

# DRAFT TEMPLATE

## **Note to Panel:**

*This template is prepared to facilitate your panel to develop the panel's specific guidelines for Research Assessment Exercise (RAE) 2020. Some "Notes to Panel" are provided in rectangular boxes to indicate the inputs required from your panel to complete these guidelines. For illustration, the Biology Panel is used as an example unless otherwise specified in "Notes to Panel". Please make appropriate adaptation to the textual information in purple square brackets of this template to suit the case of your panel.*

*Some useful reference can be found by clicking the links below in preparing the specific guidelines of your panel –*

### *RAE 2020 Published Documents*

*(including the Guidance Notes and draft General Panel Guidelines)*

*<<http://www.ugc.edu.hk/eng/ugc/activity/research/rae/rae2020.html>>*

### *RAE 2014 Panel-Specific Criteria and Working Methods*

*<<http://www.ugc.edu.hk/eng/ugc/activity/research/rae/panel-specific-201402.html>>*

### *Research Excellence Framework (REF) 2014 in the United Kingdom (UK) Panel Criteria and Working Methods*

*<[http://www.ref.ac.uk/2014/media/ref/content/pub/panelcriteriaandworkingmethods/01\\_12.pdf](http://www.ref.ac.uk/2014/media/ref/content/pub/panelcriteriaandworkingmethods/01_12.pdf)>*

## **Research Assessment Exercise 2020**

### **Panel [01 – Biology]**

### **Panel-specific Guidelines on Assessment Criteria and Working Methods**

(Draft Template)

#### **Content:**

Introduction

Section A: Submissions

Section B: Assessment Criteria: Research Outputs

Section C: Assessment Criteria: Research Impact

Section D: Assessment Criteria: Research Environment

Section E: Working Methods

# DRAFT TEMPLATE

## Introduction

1. This document sets out the assessment criteria and working methods that the [\[Biology\]](#) Panel of the Research Assessment Exercise (RAE) 2020 will apply. It should be read alongside the General Panel Guidelines of the exercise. The provisions set out in this document serve as further elaboration and amplification on the assessment criteria and working methods as applied to the [\[Biology\]](#) Panel. In areas where no additional information has been specified, the provisions in the General Panel Guidelines will prevail and apply in the assessment process of the Panel. These guidelines do not replace or supersede the requirements for submissions that are set out in the Guidance Notes for the RAE 2020.

2. This document describes the criteria and methods for assessing submissions in the [\[Biology\]](#) Panel. It provides guidance on the type of information required in the submissions. It also provides a single, consistent set of criteria that will be applied by the Panel and sub-group(s)/sub-panel(s), if any, when undertaking the assessment having regard to any differences in the nature of discipline[s] of respective unit[s] of assessment (“UoA[s]”) under purview. It also provides a common approach to the working methods applied within the Panel.

## **Section A: Submissions**

### **UoA[s] under the Panel**

3. The [\[Biology\]](#) Panel will assess universities’ submissions from the following UoA[s] –

**Note to Panel:**

*The code and name of each UoA under the panel’s remit will be listed below.*

<u>Code</u>	<u>UoA[s]</u>
[1]	[biological sciences (incl. environmental biology, biotechnology, agriculture & food science, veterinary studies)]
[2]	[pre-clinical studies]

# DRAFT TEMPLATE

**Note to Panel:**

*Please give an overview statement on the UoA(s) and describe the areas of research covered by your panel.*

4. [The Panel expects to receive submissions whose primary research focus falls within the respective remit of the above UoAs. The UoAs under the Panel's remit cover the full spectrum of the basic and applied biology of all organisms, ●●●.]

## **Inter-disciplinary Research**

5. The Panel also recognises that individual UoAs do not have firm or rigidly definable boundaries, and that certain aspects of research are naturally inter-disciplinary or multi-disciplinary or span the boundaries between individual UoAs, whether within the panel or across panels. The Panel will adopt the arrangements for assessing inter-disciplinary submissions as set out in paragraphs [39-40] of the General Panel Guidelines.

**Note to Panel:**

*Please provide further guidance on inter-disciplinary research that is specific to certain discipline(s) or UoA(s) under your panel's remit.*

6. [Areas of inter-disciplinary research that are relevant to the Panel include biochemistry, ●●●.]

## **Assignment of Eligible Academic Staff in Each UoA**

7. Pursuant to paragraphs [7-11] of the General Panel Guidelines, the Panel will follow the procedures in case of any suspected anomaly regarding universities' assignment of eligible academic staff to research area(s) and UoA[s] under its remit. The Panel also recognises the responsibility to handle relevant submissions arising from any re-assignment of eligible academic staff.

**Note to Panel:**

*Other than the instance of staff members who have been assigned to a UoA and yet a major part or even all of their research outputs are in the field of other UoA(s) or RAE panel(s), please elaborate on any other*

# DRAFT TEMPLATE

*instances which your panel would likely suspect anomalous assignment of eligible academic staff.*

8. [The Panel would find the assignment of eligible academic staff likely susceptible to anomaly if ●●●.]

## **University's Research Strategy Statement**

9. Following paragraphs [2.16-2.18] and Appendix [B] of the Guidance Notes and paragraph [15] of the General Panel Guidelines, the Research Strategy Statement submitted by each university will provide contextual information for the Panel when assessing the submissions.

### **Note to Panel:**

*Please illustrate the information expected to be included in the University's Research Strategy Statement and how it will be used within your panel.*

10. [The Panel would expect the University's Research Strategy Statements to include background information on the university's existing research strategy, focus areas and distribution of research activities across research areas, ●●●. The University's Research Strategy Statement will be used to understand the existing strengths of a university, and ●●●.]

## **Section B: Assessment Criteria: Research Outputs**

### **Output Types**

11. The [Biology] Panel will consider the eligibility of research outputs as described in paragraphs [16-18] of the General Panel Guidelines, paragraphs [5.7 to 5.11] and Appendix [F] of the Guidance Notes.

12. The Panel will assess the quality of each eligible output on its own merits and not in terms of its publication category, medium or language of publication. The Panel will examine each item in detail and will not assess outputs mechanistically according to the publication venue. The Panel recognises that there can be work of the highest quality in various output forms, and no distinction will be made between types of output submitted nor whether the output has been made available electronically or in a physical form.

# DRAFT TEMPLATE

**Note to Panel:**

*Please provide examples and describe the range of research outputs that may be submitted to your panel. Some examples are provided in broad terms below for illustrative purposes only. Please edit these suggestions to illustrate the types of outputs applicable to your panel.*

13. Forms of research outputs that are admissible and specifically relevant to the [Biology] Panel include the following examples. This should not be regarded as an exhaustive list. Equally, there is no implication of priority or importance in the ordering of examples in this list –

- [books, book chapters and research monographs.]
- [published conference papers and reports.]
- [new materials, devices, products and processes.]
- [patents awarded or published patent applications.]
- [published papers in peer-reviewed journals.]
- [review articles where these incorporate new research, or new hypotheses.]
- [software, computer code and algorithms.]
- [standards documents.]
- [technical reports.]
- [portfolio of design work, creative arts.]
- [documentary film]
- [●●●]

**Note to Panel:**

*Please provide further guidance and specification(s) on your panel's position regarding review articles, translations, edited works, textbooks or any other types of output that your panel would like to bring to the submitting universities' information.*

*Please also provide amplification(s) on the best international norms and the standards of rigour and scholarship expected internationally in the*

# DRAFT TEMPLATE

*disciplines or sub-disciplines under your panel's remit. As in RAE 2014, RAE 2020 adopts an inclusive view on research output. Outputs meeting the definition as set out in paragraph [16] of the General Panel Guidelines are eligible for submission. Panels may be faced with unrefereed submissions, and will have to deal with them. In the light of this, your panel may consider to elaborate on the types of outputs such as the following, as appropriate –*

- outputs that have or have not undergone peer-review/refereeing process prior to publication;*
- outputs that are publicly available in open repositories or by means of self-publication;*
- outputs that are subsequent editions of previous work;*
- two or more outputs in respect of the same eligible staff that include significant materials in common (e.g. a journal article also appears as a book chapter within the assessment period); and*
- practice-based outputs (e.g. artefacts, software, musical or poetic composition, documentary film), commissioned research outputs (e.g. advisory reports), patents awarded or published patent applications etc.*

*In making the elaboration, your panel may also explain the arrangements for the assessment of individual category of outputs including –*

- what specific information is required to be included in the submission and in what circumstances of such information is required; and*
- how the panel will take account this in assessing the output.*

*In setting out the arrangements, your panel should bear in mind that the RAE 2020 adopts an inclusive view on research output. Each output is assessed on its quality and its own merit regardless its type of category. Your panel should ensure that all types of eligible outputs will be assessed on an equal basis.*

14. Research outputs will be assessed for the quality of original research they include. [The Panel will accept the submission of review articles only where they contain a significant component of unpublished research or new insight.] Such outputs will be judged only on their original research or novelty of insight.

# DRAFT TEMPLATE

15. [The Panel will consider subsequent editions of previous work only where they ●●●.]

## Double-weighting of Research Outputs

### ***Note to Panel:***

*Please specify whether your panel expects to receive any requests of double-weighting items having regard to the output nature of disciplines under the panel's remit, and, if so, please describe –*

- *what criteria the panel will apply in deciding whether to double-weight an output of extended scale and scope, where this is requested;*
- *what kind of information a university should provide (maximum 100 words per output) when making such requests; and*
- *the type(s) of outputs that is(are) particularly relevant to the panel for double-weighting; where applicable, please elaborate on whether “publication which forms the basis of a patent” may be considered for double-weighting.*

*Examples are provided for illustrative purposes only.*

16. Paragraphs [29-31] of the General Panel Guidelines indicate that in exceptional cases a submitting university may request that outputs of extended scale and scope be double-weighted in the assessment. [Example 1: However, given the publication patterns in [its UoAs / biological sciences], this Panel does not expect to receive any items proposed for double-weighting. Example 2: In view of the established practice in [subject area(s) ●●●] of publishing major research outputs in the form of [●●●], the Panel recognises that there may be outputs of such scale and scope and will consider the items submitted for double-weighting in line with the General Panel Guidelines.]

17. [When requesting for double-weighting of an output, universities should submit a statement in not more than 100 words, explaining in what ways the output is of sufficiently extended scale and scope to justify the claim. The Panel will decide whether to double-weight the output on the basis of [●●●]. The Panel will consider [a sole-authored monograph] to be equivalent to requiring research effort for producing two single outputs.]

# DRAFT TEMPLATE

## Co-authored/Co-produced Outputs

18. The Panel affirms the principles and arrangements on assessing co-authored/co-produced research outputs as set out in paragraphs [32-34] of the General Panel Guidelines.

### **Note to Panel:**

*Please provide further guidance on your panel's position on co-authored/co-produced outputs in view of the disciplines under the panel's remit, and specify if any information is required for the panel's consideration. In particular, please provide elaboration, if any, on whether the number and/or order of authors as well as the role of author (e.g. first / correspondence / main authorship) will be taken into account in assessing whether a co-authored item will be accepted.*

19. [The Panel will consider co-authorship to be a normal element of research activity in [its UoAs / biological sciences] and expect all named co-authors to have made a significant contribution to the research process leading to the output concerned [where there are fewer than ●● co-authors]. In assessing co-authored/co-produced outputs, the Panel would particularly consider information regarding ●●●.]

## Non-traditional Outputs

### **Note to Panel:**

*Please provide guidance on the 300 words description for non-traditional outputs and any additional requirement regarding the format and method of access to the outputs concerned.*

20. The Panel will handle research outputs in non-traditional form according to paragraphs [35-37] of the General Panel Guidelines. The Panel expects to receive additional information about each non-traditional output in terms of its novelty, method used to ensure academic rigour in the production of the output, deliverables, and dissemination method. [For submissions involving recordings, images or photographs, the Panel would expect the contents are of good quality in at least [●●-bit audio and high definition ●● × ●● video resolution] for recordings and [●● dpi (dots per inch)] for images/photographs respectively.]



# DRAFT TEMPLATE

## Criteria and Quality Levels for Assessing Research Outputs

21. Panel members will use their professional judgement with reference to international standards in assessing research outputs.

22. In assessing outputs, the Panel will look for evidence of originality, significance and rigour, and will grade each output into one of the five categories of quality level as set out in paragraph [19] of the General Panel Guidelines. The generic description of the quality levels as set out in paragraph [20] of the General Panel Guidelines will be applied in the Panel's assessment.

### **Note to Panel:**

*Please describe how your panel will apply the generic criteria of “originality, significance and rigour” in assessing research outputs with elaboration and examples to illustrate the criteria in respective discipline(s), without linking to any particular quality levels. Some examples are given below in broad terms for illustrative purposes only.*

23. The [Biology] Panel provides the following amplifications on the criteria of assessing research outputs –

- originality: [ will be understood as the extent to which the output introduces a new way of thinking about a subject.]
- significance: [ will be understood as the extent to which the output has exerted, or has the potential to exert, an influence on the academic field.]
- rigour: [ will be understand in terms of the intellectual precision, robustness and appropriateness of the concepts and methodologies deployed within the output.]

24. In addition, the Panel provides the following advice on their understanding of the quality definitions adopted for assessing research outputs –

[The Panel will take into consideration the following characteristics in particular –

- scientific rigour and excellence with regard to the design, research method, execution and analysis of the work.

# DRAFT TEMPLATE

- whether or not the output has been subject to peer-review.
- significant addition to knowledge and to the conceptual framework of the field.
- potential and actual significance of the research both within and beyond the field concerned.
- the scale, challenge and logistical difficulty posed by the research.
- the logical coherence of argument.
- contribution to theory-building.
- significance of work to advance knowledge, skills, understanding and scholarship in theory, practice, education, management and/or policy.
- ●●●]

## Metrics/Citation Data

25. Pursuant to paragraph [24] of the General Panel Guidelines, the Panel acknowledges that metrics and citation data may serve as advisory or secondary information, and that they should not be used in any algorithmic or deterministic way for the evaluation of research quality.

### **Note to Panel:**

*Please state whether your panel will make use of metrics/citation data to inform assessment of research outputs, and where appropriate, elaborate on –*

- *what kind of metrics/citation data will the panel use;*
- *how will the panel interpret or make use of the metrics/data (e.g. any rating or quantifiable parameters that the panel will adopt when using the metrics/data as additional information about the academic significance of individual outputs);*
- *how will the panel ensure the assessment about the quality of outputs will be based on the assessment criteria of “originality, rigour and significance”, and that all submitted outputs will be assessed on equal footing, including outputs for which metrics/citation data are unavailable (e.g. not published in an indexed journal), unsuitable as an indicator (e.g. an applied research output), or not meaningful at*

# DRAFT TEMPLATE

*the time of assessment (e.g. the output was published shortly before the assessment takes place).*

*Examples are provided for illustrative purposes only.*

26. [\[Example 1\]](#): While the [Biology] Panel will examine each output in detail for the assessment, the Panel [may informally use metrics or citation data / expects to refer to ●●● Journal Metrics] to inform its assessment of individual items. However, such metrics and data will not be used in any algorithmic or deterministic way for the evaluation of research quality. The Panel is aware of the limitations of citation data, in particular their variability within as well as between disciplines, and the need to consider that some excellent work takes time to demonstrate its full achievements. [\[Example 2\]](#): The [Biology] Panel does not expect to refer to metrics or citation data in reaching its judgement on the quality of submitted research outputs.]

## **Additional Information on Research Outputs**

### **Note to Panel:**

*Please provide a general statement on your panel's position regarding additional information on research outputs. Other than any request for additional information that may arise in the assessment phase, please specify if universities should submit any other additional information in the submission phase.*

27. Other than the information required on research outputs as specified in the Guidance Notes, [\[and unless specifically required by the Panel during the assessment process, no other information should be provided, and the Panel will take no account of any such information if submitted.\]](#)

## **Section C: Assessment Criteria: Research Impact**

### **Range of Impacts**

### **Note to Panel:**

*Please provide a general statement about the types of impacts and/or highlight any aspect(s) of impact submissions that is(are) specifically relevant to the disciplines under your panel's remit.*

# DRAFT TEMPLATE

28. The [Biology] Panel will accept submissions on research impacts that meet the generic definition and criteria as set out in paragraphs [48-49] of the General Panel Guidelines.

29. The Panel will assess the quality of all eligible impact submissions based on their merits on equal footing with no consideration given to the differences among submitting universities/units in terms of staff size, resources and histories. [The Panel recognises that impacts within its remit can be manifested in various ways and may occur in a wide range of spheres whether locally, regionally or internationally. ●●●.]

**Note to Panel:**

*Please provide examples on the types of impact that your panel would expect under the panel's remit in Table A. Examples given below are provided in alphabetical order and intended for illustrative purposes only. Your panel may provide examples and use your own format in the illustration, as appropriate.*

30. Examples are provided to illustrate the range of potential impacts from research across the [Biology] Panel in Table A. These examples are indicative only, and are not exhaustive or exclusive. Equally, there is no implication of priority or importance in the ordering of examples in the list.

31. Universities are expected to submit their strongest impact cases and not to align submitted cases specifically with the particular types of impact listed, as an impact case may describe more than one type of impact, such as [a new drug can generate health and economic impact / a new energy technology can generate environmental and production impact / a new knowledge or method can contribute to public policy and social welfare].

Table A: Examples of Impact<sup>1</sup>

<p>[Impacts on the economy where the beneficiaries may include ●●●]</p>	<ul style="list-style-type: none"><li>• [Gains in productivity have been realised as a result of research-led practices.]</li><li>• [A spin-out or new business has been created, established its viability, or generated revenue or profits.]</li><li>• [Contributing to economic prosperity,</li></ul>
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<sup>1</sup> Other examples of research impact as assessed in other jurisdictions may be accessible online such as <<http://results.ref.ac.uk/Results/SelectUoa>> from the United Kingdom.

# DRAFT TEMPLATE

	<p>innovation and entrepreneurial activities through ●●●.]</p> <ul style="list-style-type: none"> <li>• [●●●]</li> </ul>
<p><u>[Impacts on the environment]</u> <i>where the beneficiaries may include ●●●]</i></p>	<ul style="list-style-type: none"> <li>• [The management of an environment risk or hazard has changed.]</li> <li>• [The management or conservation of natural resources (e.g. water) has been influenced or changed.]</li> <li>• [Changes in practices or policies affecting biodiversity.]</li> <li>• [●●●]</li> </ul>
<p><u>[Impacts on health]</u> <i>where the beneficiaries may include ●●●]</i></p>	<ul style="list-style-type: none"> <li>• [A new drug, diagnostic or medical technology has been adopted.]</li> <li>• [Decisions by health service or regulatory authority have been informed by research.]</li> <li>• [Development or adoption of new indicators of health or well-being.]</li> <li>• [●●●]</li> </ul>
<p><u>[Impacts on public policy and services]</u> <i>where the beneficiaries may include ●●●]</i></p>	<ul style="list-style-type: none"> <li>• [Policy decisions or changes to legislation, regulations or guidelines have been informed by research.]</li> <li>• [Policy or public debate has been stimulated or informed by research evidence.]</li> <li>• [Influencing the work of public or non-governmental organisations.]</li> <li>• [●●●]</li> </ul>
<p><u>[Impacts on quality of life and welfare]</u> <i>where the beneficiaries may include ●●●]</i></p>	<ul style="list-style-type: none"> <li>• [Improved provision or access to services.]</li> <li>• [Improved standards of training.]</li> <li>• [The user experience has improved.]</li> <li>• [●●●]</li> </ul>
<p><u>[Impacts on society and culture]</u> <i>where the beneficiaries may include ●●●]</i></p>	<ul style="list-style-type: none"> <li>• [The awareness, attitudes or understanding of (sections of) the society have been informed or enhanced.]</li> <li>• [Enhancements to preserving, conserving and presenting culture heritage.]</li> <li>• [Generating new ways of thinking that influence ●●●.]</li> </ul>

# DRAFT TEMPLATE

	<ul style="list-style-type: none"><li>• [●●●]</li></ul>
[●●●]	<ul style="list-style-type: none"><li>• [●●●]</li><li>• [●●●]</li><li>• [●●●]</li></ul>

## Impact Overview Statement

### ***Note to Panel:***

*Please provide guidance on your panel's requirement about the impact overview statement and specify particular information and evidence expected for each section of the impact overview statement. Examples are given below for illustrative purposes only.*

32. Following paragraphs [7.7 (a) and (b), 7.8] and Appendix [G] of the Guidance Notes and also paragraph [50] of the General Panel Guidelines, [submitting units are required to describe how they have sought to enable and/or facilitate achievement of impact arising from their research during the assessment period, and how they are developing and adapting their plans to ensure that they continue to do so. This is distinct from the environment overview statement, which should describe how the units support the conduct and production of research.]

33. The impact overview statement should include relevant illustrative explanations with examples and traceable references where possible, rather than broad, general statements. The Panel expects the impact overview statement to include –

- context: [main non-academic user groups, beneficiaries or audiences for the unit's research; main types of impacts specifically relevant to the unit's research, and how these relate to the range of research activities or research groups in the unit; ●●●.]
- approach to impact: [the unit's approach to interacting with non-academic users, beneficiaries, or audiences; its approach and mechanism to support the achievement of impacts from its research; this could include but is not limited to indicators such as participation in knowledge exchange schemes; industrial training provided or consultancy undertaken; ●●●.]
- strategy and plans: [how the unit is developing a strategy for achieving impact including its goals and plans for supporting

# DRAFT TEMPLATE

and enabling impact from its current and future research; ●●●.]

- relationship to the case studies: [how the selected case studies relate to the submitting unit's approach to achieving impact; how particular case studies exemplify aspects of the unit's approach or informed the development of the unit's approach; moreover, the Panel recognises that impact case studies are underpinned by research over a period longer than the assessment period, and that individual case studies may not directly relate to or necessarily arise from the unit's current approach; ●●●.]

## Impact Case Study(ies)

### **Note to Panel:**

*Please provide guidance on your panel's requirement on the impact case studies and specify particular forms of evidence and types of indicators expected for each section of the impact case study.*

34. Following paragraphs [7.7 (c) and (d), 7.9-7.10] and Appendix [H] of the Guidance Notes and also paragraph [52] of the General Panel Guidelines, [submitting units are required to provide a narrative account in each case study that should be coherent, clearly explaining the relationship between the research and impact, and the nature of the changes or benefits arising.]

35. [Each impact case study should include appropriate evidence and indicators that support the claims for the impact achieved, including who and what has/have benefitted. Individual case studies may draw on various evidence and indicators, which may take different forms depending on the type of impact. ●●●.]

### **Note to Panel:**

*Please provide examples on the forms of evidence or indicators that are relevant to the types of impact under your panel's remit in Table B. Examples given below are intended for illustrative purposes only. Please also add any further advice that your panel may wish to on the case studies as provided in paragraph 37 below. Please make suitable adaptation in both content and the format to suit the need of your panel.*

# DRAFT TEMPLATE

36. Examples are provided in Table B to illustrate potential evidence or indicators that may be mostly relevant to the [Biology] Panel. These examples are not intended to be exhaustive. Equally, there is no implication of priority or importance in the ordering of examples in the list.

Table B: Examples of Evidence or Indicators for Impact<sup>2</sup>

[Quantitative indicators]	<ul style="list-style-type: none"> <li>• [Quantitative data relating to cost-effectiveness.]</li> <li>• [Performance measures (e.g. sales, turnover, profits associated.)]</li> <li>• [Audience or attendance figures.]</li> <li>• [●●●]</li> </ul>
[Documentary evidence]	<ul style="list-style-type: none"> <li>• [Documented changes to public policy / legislation / regulations / guidelines.]</li> <li>• [New professional codes and standards.]</li> <li>• [Licences awarded and brought to market.]</li> <li>• [●●●]</li> </ul>
[Engagements]	<ul style="list-style-type: none"> <li>• [Commercial adoption of new technology, process, knowledge or concept.]</li> <li>• [Application or incorporation in professional best practice, training and continuing development materials.]</li> <li>• [Evidence of policy or public debate.]</li> <li>• [●●●]</li> </ul>
[Independent testimony]	<ul style="list-style-type: none"> <li>• [Formal acknowledgements of and/or evaluations by relevant beneficiaries, bodies and organisations.]</li> <li>• [●●●]</li> </ul>
[Reviews and citations]	<ul style="list-style-type: none"> <li>• [Citations and reviews outside the academic literature, e.g. in policy, regulatory, practice documents.]</li> <li>• [Citations in media.]</li> <li>• [●●●]</li> </ul>
[●●●]	<ul style="list-style-type: none"> <li>• [●●●]</li> <li>• [●●●]</li> </ul>

<sup>2</sup> Other examples of evidence or indicators for research impact in other jurisdictions may be accessible online such as <<http://results.ref.ac.uk/Results/SelectUoa>> from the United Kingdom.



# DRAFT TEMPLATE

• [●●●]

37. [The Panel provides the following advice on particular aspects of impact case studies –

- ●●●.
- ●●●.]

## Underpinning Research

### **Note to Panel:**

*Please provide guidance on your panel’s approach to evaluating and establishing the underpinning research referenced in each impact case study is of at least 2-star standard.*

38. The Panel acknowledges the level of quality required for research underpinning impact cases, i.e. equivalent to at least 2 star (2\*) or international standing, as stipulated in the General Panel Guidelines. [Impact case studies should include appropriate evidence or indicators of the quality of underpinning research, such as details on [number of citations / peer-review funding received / ●●●]. Where necessary, the Panel will review the outputs concerned in order to ensure the quality of the research is of at least 2 star (2\*.)]

39. [Provided that the Panel is satisfied that the quality threshold has been met, the quality of the underpinning research will not be taken into account in the assessment of the quality of impact. Underpinning research referenced in a case study may also be submitted for assessment under the research output element. The evaluation of the outputs concerned under the impact element is a separate assessment only for assuring the threshold of underpinning research.]

## Criteria and Quality Levels for Assessing Research Impact

### **Note to Panel:**

*Please describe how your panel will apply the generic criteria of “reach and significance” in assessing research impacts, and provide further elaboration or give examples to illustrate how reach and significance will be understood by the panel in the evaluation of impact cases.*

# DRAFT TEMPLATE

40. Panels will exercise their expert judgement in assessing the quality of each impact submission, and will not judge in terms of the type of research underpinning the impact cases.

41. In assessing impacts, the Panel will look for evidence of reach and significance, and will grade each impact submission as a whole and give a rating using one or more of the five categories of quality level following paragraphs [54-56] of the General Panel Guidelines. In respect of the [Biology] Panel, the criteria of reach and significance will be understood as follows –

- reach: [the extent and diversity of the communities, individuals, organisations that have been benefitted or been positively affected from the impact. For example, the Panel will evaluate the extent to which society as a whole, communities or individuals have been benefitted from the introduction of a new drug. ●●●.]
- significance: [the degree of beneficial effects to policies, practices, perspectives or awareness of organisations, communities or individuals, constructive change to the prevention or reduction of harm, risk or cost. For example, the Panel will evaluate the degree of constructive change to the prevention or reduction of harm, risk or cost from the introduction of new drug. ●●●.]

**Note to Panel:**

*A brief statement on how your panel will apply the standards of quality levels for research impact will be included below. If the panel wishes, further elaboration and/or examples (which do not have to link to particular quality levels) may be given as appropriate.*

42. The Panel will make an overall judgement about the reach and significance of impacts, rather than assessing each criterion separately. The criteria will be applied in the assessment of the research impact regardless of the domain to which the impact relates. [In addition, the Panel understands the quality standards for assessing research impact as follows –

- ●●●.
- ●●●.]

# DRAFT TEMPLATE

## **Section D: Assessment Criteria: Research Environment**

### **Research Environment**

**Note to Panel:**

*Please provide relevant statement on the element of research environment in respect of disciplines under your panel's remit.*

43. The [Biology] Panel will accept submissions on research environment according to paragraphs [58-59] of the General Panel Guidelines. [The Panel recognises that excellent research can be undertaken in a wide variety of research structures and environments. The Panel has no pre-formed view of the ideal size or organisational structure for a research environment.] The Panel will assess each submission based on what has been presented in relation to the work of the submitting unit in providing and ensuring a good environment.

44. [As a research environment submission may relate to a single coherent faculty and equally to multiple departments, submissions may depict the commonalities and dynamics among faculties and departments within the submitting unit, and define their prime activities, how they operate and their main achievements.]

### **Environment Overview Statement**

**Note to Panel:**

*Please provide guidance on your panel's requirement on the environment overview statement and specify particular evidence and information expected for individual sections where appropriate. Examples given below are for illustrative purposes only. Please make adaptations to suit the case of the panel.*

45. Following paragraphs [9.6 (a) and (b), 9.7] and Appendix [I] of the Guidance Notes, and also paragraph [60] of the General Panel Guidelines, [submitting units are required to describe how they have supported the conduct and production of research. This is distinct from the impact overview statement, which should describe how the units encourage and facilitate the achievement of research impact.]

# DRAFT TEMPLATE

46. Within the terms of the Guidance Notes, the [Biology] Panel will expect in particular to see the following in the environment overview statement –

- **overview:** [submission in this part is expected to briefly describe the organisation and structure of the unit, which research groups are covered in the submission and how research is structured across the submitting unit; ●●●.]
- **research strategy:** [evidence of the achievement of strategic aims for research during the assessment period, and details of future strategic aims and goals for research; how these relate to the structure described above; and how they will be taken forward; methods for monitoring attainment of targets; new and developing initiatives not yet producing visible outcomes but of strategic importance; identification of priority developmental areas for the unit, including research topics, funding streams, postgraduate research activity, facilities, staffing, administration and management; ●●●.]
- **people:** [staffing policy and evidence of its effectiveness; how individuals at the beginning of their research careers are being supported and integrated into the research culture of the submitting unit; information on postgraduate recruitment, training and support mechanisms; mechanisms by which standards of research quality and integrity are maintained for example ethics procedures and authorship; ●●●. ]
- **income:** [information on research funding portfolio; evidence of successful generation of research income; major and prestigious grant awards made by external bodies on a competitive basis; ●●●.]
- **infrastructure and facilities:** [provision and operation of research infrastructure and facilities, including special equipment, library, technical support, space and facilities for research groups and research students; information on joint-university or cross-institution shared or collaborative use of research infrastructure; ●●●.]
- **collaborations:** [information on support for and exemplars of research collaborations; mechanisms to promote collaborative research at local and international level; support for interdisciplinary research collaborations; research collaboration with research users; ●●●.]

# DRAFT TEMPLATE

- esteem: [prestigious/competitive research fellowships held by individual researchers; external prizes and awards in recognition of research achievement; ●●●.]
- contribution to the discipline or research base: [exemplars of leadership in the academic community such as advisory board membership; participation in the peer-review process for grants committees or editorial boards; ●●●.]

## Environment Data

### **Note to Panel:**

*Please provide guidance on how your panel will consider the environment data according to the requirements and template as specified in the Guidance Notes and General Panel Guidelines. Where the panel requires additional quantitative data specific to respective UoA(s) or discipline(s), please specify that such data should be provided in appropriate section(s) in the environment overview statement.*

47. Following paragraphs [9.6 (c) and (d), 9.8] and Appendix [J] of the Guidance Notes, and also paragraph [61] of the General Panel Guidelines, [submitting units are required to provide environment data in conjunction with the environment overview statement. The Panel will consider the environment data within the context of the information provided in the environment overview statement, and within the context of the disciplines concerned.]

48. [Data on “staff employed by the university proper” and “graduates of research postgraduate programmes” will be used to inform the Panel’s assessment in relation to “people” (section (3) (i) and (ii)). Data on “on-going research grants/contracts” will be used to inform the Panel’s assessment on “income” (section (4)). Additional quantitative data or indicators that are particularly relevant to the Panel are indicated in paragraph [46] above. Such additional information should be submitted within the appropriate section(s) of the environment overview statement.]

## Criteria and Quality Levels for Assessing Research Environment

49. Panels will exercise their expert judgement in assessing the merits of each environment submission, and will not judge automatically in terms of the scale of research environment concerned.

# DRAFT TEMPLATE

**Note to Panel:**

*Please specify whether your panel will assess each environment submission as a whole, or attach weighting to individual aspects within the environment element in their assessment. In the latter case, weighting for each aspect should be in a minimum of 5% or multiples of 5%, with a total of 100% for all aspects. Your panel is required to specify the weighting arrangement, if any, in these guidelines. Examples are provided for illustrative purposes only.*

50. In assessing environment, the Panel will consider research environment in terms of vitality and sustainability, including its contribution to the vitality and sustainability of the wider discipline or research base. [\[Example 1\]](#): The Panel will grade each environment submission as a whole with a profile rating using one or more of five categories of quality level as set out in paragraphs [63-65] of the General Panel Guidelines. There is no weighting attached to individual aspects in the assessment. [Example 2](#): The Panel will grade each environment submission with weighting attached to individual aspects as follows –

- strategy – [5]%
- people – [15]%
- income – [20]%
- infrastructure – [25]%
- collaboration – [15]%
- esteem – [10]%
- contribution to the discipline or research base – [10]%

The Panel will use one or more of the five categories of quality level as specified in paragraphs [63-65] of the General Panel Guidelines for assessing each aspect within the environment element and by aggregating assessments of individual aspects to form an overall assessment for each environment submission.]

**Note to Panel:**

*Please describe how your panel will apply the generic criteria of “vitality and sustainability” in assessing research environment.*

# DRAFT TEMPLATE

51. The [Biology] Panel provides the following amplifications to supplement the generic criteria for assessing research environment –

- vitality: [the extent to which a unit provides an encouraging and facilitating environment for research, has an effective strategic plan, is engaged with the regional and international research community, is able to attract excellent postgraduate and postdoctoral researchers through a worldwide reputation, ●●●.]
- sustainability: [vision for the future and investment in people and infrastructure and, where appropriate for the subject area, the extent to which activity is supported by a portfolio of research funding, ●●●.]

**Note to Panel:**

*A brief statement on how your panel will apply the standards of quality levels for research environment will be included below. If the panel wishes, further elaboration and/or examples (which do not have to link to particular quality levels) may be given as appropriate.*

52. The Panel will make an overall judgement about the vitality and sustainability of research environments, rather than assessing each criterion separately. [In addition, the Panel understands the quality standards for assessing research environment as follows –

- ●●●.
- ●●●.]

## **Section E : Working Methods**

### **Use of Sub-Group(s)/Sub-Panel(s)**

**Note to Panel:**

*Please specify your panel's position on setting up sub-group(s)/sub-panel(s) for the purposes of assessing submissions. Examples are provided for illustrative purposes only.*

53. [Example 1: There will not be any sub-group or sub-panel formed under the [Biology] Panel. Example 2: To facilitate assessment on

# DRAFT TEMPLATE

particular UoA(s) and/or research area(s) under the [Biology] Panel, the following sub-groups will be formed to assess submissions in respective research areas –

- agriculture and food science: to cover submissions on areas of ●●●.
- pre-clinical: to cover submissions on areas of ●●●.
- ●●●.

The final assessment and grading will be decided by the Panel as a whole.]

## Allocation of Work in the Assessment Process

54. The Convenor, consulting the Deputy Convenor and other panel members, as appropriate, will allocate work to members and, if necessary, external reviewers in light of their expertise and workload. In allocating the work, the Convenor will also take into account any potential conflicts of interest of respective panel members. All panel members will take account of the requirements of the General Panel Guidelines to ensure that the exercise is conducted fairly and equitably.

### ***Note to Panel:***

*Please provide specifications on your panel's working methods regarding the assessment work on research outputs, impact and environment. Examples are provided for illustrative purposes only.*

55. Panel members will examine the submitted outputs in detail, and put forward a recommendation to the panel for a collective decision on the final grading. To ensure fairness and consistency, each research output will be assessed in detail by at least two members, one of whom should be a non-local member to the extent possible. For UoA(s) which is(are) only housed at one or two local universities, submissions will be assigned to at least one non-local member in order to ensure fair and impartial assessment. Final grading on research outputs will be decided by the Panel as a whole.

56. Subject to conflicts of interest of individual panel members, [\[Example 1: the impact and environment submissions will be assessed by each member of the Panel and the final grading of individual submissions will be a collective decision of the Panel.](#) [Example 2: the impact and environment submissions will be assessed by panel members in the sub-](#)



# DRAFT TEMPLATE

group(s)/sub-panel(s) for respective UoA(s) or research area(s) under the Panel. Final grading of individual submissions will be a collective decision of the Panel.]

## Cross-Panel Referrals

### **Note to Panel:**

*Please elaborate on your panel's position on cross-panel referrals as appropriate. Examples are provided in paragraphs [58-59] for illustrative purposes only.*

57. This Panel will follow the procedures in paragraphs [41-43] of the General Panel Guidelines when initiating referrals to other panels and assessing submissions cross-referred by another panel.

58. [Example 1: Generally, research on pedagogy and education issues submitted to this Panel will be assessed by panel members or external reviewers with expertise in pedagogy or cross-referred to Panel 13 – Education. Example 2 for Panel 13 – Education: Generally, research on pedagogy and education issues submitted to other panels will be assessed by panel members of the respective panels or external reviewers with expertise in pedagogy. In the case that the expertise of members of this Panel is called for, this Panel may also assess research on pedagogy and education issues cross-referred from other panels.]

59. [Cross-panel referrals are envisaged in areas such as: physical geography (to Panel 3 – Physical Sciences); biomedical engineering (to Panel 1 – Biology) and [●●] (to Panel ● - ●●).]

## External Advice

### **Note to Panel:**

*Please elaborate on situations where external advice from external reviewers would be sought.*

60. This Panel will follow the procedure in paragraph [44] of the General Panel Guidelines when referral to external reviewers for expert advice becomes necessary for panel assessment. [External reviews may be sought in the cases for which members of the panel do not have the

# DRAFT TEMPLATE

necessary expertise such as outputs in foreign language or niche research work.]

## **Trial Assessment**

### **Note to Panel:**

*Please elaborate on your panel's position on trial assessment as appropriate.*

61. Following paragraphs [89-91] of the General Panel Guidelines, the Panel will conduct a trial assessment [using a sample of submissions submitted to the Panel. These sample submissions will be assessed by all members of the Panel. Members will share among themselves any important observations in the assessment to ensure fairness and consistency in the actual assessment.] Submissions used for the trial assessment will be assessed afresh during the main assessment period regardless of their assessment results during the trial. The Panel will decide on the sample size after the submissions are received.

## **Panel Feedback Report**

62. With reference to paragraph [71] and Appendices [E] and [F] of the General Panel Guidelines, the Panel will provide feedback to the University Grants Committee (UGC) after the assessment process. Non-local panel members will be involved in offering comments for an impressionistic international comparison. The Convenor on behalf of the whole panel will submit the panel feedback report to the UGC by 10 November 2020.