



Science and Technology Facilities Council

STFC Impact guidance for grant applications

Introduction from STFC

UKRI places a strong emphasis on impact and the requirement to include 'planning for impact' as part of any submission made into a funding opportunity. Planning for impact is an opportunity for applicants to think about the potential their research may have in other areas, such as society, the economy and the environment. It helps foster a vibrant research culture and allows you to maximise the chance that your work will make a difference outside academic circles.

Given the level of competition for research funding, inclusion of impact in a grant submission can help make your proposal stand-out and give your submission the edge over others and lead to a greater success rate in funding. Furthermore, depending on the nature of the impact, it can feed back into the core research programme, open up new opportunities and ways of working and bring in new and exciting skills into the research group. From a strategic standpoint, this also helps benefit the community as a whole, as it helps demonstrate the value of the research.

Regardless of the specialism you work in, there will be opportunities for impact to arise from your work; be it public engagement and outreach, knowledge exchange and working with industry / third sector organisations or any combination of these.

Impact assessment criteria

With impact now being a primary assessment criterion on all STFC grants, it is more important than ever to consider the wider impact of your research so you can plan accordingly.

Social and economic impact from the proposed research

Examples of social and economic impact from the proposed research include:

- the potential application of technology in other fields
- third party professional sector engagement and outreach opportunities – for example, business, government, and NGO engagement
- the development of transferable skills supported by STFC
- inspiring young people to value science, technology, engineering, and mathematics (STEM) skills and consider STEM career
- engaging wider society and specific interested or affected demographics with the themes, progress, and outcomes of your research
- creating opportunities for two-way interactions between the research community and society.

Whilst there is no single agreed definition of impact, it is important to consider what it means in the context of your work and what wider opportunities are available. Beyond the scope of the research programme, what are the potential societal, environmental and economic benefits of the proposed work. For example, applicants could:

- Consider the wider impact your research may have at a high-level (for example, gender equality, diversity, social inclusion, and climate change) and evidence for mitigating this
- Outline any wider benefits to the UK, for example increased interest in STEM subjects, job creation, skills / capacity building
- Describe what steps will be taken to maximise any potential benefits.

One thing to consider is that academic/scientific impact falls outside this criterion and should not be considered as an impact generating activity in itself. Academic impact is considered to arise through the lifetime of the research grant. In other words, academic/scientific impact should happen naturally throughout the lifetime of the funding and is a direct output from the goals of the research laid out in the application. Academic impact should feed into the wider impact agenda for the research programme.

This guidance

The focus of this guidance is to provide a high-level overview for how applicants can plan for and identify opportunities for impact at the point of application. It is fully appreciated that not all the impacts which arise from research can be predicted at the start of the process. Opportunities can arise at numerous points during the development of a research project as new discoveries are made. Having said that, considering and planning for where impact may arise helps focus the mind for when the opportunities do arise.

Whilst there are many different forms of impact generating activity, for the context of this guidance we will specifically be referring to Knowledge Exchange and Public Engagement. The main reason for this is that STFC has active opportunities and funding mechanisms available to help support these activities in addition to its grant programmes such as Consolidated and Consortium grants, PPRP, ERF's and other ad hoc funding opportunities.

Where do I incorporate impact in my grant submission?

Your knowledge exchange and public engagement plan should be detailed in the case for support for most funding schemes operated by STFC. Please check the scheme requirements before you start preparing an application. For both consolidated and consortium grants, applicants can still submit an impact plan as part of the case for support but remember that this needs to be specific to an individual project. When submitting a consolidated grant, the impact ideas should not be generic to the overall proposal but relevant to the individual, constituent projects.

Annex 1 and 2 provide some examples of good and poor planning for impact in grant applications, along with a commentary on points to consider when writing and reviewing applications

- **Keep it project specific:**
the activities that you are proposing *must* be specific to the project. To give a generalised example, if your application is about your project using a specific large-scale telescope and you would like to undertake some impact work, then that programme needs to be about that telescope and the

research you are undertaking. If you want, instead, to deliver an astronomy impact programme about a more general topic, then you would need to apply to a separate funding scheme such as the [STFC dedicated public engagement grants schemes](#) or [Knowledge Exchange schemes](#)

- **Remember, it is not a track record:**

while it might be appropriate to include a brief track record of the applicants, remember that there is a separate section of most applications explicitly for this purpose. If you do refer to the track record of yourself and your co-investigators or project partners in the plan, keep it brief and make sure that the track record is relevant to the *specific* activities you are proposing.

- **Focus on what you want to achieve:**

think carefully about the specific outcome you would like to try to make happen or seem feasible to you and focus on them. Reviewers are looking for purposeful plans that meet the Impact criteria, not just a check lists of activities.

- **Ask for resources:**

planning and delivering impact takes time, effort **and money**. You should work out how much of each of these factors you need and account for them. You should consider how much time each member of the project team will need to dedicate to the operational planning, delivery and assessment of your work. You can ask for – and justify – resources and staff time to deliver your knowledge exchange or public engagement in the same way that you do for other components of your programme, including expert input. Importantly, there is usually no specific limit to the level of resources you can ask for to support public engagement activities if it is appropriately justified.

- **Include evaluation:**

the evaluation of impact activities should not be an afterthought. You will almost certainly not carry out your impact-generating activities effectively if you don't consider evaluation until your programme is at an end. Instead, think about how you will evaluate your work at the point that you're planning it and plan to monitor and evaluate throughout the lifetime of the project. This also helps you think *realistically* about the timescales of different outcomes, impacts of your work may have, what you will achieve in the lifetime of the project, and what (if any) the next steps would be and who to engage with. Annex 3 provides a list of potential contacts who can help with this, or there are numerous web-based resources available.

KNOWLEDGE EXCHANGE

What is Knowledge Exchange and why it is important?

Knowledge Exchange (KE) encourages the sharing of ideas, research, experience, and expertise between different disciplines, sectors, and organisations for the benefit of society, the economy, the environment and scientific research as a whole. The KE remit is broad and includes innovation/commercialisation and interdisciplinary working and has the potential to open-up new ways of thinking and problem solving for the benefit of all involved. Being open to KE activities has a number of benefits and can help foster an enthusiastic and diverse research group with varied expertise and skill sets beyond the norm, which feed back into fundamental research, opening up new ideas.

Planning for Knowledge Exchange impact is an opportunity for you to expand your portfolio, allowing new strengths, expertise, and ways of thinking into your research group. It is your chance to **be specific, be creative and broaden your academic scope.**

Points to consider when planning for KE

While certain programmes may have more obvious routes to impact than others, all proposals are required to develop impact opportunities in some capacity, even if the predicted timescales are long. This is especially true for KE activities specifically geared towards commercialisation, where impact may be generated 5-10 years or longer after the initial research has ended.

Instead of providing lists of ever-evolving impact-generating activities, it may help you to consider broad types of impact that can be considered to arise from your research. By thinking through these categories in relation to your proposal, you should hopefully be able to identify, even a small number, of potential impacts that you are motivated to work towards:

- Instrumental impacts: such as behavioural changes
- Capacity-building impacts: such as the creation or reinforcement of new and existing skills
- Attitudinal impacts: such as a change in attitude or perception towards the research topic or context
- Conceptual impacts: developing ideas and small proof-of concept experiments to see if a project has potential
- Connectivity impacts: such as the creation of new networks or the ability for further engagement between researchers, partners, and audiences
- Commercial impacts: creation of new IP and the transfer of knowledge from academia to the market

Consider who the best people to work with would be and then *talk to these people* in order to design a tailored plan. For KE related activities, a very good starting point is to engage your local Technology Transfer Office (or equivalent), or colleagues who have actively engaged with KE. Not only does this improve the quality of your plan, it also provides the necessary insights in how to make it successful.

Think outside the box

KE is in many ways a journey and different research groups will be at different points down the road. Whilst it may not be obvious at first glance what the potential applications for your work are, someone somewhere will likely have need of your skills and expertise. KE is not just about commercialisation and the translation of technology/research outputs into new areas. Exchanging of skills and expertise even within your own academic department is still a form of KE. As detailed in the “*From Knowledge to Impact*” document, your research can have applications in even the most unlikely of areas. Don’t be afraid to give it a go!

Resources available to help with KE

KE planning is sometimes not as easy or obvious as other impact areas. However, if you have some ideas and would like to discuss them/see if there is any potential, there are a range of resources available. A starting point is to try and identify some Key Performance Indicators (KPI’s) listing what you are hoping to achieve. From this, you can expand on your plan by thinking about what opportunities are available and identify the best individuals to talk to. Annex 3 lists some things you should consider when planning for KE impact and places you can go to for help. When planning KE

impact activities it is certainly worth referring to these in your application/planning process if you think they will be required on your KE journey.

PUBLIC ENGAGEMENT

Public engagement can be a significant route to generating **societal impact** from your research. If your public engagement is directly connected to your research, then you can explain this in your case for support and request resources to support this activity. Support from STFC for public engagement that is not focused around this specific research proposal can be found [here](#).

Done well, public engagement planning is a fundamental component of a vibrant research programme and allows you to maximise the chance that your work will make a real difference outside of the academic sphere, and gives you resources to capitalise on opportunities that arise during the course of your research. Public engagement may also help leverage additional funding from your institution or enable co-funding from external partners. Certain types of public engagement can also be submitted as, or contribute to, Research Excellence Framework (REF) Impact case studies.

There are two ways in which you might go about setting your engagement motivations:

- Outcome focused – based on the STFC high level impact criteria of the call you are applying to you might choose to visualise some specific outcomes from your project and identify, the key stakeholders or demographics; and
- Stakeholder focussed - if you know there are specific stakeholders or demographics with whom you want to work or who will be affected by your work, then consider what those stakeholders or audiences are interested in and consider how your research can provide information, answers or context to those questions or issues
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Preparing high quality public engagement as part of your case for support

Your public engagement plan is a **forward-looking** exercise stating what will be done to maximise the likelihood of your range of anticipated societal impacts arising from the project. It is your chance to **be specific** and to **ask for the resources you need** to put your plan into action.

○ **Why are you undertaking public engagement work? What's your purpose?**

It is critical that you explain the motivation for and purpose of your public engagement and opportunities will provide and to what proposed effect. For example, do you want to inspire young people to value STEM skills and consider STEM careers? and/or engage specific interested/affected demographics or wider society with your research? and/or create opportunities for two way interactions between the research community and society?

○ **Who should you involve in your public engagement?**

The answer to this question will be closely tied to your process of answering the question of 'why' you are undertaking public engagement. It is vital that you demonstrate that you understand the different people involved in your public engagement activities: this understanding makes the activities stronger and more tailored and explaining that understanding convinces a reviewer that you have put due thought into your plans.

An example of this could be working with schools or specific age groups, **to inspire young people to value science, technology, engineering and mathematics (STEM) skills and consider STEM careers**, raising stem awareness or STEM enrichment, it could be a curriculum linked activity or a

specific curriculum requirement. Do you want to involve a cohort in working with you on developing an aspect of your work, for example through involving them in the development of engagement activities or by a citizen science project, **thereby creating opportunities for two-way interactions between the research community and society.**

- **When are you going to undertake the work?**

The timing of delivery of your activities can be very important and your plan should take that into account. All too often, applicants imply a linear pathway that firstly concludes a project, then focuses on delivery of the engagement. While that might be appropriate, do not assume it is so. PE activity can take place at any time during the life of a project and, depending on the nature of the activity, may even have a direct feedback loop into the direction of the research itself. An example of this might be a citizen science activity which could **create opportunities for two-way interactions between the research community and society.**

- **How are you going to deliver your public engagement activities?**

There are innumerable different options available to you when it comes to *how* you intend to implement and deliver your impact-generating public engagement activities. When it comes to completing your case for support you should provide an overview of the methodology you have selected, though there is unlikely to be much space available for you to go into a detailed implementation plan. If your approach is tried-and-tested, you may not need to include as much detail. If your activity is novel, focus on explaining how this will be undertaken and how any risks will be mitigated. You must explain why the approaches you have selected are appropriate for the **social impact from the proposed project** you have selected and how they are tailored to those with whom you are engaging.

And finally

Remember, you are not alone, there are people who can help you. Talk to your public engagement professionals in your institution. There are some really useful resources out there to help you, for example, the National Coordinating Centre for Public Engagement (NCCPE) provide excellent advice [here](#).

Annex 1

Overview descriptors highlighting potential points to consider when assessing impact plans.

	Strongly meets the assessment criteria (5)	Meets the assessment criteria well but with limited weaknesses / limitations (4)	Meets the assessment criteria well but with some weaknesses / limitations (3)	Meets the assessment criteria but has major weaknesses / limitations (2)	Does not meet the assessment criteria (1)
Knowledge Exchange	Detailed examples of the potential application of the proposed research and target sector (e.g. healthcare) with a structured plan on how it can be exploited	Examples given into the potential application of the proposed research and target sector (e.g. healthcare). Thought given to how it can be exploited but limited in detail	Description on the potential application of the proposed research into a target sector, but limited discussion on how it will be achieved	Recognition that the research has applications in different areas and examples given to a potential target sector, but lack of detail on how it will be achieved	Lack clear or defined motivations for economic impact
	Evidence of engagement and contributions with beneficiaries and collaborators (e.g. letters of support) where economic impact may arise	Named examples of potential collaborators and letters of support, with some evidence of engagement and contributions	Discussion of engagement with beneficiaries and collaborators with some evidence of engagement, but little / no discussion of commitment	Potential collaborators identified but little / no evidence of engagement	No evidence to identify potential beneficiaries and collaborators
	Defined mechanisms for how KE can be carried out, with clear objectives stated (e.g. inclusion of KPIs)	Details given for how KE can be carried out, with thought given to potential objectives but lacking some detail	Discussion of how impact can arise, however limited information on how it can be exploited	Some discussion of how impact will arise but limited information on how the research will ultimately be exploited	Little thought / consideration for the application of the research beyond the academic sector
Public Engagement	Forward looking plan that clearly identifies the audience	Good consideration of audiences and forward-looking plan but lacking some details on audience need	Recognition of the wider benefits the research may have but limited detail on audiences	Recognition of the wider benefits the research may have but lack of consideration of audience needs	Little thought or consideration on the wider benefits from the research, audiences not identified,
	Clear outputs and outcomes including evaluation	Clear outputs and outcomes but limited information on evaluation	Outputs and outcomes mentioned but limited details provided	Outputs and outcomes mentioned but very limited details provided on whether they are project specific	Reflective narrative and
	Engagement is directly linked to the research programme.	Engagement is directly linked to the research programme but includes listed activities that are not project specific.	Public engagement not directly linked to the research programme.	Public engagement not directly linked to the research programme, listed activities are not project specific /trying to do too much	Generic public engagement not connected to the research programme

	Detailed evidence given on the wider impact from the research outside of economic or societal (e.g. environmental, EDI etc.)	Evidence given on the wider impact from the research outside of economic or societal (e.g. environmental, EDI etc.)	Discussion on the wider impact from the research outside of economic or societal (e.g. environmental, EDI etc.)	Recognition of the wider impact the research may present, but with limited detail	Little thought or consideration with the wider impact from the research
Both Knowledge Exchange and Public Engagement	Detailed discussion on the positive and negative implications of the KE / PE activity (e.g. climate change) including mitigation steps where the applicant has some control over these	Discussion of the positive and negative implications of the KE / PE activity (e.g. climate change) including some discussion on potential mitigation steps where the applicant has some control over these	Acknowledgement of the positive and negative implications of the KE / PE activity (e.g. climate change) but lacking detail in mitigation even where the applicant has some control over these	Consideration the activities may have positive and negative implications, but with limited detail and mitigation steps	Little / no discussion on the wider implications the activity may have
	Resources requested are fully justified.	Resources requested are justified but not clear where they are sourced	Resources requested not fully justified.	Resources requested not fully justified or explained	Resources not justified

Annex 2

Exemplar narrative of good and poor impact planning for KE and PE.

Poor KE impact

Part of institution x's research involves developing new opportunities which can have industrial applications. In the proposed research, by engaging directly with colleagues from industry, we can maximize the opportunity for impact to arise, as well as provide new opportunities for researchers beyond the academic sector. Such spin-offs from blue-skies research have long been vital to the international economic competitiveness of UK industry. A crucial feature of this is the UK's international reputation as a world leader for independent thinking in both the academic and industrial sectors.

Commentary: *This section leaves the impression that the authors have little interest in Industry engagement and knowledge exchange as a route to generating impact. The language used is vague and generic, there is no evidence of proactivity or thought given to the potential applications the research may have, and a lack of detail on potential beneficiaries or collaborators*

Good KE impact

Institution y has a strategic focus on KE, and provides support in developing, protecting, and commercializing new IP. Researchers involved in the Programme regularly engage the development team who provide support in identifying new technologies to exploit and industrial partners to collaborate with. Institution y is actively engaged with commercializing research. For example, project n has led to the formation of new IP and been awarded an STFC KE grant in collaboration with named industry partners. In addition, previous outputs from blue-skies research have been licensed to an external company with potential applications in a range of sectors including healthcare, environmental monitoring, and the nuclear industry.

To exploit the KE opportunities, several Key Performance Indicators (KPI's) have been designed which can be reviewed and updated as the projects develop (see below). Furthermore, institution y is in receipt of funding from non-STFC sources which can be used to further develop and expand KE opportunities.

- KPI 1: engage with x amount of industry partners to promote and establish KE opportunities
- KPI 2: engage local business development managers and technology transfer officers to host x number of seminars on commercialisation
- KPI 3: leverage £x of funding for proof-of concept work

In the current proposal, there are applications and opportunities to exploit the research in several specific sectors. To achieve this, by engaging with named industrial partners, or public sector organizations (e.g. hospitals, local councils/government) it will be possible to develop new innovations and KE opportunities to exploit this research for economic and societal impact. Preliminary, engagement with industry (please see letters of support) has shown there is a potential interest, and funding opportunities can be applied for to explore the opportunities further.

By working with the institutions business development managers and TTO, the chances of success for this work can be enhanced, and also ensure that ethical and responsible innovation is practiced through all activities. Activities will be reviewed in a timely manner and further engagement and funding opportunities will be investigated for the next steps accordingly.

This KE strategy has been developed to maximize the opportunities for economic and societal impact from the research Programme. If successful, there are potential opportunities for new spinouts / licenses which will create long-term opportunities for the wider research portfolio, as well as add value to the existing work.

Commentary: *Significant thought has been given into the potential applications to the healthcare, environmental and nuclear sectors. The authors have been specific about which partners they intend to work with and why it is important to generate impact in these areas . They have also given information on how they will coordinate this work and keep their stakeholders and partners involved and provided some key performance indicators which can be used to evaluate the project and determine if the work has been successful or not.*

Poor PE Impact

The public has strong interest in fundamental questions about our Universe, and the Group is active in engaging students within the University, local schools and the public via the University outreach events. Some of our investigators give talks to schools and organise some visits for the University STEM ambassadors when needed. We anticipate that the interest of the public will increase by new results in observational astrophysics and cosmology in the UK, and we will also engage the public via newspaper, radio, and television plus interviews as well as general-interest lectures.

Commentary: *This proposal has missed the opportunity to give the immediate impression that public engagement is clearly tailored to the research, nor does it explain how it will inspire, engage or create opportunities for engaging audiences , the authors have produced generic statements asserting institutional expertise in impact generation. There is no evaluation mentioned and little thought given to the wider benefits of the project.*

Good PE Impact

Our Outreach programme is extremely strong and continuing to grow, particularly through its association with the award-winning Astronomy Discovery Centre and the BBC. There are also significant opportunities for growing links with the discovery centre outreach programme and its public engagement professional staff.

A senior academic, provides overall strategic direction of the outreach programme and a cohort of enthusiastic postdocs and graduate students have received public engagement training at the institute and we have instigated an outreach training programme for all interested staff with help from the institutes outreach managers.

We have provided time and University funding to deliver it our public engagement work. We also make significant use of social media - including Twitter and Facebook.to highlight the outputs of the research and have engaged an evaluation manager to support our work.

We have also obtained external funding including several STFC public engagement awards. A particular strength of our work is developing a programme for engaging with new and 'hard to

reach' audiences by organising innovative events in music, literature and the art and we have co created a number of outreach projects that work with musicians and artists to engage new audiences at national level. We also evaluate our outreach programme to include legacy planning when the research programme has concluded, and resources created are available to all via a creative commons license.

Commentary: *Given the relatively large amount of space dedicated to outreach the authors have demonstrated a genuine interest in this sort of activity and have clearly identified that their plans are specific to the research and have identified partners with whom they intend to work. They have identified resources and support to help them deliver the activities, included evaluation and a responsible person who will oversee the public engagement work*

Annex 3

Details on resources available to help academics peruse Knowledge Exchange and Public Engagement activities. Whilst this is not an inclusive list, it provides a good insight into some of the help available to support academic lead innovation and knowledge exchange.

Name	How it can help
Technology Transfer Office (TTO)	The TTO (or equivalent) at your institution is best placed to help you engage with KE activities in the first instance. They will be able to: <ul style="list-style-type: none"> • Inform you what resources are available to you in developing your ideas (e.g. training courses on writing a business case) • Link you up with other academics/industry partners • Help you secure additional resources for technology development • Give you support in any IP which may be developed as part of the activity.
Business Development Managers	Business development managers (BDM's) advise on commercialisation opportunities and help develop your ideas into a marketable product. They can advise on IP management, securing investment, learning business language etc.
Innovate UK	Innovate UK has a number of opportunities to help you engage with Knowledge Exchange. This includes the Catapults, Catalysts and Knowledge Transfer Network (KTN). UKRI funds a number of catapults and catalysis which are specifically designed to help you commercialise your work and help you develop the skills to push for knowledge exchange and commercialisation. Please see the webpage for more information.
KEF	The Knowledge Exchange Framework (KEF) aims to increase efficiency and effectiveness in the use of public funding for KE and to further a culture of continuous improvement in universities. It will allow universities to better understand and improve their own performance, as well as provide businesses and other users with more information to help them access the world-class knowledge and expertise embedded in English Higher Education Providers (HEPs).
KE Concordat	The KE concordat has been created to facilitate the development, enhancement and transparency of the wide range of knowledge exchange activities performed by universities and other providers of higher education and research and support the partnerships integral to success.
Business Incubation Centres (BIC)	Alongside catapults and catalysis, BICs are a platform for engaging with industry and getting advice on potential opportunities for commercialisation. They are more subject specific than other options mentioned on this list. For UKRI, there are a number of easily accessible BIC including: <ul style="list-style-type: none"> • CERN BIC • ESA BIC • Higgs BIC
Consultancy	It may be possible that you need access to external consultancy firms to help develop a new innovation (for example contract research organisations, market research firms etc.).
Networks	There are numerous networks available in the UK with a focus towards knowledge exchange. Some are geared towards specific subject areas (for example SPRINT, STFC 21 st Century Challenge Networks, EPSRC Innovation and Knowledge Centres etc.), whereas some are broader and focus on KE across the whole university sector (e.g. Praxis Auril). Engaging with such networks could open up numerous opportunities for both collaboration and potential funding sources.
Impact Accelerator Accounts (IAA)	IAAs are a resource offered by UKRI to a institutions to help specifically support impact activities. The IAA's are supported by a number of research councils and are managed internally by your institution. The remit of this funding is broad and flexible.
KE Fellowships	STFC has a scheme dedicated to developing knowledge exchange opportunities from our research. By engaging with a Fellow, or hiring one at your institution, you can maximise the opportunities for KE from your institutions research. Similar schemes are available from other research councils and funding bodies as well.
Name	How it Can Help

National Coordinating Centre for Public Engagement (NCCPE)	The NCCPE supports Universities to increase the quality and impact of their public engagement activity by providing the tools, training and resources to facilitate and support excellent public engagement practice.
British Science Association (BSA)	The British Science Association , coordinates, delivers science engagement programmes and works closely to engage underserved audiences with science.