

Annex C SPF GGR-D Socio-economic impact evaluation: example questions and potential data/information sources detail.

Evaluation question	Evaluation point	Tracking measures	Potential information sources
Success factor: Programme budget fully committed			
Was the allocated budget fully and appropriately committed?	Mid-term review; end of programme	Spending data	UKRI Finance
Success factor: Establish, develop and grow a community of collaborative researchers, industry partners policy makers, and stakeholders in commercially viable GGR technologies			
To what extent and how has the programme built interdisciplinary capacity relevant to scalable GGR technology?	Baseline; mid-term review; end of programme	Number and spread of institutions involved in successful bids	UKRI data
		Number of successful research teams involving researchers from two or more disciplines	UKRI data
		Number of publications co-authored by researchers from two or more disciplines	Researchfish
		Bibliometric analysis of citations	UKRI data analysis
		Number of staff members on grants	UKRI data

Evaluation question	Evaluation point	Tracking measures	Potential information sources
		Number of associated students	UKRI data
		Number of training courses on GGR technologies offered/attended	Interview and survey responses
		Size of the UKRI portfolio at the end of the programme	UKRI data; Researchfish
		Case studies/narrative of specific scientific impact	Interview and survey responses
		Small grant funding (flexible fund)	BBSRC Extranet
To what extent and how has the programme built interdisciplinary capacity to support innovation in the search for scalable GGR technologies?	Baseline; mid-term review; end of programme	Number and spread of institutions involved in successful bids	UKRI data
		Number of successful research teams involving researchers from two or more disciplines	UKRI data
		Number of patents/IP	Researchfish; UKRI data

Evaluation question	Evaluation point	Tracking measures	Potential information sources
		Number of publications co-authored by researchers from two or more disciplines	UKRI data analysis, Researchfish
		Bibliometric analysis of citations	UKRI data analysis
		Number of and information on conference presentations	Researchfish; annual reports
		Number of training courses on GGR technologies offered/attended	Interview and survey responses
		Small grant funding (flexible fund)	BBSRC Extranet
To what extent and how has the programme built interdisciplinary capacity relevant to scalable GGR technology deployment and adoption?	Baseline; mid-term review; end of programme	Number and spread of institutions involved in successful bids	UKRI data
		Number of successful research teams involving researchers from two or more disciplines	UKRI data
		Number of publications co-authored by researchers from two or more disciplines	Researchfish; UKRI data analysis

Evaluation question	Evaluation point	Tracking measures	Potential information sources
		Bibliometric analysis of citations	UKRI data analysis
		Number of GGR technologies ready for uptake by industry	Directorate Hub; Researchfish; BBSRC Extranet
		Number of proof of concept/ products/ IP	UKRI data; Researchfish; BBSRC Extranet
		Number of training courses on GGR technologies offered/ attended	Interview and survey responses
		Small grant funding (flexible fund)	BBSRC Extranet
What are the likely long-term benefits of the increased capacities in GGR technologies, innovation, adoption and deployment?	End of programme	Number and type of government publication	Annual reports; Researchfish
		Case studies of societal influence	Annual reports; Researchfish
		Case studies of policy influence	Annual reports; Researchfish
		Expert opinion	Survey and interview responses
To what extent has the programme delivered in providing national leadership to coordinate and	Baseline; end of programme	Number of industry partners engaged	UKRI data; Researchfish, BBSRC Extranet

Evaluation question	Evaluation point	Tracking measures	Potential information sources
facilitate knowledge exchange between the programme and the wider stakeholder community?		Number of policy makers engaged	UKRI data; Researchfish
		Case studies on societal influence	Annual reports; Researchfish
		Case studies of policy influence	Annual reports; Researchfish
		Leverage from industry	UKRI data; Researchfish
		Number and information on conference presentations	Annual reports; Researchfish
		Bibliometric analysis of citations	UKRI data analysis
		Number of government publications	Annual reports; survey and interview data; expert opinion
		Number of public and/or stakeholder engagement activities	Annual reports; Researchfish, BBSRC Extranet
	End of programme	Number and type of government publications	Annual reports; survey and interview data; expert opinion

Evaluation question	Evaluation point	Tracking measures	Potential information sources
To what extent has the programme delivered long-term benefits to the UK as a result of improvements in national leadership?		Career histories of researchers	Interview and survey responses; network analysis
		Number and type of conference presentations/ appearances	Annual reports; survey and interview data; expert opinion
		Case studies of industry collaboration and impact	Researchfish; expert opinion
Success factor: The identification of deployable GGR approaches into industry, each with recommendations on the ethical, cultural, political and social considerations required to ensure its acceptance, and with a full economic assessment for its potential impact using agreed evaluation frameworks			
To what extent has the programme delivered in identifying scalable GGR technologies that are ready for deployment (UK and internationally)?	Baseline; mid-term review; end of programme	Number of demonstrators supported	UKRI data; Researchfish; annual reports
		Number of sustainable, scalable, deployable GGR demonstrators for the UK market	Researchfish; annual reports, BBSRC Extranet
		Number of sustainable, scalable, deployable GGR demonstrators for the international market	UKRI data; Researchfish, BBSRC Extranet

Evaluation question	Evaluation point	Tracking measures	Potential information sources
		Number of proof of concept/ products/ IP	UKRI data; annual reports
		Number of industry engagement activities	Researchfish; annual reports
		Case studies of industry collaboration and impact	Researchfish; expert opinion
To what extent has the programme delivered in engaging with policy makers and industries to ensure the necessary frameworks are in place to aid smooth and swift adoption of GGR technologies?	Baseline; end of programme	Number and type of engagement activities with policy makers	UKRI data; annual reports; Researchfish
		Case studies of policy impact	Researchfish; annual reports
		Number of green papers informed by programme findings	Researchfish
		Number of white papers informed by research outcomes	Researchfish
		Number of engagement activities with industry	UKRI data; annual reports; Researchfish, BBSRC Extranet
		Case studies of industry impact	Researchfish; annual reports

Evaluation question	Evaluation point	Tracking measures	Potential information sources
		Number of industry publications	Researchfish, BBSRC Extranet
		Bibliometric analysis of citations	UKRI data analysis
		Expert opinion	Survey and interview responses
To what extent has the programme delivered in achieving accepted lifecycle assessment methods and other key accounting methods across the demonstrators?	Baseline; mid-term review; end of programme	Expert opinion	Interview and survey responses
		Number of publications	Researchfish
		Bibliometric analysis of citations	UKRI data analysis
		Number of and information on conference presentations	Annual reports; Researchfish
		Number of new tools, methods, databases and models	Researchfish; survey and interview responses, BBSRC Extranet
		Case studies of specific scientific impact	Researchfish; annual reports
		Information from PI's and Col's and industry partners	Researchfish; annual reports; survey and interview responses

Evaluation question	Evaluation point	Tracking measures	Potential information sources
How successful has the programme been in providing national leadership to coordinate and facilitate knowledge exchange between the programme and the wider stakeholder community?	Baseline; mid-term review; end of programme	Number of industry partners engaged	UKRI data; Researchfish
		Number of policy makers engaged	UKRI data; Researchfish
		Case studies on societal influence	Annual reports; Researchfish
		Case studies of policy influence	Annual reports; Researchfish
		Leverage from industry	UKRI data; Researchfish
		Number and information on conference presentations	Annual reports; Researchfish
		Bibliometric analysis of citations	UKRI data analysis
		Number of government publications	Annual reports; survey and interview data; expert opinion
		Number of public and/or stakeholder engagement activities	Annual reports; Researchfish
		Expert opinion	Interview and survey responses

Evaluation question	Evaluation point	Tracking measures	Potential information sources
To what extent has the programme delivered in providing national leadership to establish, coordinate and facilitate knowledge exchange with relevant international groups?	Baseline; mid-term review; end of programme	Number and information from conference presentations	Annual reports; Researchfish
		Case studies	Annual reports; Researchfish
		Bibliometric analysis of citations	UKRI data analysis
		Number of public and/or stakeholder engagements	Annual reports; Researchfish
		Number of new collaborations involving international groups	Annual reports; Researchfish
		Expert opinion	Interviews and survey responses
What are the likely long-term benefits of having the deployable GGR approaches identified by the programme, with their respective frameworks and recommendations?	End of programme	Expert opinion	Interviews and survey responses
		Case studies	Interviews and survey responses
		Number, size and growth of GGR technology companies	InnovateUK data;
		Growth of GGR sector	Network analysis; InnovateUK data
		Number of industry partners engaged	UKRI; Researchfish

Evaluation question	Evaluation point	Tracking measures	Potential information sources
Success factor: An enhanced UK capability in commercially and ethically viable GGR solutions			
To what extent has the programme delivered in engaging the public in GGR-D activities in order to raise the profile of, contribute towards the development of and increase the uptake of possible deployable solutions?	Baseline; mid-term review; end of programme	Number of public and/or stakeholder engagements	Annual reports; Researchfish
		Case studies	Annual reports; Researchfish
		Expert opinion	Interviews and surveys
		Number of deployable solutions	Annual reports; Researchfish
To what extent has the programme achieved in upskilling the domestic workforce?	Baseline; end of programme	Number of training courses on GGR technologies offered/ attended	Annual reports
		Demographics of GGR technology industry	Network analysis
		Number and size of GGR and GGR associated companies	InnovateUK data
How successful has the programme been in driving new knowledge such as IP, TRL advancement, process and conceptual innovation in GGR?	Baseline; end of programme	Number of GGR related IPs	Annual reports; Researchfish
		Technology readiness data	InnovateUK data

Evaluation question	Evaluation point	Tracking measures	Potential information sources
To what extent and how, has the programme been successful in leveraging additional third party investment in research and innovation?	Baseline; end of programme	Number of third party investors	Annual reports; Researchfish
		Size and amount of third party investment	Annual reports; Researchfish
What are the likely long-term benefits of increased GGR capability in the UK?	End of programme	Expert opinion	Interview and survey responses
		Stakeholder opinion	Interview and survey responses