
Evaluating BEIS' Energy Innovation Programme

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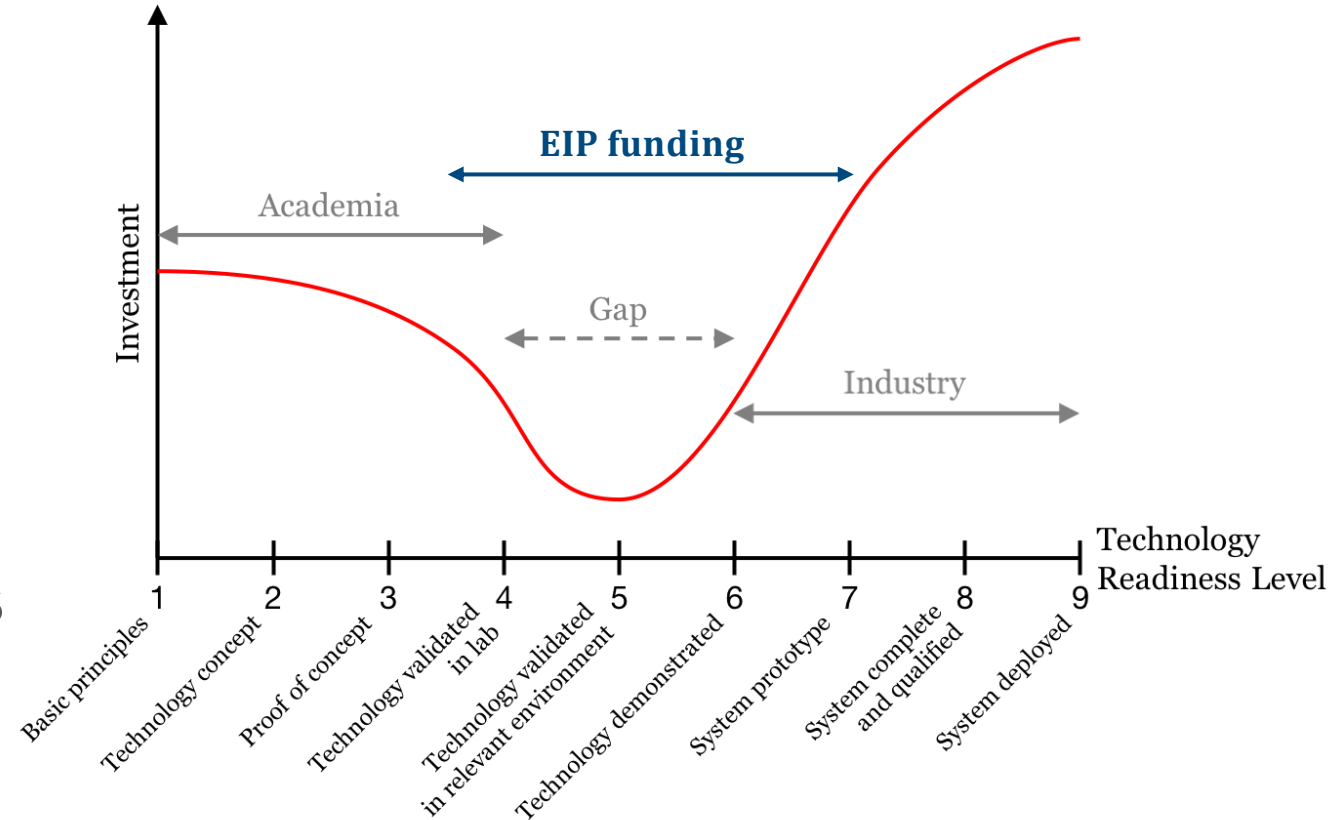
Department for Business, Energy and Industrial Strategy

March 2021








EIP: Bridging the 'valley of death'

- Advance innovation from fundamental research to commercial funding
- £505m, from 2016-2021
- 6 technology themes
- 74 programmes, 450 projects
 - Funding from £7k to £46m
- 50+ BEIS staff



The evaluation has multiple aims

-  Show overall achievements
-  Enable technology-specific decisions
-  Improve processes
-  Support communications
-  Provide long-term evidence for energy innovation

A structured approach to evaluation

1. Key performance indicators
 - Monitoring throughput
 - Tracking outcomes
2. Programme evaluations
3. Synthesis
4. (“Insights” as extra)

DfT Monitoring and Evaluation for Innovation and R&D Funds (2019)

1. Monitor throughput

Any programme should generate management information which enables its characteristics to be understood by its managers and stakeholders. Useful measures may include:

Measure of throughput by its delivery team to programme teams and funding panel
Number of projects initiated
Value of projects
Starting technology readiness level of project
Profile of awardees by sector, size and location
Completion of profile of awardees in commercial

Learning point: This sort of basic monitoring information needs not to be overly accessible for our innovation programmes. This can be rectified by specifying monitoring requirements when funds are awarded so that key briefing information is produced throughout the life of the programme.

2. Track outcomes

Example: Advanced Propulsion Centre Evaluation Scoping Study

This study provided a framework for assessing the impact of the APC, setting out a list of outcomes and measures that would need to be tracked over more than a decade.

Outcome	Measure
Technical progress	Change in Technology Readiness level
Collaboration	Inter-firm collaboration
Technology transfer	Number and value of licensing agreements
Commercial success	Year of first sale
Cost development	Number of R&D contract awards in aerospace sector
Skills	Number of PhDs awarded in aerospace sector
Business revenue	Value of orders (excluding R&D) technology
Economic impact	GDP, revenues (profit of vehicle, cost)

Source: APC Impact and Economic Evaluation Scoping Study 2014

Learning point: We should specify requirements for outcome reporting when funds are awarded so that data collection for outcomes in business programme management and there are plans to monitor during national open competition after funding ends.

3. Understand additionality

Example: Evaluation of Innovation Loans

Additionality refers to the outcomes that would not have happened if an intervention had not taken place. This evaluation examined additionality in two ways:

- By interviewing businesses which received loans to ask what difference they made (see chart)
- By interviewing businesses whose loan applications were unsuccessful, especially ‘near misses’, to check what progress they had made without loans (which was less than for recipients)



Source: Evaluation of Innovation Loans, Final Interim Report to Innovate UK, 2019

Learning point: Assessing the additionality of innovation funding is important so that programme managers have a realistic assessment of the value added by their funds.

4. Synthesise learnings

Example: R&D Programme Synthesis Review

In 2020, one of the Department's programmes was entering the end of an intervention period of R&D grant funding and without a plan to reflect on what had been learned to-date, it was decided to commission a synthesis review of research reports and other outputs to:

- Draw out key messages from completed projects, and
- Identify issues for future consideration and further research.

The review was commissioned to an academic team. Its researchers reviewed approximately 80 documents from the programme's R&D projects, and carried out their findings through a series of identifying points of similarity and questions that required further consideration. This provided the programme with a helpful independent assessment of the state of its research and helped to inform decisions about future research funding.

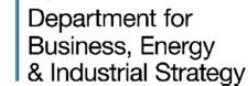
Learning point: Synthesis work can help ensure we get best value from our innovation funds by identifying cross-cutting issues, knowledge gaps and priorities for future funding.

Systematic KPI collection

- Reflect portfolio aims
- **Inputs, outputs and outcomes** across all 450 projects
- Project-specific selection
- Annually until 3 years post-EIP
- Now centralised data collection

KPI 1	Number of Energy Innovation Projects
KPI 2	Number of projects that met objectives
KPI 3	Organisations supported to deliver project
KPI 4	Active business relationships and collaborations supported
KPI 5	Technology Readiness Levels
KPI 6i	Initial financial leverage
KPI 6ii	Follow-on funding
KPI 7i	Reduced cost of energy
KPI 7ii	Reduced energy demand/ increased energy efficiency
KPI 7iii	Increased energy system flexibility
KPI 8	Commercialisation (sold products and services sold)
KPI 9	Potential reduction in CO2 emissions savings

- Portfolio-level prioritisation, 3 levels:
 1. Evaluator-led
 2. Programme-lead led
 3. Monitoring only
 4. (or externally led)
- Evaluation approach required in business case
- Combined programmes for evaluation where feasible
- Outsourced scoping (3rd-party support)
- Focus on processes, outcomes, impacts, economics
- Mainly theory-based designs
 - Driven by programme design



WORK IN PROGRESS

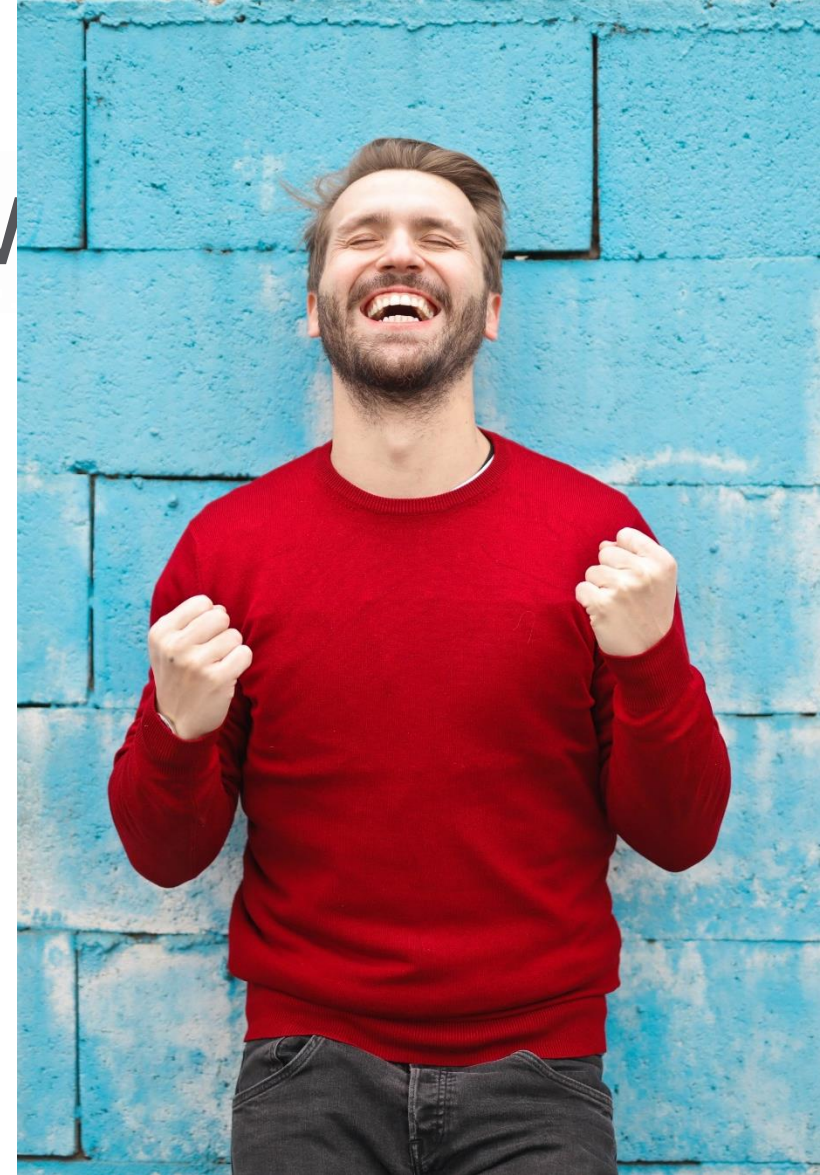
Synthesis (and “Insights”)

- Synthesis to communicate
 - Real need for a ‘what have we achieved’ report
 - Want to go further: what does it mean, but...
 - Based on KPIs and programme evaluations
- “Insights” to enable interim, internal comms
 - By theme, what have we found so far?
 - What policy implications does this have?



Some things have worked w

- KPIs and prioritisation
- Evaluation approach in business case
- Level 1 evaluations robustly designed and under way
- KPIs collected (>90% response rate) and being analysed
- Use of theories of change



We've learned lessons

- Prioritisation *and* resource planning
- Delivery-team-led evaluations require:
 - Culture building
 - Capability building
 - Delivery-team resources
- Interim findings and comms
- Portfolio evaluation to review processes
- Programme management professionals (PMO) are your allies



Questions?

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