ITIL V3, 2007



However, the same basic building blocks for enhancing the value of the IT services provided still apply



A new hue but the same basic building blocks



How can IT service strategy react to environmental and financial drivers?

How can we improve our competitive positioning by the adoption of green IT strategies? Efficiencies? Brand enhancement?

Can we use green IT innovation to strengthen our marketplace image and position?

Does our financial management model drive behaviour change around carbon emissions (e.g. charging for the amount of service delivered)?

Does our demand management model include project prioritisation based on 'greenness'?

Strategy

Directing energy usage/carbon footprint of IT - driven by business strategy

IT Strategy

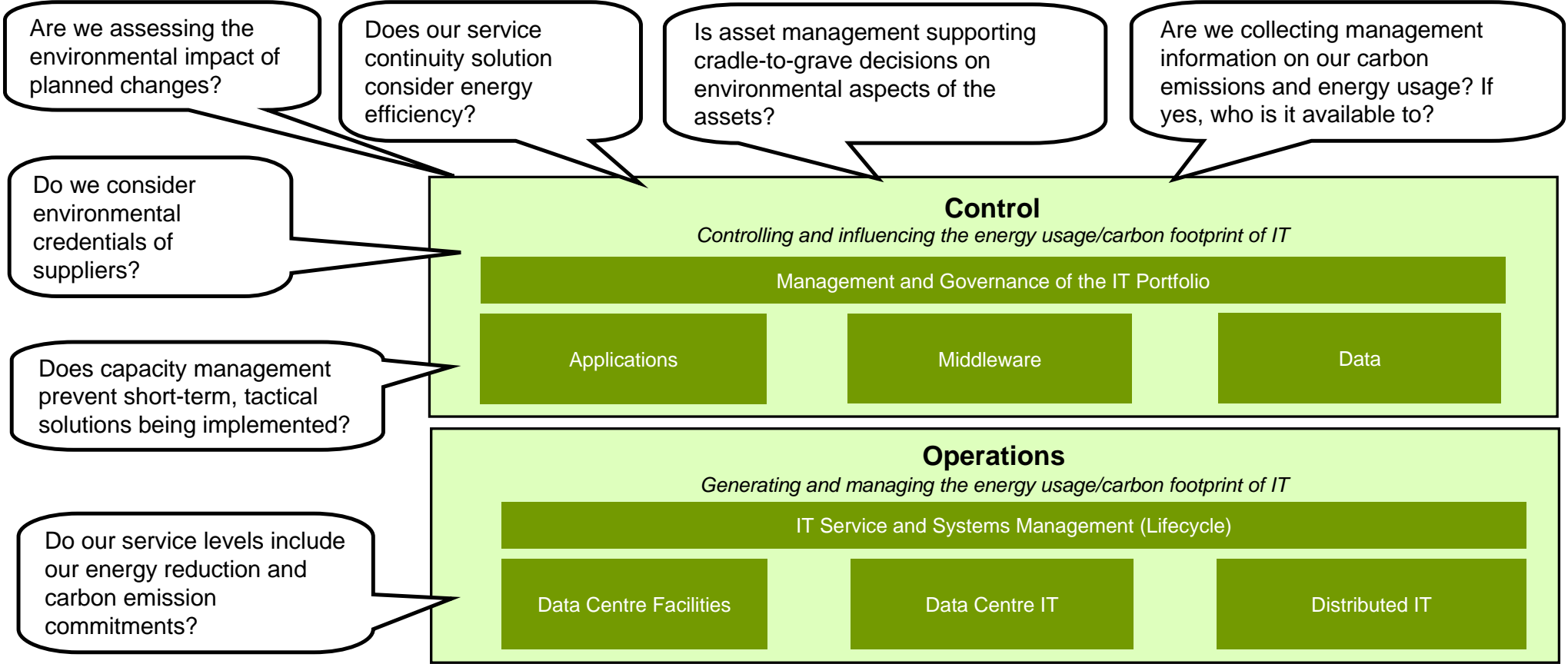
Do our business cases consider green IT as a long-term route to generate greater ROI?

Do we recognise the need to amend our IT strategy to be ahead of the 'green legislation' curve?

Do our people recognise the need for individual and behavioural change in addition to corporate technology projects to reduce carbon emissions?



And how will this drive change to management disciplines



IBM's IT Carbon Strategy Study - a starting point for generating IT operational efficiencies through green strategies

Strategy

Directing energy usage/carbon footprint of IT - driven by business strategy

IT Strategy



- Can green IT support the business
- How can energy and environment be included in the IT Strategy effectively
- How can constraints on IT be removed
- Where to start – greatest opportunities

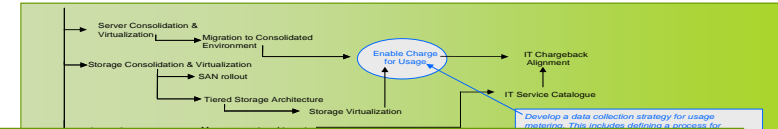


IBM's IT Carbon Strategy Study - a starting point for generating IT operational efficiencies through green strategies

Strategy

Directing energy usage/carbon footprint of IT - driven by business strategy

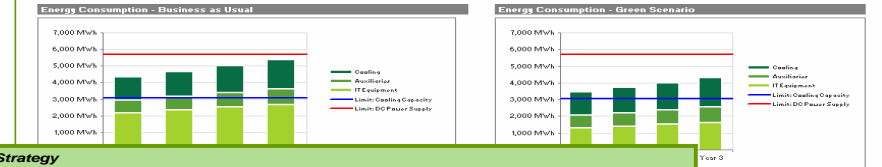
IT Strategy



Carbon Strategy Study

Report Outline:

- Introduction, Background and Method
- Management Summary
- Assessment Feedback
 - Energy usage
 - Infrastructure utilisation
 - Level of Green maturity
- Green IT Guiding Principles
- Green Action Plan
 - Quick win improvement projects
 - Project roadmap



S4 - Strategy

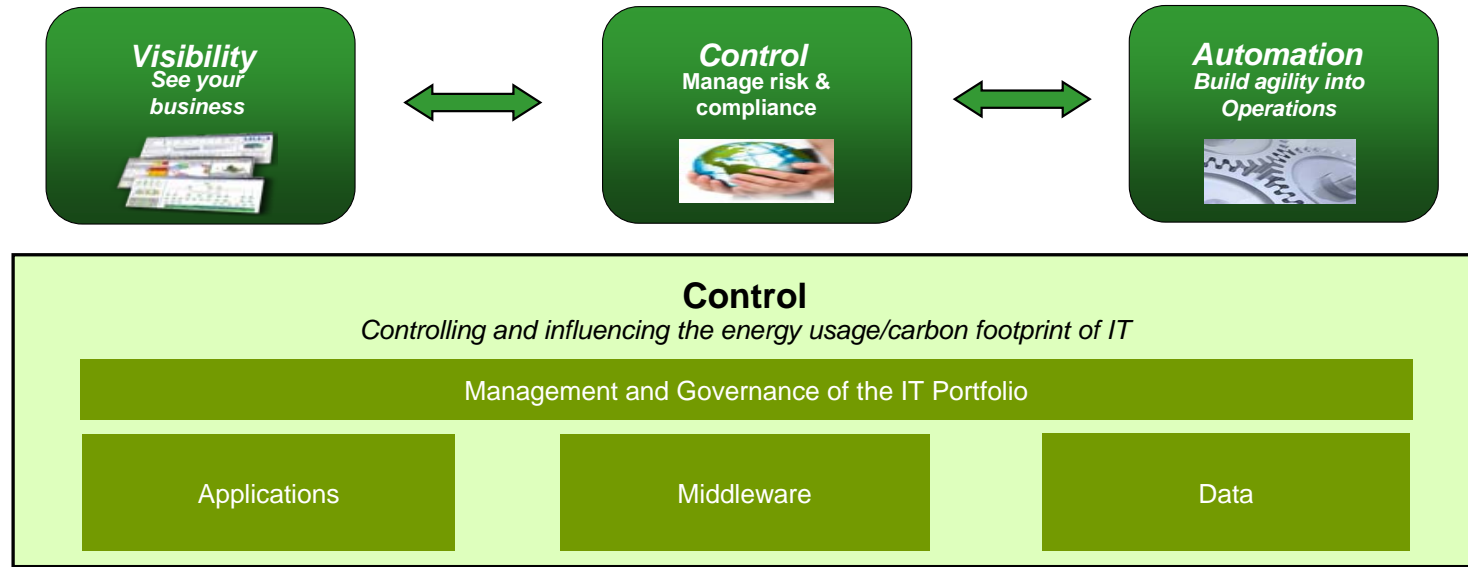
The IT organisation will initially focus on improving electrical efficiency in order to reduce the carbon footprint of IT

		Rationale			Implications			
		IT Customer Relationship Management	IT Business Management	Business Resilience	Information Technology Management	Service and Solution Development	Service and Solution Deployment	Service Delivery and Support
Strategy	Directing	2 3	1 2	2 4		2 4	2 5	1 2
	Controlling	1 2	3 3	2 3		2 4	3 3	
Operators	Execution	3 3	2 3	1 2		3 4	1 2	2 4

	Year 1	Year 2	Year 3
1,402,091	1,505,049	1,000,000	
1,518,931	1,631,445	1,743,958	
817,886	876,470	928,054	
	-28%	-28%	-28%
1,606	1,725	1,844	
	-28%	-28%	-28%
8,029	8,824	9,218	



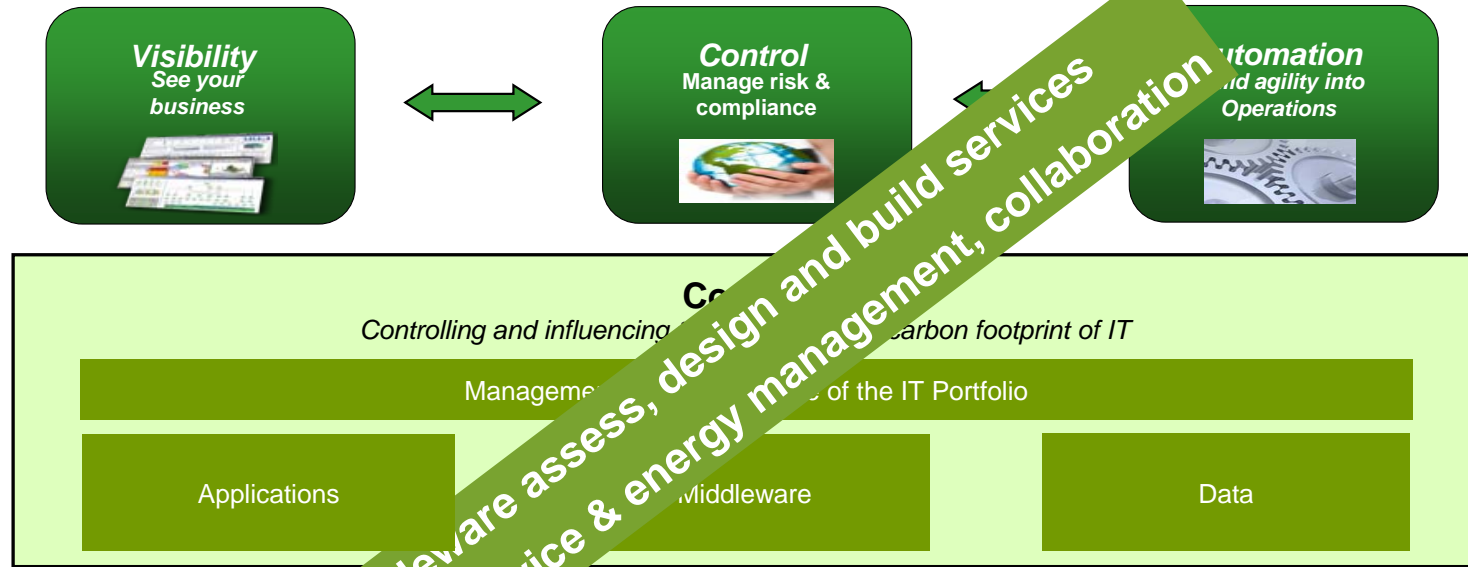
IBM can offer a full lifecycle solution to organisations



- Middleware selection with consideration of the carbon impact
- Middleware design and deployment with consideration of the carbon impacts
- Configure and tune the middleware to be energy efficient?
- Prepare the infrastructure to optimise the effectiveness of the middleware



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Case Study: Department for Environment, Food and Rural Affairs (DEFRA)

- IBM provide information technology and business change services to Defra, including managing, supporting and improving Defra's desktop IT infrastructure and business systems.
- Step One: *How do I determine the energy & carbon footprint of my distributed IT infrastructure and bring about sustainable improvements?*
- “I believe that the CIO of any organisation has a duty to ensure that distributed IT systems and services are as energy efficient as possible. This is never easy.” *Chris Chant, CIO, Defra*
- Step Two: *How do I determine whether one end-user system is more energy efficient than another?*



IT service management adaptation will be essential for delivering IT operational efficiency through green strategies

- In future, carbon management may become:
 - A 'need to have' and likely to be influenced by legislation
 - Perceived as a business asset which can create new opportunities
 - Managed professionally as a KPI, with targets and results
 - Integrated into the company's values, attitudes and behaviours
 - Expanding to include external stakeholders to harmonise areas such as procurement, legislation and standards (e.g. through industry organisations)

Carbon Disclosure Project (2008) Making Advances in Carbon Management, A Joint CDP and IBM Study



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Further Information



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Find out more...

Energy, the Environment and IBM: www.ibm.com/green/

IBM Video Broadcasts on Green <http://www-01.ibm.com/software/info/ibmtv/us/index.jsp>

Making advances in Carbon Management: best practice from the Carbon Information Leaders – a joint CDP and IBM Study.
<http://tinyurl.com/5sh6ub>

Driving the Virtuous Circle: how ICT can enable the carbon effective organisation. An Information Age Partnership (IAP) report, published by the Department for Business, Enterprise & Regulatory Reform (BERR) <http://tinyurl.com/5lm2js>

A day in a low carbon life: What might it be like to lead a business in 2012? <http://tinyurl.com/5fovbb>

Cutting the carbon footprint of IT: How to deliver measurable savings. An IBM study with the support of DEFRA
<http://tinyurl.com/5oum79>

The Green Data Centre: More than social responsibility: a foundation for growth, economic gain and operating stability
<http://tinyurl.com/6yeb5s>

IBM Green Hub: the definitive source for IT carbon management information <http://tinyurl.com/ibmgreenhub>

IBM Green Strategy <http://www-01.ibm.com/software/solutions/green/>

Carbon Solutions fact sheets www.ibm.com/services/uk/bcs/html/bcs_landing_carbonmanagement.html

IT Carbon Strategy Study http://www-935.ibm.com/services/us/index.wss/news_story/its/a1029791?cntxt=a1025794



Here are a list of relevant IBM GTS services to get you started

- **IT Carbon Strategy Study**
 - Directing energy usage / carbon footprint of IT
- **Data Centre Cooling and Energy Efficiency Assessment**
 - Recommendations that can provide 15 – 40 % energy savings
- **Accelerator for Rationalisation – evaluation workshop**
 - Zodiac and SPACE Assessments
 - Save up to an average of 72% in data centre operational costs
- **Distributed IT Energy Efficiency Assessment**
 - Savings of 20-30% of energy costs
- **IBM Architecture consultancy services**
 - Integrate the carbon elements of the IT strategy into the overall Architecture framework
 - Adapt the IT Solution Design process to ensure that energy efficiency is considered in each IT project
- **Application Portfolio Assessment**
 - Reduce number of applications by 55% (15,000 to 6,800)
 - Defects down 58% and maintenance costs down 20%
- **Middleware assess, design and build services**
 - for SOA, service & energy management, collaboration
- **Storage Priority Assessment Consulting Engagement (SPACE)**
 - Energy saving of 65% (£1.5m)
 - Space saving of 70%
 - Reduction in heat output of 75%
 - Data Mobility Services
- **Global Asset Recovery Services (GARS)**
 - refurbish & reuse
 - disassemble & recycle
 - dispose of meeting environmental & privacy legislation



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