

Impact/Case Studies for Building the Case

Goals and Objectives of the case studies: To demonstrate key examples of how chemical science works; to show idealised research models, including variance in timeline of funding, capital expenditure and people/training required, and the resultant economic benefits, including the building of new sectors of the economy.

Approach

- **Inputs**
 - Resources committed to the research.
 - How much grant money funded this research?
 - From what sources (e.g. EPSRC/EU/TSB)?
 - For what specifically?
 - Was there any industrial funding?
 - How many PhD students/post-docs were involved in the production of this work?
 - What capital expenditure was involved in this research?
- **Activity**
 - What was the challenge this research was addressing?
 - What was the solution?
 - What how was this solution found?
 - What was the timeline?
 - Who was involved? i.e. what institutes or companies and also which scientists?
 - Key collaborations.
 - [Box: Key facts and figures.]
- **Outputs** – direct results of the chemistry research.
 - What research papers?
 - How well cited?
 - Were there any patents?
- **Outcomes**
 - Did the research lead to any new scientific activity?
 - Conferences?
 - New research groups?
 - New research communities?
 - Were there any resultant spin-out companies?
 - What applications were there of the technology?
 - Have any products yet been taken to market?
 - Was any private funding leveraged?
 - What value are any companies involved?
 - Have any prizes been awarded for the work?
- **Impact**
 - Were any new markets or sectors of markets created?
 - Were any further technologies enabled?
 - Were any jobs created as a result?
 - Has any R&D been enabled

Case studies should also include a near-future/current developments section, highlighting what new or continued investment will buy.

Current Data Sources

EPSRC list of Case Studies – all need further work, but some excellent beginnings with grant numbers so funding can be traced

Responses to Case studies project from Divisions – ESED and Organic particularly responded with people to contact regarding some of the 5 key topics:

- Allen Hill's discovery of the **glucose biosensor**
- Development of **Azoxystrobin**. Initial academic research developed by Syngenta in UK
- **Human Genome Project**
- **Next Generation Photovoltaics**
- **Polymer Synthesis** – e.g. polyester or PEEK