

## Section B3: Assessment criteria: impact

### Introduction

69. This section should be read alongside 'guidance on submissions' (in particular, Section 3, Annex A, Annex C and Annex G), which sets out the generic definition of impact for the REF, the requirements for submitting impact case studies and a completed impact template, the associated eligibility guidelines, and the generic assessment criteria and level definitions. The sub-panels will assess impact in accordance with this framework.

70. This section provides information which adds to and complements, but does not replace, 'guidance on submissions', with the intention of assisting institutions in developing their submissions for this new element of research assessment.

### Range of impacts

71. The main panel welcomes case studies describing impacts that have provided benefits to one or more areas of culture, the economy, the environment<sup>7</sup>, health, public policy and services, quality of life, or society, whether locally, regionally, nationally or internationally.

72. A single body of research work may underpin impact which provides benefits in more than one area. An impact case study may therefore describe more than one type of impact arising from such bodies of work; for example, a new drug can generate both health and economic impact, and a new energy technology can generate both environmental and economic impact.

73. An indicative list of potential examples of impact is provided in Table B1. These are categorised according to the different domains that sub-panels expect to see in submitted case studies, with an indicative list of examples of impact for each type. In making use of this to assist with the preparation of submissions, HEIs should note that:

- a. The list of types and examples of impacts is not intended to be exhaustive, and some examples are relevant to more than one type of impact. Sub-panels wish to encourage HEIs to submit case studies describing any impacts that meet the generic definition in 'guidance on submissions' (Annex C).
- b. HEIs are **not** expected to align submitted case studies specifically with the particular types of impact defined in the list.

74. All types of impact will be considered equitably in terms of the assessment of the reach and significance achieved during the assessment period. The sub-panels expect institutions to submit their strongest case studies, regardless of the types of impact that they describe.

75. HEIs are reminded that impacts on research or the advancement of academic knowledge within the HE sector (whether in the UK or internationally) **are excluded**. Other impacts within the HE sector that meet the definition of impact for the REF, **are included** where they extend significantly beyond the submitting HEI. (See 'guidance on submissions', Annex C.) For example:

- a. The take-up by the HE sector of products arising from research such as open source software would be eligible as examples of impact **only** where there is some evidenced impact that goes beyond academic research or the advancement of knowledge **and** where the impact extends significantly beyond the submitting HEI.
- b. Impact on research outside the HE sector (such as in industrial laboratories) may be evidence of a link to an impact, but is unlikely to be a significant impact in itself.

76. The sub-panels will also welcome impacts that describe changes or benefits resulting from research that leads to a decision **not** to undertake a particular course of action. For example, the impact deriving from evidence that a particular building material should not be used.

<sup>7</sup> References to 'environment' throughout Part 2, Section B3 of this document refer to both the natural and built environments, unless otherwise specified.

**Table B1 Examples of impact**

**Economic impacts**

Impacts where the beneficiaries may include businesses, either new or established, or other types of organisation which undertake activity that may create wealth

- The performance of an existing business has been improved through the introduction of new, or the improvement of existing, products, processes or services; the adoption of new, updated or enhanced technical standards and/or protocols; or the enhancement of strategy, operations or management practices.
- A spin-out or new business has been created, established its viability, or generated revenue or profits.
- A new business sector or activity has been created.
- A business or sector has adopted a new or significantly changed technology or process, including through acquisition and/or joint venture.
- Performance has been improved, or new or changed technologies or processes adopted, in companies or other organisations through highly skilled people having taken up specialist roles that draw on their research, or through the provision of consultancy or training that draws on their research.
- Potential future losses have been mitigated by improved methods of risk assessment and management in safety or security critical situations.

**Impacts on public policy and services**

Impacts where the beneficiaries may include government, non-governmental organisations (NGOs), charities and public sector organisations and society, either as a whole or groups of individuals in society

- A policy has been implemented (including those realised through changes to legislation) or the delivery of a public service has changed.
- (Sections of) the public have benefited from public service improvements.
- In delivering a public service, a new technology or process has been adopted or an existing technology or process improved.
- Policy debate has been stimulated or informed by research evidence.
- Policy decisions or changes to legislation, regulations or guidelines have been informed by research evidence.
- Changes to education or the school curriculum have been informed by research.
- Risks to the security of nation states have been reduced.
- The development of policies and services of benefit to the developing world has been informed by research.

**Impacts on society, culture and creativity**

Impacts where the beneficiaries may include individuals, groups of individuals, organisations or communities whose knowledge, behaviours, creative practices and other activity have been influenced

- Public discourse has been stimulated or informed by research.
- Public interest and engagement in science and engineering has been stimulated, including through the enhancement of science and engineering-related education in schools.
- The awareness, attitudes or understanding of (sections of) the public have been informed, and their ability to make informed decisions on issues improved, by engaging them with research.
- The work of an NGO, charitable or other organisation has been influenced by the research.
- Research has contributed to community regeneration.

**Table B1 Examples of impact continued**

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**Health impacts**

Impacts where the beneficiaries may include individuals (including groups of individuals) whose health outcomes have been improved or whose quality of life has been enhanced (or potential harm mitigated) through the application of enhanced healthcare for individuals or public health activities

- A new drug, treatment or therapy, diagnostic or medical technology has been developed, trialled with patients, or adopted.
- Patient health outcomes have improved through, for example, the availability of new drug, treatment or therapy, diagnostic or medical technology, changes to patient care practices, or changes to clinical or healthcare guidelines.
- Public health and quality of life has been enhanced through, for example, enhanced public awareness of a health risk, enhanced disease prevention or, in developing countries, improved water quality or access to healthcare.
- Decisions by a health service or regulatory authority have been informed by research.
- The costs of treatment or healthcare have reduced.
- Quality of life in a developed or developing country has been improved by new products or processes.

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**Impacts on practitioners and professional services**

Impacts where beneficiaries may include organisations or individuals involved in the development of and delivery of professional services

- Changes to professional standards, guidelines or training have been informed by research.
- Practitioners/professionals/lawyers have used research findings in the conduct of their work.
- The quality or efficiency or productivity of a professional service has improved.
- Professional bodies and learned societies have used research to define best practice.
- Practices have changed, or new or improved processes have been adopted, in companies or other organisations, through the provision of training or consultancy.
- Expert and legal work or forensic methods have been informed by research.

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**Impacts on the environment**

Impacts where the key beneficiaries are the natural environment and/or the built environment, together with societies, individuals or groups of individuals who benefit as a result

- The environment has been improved through the introduction of new product(s), process(es) or service(s); the improvement of existing product(s), process(es) or services; or the enhancement of strategy, operations or management practices.
  - New methods, models, monitoring or techniques have been developed that have led to changes or benefits.
  - Policy debate on the environment, environmental policy decisions or planning decisions have been stimulated or informed by research and research evidence.
  - The management or conservation of natural resources, including energy, water and food, has been influenced or changed.
  - The management of an environmental risk or hazard has changed.
  - The operations of a business or public service have been changed to achieve environmental (green) objectives.
  - Direct intervention, based on research evidence, has led to reduction in carbon dioxide or other environmentally damaging emissions.
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### Impacts arising from public engagement activity

77. Engaging the public with research is an activity that may lead to impact. Sub-panels will welcome case studies that include impact achieved in this way, either as the main impact described or as one facet of a wider range of impacts.

78. Public engagement is a very broad area, not all of which is underpinned by research. Case studies which include impacts that derive from engaging the public with research must:

- a. At least in part, be based on specific research or a body of research carried out in the submitted unit, and explain clearly which particular aspects of the research underpinned the engagement activity and contributed to the impact claimed.
- b. Include evidence of the reach of the impact. This should extend beyond simply providing the numbers of people engaged and may also, for example, include:
  - information about the types of audience
  - whether there was secondary reach, for example from follow-up activity or media coverage
  - other quantitative indicators such as evidence of sales, downloads of linked resources, and/or access to web content.
- c. Include evidence of the significance of the impact. This should include a description of the social, cultural or other significance of the research insights with which the public have engaged. Examples of the evidence that might be provided for this include:
  - evaluation data
  - user feedback or testimony
  - critical external reviews of the engagement activity
  - evidence of third party involvement, for example how collaborators have modified their practices, contributions (financial or in-kind) by third parties to enhance services or support for the public, or evidence of funds from third parties to enhance or extend the engagement activity
  - evidence of sustainability, through, for example, a sustained or ongoing engagement with a group, a significant increase in participation in events or programmes, continuing sales, downloads, or use of resources.

### Case studies: evidence of impact

79. Each case study must provide a clear and coherent narrative that includes an account of who or what constituency, group, sector, organisation and so on, has benefited, been influenced, or acted upon. Evidence appropriate to the type(s) of impact described should be provided to support the claims made of the nature and extent of the impact, in terms of its reach and significance.

80. Evidence may take many different forms depending on type of impact(s) reported. Wherever possible, quantitative indicators should be included. Sources that could verify key evidence and indicators provided in the case study should be included in section 5 of the impact case study template.

81. The main panel recognises that some of the evidence in case studies may be of a confidential or sensitive nature. The arrangements for submitting and assessing case studies that include such material are set out in Part 1, paragraphs 58-59.

82. The examples in Table B2 provide a guide to potential types of evidence or indicators that may be most relevant to each of the types of impact described in Table B1. However, HEIs should note that:

- a. This is not intended to be exhaustive.
- b. Some indicators may be relevant to more than one type of impact.
- c. Sub-panels will consider any appropriate evidence that is verifiable.
- d. Sub-panels recognise the varying degrees to which evidence and indicator information may be available to HEIs.

**Table B2 Examples of evidence and indicators of impact**

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<b>Economic impacts</b>	<ul style="list-style-type: none"><li>• Business performance measures, for example, sales, turnover, profits or employment associated with new or improved products, processes or services.</li><li>• Licences awarded and brought to market.</li><li>• Jobs created or protected.</li><li>• Investment funding raised from UK and/or non-UK agencies (venture capital/Business Angel, and so on) for start-up businesses and new activities of existing businesses.</li><li>• Evidence of critical impact on particular projects, products and processes confirmed by independent authoritative evidence, which should be financial where possible.</li><li>• Priority shifts in expenditure profiles or quantifiable reallocation of corporate, non-profit or public budgets.</li></ul>
<b>Impacts on public policy and services</b>	<ul style="list-style-type: none"><li>• Documented evidence of policy debate (for example, in Parliament, the media, material produced by NGOs).</li><li>• Documented evidence of changes to public policy/legislation/regulations/guidelines.</li><li>• Measures of improved public services, including, where appropriate, quantitative information; such information may relate for example to the quality, accessibility or cost-effectiveness of public services.</li><li>• Documented evidence of changes to international development policies.</li><li>• Measures of improved international welfare or inclusion.</li></ul>
<b>Impacts on society, culture and creativity</b>	<ul style="list-style-type: none"><li>• Visitor or audience numbers and feedback.</li><li>• Critical reviews in the media and/or other professional publications.</li><li>• Evidence of public debate in the media or other fora.</li><li>• Evidence of sustained and ongoing engagement with a group.</li><li>• Measures of increased attainment and/or measures of improved engagement with science in non-HE education.</li></ul>
<b>Health impacts</b>	<ul style="list-style-type: none"><li>• Evidence from clinical trials.</li><li>• Measures of improved patient outcomes, public health or health services.</li><li>• Documented changes to clinical guidelines.</li><li>• Evidence of take-up and use of new or improved products and processes that improve quality of life in developing countries.</li></ul>
<b>Impacts on practitioners and professional services</b>	<ul style="list-style-type: none"><li>• Traceable reference to inclusion of research in national or international industry standards or authoritative guidance.</li><li>• Traceable references by practitioners to research papers that describe their use and the impact of the research.</li><li>• New or modified professional standards and codes of practice.</li><li>• New or modified technical standards or protocols.</li><li>• Documented changes in knowledge, capability or behaviours of individuals benefiting from training.</li></ul>

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**Table B2 Examples of evidence and indicators of impact continued**

Impacts on the environment	<ul style="list-style-type: none"><li>• Sales of new products or improvements in existing products that bring quantifiable environmental benefits.</li><li>• Traceable impacts on particular projects or processes which bring environmental benefits.</li><li>• Evidence of generic environmental impact across a sector, confirmed by independent authoritative evidence.</li><li>• Documented case-specific improvements to environment-related issues.</li><li>• Traceable reference to inclusion of research into government policy papers, legislation and industry guidance.</li><li>• Traceable reference to impact of research in planning decision outcomes.</li><li>• Policy documentation.</li></ul>
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### Case studies: underpinning research

83. As described in the impact case study template (see the 'guidance on submissions', Annex G) HEIs should provide in section 3 up to six key references to research produced by the submitting unit in the period 1 January 1993 to 31 December 2013 that underpins the impact described in the case study. A case study will be eligible for assessment only if the sub-panel is satisfied that the underpinning research is predominantly of at least two star quality.

84. Case studies may reference any type of output that is the product of research. HEIs should identify up to three of these references that best indicate the quality of the underpinning research. Based on the information submitted, the sub-panels will use their expert judgement to determine in how much detail they need to review the underpinning research in order to be assured that the quality threshold has been met.

85. Provided the sub-panel is satisfied that the quality threshold has been met, the quality of the underpinning research will not be taken into consideration as part of the assessment of the reach and significance of the claimed impact.

86. Underpinning research referenced in a case study may also be included in a submission as an output (listed in REF2), without disadvantage. In these situations, the assessment of the impact case study will have no bearing on the assessment of the quality of the output. The assessment of the quality of the output may inform the assessment of the case study, only in terms of assuring the threshold for underpinning research quality.

### Impact template

87. The requirement to submit an impact template is described in 'guidance on submissions' (paragraphs 149-155), and the generic template is at Annex B of this document. The sub-panels request the following information in each section a-d of the template. Where possible, relevant illustrative examples with traceable references should be given, rather than broad general statements. The information submitted under headings a and d will be considered as contextual information for the sub-panels in assessing the case studies, and will not be assessed in forming the impact sub-profiles.

- a. **Context:**
  - Describe the main non-academic user groups, beneficiaries or audiences for the unit's research.
  - Describe the main types of impact specifically relevant to the unit's research, and how these relate to the range of research activity or research groups in the unit.
- b. **Approach to impact:** Describe the unit's approach to its interaction with non-academic users, beneficiaries or audiences and to achieving impacts from its research, during the period 2008-2013. This could include details of, for example:
  - How staff in the unit interacted with, engaged with or developed relationships with key users, beneficiaries or audiences to develop impact from the research carried out in the unit<sup>8</sup>.

<sup>8</sup> Note that within the environment template, submissions should explain research collaborations with users, and how their relationships/interactions inform the development of the unit's research activity/strategy.

- Evidence of the nature of those relationships and interactions. This may include, for example, participation in schemes such as Research Council knowledge exchange schemes and industrial doctoral training centres, and interactions through training provided or consultancy undertaken, where these have led to beneficial relationships.
  - Evidence of follow-through from these activities to identify resulting impacts.
  - Evidence of an agile approach to opportunities.
  - How the unit specifically supported and enabled staff to achieve impact from their research, and ways in which they are rewarded or recognised for achieving impact.
  - How the unit made use of institutional facilities, expertise or resources in undertaking these activities.
  - Other mechanisms deployed by the unit to support and enable impact.
- c. **Strategy and plans:** Describe how the unit is developing its strategy for achieving impact, including its goals for supporting and enabling impact from its research in the future.
- d. **Relationship to the case studies:** The sub-panels do not expect that submitted case studies will necessarily have arisen out of the approaches to achieving impacts, as described in b above, for the period 2008 to 2013. However, where relevant, they would welcome details of, for example, how particular case studies exemplify aspects of the approach, or how particular case studies informed the development of the unit's approach.

### Impact criteria

88. The sub-panels will assess impact according to the generic criteria and level definitions in 'guidance on submissions', Annex A, Table A3. The criteria will be understood as follows:

- **Reach** is the extent and breadth of the beneficiaries of the impact.
- **Significance** is the degree to which the impact has enabled, enriched, influenced, informed or changed the products, services, performance, practices, policies or understanding of commerce, industry or other organisations, governments, communities or individuals.

89. The sub-panels will make an overall judgement about the reach and significance of impacts, rather than assessing each criterion separately.

90. HEIs may submit case studies describing impacts at any stage of development or maturity. However, the assessment will be solely on the impact achieved during the assessment period, regardless of its stage of maturity. No account will be taken of anticipated or future potential impact, and therefore early stage or interim impacts might not score as highly as more mature impacts.