

Future Uses of Space (FUS): Narrative Evidence for Science & Technology Advantage through linking Research and Policy

Project Summary

The FUS project was funded by [Research England](#) and [CAPE](#). The project centred on an interactive workshop, with full preparation and follow through. It took 12 months and cost approximately £25,000. The project was delivered by the Project Team (see Annex A).

The conceptual plan for the project as a whole is at Figure A and for the workshop is shown at Figure B. This document briefly summarises the project activities, methods and outputs, drawing out generic learning points for any future similar projects. All outputs referred to are in bold, and are available on the [project outputs website](#).

Governance and quality assurance

The project was overseen by a small Steering Group (see Annex A) with expertise in Storylistening, space law, science policy, space policy, international relations, and literary studies. The Steering Group had oversight of the quality of the project's work, including both its academic rigour and its policy relevance. They acted as champions and participants throughout.

Note that the project had neither the time nor funds to enable expert peer review in any formal sense. A longer project would have done so at various stages, including the preparation of the synthesis papers and several aspects of quality assurance of the final products (both academic and relevance).

The principal customers of the project were taken to be policy-makers, largely UK-based. GO-Science was represented on the Steering Group, and other government, regulatory, policy and analytical groups took part in the workshop and other project activity.

The UK-focussed nature of the work informed its direction, and potentially limits its relevance to other jurisdictions and international bodies. However, one of the significant ways in which a project like this can provide added value to national policy makers is by identifying evidence or sources of evidence within the UK that are currently under-utilised, and this aim informed the project design throughout. A larger project would additionally deliberately seeking out other national perspectives and sources of evidence.

Phase 1 Pre-Workshop: Policy questions and synthesis papers

The Steering Group developed a **Key Policy Concerns** document to inform the project. In doing this, the Group drew on discussions at a major Royal Society Workshop on 'Space insights', held on 29 November 2022 attended by two Steering Group members, and bringing together major players in UK space science and policy. The Key Policy Concerns document was then used to guide the synthesis paper authors, and as an input to the project workshop (i.e. as part of the project's 'scaffolding' rather than a long term product).

Topics for evidence synthesis, and suitable authors from which to commission them, were selected in light of the emerging policy questions, and given the knowledge of the potentially relevant fields represented on the Steering Group. Note that at this stage, it is important both to ensure some of the syntheses address the policy questions as articulated, and that there is space for emergent knowledge that might prompt new policy questions. This is another area of choice depending on the nature and context of any project. Essentially, as a project has more time, it can expand the search for potential authors, refine the topics on which it seeks synthesis, and peer review the findings (noting that the more multi-disciplinary the project, the more time these steps take).

Synthesis authors were provided with the Key Policy Concerns document, and a **Synthesis Guidance** document which introduced the project, outlined the brief, provided advice on style, and pointed to examples of synthesis in the humanities. As the practice of synthesis is not yet well-established, the project also held a two-hour online training session for synthesis authors. The project commissioned seven **Synthesis Papers** of 7-8000 words length, with the authors reimbursed for their work. These papers represent part of the narrative evidence created by the project. In each case, the academic author was required to create and communicate new narrative evidence by considering all the relevant research within their discipline and presenting it in a form accessible to a non-specialist reader.

Phase 2 Workshop

By careful structuring of Phase 1, and detailed choreography on the day, the one-day workshop was designed to broker knowledge – primarily in the form of narrative evidence – across the policy and academic boundaries, and across disciplines and sectors. The design began with the policy and academic audiences separated, but all informed by the key policy concerns and evidence syntheses prepared in Phase 1, then rapidly drew them together as it worked through the steps in Figure B.

The project team pre-selected the macro-themes of space debris, international governance and climate change to test the method on areas of policy with different characteristics such as immediacy, clarity of problem definition, and balance of

technical and governance issues. 55 experts attended the workshop in 8 sub-groups mixing sectors and disciplines. Each sub-group worked through examples and evidence mapping to develop and test core narrative evidence themes. The **Workshop Pack** and **Workshop Slides** are available to inform any future projects.

Phase 3 Follow through and implementation

Following Phase 2, the Project Team produced a report - **Narrative Evidence for Space Strategy** - that identifies, synthesises, and presents narrative evidence on space drawn from the project's activities, and is intended to be used as part of a plural, innovative and novel evidence (PINE) base to drive the development of better space policies and strategies.

For those working on policy on space, or in fields where space potentially plays a major role such as economic growth, energy and climate, the report presents PINE to inform next steps. Through the associated materials, sources and identification of experts, the project aims to provide practical support for the transition to implementation.

For those interested in urgently finding new ways to supplement existing forms of evidence in any significant area of policy and public reasoning, the report and its associated materials serve as proof-of-concept. They illustrate ways to seek out, create and use PINE that are transferable across policy domains and academic disciplines.

The **Storylistening Methods Charts** provide a graphic representation of a highly generalised project to provide evidence for policy, showing how narrative evidence can be included within such a structure. They are intended to provide a starting point for anyone seeking to design such a project for the first time. In practice, projects vary hugely in the time available, the scope of issues, and the funding available. However, the general principles tend to be the same.

Annex A: Project Team & Steering Group

Project Team:

Dr Claire Craig, The Queen's College, Oxford
Prof Sarah Dillon, University of Cambridge
Dr Alex Tasker, University of Bristol
Dr Elena Violaris, University of Cambridge (Project Fellow)

Steering Group:

Prof Duncan Bell, University of Cambridge
Prof Sa'id Mosteshar, London Institute of Space Policy and Law
Dr Graham Turnock, European Space Agency
Dr Tom Wells, UK Government Office for Science

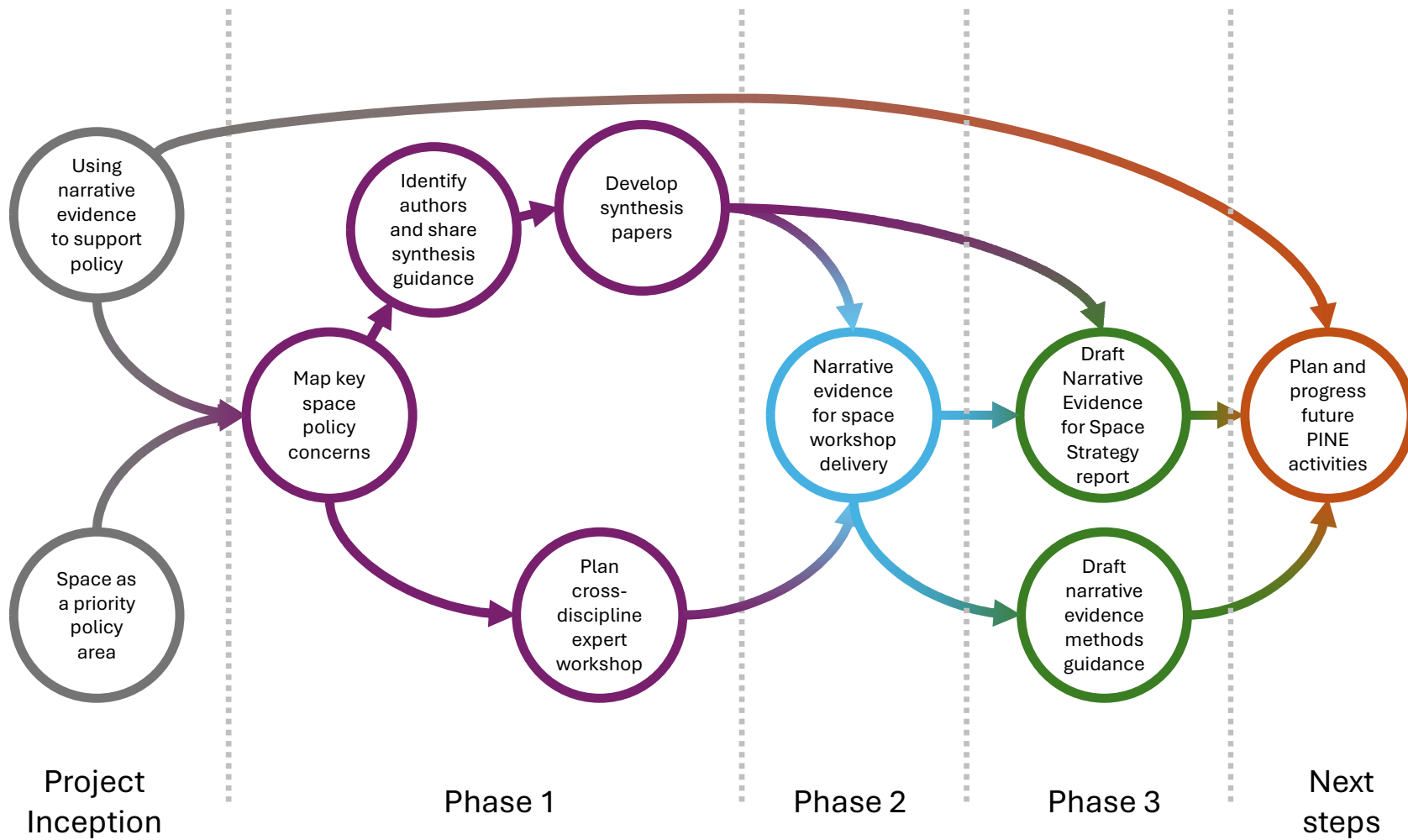


Figure A: Future Uses of Space Conceptual Plan

Start ▶ Finish

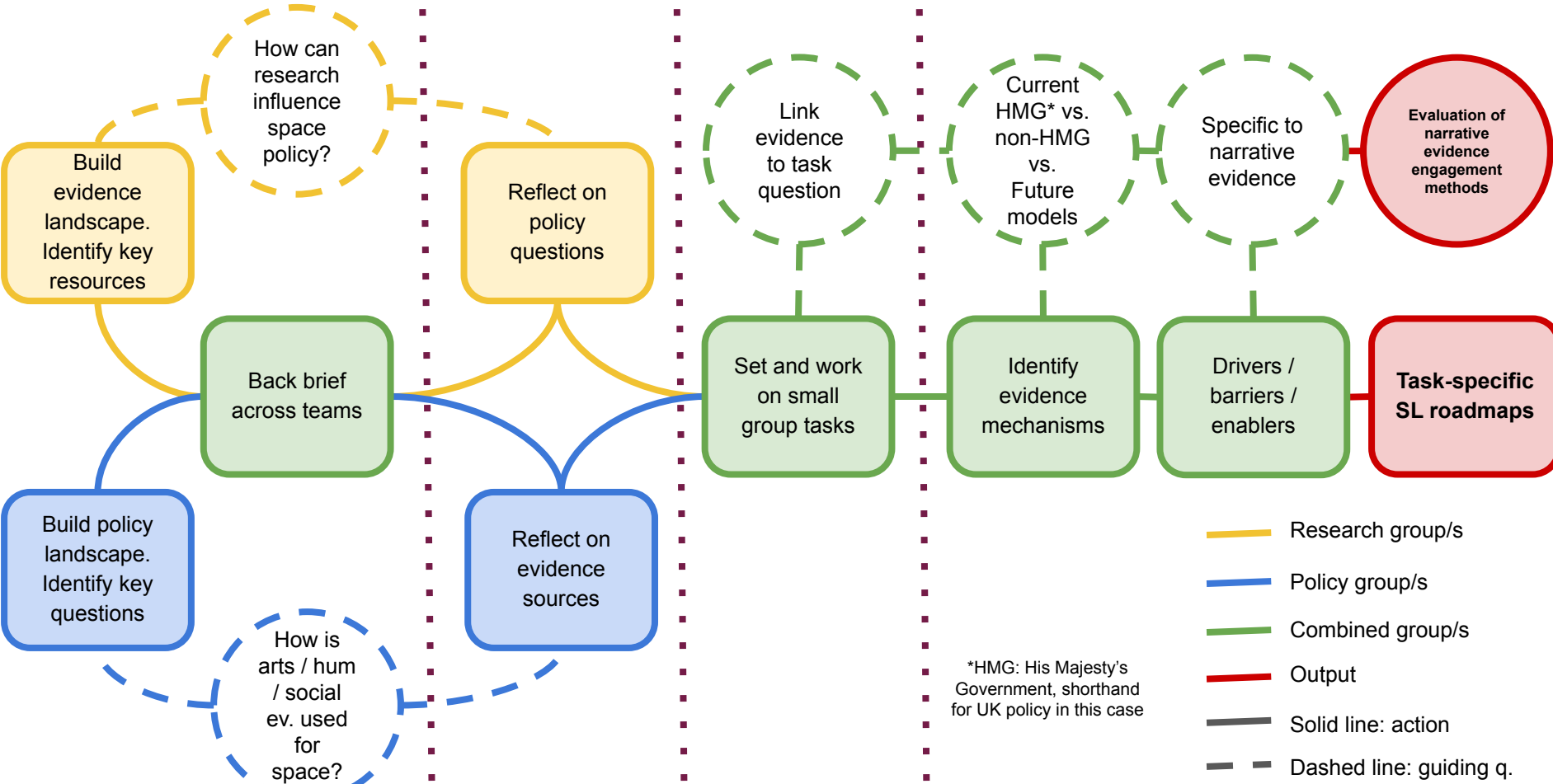


Figure B: Future Uses of Space Workshop Flowchart