



Science & Technology
Facilities Council

The Economics of Applying and Sustaining Digital Curation

Why should NERC pay for BADC?

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Research Data Management Forum (RDMF5), Economics of Applying and Sustaining Digital Curation
Chancellors Hotel and Conference Centre, Manchester, 27-28 October 2010

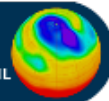


British Atmospheric
Data Centre

NATIONAL CENTRE FOR ATMOSPHERIC SCIENCE
NATURAL ENVIRONMENT RESEARCH COUNCIL

Centre for Environmental
Data Archival

SCIENCE AND TECHNOLOGY FACILITIES COUNCIL
NATURAL ENVIRONMENT RESEARCH COUNCIL



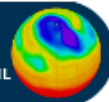
National Centre for
Earth Observation

NATURAL ENVIRONMENT RESEARCH COUNCIL



Outline

- Some background NERC and BADC
- What value is NERC expecting from the BADC
- Evidence of that value is being achieved
- Conclusions

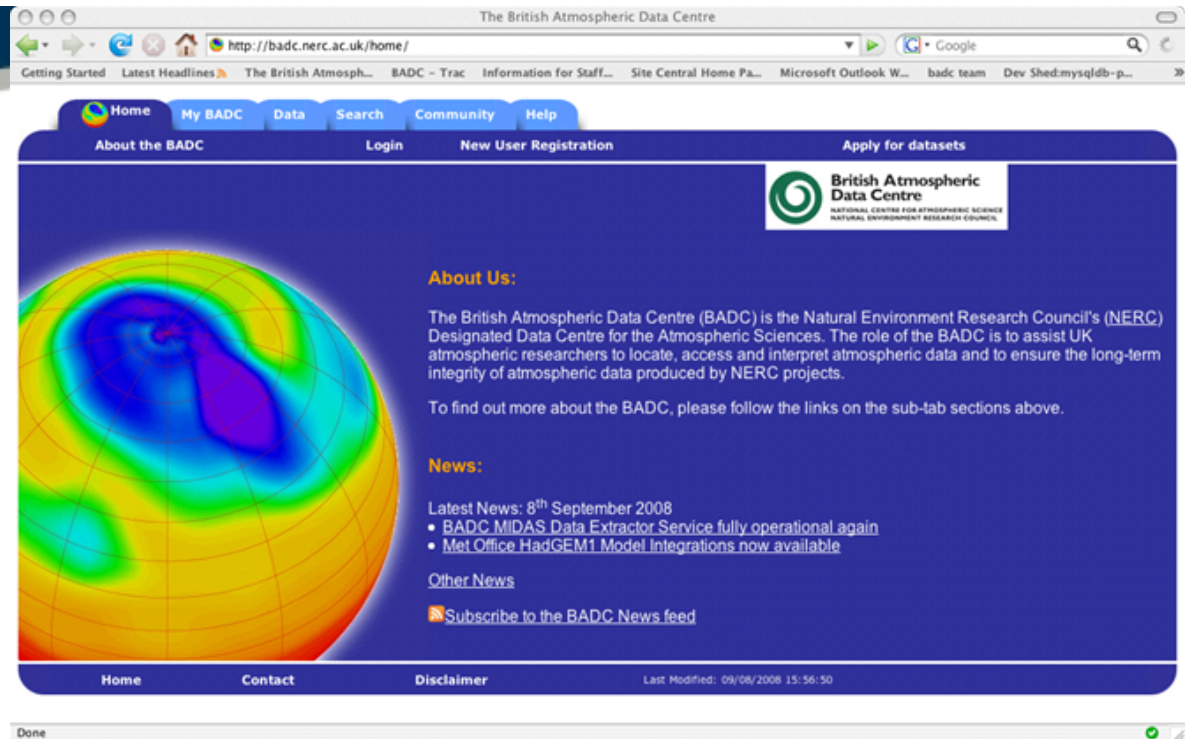




The Natural Environment Research Council

- NERC “regards datasets as valuable resources in their own right” (extract from NERC data policy)
- NERC **believes** data management is a good thing.
- To ensure that data produced by NERC funded projects are managed well NERC run 7 discipline specific environmental data centres
 - **The British Atmospheric Data Centre (BADC)**
 - The British Oceanographic Data centre (BODC)
 - **The NERC Earth Observation Data Centre (NEODC)**
 - National Geoscience Data Centre (NGDC)
 - Polar Data Centre (PDC)
 - Environmental Information Data Centre (EIDC)
 - **UK Solar System Data Centre (UKSSDC)**

The British Atmospheric Data Centre



- Our data centre aims:
 - PRESERVATION: for future generations, in the next months, decades and centuries and
 - FACILITATION: for the here and now, as well as the future
- BADC tries to deploy information systems that describe those data, parameters, projects and files, along with services that allow data manipulation
- As well as providing a long-term archive for data created by NERC funded projects, the BADC also holds data from third parties, like the Met Office.
- Contact: <http://badc.nerc.ac.uk> badc@rl.ac.uk

What is the NERC business case?

What is of value to NERC for doing data management?
What is value to NERC more generally?

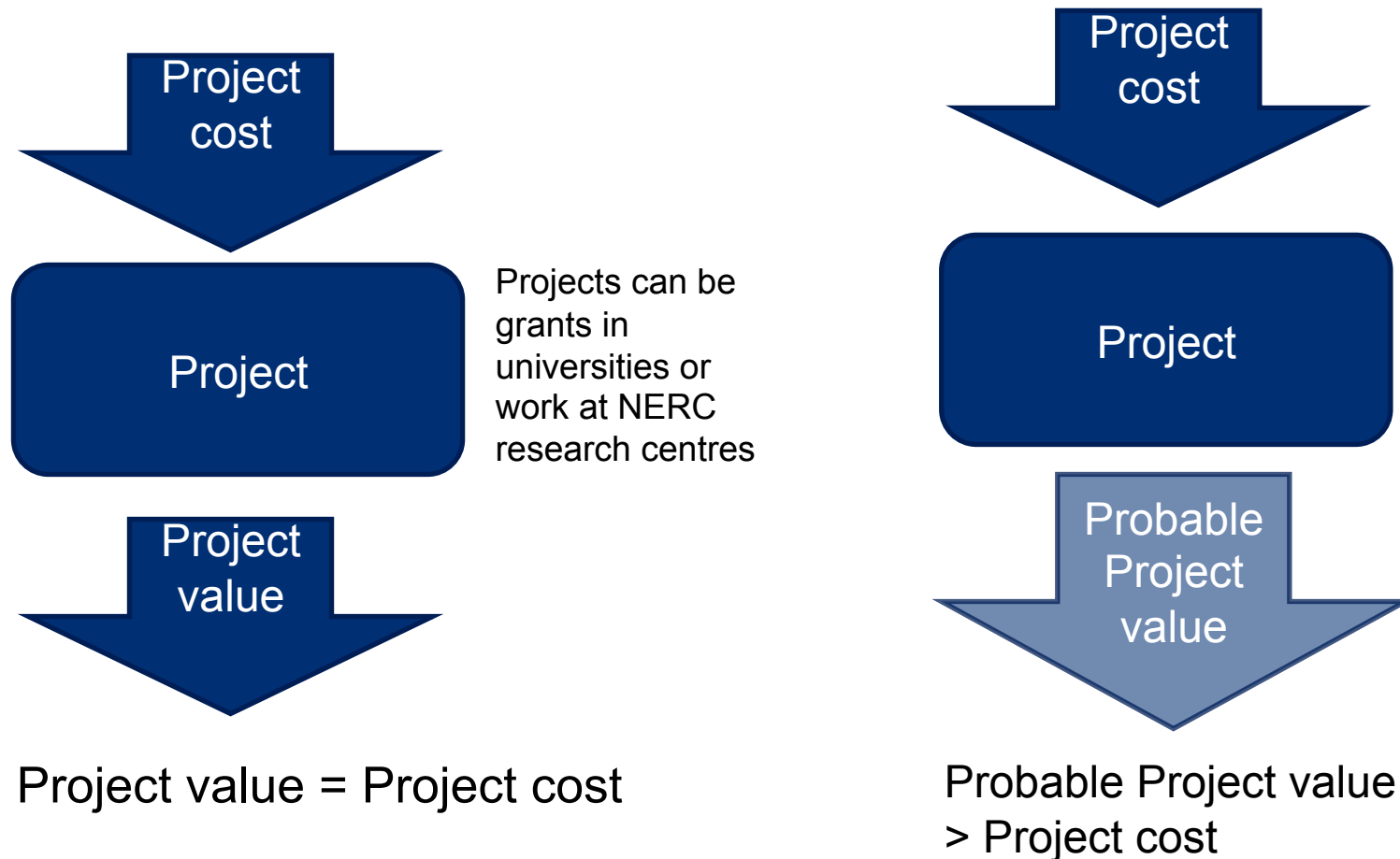
NERC's strategic goal

To deliver world-leading environmental research at the frontiers of knowledge:

- enabling society to respond urgently to global climate change and the increasing pressures on natural resources,
- contributing to UK leadership in predicting the regional and local impacts of environmental change from days to decades, and
- creating and supporting vibrant, integrated research communities.

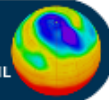
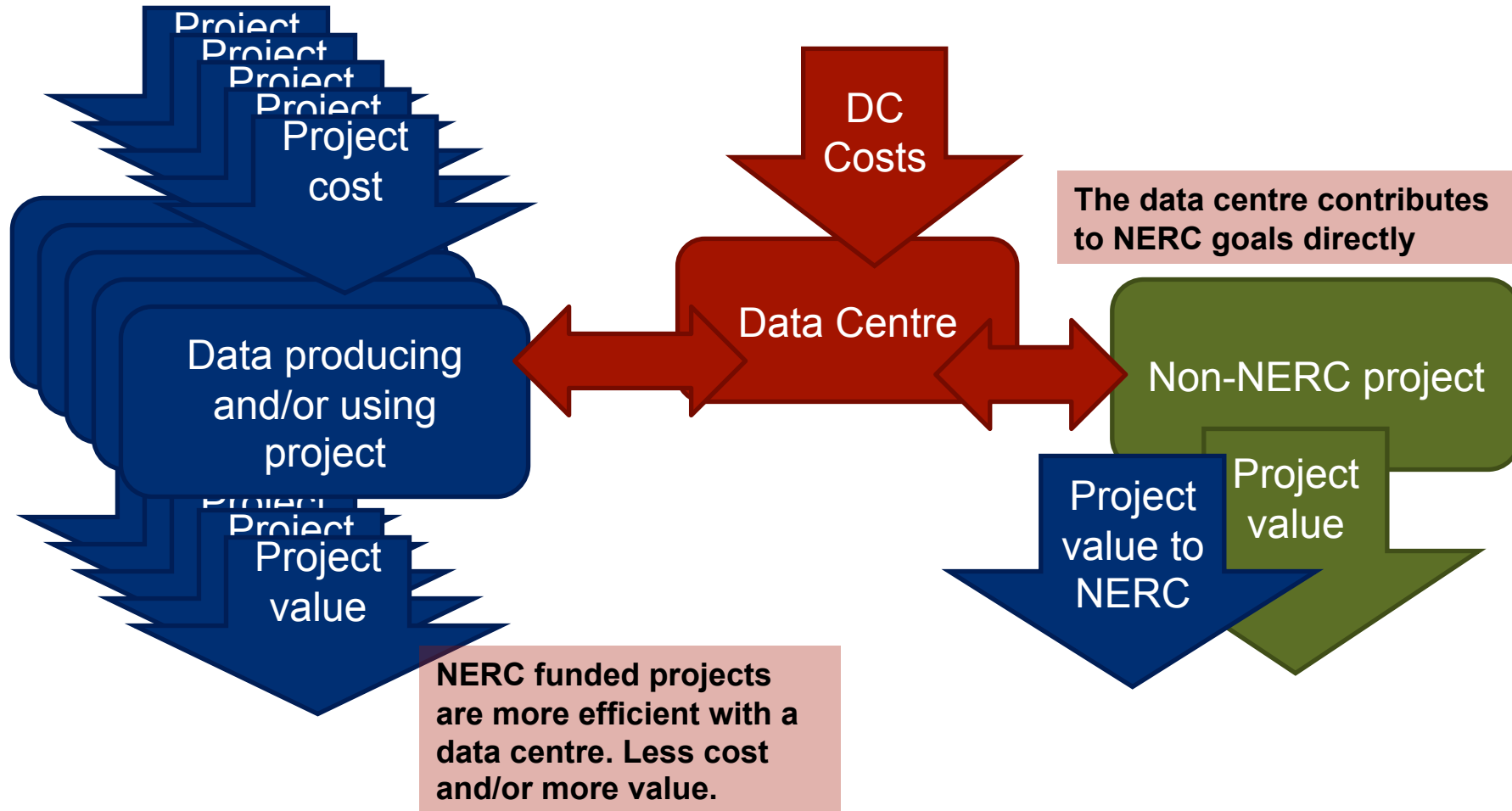
None of which is easily expressed in monetary terms

NERC's Project Justification

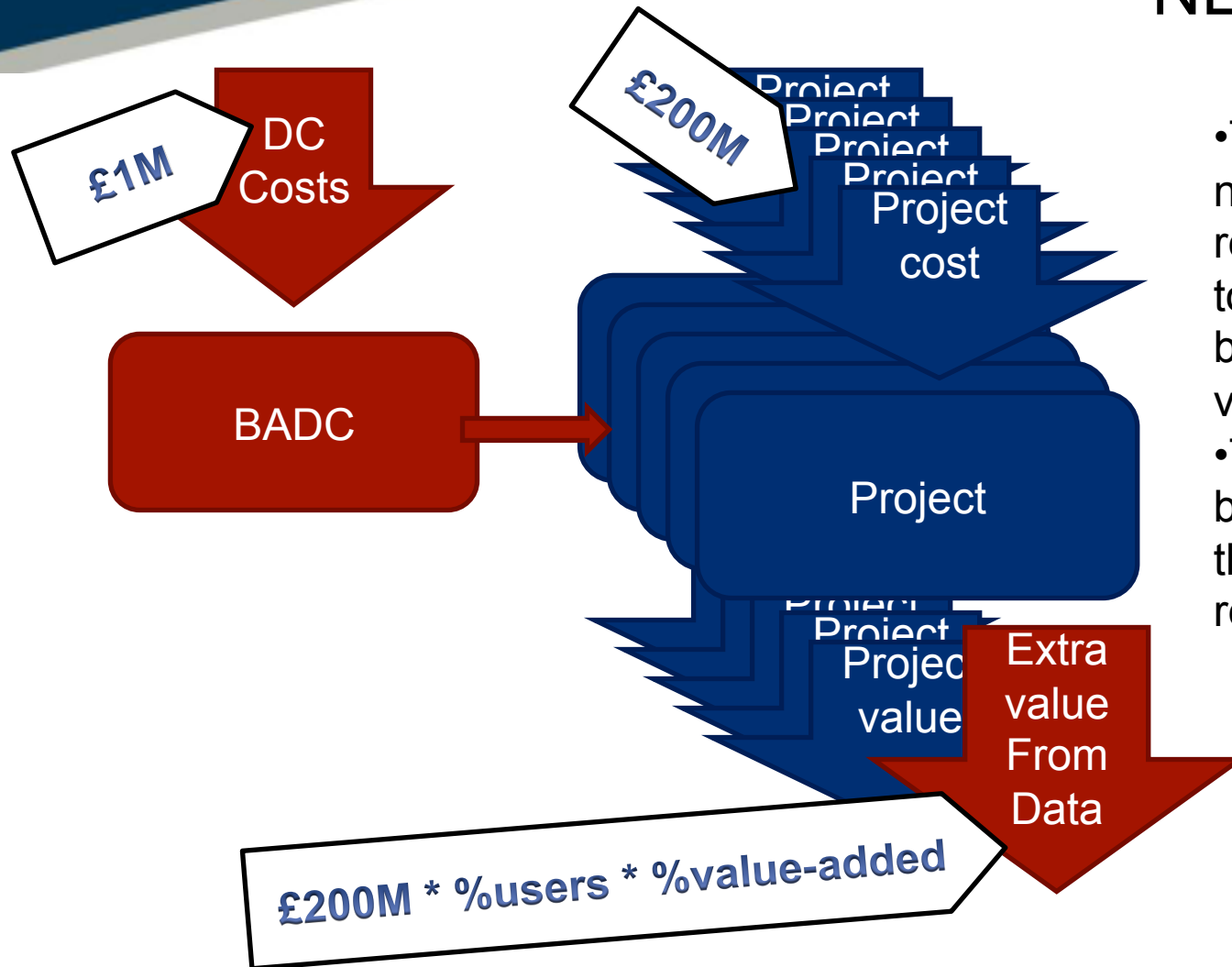




NERC's Data Centre Justification



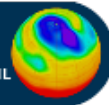
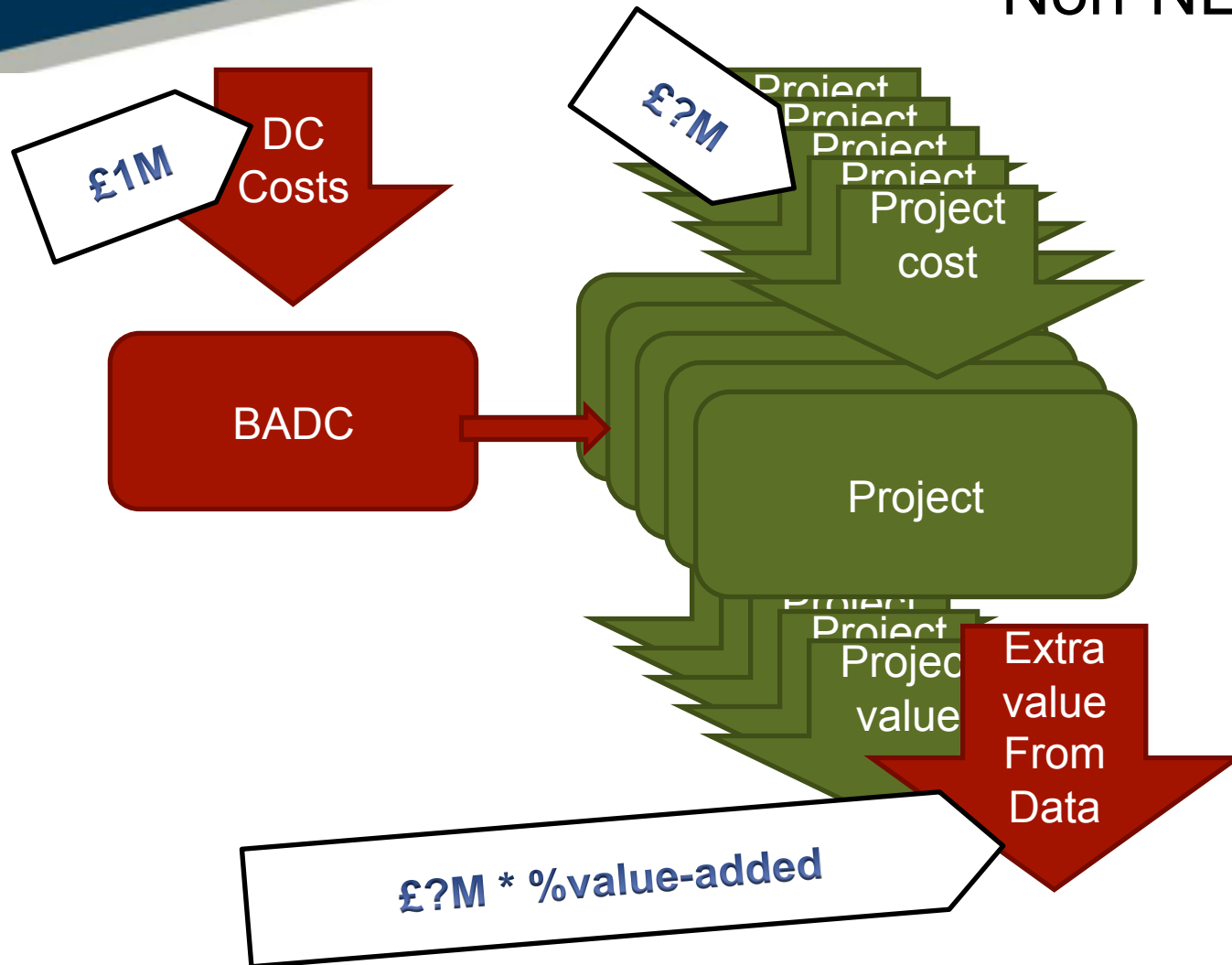
NERC Price Tags



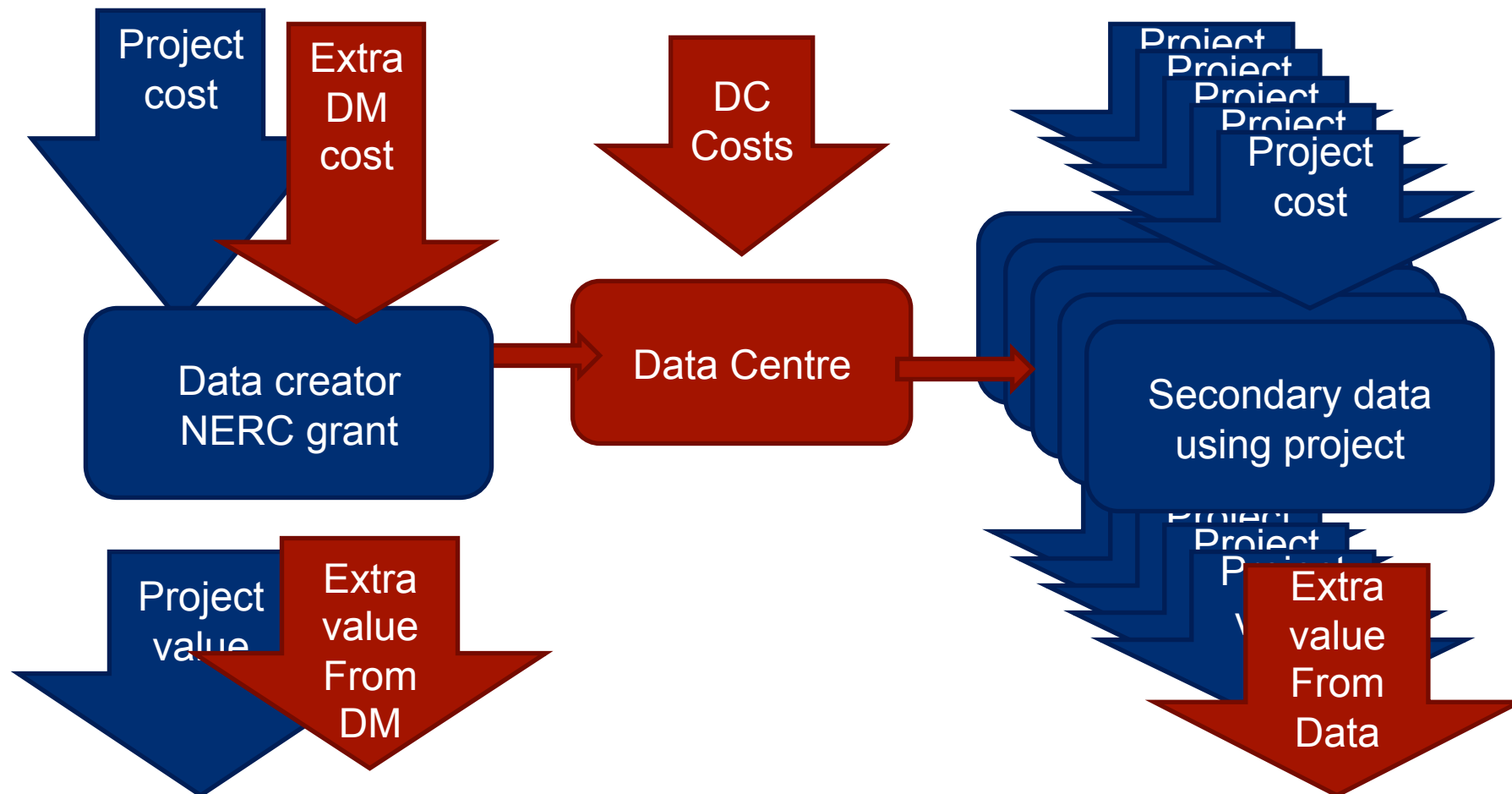
- The project value is not necessarily recognisable or visible to the data centre because reporting is via projects.
- The project value may be partly realised after the project. This is not reported.



Non-NERC Price Tags



It is more complicated...

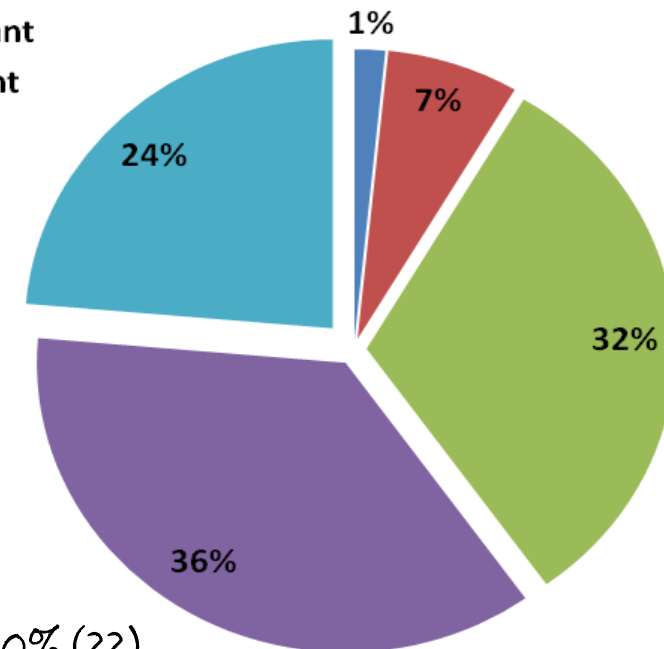


Survey results

- At the start of 2010 the BADC was chosen to be examined as part of a joint RIN/JISC study.
- “Benefits of research data centres”, aims to demonstrate the importance, relevance and benefits of effective sharing and curation of research data for the UK research community

Importance of data from
CEDA archives to
respondent’s research

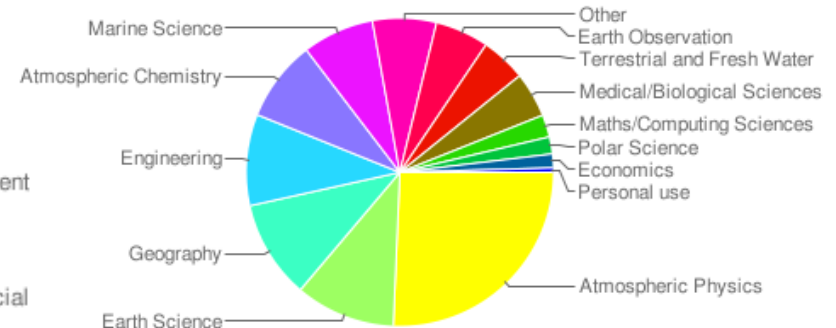
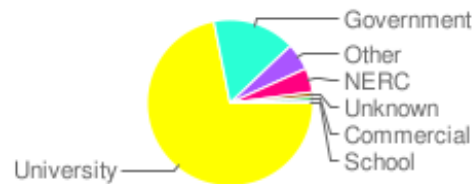
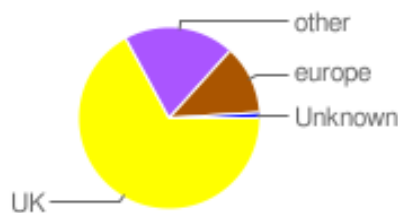
- Not at all important
- Not very important
- Quite important
- Very important
- Essential



% value-added = 10% (??)

BADC usage by NERC projects

BADC had 2300 active users in 2009,
downloaded 50 TB data in 15 million files from
147 datasets. **Less than half of the BADC
data consumers are “atmospheric science”
users**



£200M ~ 4000 people (??)

$$\begin{aligned} \text{NERC users} &= \%UK * \%NERC \text{ subjects} * \%institute \text{ type} * \%NERC \text{ funded} * \#users \\ &= 69\% * 75\% * 80\% * 50\% (??) * 2300 = 500 \end{aligned}$$

$$\%users = 500/4000 = \underline{12\%}$$

$$\%value\text{-added} = 10\% (??)$$

$$\text{Total NERC project value added} = £200M * 12\% * 10\% = £2.5M$$

Non-NERC projects

$2300 - 500 = 1800$ people

1800 people = £90M (???)

% value-added = 10% (??)

% NERC goal aligned = 50%

Total Non-NERC value added = $£90M * 50% * 10% = £4.5M$

Total value added = $£2.5M + £4.5M = £7M$

Conclusions

- NERC is committed to data management because it believes it helps achieve NERC's science goals.
- NERC goals are not easily expressed in monetary terms, but we have to assume it spends its money wisely on achieving its goals. Project value = Project cost
- Project value is not reported to data centres. Data citation is a step in the right direction, but only captures academic value.
- Lot of question marks in my calculation, but it's better that gut feeling.
- Justification is all about use. Preserved data are in use now.

[http://www.cbi.org.uk/ndbs/press.nsf/
0363c1f07c6ca12a8025671c00381cc7/
a8481d0ae3ef84e08025779a0041148d?OpenDocument](http://www.cbi.org.uk/ndbs/press.nsf/0363c1f07c6ca12a8025671c00381cc7/a8481d0ae3ef84e08025779a0041148d?OpenDocument)

CBI CALLS FOR CLEARER DATA ON CLIMATE RISK TO BUSINESSES

“Many businesses aren’t ready for the changes that could be ahead. The flooding in 2007 had insurance claims totalling over £3 billion and, as our climate changes, it is estimated that annual flood damages alone could cost as much as £22bn by 2020.

“The impact of climate change needs to be made part of on-going risk management and we must also ensure that what we build today is resilient enough to withstand changes to the climate over the next century.

“The Government must help ensure that businesses have **the information needed to take action**. Most of this data is already in the public domain, but needs to be made available **in an easy-to-use format**.”