



# **Sense and Sensibility: A Balanced Approach to Performance Management**

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Director Resources  
EPSRC**



*“The science base is the absolute bedrock of our economic performance”*

**Tony Blair, British Prime Minister**



*“The future of the British economy depends on the future of British science”*

**Gordon Brown, Chancellor of the Exchequer**



## Science and Innovation Framework 2004-2014

- *Making the UK the most attractive place for science and innovation*
  - *Doubling the Science Budget over ten years*

### Public Service Agreement - Science and innovation

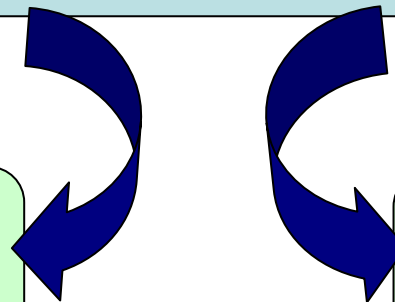
Improve the relative international performance of the UK research base and increase the overall innovation performance of the UK economy making continued progress to 2008, including through effective knowledge transfer amongst universities, research institutions and business.

#### Output 1

A healthy UK science and engineering base

#### Output 2

Better Exploitation





## Success Criteria

Success in improving the UK's innovation performance will depend on the health of its science and innovation system.

- World class research at the UK's strongest centres of excellence
- Sustainable and financially robust universities and public laboratories across the UK
- Greater responsiveness of the research base to the needs of the economy and public services
- Increasing business investment in R&D, and increased business engagement in drawing on the UK science base for ideas and talent
- A more responsive supply of science, technology, engineering and maths skills to the economy
- Confidence across UK society in scientific research and innovative applications



**Performance is your reality. Forget everything else.**

*Harold Geneen*  
*President and CEO, ITT*



**Promises may make friends, but 'tis performances  
that keep them.**

*Old German proverb*



# Performance Management Framework

## Output 1: A healthy science and engineering base

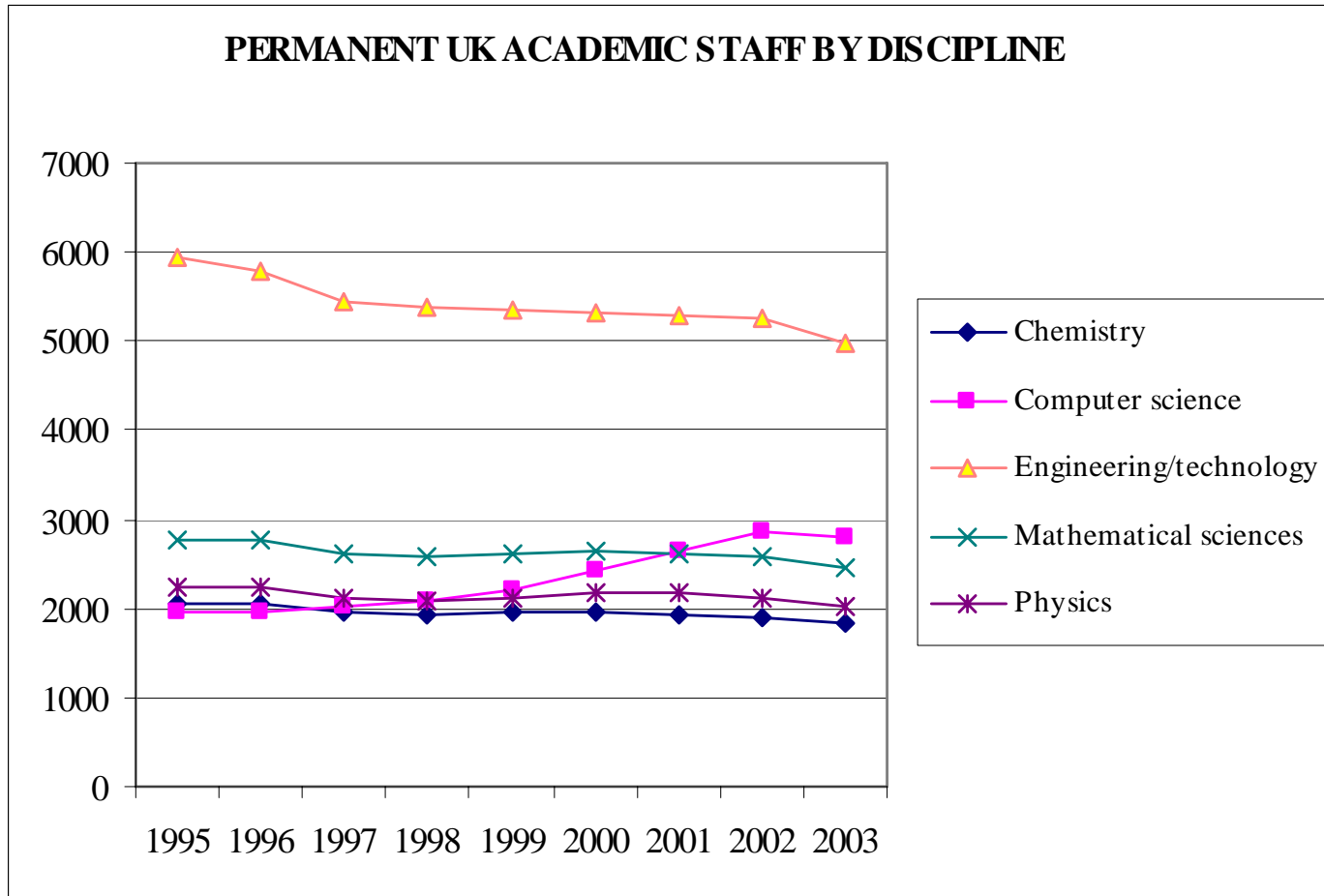
|   | UK contribution to global knowledge  | UK newly trained people  | UK trained people pool  | Facilities and infrastructure                    | Positioning and relationships   |
|---|--|--|---|--|---|
| Scale                                     | Number of publications per annum from EPSRC funding                              | Number and spend on current EPSRC PhDs per annum                         | Number and Spend on current EPSRC funded research assistants (PGRAs and PDRA's) | Spend on facilities per annum                    | EPSRC interactions w with stakeholders  |
| Quality                                   | Number of high impact papers from UK engineering and physical sciences community | First destination of EPSRC funded PhDs                                   | First destination of EPSRC funded research assistant                            |  | Diversity issues will be informed by the research councils UK groups covering Science and Society, and Research Careers and Diversity |
| Agility                                   | Number of EPSRC funded publications from £1M multidisciplinary grants            | Number of EPSRC funded PhDs in identified priority areas                 |   |  |   |
| Sustainability                            |  | % Spend on EPSRC funded PhDs per annum per £ EPSRC                       | % Spend on EPSRC funded research assistants per £ EPSRC                         | % Spend on EPSRC equipment on grants per £ EPSRC | Survey trends in public attitudes to science issues   |
| User focus - science and engineering base |  | % EPSRC funded PhDs first destination in academia                        | % of EPSRC funded PDRA's and PGRAs remaining in academia                        |  | Interaction w ith research organisations  |
| User focus - business and public services | % of joint industrial publications per annum from EPSRC funding                  | % of EPSRC funded PhDs first destination in business and public services | % of EPSRC funded PDRA's and PGRAs in business and public services              |  | Number of business and services people on EPSRC's strategic bodies  |

## Output 2 : Better Exploitation

|         | Interaction with business and public services   | Collaborative Research   | Commercialisation of Research   | Cooperative Training   | People Exchanges between SEB and users   |
|---------|---|--|---|--|--|
| Scale   | Strategic Alliances: No. organisations (public or private) w ith which EPSRC has formal relationships | Collaboration Intensity: Expenditure (and proportion of total spend) on collaborative research w ith users | Enterprise Support: Expenditure on programmes to promote commercialisation and enterprise   | Collaboration Intensity: Expenditure on collaborative and vocational postgraduate training | PhD Career Trajectories: % ex-PhD students that take up employment in industry, commerce or public sector (02-03 figure) |
| Quality | Strategy Formulation: User Representation on EPSRC policy and strategy bodies                         | Collaborator Investment: Resource contribution of users reported on completed grants pa                    | Research Exploitation: No. of commercialisation activities (e.g. follow on industry funding licensing, patents, spinouts) reported on EPSRC research grants | Employer Investment: resource contribution of employers to collaborative pg training       |  |



# Sustainability







## Quality - % world citations (Chemistry)

| 1997-2001 |              | 2000-2004 |              |
|-----------|--------------|-----------|--------------|
| USA       | 35.08%       | USA       | 34.22%       |
| Japan     | 11.82%       | Japan     | 11.88%       |
| Germany   | 11.73%       | Germany   | 10.71%       |
| <b>UK</b> | <b>8.58%</b> | <b>UK</b> | <b>7.83%</b> |
| France    | 7.04%        | France    | 6.59%        |
| Italy     | 4.29%        | China     | 4.98%        |
| Canada    | 4.08%        | Italy     | 4.26%        |
| China     | 2.95%        | Canada    | 3.54%        |



# Quality - % world citations (Mathematics)

| 1997-2001 |              | 2000-2004 |              |
|-----------|--------------|-----------|--------------|
| USA       | 41.75%       | USA       | 38.79%       |
| France    | 11.22%       | France    | 12.14%       |
| Germany   | 10.87%       | Germany   | 10.10%       |
| <b>UK</b> | <b>8.80%</b> | <b>UK</b> | <b>8.65%</b> |
| China     | 5.58%        | China     | 8.20%        |
| Canada    | 5.51%        | Italy     | 5.88%        |
| Italy     | 5.19%        | Canada    | 4.99%        |
| Japan     | 4.25%        | Japan     | 4.35%        |





**It is a truth universally acknowledged that a single man  
in possession of a good fortune must be in want of a wife.**

Jane Austen, *Pride and Prejudice*



**It is a truth universally acknowledged that an organisation in possession of a good fortune must be in want of a performance management system.**



## PERFORMANCE MANAGEMENT SYSTEMS



- Only loosely connected
- Need for a more coherent framework



**You've got to be very careful if you don't know where you're going, because you might not get there.**

*Yogi Berra*  
*US baseball catcher*



## EPSRC Vision

For the UK to be the most dynamic and stimulating environment in which to engage in research

EPSRC will deliver a significant and visible contribution through:

- › **Excellence:** Supporting world class people and projects through open, transparent and effective operations
- › **Engagement:** Building strong alliances throughout the research and innovation system involving researchers themselves, business, funding partners, the public and our own staff
- › **Empowerment:** Promoting an enterprising culture of adventure and excitement in which people seize opportunities and make things happen



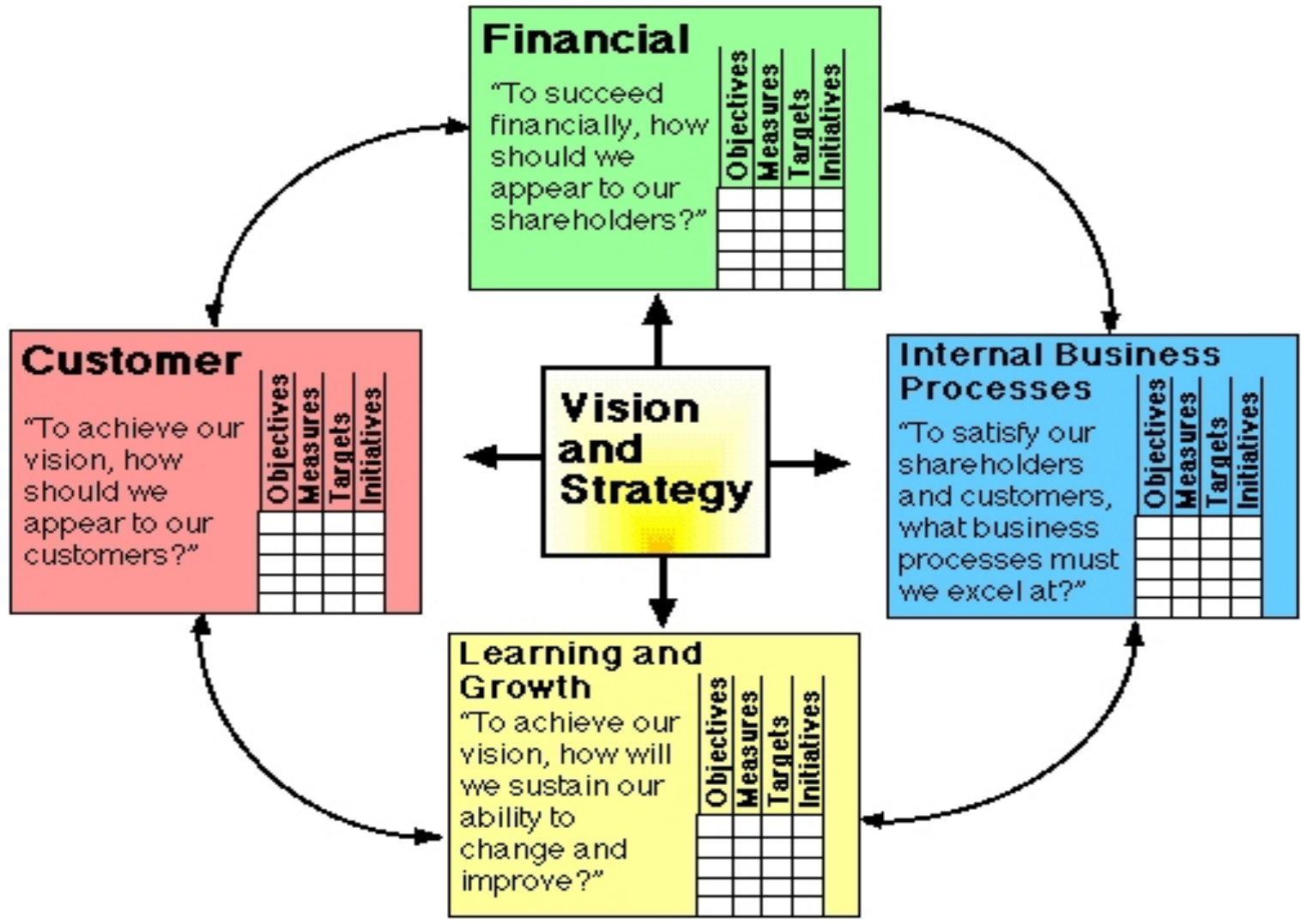


# BALANCED SCORECARD

*A management system* (devised by Robert Kaplan and David Norton) that enables organisations to:

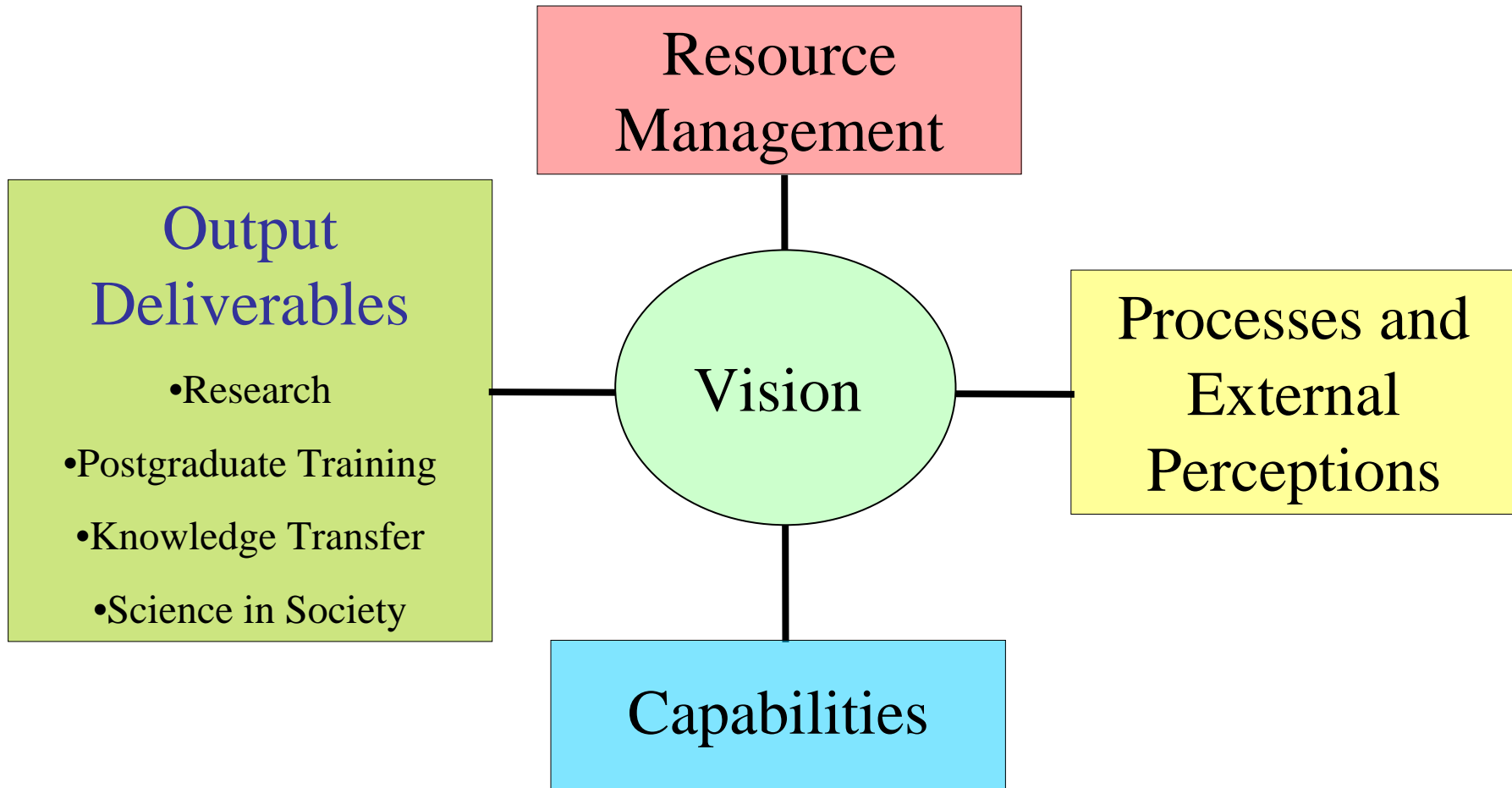
- clarify their vision and strategy
- translate them into action

It provides feedback around both the internal business processes and external outcomes in order to continuously improve strategic performance and results





## EPSRC BALANCED SCORECARD





# RESEARCH DELIVERABLES



- Adventure and Creativity
- Critical Mass
- Academic Freedom
- Multidisciplinary Research
- Sustainability
- Health of Disciplines



## KNOWLEDGE TRANSFER DELIVERABLES

- Collaborative Research
- Co-operative training
- Commercialisation
- Partnerships



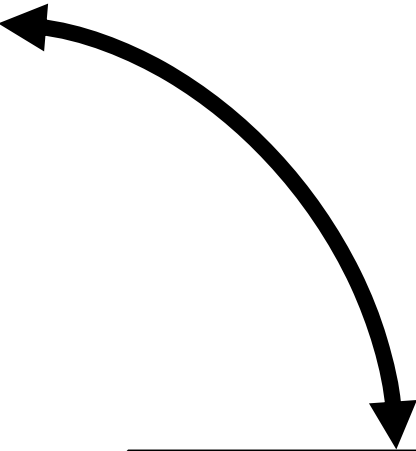
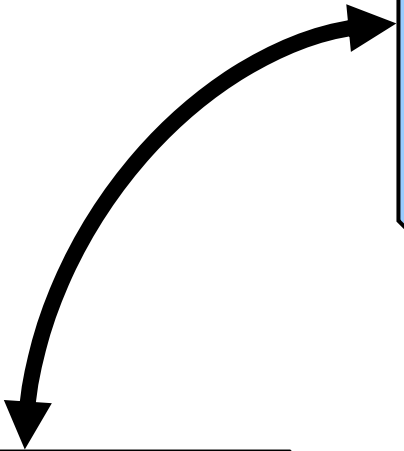


**Strategies**  
*How are we going to...*



**Targets**  
*How do we know if we have...*

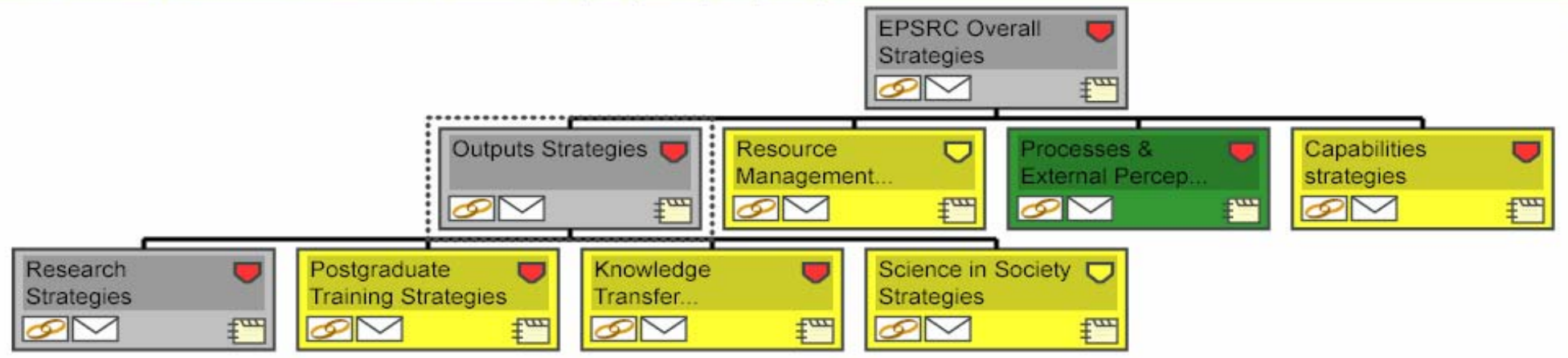
**Risks**  
*What might stop us...  
and what do we do  
about it...*



View: EPSRC Strategy views

Comparison Actual vs. Target Location EPSRC Period 2006/02

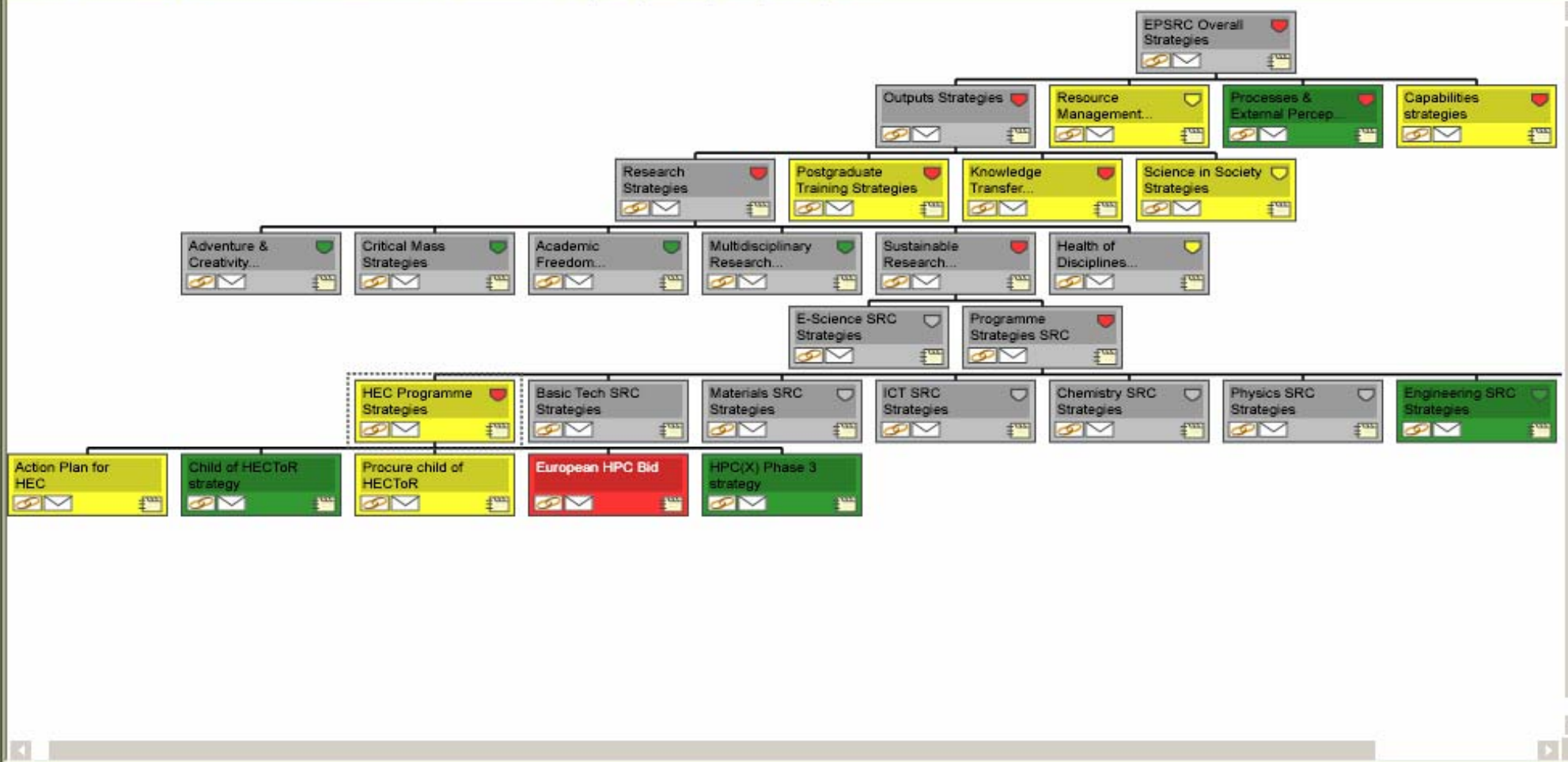
Actions Links E-mail 145%



View: EPSRC Strategy views

Comparison Actual vs. Target Location EPSRC Period 2006/02

Actions Links E-mail 90%





**EPSRC Overall Performance**

|        |    |
|--------|----|
| ACTUAL | -- |
| TARGET | -- |
| IND.   | -- |

**Outputs**

|        |    |
|--------|----|
| ACTUAL | -- |
| TARGET | -- |
| IND.   | -- |

**Resources**

|        |    |
|--------|----|
| ACTUAL | -- |
| TARGET | -- |
| IND.   | -- |

**Processes & External...**

|        |    |
|--------|----|
| ACTUAL | -- |
| TARGET | -- |
| IND.   | -- |

**Capabilities**

|        |    |
|--------|----|
| ACTUAL | -- |
| TARGET | -- |
| IND.   | -- |

**Non IT Infrastructure and...**

|        |       |
|--------|-------|
| ACTUAL | --    |
| TARGET | --    |
| IND.   | 82.6% |

**Cross Council Services**

|        |       |
|--------|-------|
| ACTUAL | --    |
| TARGET | --    |
| IND.   | 86.7% |

**Compliance**

|        |    |
|--------|----|
| ACTUAL | -- |
| TARGET | -- |
| IND.   | -- |

**Research Resources**

|        |        |
|--------|--------|
| ACTUAL | --     |
| TARGET | --     |
| IND.   | 184.3% |

**Knowledge Transfer...**

|        |    |
|--------|----|
| ACTUAL | -- |
| TARGET | -- |
| IND.   | -- |

**% of Research Exp that is...**

|        |        |
|--------|--------|
| ACTUAL | 2.8%   |
| TARGET | 2.0%   |
| IND.   | 140.0% |

**% Expenditure on Critical Mass**

|        |        |
|--------|--------|
| ACTUAL | 32.0%  |
| TARGET | 30.0%  |
| IND.   | 106.7% |

**Expenditure on Responsive Mode**

|        |        |
|--------|--------|
| ACTUAL | 53.1%  |
| TARGET | 50.0%  |
| IND.   | 106.2% |

**Sustainable Research...**

|        |       |
|--------|-------|
| ACTUAL | 12.0% |
| TARGET | 15.0% |
| IND.   | 80.0% |

Actual = 53.1%; Target = 50.0%; Index = 106.2%;

Summary Index Chart Data Chart Data Table Comments

**Expenditure on Responsive Mode (EPSRC)**

**Description**

Proportion of EPSRC research budget spent on responsive mode activities RM21  
Red / Amber Target >50%

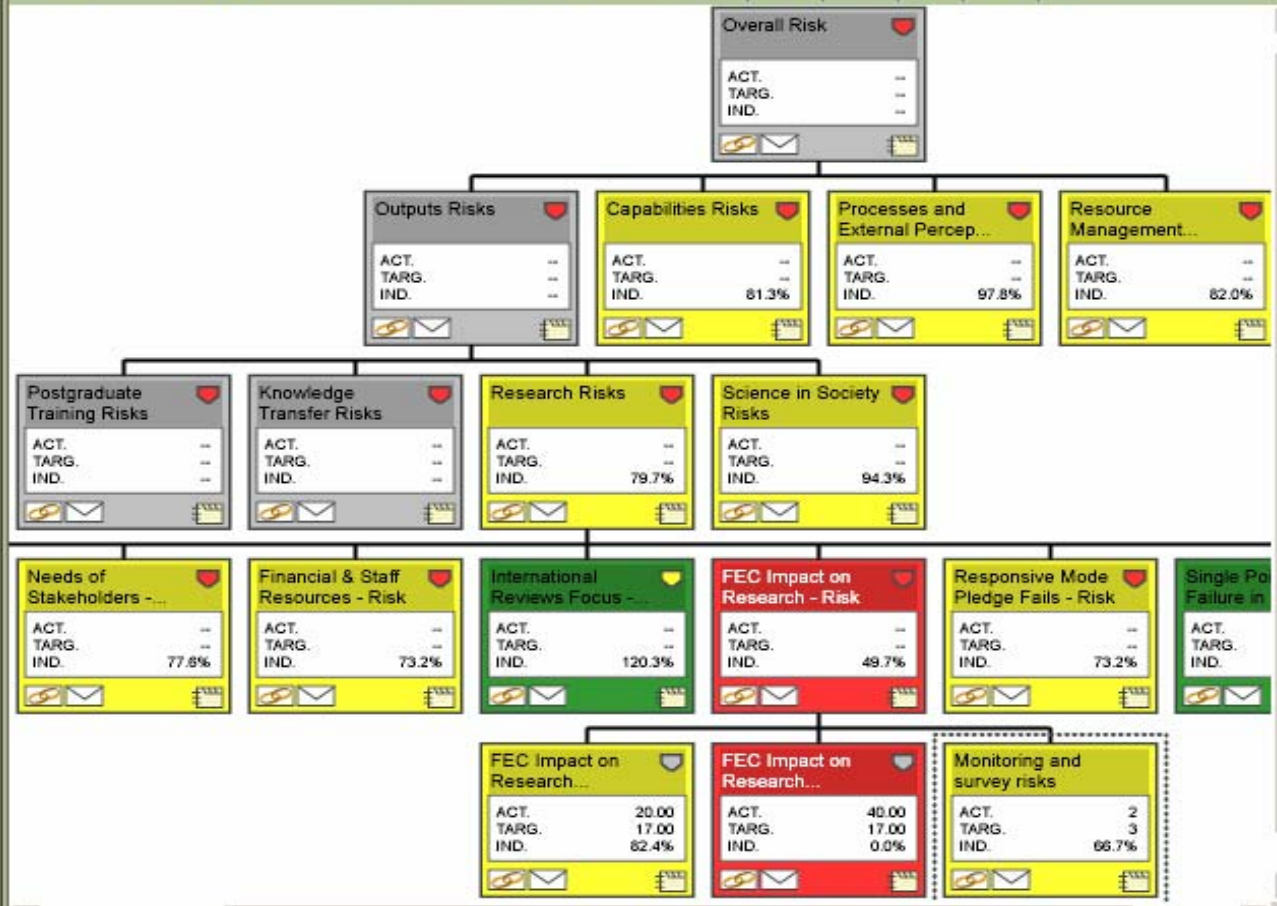
**Commentary**  
2005/Q4

**Data Table**  
Moving Year by Quarter

| Percentage | Actual | Target | Target Index | Previous Year | Prev |
|------------|--------|--------|--------------|---------------|------|
| 2005/Q1    | 43.9%  | 50.0%  | 87.8%        | --            |      |
| 2005/Q2    | 43.7%  | 50.0%  | 87.4%        | --            |      |
| 2005/Q3    | 53.1%  | 50.0%  | 106.2%       | --            |      |
| 2005/Q4*   | 49.5%  | 50.0%  | 99.1%        | 46.8%         | 1    |

Display period only data

\* Beyond completed period



Actual = 2; Target = 3; Index = 66.7%;

Monitoring and survey risks (EPSRC)

**Description**

We need to monitor the effect of FEC for at least 12 months to be able to estimate if the FEC funds provided are sufficient to maintain the volume of research. From those data a better estimate of the resources needed to maintain 80% FEC without change in volume of research.

**Commentary**  
2005/SA2

**Data Table**  
Moving Year by Semi-Annual

| Number   | Actual | Target | Target Index | Previous Year | Previous Year In |
|----------|--------|--------|--------------|---------------|------------------|
| 2005/SA1 | 2      | 3      | 66.7%        | --            |                  |
| 2005/SA2 | 2      | 3      | 66.7%        | --            |                  |

|       |       |       |       |
|-------|-------|-------|-------|
| ACT.  | 20.00 | 40.00 | 2     |
| TARG. | 17.00 | 17.00 | 3     |
| IND.  | 82.4% | 0.0%  | 66.7% |

Display period only data  
\* Beyond completed period

- Finance Briefing Book
- Finance Processes Performance Indicators
- Finance Resources Performance Indicators
- Finance Processes Strategies
- Finance Resources Strategies
- Finance Processes Risks
- Finance Resources Risks
- Chief Accountant's KPIs
- Financial Controller KPIs
- Finance Data Performance Indicators

**Chief Accountant's KPIs** Properties

|                            |       |
|----------------------------|-------|
| EFY Margin                 | EPSRC |
| Admin Expenditure Variance | EPSRC |
| Administration Expenditure | EPSRC |
| Physical Assets            | EPSRC |
| Annual Account Unqualified | EPSRC |
| Internal Audits            | EPSRC |
| Time & Accuracy of IYM Pr  | EPSRC |
| Payments Process           | EPSRC |
| No Internal Fraud Cases    | EPSRC |
| GPC Regularity and Propri  | EPSRC |

**EFY Margin (EPSRC)**

**Description**

Variance of End Year Flexibility from budget (£M)  
RM1  
Red / Amber Target -10 to +10

**Commentary 2005/Q4**

EFY outturn was in line with the Forecast. Although taht was a pleasing result we should review our processes during this coming year.(Chief Accountant, 28 April 2006)

**Data Table Moving Year by Quarter**

| £'M      | Actual | Target | Target Index | Previous Year | Previous Year Index |
|----------|--------|--------|--------------|---------------|---------------------|
| 2005/Q1  | 0.30   | 5.00   | 194.0%       | --            | --                  |
| 2005/Q2  | 1.27   | 5.00   | 174.6%       | --            | --                  |
| 2005/Q3  | 0.25   | 5.00   | 195.0%       | --            | --                  |
| 2005/Q4* | 0.25   | 5.00   | 195.0%       | -13.00        | 0.0%                |

Display period only data  
\* Beyond completed period



**Where any one body of educated men, of whatever denomination, are condemned indiscriminately, there must be a deficiency of information or ... of something else.**

*Jane Austen, Mansfield Park*



**You have delighted us long enough.**

Jane Austen, *Pride and Prejudice*



**Thank You**