

Research Assessment Exercise 2020
Panel 7 – Built Environment
Panel-specific Guidelines on
Assessment Criteria and Working Methods
(September 2018)

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Introduction

1. This document sets out the assessment criteria and working methods that the Built Environment 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 Built Environment 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 Built Environment 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 disciplines of respective units of assessment (UoAs) under purview. It also provides a common approach to the working methods applied within the Panel.

Section A: Submissions

UoAs under the Panel

3. The Built Environment Panel will assess universities' submissions from the following UoAs –

<u>Code</u>	<u>UoAs</u>
16	civil engineering (incl. construction engineering & management) and building technology
17	architecture
18	planning and surveying (land and other)

4. The Panel expects to receive submissions whose primary research focus falls within the respective remit of the above UoAs. These UoAs cover all forms of historical, scientific, theoretical, applied and practice-based research relevant to the planning, design, creation, use, management and governance of the built environment in both rural and urban areas. This includes: architecture, building engineering, building sciences including building physics, design, construction, construction management, economic development, planning, urban design, housing, infrastructure, landscape, real estate, regeneration, sustainability, regional and spatial analysis and urbanism, as well as civil engineering, including fluid mechanics, hydraulics and hydrology, water resources, computational mechanics and informatics, structures and materials, geomatics (including land and other surveying), applications of geophysics and remote sensing, transportation, geotechnical and geo-environmental engineering, environmental engineering related to the built environment, earthquake engineering, energy, offshore and coastal engineering, extreme events, fire engineering and wind engineering, impact of and adaptability to climate change, and safety, risk assessment and management aspects of many of the topics listed above. It also includes pedagogic research in civil and construction engineering, architecture, planning, real estate and surveying. The UoAs also include any other research in which the built environment forms a major field for application or provides the context for research.

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 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.

6. Built Environment research is highly interdisciplinary. The Panel anticipates that there may be overlap with UoAs 8 to 15, 21, 22, 24, 25, 27, 28, 38 and 41 (see Appendix B of the General Panel Guidelines for descriptors). Arrangements for assessing interdisciplinary research, and submissions that span UoA boundaries, include the appointment of interdisciplinary champions within the Panel, the use of assessors with appropriate expertise and, where necessary, cross-referring specific parts of submissions between sub-panels.

Assignment of Eligible Academic Staff in Each UoA

7. Pursuant to paragraphs 7-11 of the General Panel Guidelines, in addition to the UoA, the Built Environment Panel expects to receive information on the research area and the sub-discipline(s) under a research area to which each eligible staff member and their respective research output(s) belong. This information will be used to assist in assigning research outputs to panel members with appropriate expertise. With reference to the list of sub-disciplines below, each eligible staff member could have up to four sub-disciplines applied to their research outputs, or the number of sub-discipline(s) equivalent to the number of his/her submitted output(s), whichever is lower. Each output should have one sub-discipline applied to it, which must be one of the staff member's assigned sub-discipline(s). The list of sub-disciplines provided below is not exhaustive, neither are the sub-disciplines precisely defined. If universities or eligible staff members are uncertain about the research area or sub-discipline that should be assigned to an output, the Panel Convenor and Deputy Convenor will exercise their discretion in allocating that output for assessment to the most appropriate panel members.

List of Sub-disciplines

<u>Research Areas</u>	<u>Sub-disciplines</u>
16a civil engineering (incl. construction engineering & management)	16a-01 structural engineering
	16a-02 geotechnical and geo-environmental engineering
	16a-03 hydraulics, hydrology, fluid mechanics, water resources and water supply
	16a-04 transportation engineering

<u>Research Areas</u>	<u>Sub-disciplines</u>
	16a-05 fire engineering, health and safety
	16a-06 wind engineering
	16a-07 natural hazards and climate change
	16a-08 construction engineering and management
	16a-09 environmental issues, related to the built environment, including air quality, pollution, waste treatment and disposal
	16a-10 other aspects of civil engineering and construction
16b building technology	16b-01 building methods
	16b-02 building materials
	16b-03 energy and the built environment, including technology, policy, modelling and energy and carbon accounting
	16b-04 other aspects of building
17a architecture	17a-01 architectural history
	17a-02 architectural design
	17a-03 architectural building sciences
	17a-04 other aspects of architecture
18a planning	18a-01 urban and regional planning
	18a-02 urban design and urban studies
	18a-03 real estate
	18a-04 other aspects of planning
18b surveying, land	18b-01 plane and geodetic surveying
	18b-02 cadastral surveying
	18b-03 cartography
	18b-04 photogrammetry
18c surveying, other	18c-01 building surveying
	18c-02 mining surveying
	18c-03 hydrographical surveying
	18c-04 other aspects of surveying

8. It is critical that research outputs are assessed by the most appropriate panel. If a panel suspects any anomaly regarding universities'

assignment of eligible academic staff (and therefore their outputs) to research area(s) and UoA(s) under its remit, it will follow the procedures for re-assignment of the eligible staff according to paragraphs 10-11 of the General Panel Guidelines. The Panel also recognises its responsibility to handle submissions arising from any re-assignment of eligible academic staff to the Panel.

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. These Statements will not be assessed, but may help the Panel to understand better the material that is presented in each submission, particularly insofar as UoAs refer to the overall position of their university. The Statements will also help the University Grants Committee (UGC) when viewing the quality profiles of the universities as a whole upon completion of the RAE 2020.

10. *(Template paragraph deleted)*

Section B: Assessment Criteria: Research Outputs

Output Types

11. The Built Environment Panel will consider the eligibility of research outputs as described in paragraphs 16-18 of the General Panel Guidelines, paragraphs 5.7-5.11 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.

13. Forms of research outputs that are admissible and specifically relevant to the Built Environment 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. It is expected that many of the outputs would be in the form of –

- published papers in peer-reviewed journals and conferences.

The Panel also recognises, and welcomes, outputs that are in the following forms –

- books, book chapters, edited works, and research monographs.
- technical reports, including confidential reports.
- standards and guidelines documents.
- patents awarded or published patent applications.
- review articles, systematic reviews and meta-analyses.
- web-based outputs.
- portfolios of design work.
- new materials, devices, products and processes.
- physical artefacts such as buildings, models, devices, images, installations, materials, products and processes, prototypes.
- software, computer code and algorithms.
- digital artefacts such as data sets, multi-use data sets, archives, software, film and other non-print media, web content such as interactive tools.
- significant, invited, independently curated exhibitions and exhibits.

Please note the requirement at General Panel Guidelines paragraph 18 for an abstract that includes a clear indication of what new insights or innovations are presented in all outputs of all forms.

14. All research outputs will be assessed on an equal basis for the quality of original research they include. The Panel will accept the submission of all forms of output only where they contain a significant component of novel research or new insight. Such outputs will be judged only on the original research or new insights reported.

15. If an output contains material in common with an output published before 1 October 2013, only the new material will be assessed. Where two or more research outputs of any type submitted by one or more individuals from the same university contain significant material in common, the Panel

may decide to assess each output taking account of the common material only once. Alternatively, if the outputs do not contain sufficiently distinct material, they may be treated as a single output.

Double-weighting of Research Outputs

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. In view of the established practice in some disciplines of major research outputs appearing, for example, in the form of a published monograph, or major design, curation, data collection or exhibition, the Panel recognises that there may be outputs of such scale, scope and significance that are considerably greater than the disciplinary norm. The Panel will consider requests for such items to be double-weighted in line with the General Panel Guidelines.

17. When requesting double-weighting of an output, universities should submit a statement of not more than 100 words, explaining in what ways the output is of sufficiently extended scale or scope or significance to justify the claim. The Panel will decide whether to double-weight the output on the basis of its assessment of the level of intellectual effort, time and resources required to produce the output and the amount of original content and the level of significance of that content.

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.

19. The Panel will consider co-authorship to be a normal element of research activity in its UoAs and will expect all named co-authors to have made a significant contribution to the research process leading to the output concerned. Universities may list co-authored outputs only against individual members of staff who made a substantial research contribution to the output. Consistent with paragraphs 32-34 of the General Panel Guidelines, co-authored outputs must be listed against only one member of staff. In assessing co-authored/co-produced outputs, the Panel will assess the quality of the output, taking no further regard to the submitted member of staff's individual contribution. The Panel will assess the output using the criteria described below in paragraphs 21-27.

Non-traditional Outputs

20. The Panel will handle outputs of non-traditional form according to paragraphs 35-37 of the General Panel Guidelines. The Panel expects to receive an additional description, of up to 300 words, about each non-traditional output. This should describe its novelty and significance, the method used to ensure academic rigour in the production of the output, the form of its delivery, and the dissemination method. Additional information (other than the required abstract – see paragraph 18 of the General Panel Guidelines) is not expected for traditional outputs and will be ignored by the Panel.

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.

23. The Built Environment Panel provides the following amplifications on the criteria of assessing research outputs –

- originality: will be understood as the innovative character of the research and/or the extent to which the output is distinctive or transformative compared with previous work in the academic field. Research outputs that demonstrate originality may: introduce a new way of thinking about a subject; engage with new and/or complex problems; develop innovative research methods, methodologies and analytical techniques; provide new empirical material and datasets; provide new solutions to problems of the built environment; and/or advance theory or the analysis of doctrine, policy or practice.
- significance: will be understood in terms of the development of the intellectual agenda and/or the extent to which the output has exerted an influence on the academic field or practical application in Hong Kong or elsewhere. Significance may be

theoretical, methodological and/or substantive. Due weight will be given to potential as well as actual significance, especially where the output is very recent.

- rigour: will be understood in terms of the intellectual precision, robustness and appropriateness of the concepts, analyses, theories and methodologies deployed within a research output. Account will be taken of such qualities as the integrity, coherence and consistency of arguments and analysis, and the extent to which existing work or progress in the literature has been taken into account.

24. In addition, the Panel provides the following advice on their understanding of the quality definitions adopted for assessing research outputs. Whilst the individual elements of significance, originality and rigour will be considered separately by the Panel, the overall assessment of each output will be a balanced judgement giving each of the three elements approximately equal weight.

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.

26. The Panel is aware of the limitations of citation data. In particular, such data do not apply to most forms of non-traditional output, and the coverage and value is variable both within and between UoAs and academic disciplines. Assessment of all outputs will therefore be based on the assessment of significance, originality and rigour. Citation data will be used as a secondary measure and for guidance only for outputs falling under UoA 16, where appropriate. Only citation data provided to the Panel as part of the RAE 2020 process will be used and due consideration will be given to the period of time that an output has been in the public domain. Citation data will not be used for UoAs 17 and 18 and any data provided to the Panel in regard to outputs in these UoAs will be ignored.

Additional Information on Research Outputs

27. Other than the information required on research outputs as specified in the Guidance Notes, 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

28. The Built Environment Panel will accept submissions on research impacts that meet the generic definition and criteria as set out in paragraphs 47-48 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. These may include (but are not restricted to): creativity, culture and society; the economy, commerce or organisations; communities; the environment; health and welfare; practitioners and professional services; public policy, law and services.

30. Examples are provided to illustrate the range of potential impacts from research across the Built Environment 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 energy technology that can generate environmental, health and safety, production and economic impacts.

Table A: Examples of Impact

<p>Impacts on creativity, culture and society: <i>where the beneficiaries are individuals, groups of individuals, organisations or communities whose behaviours, knowledge practices, rights or duties have been influenced.</i></p>	<ul style="list-style-type: none">• Enhancements to heritage preservation, conservation and presentation; the latter including museum and gallery exhibitions.• Production of artefacts, including for example, films and TV programmes.• Public or political debate has been shaped or informed; this may include activity that has challenged established norms, modes of thought or practices.
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	<ul style="list-style-type: none"> • Improved social welfare, equality, social inclusion; improved access to justice and other opportunities (including employment and education). • Improvements to legal and other frameworks for securing intellectual property rights. • Enhancements to policy and practice for example poverty alleviation. • Influential contributions to campaigns for social, economic political and/or legal change. (Or the prevention of proposed changes.) • Enhanced cultural understanding of issues and phenomena; shaping or informing public attitudes and values.
<p>Impacts on the economy, and commercial organisations: <i>where the beneficiaries may include new or established businesses, or other types of organisation undertaking activities which create wealth.</i></p>	<ul style="list-style-type: none"> • Changed approach to management of resources has resulted in improved service delivery. • Development of new or improved materials, products or processes. • Improved support for the development of new, small-scale or large-scale technologies. • Improved effectiveness of workplace practices or employee skills. • Improvements in legal frameworks, regulatory environment or governance of business entities. • More effective dispute resolution. • Enhanced technical standards and/or protocols. • New business strategies, operations or management practices. • A spin-out or new business, established its viability, or generated revenue or profits. • 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

	<p>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.</p>
<p>Impacts on the environment: <i>where the beneficiaries may include the natural, historic and/or built environment, together with society individuals or groups of individuals.</i></p>	<ul style="list-style-type: none"> • Specific changes in public awareness or behaviours relevant to the environment. • Contribution to improved social, cultural and environmental sustainability. • Improved management or conservation of natural resources. • Improved management of an environmental risk or hazard. • Operations or practice of a business or public service have been changed to achieve environmental objectives. • Improved design or implementation of environmental policy or regulation. • Changed conservation policy/practice or resource management practices. • Changes in environmental or architectural design standards or general practice. • Influence on professional practice or codes. • Changes in practices or policies affecting biodiversity.
<p>Impacts on health: <i>where the beneficiaries may include organisations or individuals involved in the development and/or delivery of professional services.</i></p>	<ul style="list-style-type: none"> • Changed practice for specific groups (which may include cessation of certain practices shown to be ineffective by research). • Influence on professional standards, guidelines or training. • Development of resources to enhance professional practice. • Influence on planning or management of services. • Guidance and strategy for professional bodies to define best practice, formulate policy. • Changes to conventional wisdom, stimulating debate among stakeholders.

	<ul style="list-style-type: none"> • Development or adoption of new indicators of health or well-being.
<p>Impacts on public policy and services: <i>where the beneficiaries may include government, public sector and charity organisations and societies, either as a whole or as groups of individuals through the implementation or non-implementation of policies, systems or reforms</i></p>	<ul style="list-style-type: none"> • Policy decisions or changes to legislation, regulations or guidelines, including decisions not to adopt proposed policy changes. • Policy or public debate has been stimulated or informed by research evidence. • Influencing the work of public or non-governmental organisations. • Improved public understanding of social issues. • Effect on the quality, accessibility, cost-effectiveness or efficiency of services. • Changes to the delivery or form of any service for the public. • In delivering a public service, a new technology or process has been adopted or an existing technology or process improved.
<p>Impacts on quality of life and welfare: <i>where the beneficiaries (human or animal) may include those whose quality of life has been enhanced (or harm mitigated) or whose rights or interests have been protected or advocated</i></p>	<ul style="list-style-type: none"> • Development and uptake of new indicators of health and well-being. • Development of policy, practice and technology that enhances health and well-being. • Influence on health policy and practice. • Improved provision or access to services. • Improved standards of training. • Improved health and welfare outcomes.

(Note: 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.)

Impact Overview Statement

32. Following paragraphs 7.7 (a) and (b), 7.8 and Appendix G of the Guidance Notes and also paragraph 49 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: submissions should describe the main non-academic user groups, beneficiaries or audiences for the unit's research; the 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: submissions should describe 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: submissions should describe how the unit is developing a strategy for achieving impact including its goals and plans for supporting and enabling impact from its current and future research.
- relationship to the case studies: submissions should describe 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)

34. Following paragraphs 7.7 (c) and (d), 7.9-7.10 and Appendix H of the Guidance Notes and also paragraph 51 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 its impact, and the nature of the impacts arising.

35. Each impact case study should include tangible and verifiable evidence that support the claims for the impact achieved, including who and what has/have benefitted. The focus must be on the actual impact achieved, in terms of how the research has enriched, influenced, informed or changed the behaviour of the users, and not the pathways and other mechanisms used to achieve that impact. The evidence of this impact should be, as far as possible, independent, factual and verifiable. Individual case studies may draw on various evidence and indicators, which may take different quantitative and qualitative forms depending on the type of impact.

36. Examples are provided in Table B to illustrate potential evidence or indicators that may be mostly relevant to the Built Environment 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

Quantitative indicators	<ul style="list-style-type: none"> • Quantitative data relating to cost-effectiveness. • Economic impacts, including business performance measures (e.g. sales, turnover, profits associated). • Jobs created or protected. • Investment funding raised for start-up businesses and new activities in existing businesses. • Quantifiable shifts in expenditure or profits.
Documentary evidence	<ul style="list-style-type: none"> • Documented changes to public policy / legislation / regulations / guidelines. • New professional codes and standards. • Licences awarded and brought to market. • Documented changes in knowledge, capability or behaviours of individuals benefiting from training.

Engagements	<ul style="list-style-type: none"> • Commercial adoption of new technology, process, knowledge or concept. • Application or incorporation in professional best practice, training and continuing development materials. • Evidence of policy or public debate.
Independent testimony	<ul style="list-style-type: none"> • Formal acknowledgements of and/or evaluations by relevant beneficiaries, bodies and organisations.
Reviews and citations	<ul style="list-style-type: none"> • Citations and reviews outside the academic literature, e.g. in policy, regulatory, practice documents. • Citations in media.

(Note: 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.)

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

- In constructing a narrative account in a case study, there are many different ways in which the links in the chain between the underpinning research and the impact could occur, and this should be described. However, the focus should be on the reach and significance of the impact itself and the supporting evidence.
- No type of evidence is inherently preferred over another; judgements will be based on the extent to which the cited evidence is convincing about the reach and significance of that impact.
- Submitting units should ensure that, so far as possible, any evidence cited is independently verifiable.

Underpinning Research

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, in UoA 16, the number of

citations, or the peer-review funding received that facilitated the research. 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*) quality.

39. The evaluation of the outputs under the impact element is undertaken only for assuring the quality threshold of the underpinning research has been reached. The quality of the underpinning research will not be taken into account in the assessment of the impact. Underpinning research referenced in a case study may also be submitted for assessment under the research output element. In this case, the guidance on output types and criteria for assessing research outputs as stipulated in paragraphs 11-15, 21-24 above would apply.

Criteria and Quality Levels for Assessing Research Impact

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 53-55 of the General Panel Guidelines. In respect of the Built Environment Panel, the criteria of reach and significance will be understood as follows –

- reach: is the extent and diversity of the communities, individuals, or organisations that have drawn benefit or been positively affected by the impact arising from the underpinning research.
- significance: is the degree to which the impact has enriched, influenced, informed or changed products, services, policies, opportunities, perspectives or practices of communities, individuals or organisations, or produced constructive changes that have prevented or reduced harm, risk or cost.

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.

Section D: Assessment Criteria: Research Environment

Research Environment

43. The Built Environment Panel will accept submissions on research environment according to paragraphs 57-58 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 or 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

45. Following paragraphs 9.6 (a) and (b), 9.7 and Appendix I of the Guidance Notes, and also paragraph 59 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.

46. Within the terms of the Guidance Notes, the Built Environment 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. Neither the existence of groups, nor their absence, is, in itself, considered significant by the Panel.
- 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, for example research topics, funding streams, postgraduate research activity and contribution to research culture, 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; staff demographic profile and mechanisms and success in enhancing equality, diversity and opportunity of staff; balance of short and long-term contracts, and full-time and part-time employment; patterns of recruitment.
- income: information on research funding portfolio; evidence of successful generation of research income commensurate with scale of research groups/units and discipline; major and prestigious grant awards made by external bodies on a competitive basis; income trajectory since RAE 2014.
- 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, IT provision.
- 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; participation in international and regional research networks and clusters.
- esteem: prestigious/competitive research fellowships held by individual researchers; external prizes and awards in recognition of research achievement; prestigious/competitive PhD grant awards.

- 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; leadership of large, multi-institution research initiatives.

Environment Data

47. Following paragraphs 9.6 (c) and (d), 9.8 and Appendix J of the Guidance Notes, and also paragraph 60 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. The Panel will consider these numerical data relative to the reported number of full-time academic staff members within the UoA, i.e. per full time equivalent (FTE).

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.

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. The Panel will grade each environment submission with weighting attached to individual aspects as follows –

- overview and strategy – 10%
- people – 20%

- income – 20%
- infrastructure and facilities – 20%
- collaborations – 15%
- esteem and contribution to the discipline or research base – 15%

The Panel will use one or more of the five categories of quality level as specified in paragraphs 62-64 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.

51. The Built Environment Panel provides the following amplifications to supplement the generic criteria for assessing research environment –

- vitality: is 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: is the 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.

52. The Panel will make an overall judgement about the vitality and sustainability of research environments, rather than assessing each criterion separately. Examples of evidence of a strong research environment include –

- A research strategy appropriate to the size and scale of the unit and its ambitions.
- Support for and development of staff and research postgraduate (RPg) students at all levels.
- Income and facilities that support the research strategy and objectives.
- Evidence of the nature of contributions, engagement with the wider community and academic leadership in the discipline.

Section E: Working Methods

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

53. To facilitate the assessment of particular UoA(s) and/or research area(s) within the Built Environment Panel, it may be necessary to form sub-groups. A decision on whether or not to form these sub-groups will be made after the Universities have made their submissions. 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, impact assessors and/or 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 and assessors. All panel members will take account of the requirements of the General Panel Guidelines to ensure that the exercise is conducted fairly and equitably.

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 members, the impact and environment submissions will be assessed by members of the whole Panel and the final grading of individual submissions will be a collective decision of the Panel.

Cross-Panel Referrals

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. 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. In the cases where the expertise of members of this Panel is called for, the Built Environment Panel may also assess research on pedagogy and education issues cross-referred from other panels.

59. The Panel will endeavour to assess all elements of submissions without cross referral to other panels as far as is possible. This includes submissions of an inter-disciplinary nature, which will be managed by one of the Interdisciplinary Champions.

External Advice

60. This Panel will follow the procedure in paragraph 66 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 exceptional circumstance where members of the Panel do not have the necessary expertise, for example cases where outputs are in a foreign language or cases involving niche research work.

Trial Assessment

61. With reference to paragraphs 89-91 of the General Panel Guidelines, the Panel will conduct a trial assessment using a sample of submissions selected from universities' submissions. 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 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.